

CONTROLLED

**SERVICE MANUAL
SPECTRUM ANALYZER
MS2702A/MS2802A**

**1991.09
Ver. 1**

ANRITSU CORPORATION

**MAY
1992**

CERTIFICATION

ANRITSU CORPORATION certifies that this instrument has been thoroughly tested and inspected, and found to meet published specifications prior to shipping.

Anritsu further certifies that its calibration measurements are based on the Japanese Electrotechnical Laboratory and Radio Research Laboratory standards.

WARRANTY

All parts of this product are warranted by Anritsu Corporation of Japan against defects in material or workmanship for a period of one year from the date of delivery.

In the event of a defect occurring during the warranty period, Anritsu Corporation will repair or replace this product within a reasonable period of time after notification, free-of-charge, provided that: it is returned to Anritsu; has not been misused; has not been damaged by an act of God; and that the user has followed the instructions in the operation manual.

Any unauthorized modification, repair, or attempt to repair, will render this warranty void.

This warranty is effective only for the original purchaser of this product and is not transferable if it is resold.

ALL OTHER EXPRESSED WARRANTIES ARE DISCLAIMED AND ALL IMPLIED WARRANTIES FOR THIS PRODUCT, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO A PERIOD OF ONE YEAR FROM THE DATE OF DELIVERY. IN NO EVENT SHALL ANRITSU CORPORATION BE LIABLE TO THE CUSTOMER FOR ANY DAMAGES, INCLUDING LOST PROFITS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES, ARISING OUT OF THE USE OR INABILITY TO USE THIS PRODUCT.

All requests for repair or replacement under this warranty must be made as soon as possible after the defect has been noticed and must be directed to Anritsu Corporation or its representative in your area.

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Note 1:

1. The instrument is operable on a nominal voltage of 100 to 127 Vac or 200 to 250 Vac by changing a slide switch on the Power Supply Unit (Section 2).

The voltage and current ratings are indicated on the rear panel when the instrument is shipped from the factory.

To operate on the other voltage, change the slide switch setting. The plate on the rear panel indicating the voltage and current ratings should be changed to the appropriate one. Order the plate from ANRITSU CORPORATION if needed.

2. In this manual, the power supply voltage and current ratings are represented by **Vac and ***A, respectively.
3. The relationship between power supply voltage and current ratings is shown below.

Vac	*A (Time lag type) for MS2702A/MS2802A
100 to 127 V	6.3 A
200 to 250 V	3.15 A

Note 2:

WARNINGS, CAUTIONS, Notes, and Explanatory footnotes are used in this manual. Their meanings are given below:

WARNING: *WARNING is used when there is a personal injury hazard.*

CAUTION: *CAUTION is used when the equipment may be damaged.*

Note: Note is used to provide information about exceptions, corrections, and restrictions.

Explanatory footnote: Explanatory footnotes provide comments on the same page as the text, figure or table. They are referenced by either an asterisk (*) or by combination of an asterisk and numeral.



Note 3:

STORAGE MEDIUM

This equipment stores data and programs using IC card (PMC).

Data and programs may be lost due to improper use or failure.

ANRITSU therefore recommends that you back-up the memory.

ANRITSU CANNOT COMPENSATE FOR ANY MEMORY LOSS.

Please pay careful attention to the following points. Do not remove the IC card from equipment being accessed.

For details refer to the paragraph 2.5 in this operation manual.

(IC card)

- Isolate the card from static electricity.
- The back-up battery in the card has a limited life; renew the battery periodically.

(Backed-up memory)

- Isolate the memory from static electricity.

Note: The battery life is about 5 years. Early battery replacement is recommended.



HISTORY OF MODIFICATIONS
(MS2702A/2802A Ser.)

Apr.7 '92

ITEM	DESCRIPTION		Applicable Serial No.
	Before Modification	After Modification	
P.6-14	Parts List of:A1-A3 RF CONTROL (34W96590 2/22) C26 CER CAP,(CK732B1H222K(J3)) 2200pF, ±10%, 50V	C26 CER CAP,(CC732CH1H471J) 470pF, ± 5%, 50V	
P.6-15	Parts List of:A1-A3 RF CONTROL (34W96590 7/22) C142 Not labeled	C142 CER CAP,(CK924C1H223M) 0.022μF, ± 20%, 50V	
P.6-19	Parts List of:A1-A3 RF CONTROL (34W96590 21/22,22/22) R174,R177 METAL FILM RESISTOR, (RN73G2A104D) 100KΩ, ± 0.5%, 1/10W R206 Not labeled	R174 VARIABLE RESISTOR, (RGS4H204) R177 VARIABLE RESISTOR, (RGS4H504) R206 CARBON FILM RESISTOR, (ARD25T102J) 1KΩ, ± 5%, 1/4W	
P.3-43/ 3-44	A1-A3 RF CONTROL 33W31223 2/10	33W31223 2/10 M-1	
P.3-45/ 3-46	A1-A3 RF CONTROL 33W31223 3/10	33W31223 3/10 M-1	

From
MT07187
(MS2702A)
MT26187
(MS2802A)

-A-(-B- blank)



33W31223
APPLICATION

REVISIONS

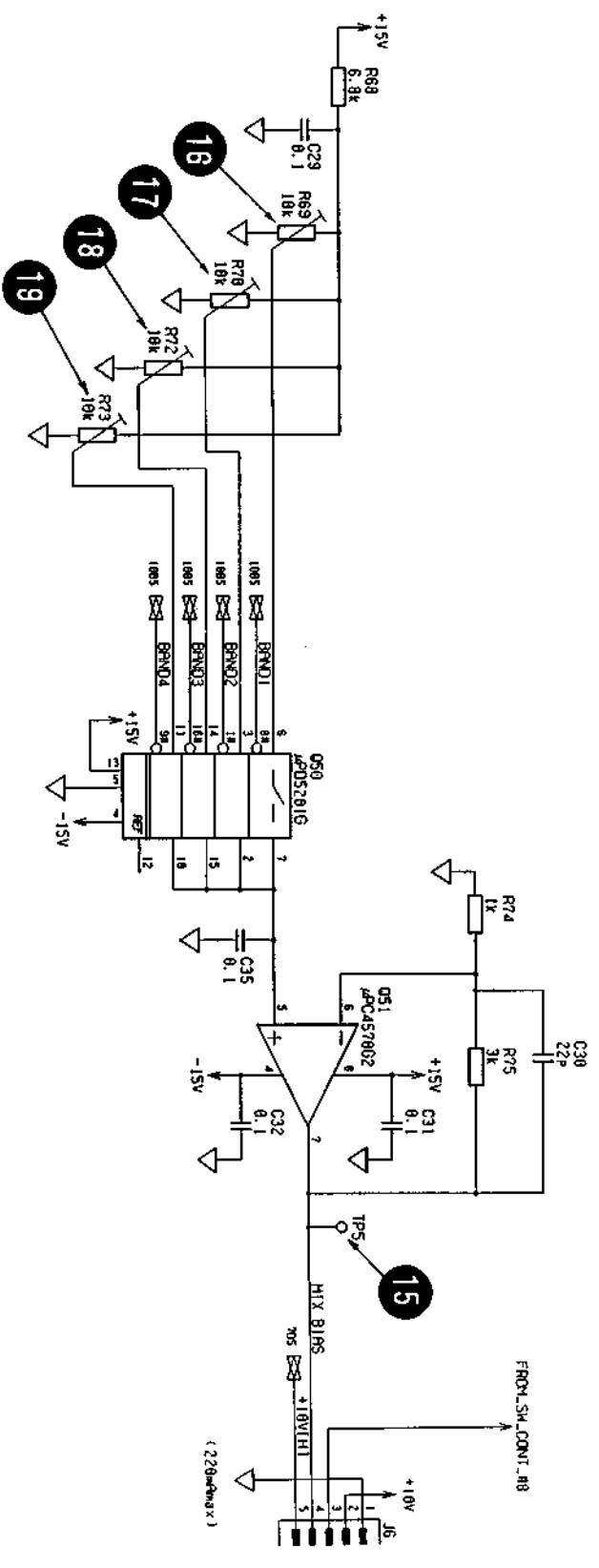


Fig. 3-16 (3/10)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY		
APPROVED BY		DESIGNED BY		
TITLE		SCALE	DRAWING No.	
A1-A3 RF CONTROL			33W31223	
			M-1	
			3	
			18	

9

DEP

1 2 3 4 5 6 7 8

A B C D E



WARNING

**NO OPERATOR SERVICEABLE PARTS INSIDE .
REFER SERVICING TO QUALIFIED PERSONNEL .**

CAUTION

**FOR CONTINUED FIRE PROTECTION REPLACE
ONLY WITH SPECIFIED TYPE AND RATED FUSE .**



HISTORY OF MODIFICATIONS
(MS2702A/2802A Ser.)

MAR.6 '92

ITEM	DESCRIPTION		Applicable Serial No.
	Before Modification	After Modification	
P.6-11	Parts List of: MS2702A SPECTRUM ANALYZER A1 24.5HZ CONVERTER (34W99612 1/2)		
	A4 Not labelled	A4 SW CONT	
P.6-11	Parts List of: MS2802A SPECTRUM ANALYZER A1 32GHZ CONVERTER (34W97978 1/3)		
	A4 Not labelled	A4 SW CONT	
P.6-17	Parts List of: A1-A3 RF CONTROL (34W96590 13/22)		
	Q115 IC,(μ PC16305H)	Q115 IC,(7905FM)	
P.6-65	Parts List of: A5 SCAN (34W96649 9/19,11/19)		
	Q40 IC,(TC74HC21AF)	Q40 IC,(74HC21F)	
	Q68 IC,(SN74LS196NS)	Q68 IC,(74LS196F)	
	Q71 IC,(SN74LS151NS)	Q71 IC,(74LS151F)	
	Q73 to Q75,Q79 to Q81 IC,(TC74AC163F)	Q73 to Q75,Q79 to Q81 IC,(74AC163F)	
	Q76 to Q78,Q85 IC,(TC74AC04F)	Q76 to Q78,Q85 IC,(74AC04F)	
	Q82 IC,(TC74AC08F)	Q82 IC,(74AC08F)	
	Q83 IC,(SN74ALS109ANS)	Q83 IC,(74ALS109F)	
	Q84 IC,(TC74AC74F)	Q84 IC,(74AC74F)	
P.3-31/ 3-32	A1(MS2702A) 24.5GHz CONVERTER 33W32558 1/1	 33W32558 1/1 M-1	
P.3-33	A1(MS2802A) 32GHz CONVERER 33W31404 1/1	 33W31404 1/1 M-1	From MT07187 (MS2702A) MT26187 (MS28202A)

HISTORY OF MODIFICATIONS
(MS2702A/2802A Ser.)

MAR.6 '92

ITEM	DESCRIPTION		Applicable Serial No.
	Before Modification	After Modification	
P.3-53/ 3-54	A1-A3 RF CONTROL (33W31223 7/10) Q115 μ PC16305H	Q115 7905FM	
P.3-285/ 3-286	A5 SCAN (33W31247 2/11) Q17 744052	Q17 74HC4052F	
P.3-287/ 3-288	A5 SCAN (33W31247 3/11) Q23 TC74HC298AF Q27 TC74HC139AF Q28 TC74HC283AF	Q23 74HC298F Q27 74HC139F Q28 74HC283F	
P.3-289/ 3-290	A5 SCAN (33W31247 4/11) Q32,Q33 TC74HC688AF	Q32,Q33 74HC688F	
P.3-291/ 3-292	A5 SCAN (33W31247 5/11) Q48 TC74HC4066F Q52 TC74HC191AF Q108 TC74HC4052AF	Q48 74HC4066F Q52 74HC191F Q108 74HC4052F	
P.3-295/ 3-296	A5 SCAN (33W31247 7/11) Q68 SN74LS196NS Q71 SN74LS151NS Q77 TC74AC04AF	Q68 74LS196F Q71 74LS151F Q77 74AC04F	
P.3-297/ 3-298	A5 SCAN (33W31247 8/11) Q73,Q74,Q75,Q79,Q80,Q81 TC74AC163F Q76,Q77,Q78,Q85 TC74AC04F Q82 TC74AC08F Q83 SN74ALS109ANS Q84 TC74AC74F	Q73,Q74,Q75,Q79,Q80,Q81 74AC163F Q76,Q77,Q78,Q85 74AC04F Q82 74AC08F Q83 74ALS109F Q84 74AC74F	From MT07187 (MS2702A) MT26187 (MS2802A)

HISTORY OF MODIFICATIONS
 (MS2702A/2802A Ser.)

MAR.6 '92

ITEM	DESCRIPTION		Applicable Serial No.
	Before Modification	After Modification	
P.3-299/ 3-300	A5 SCAN (33W31247 9/11) Q94 TC74AC4052AF	Q94 74AC4052F	From MT07187 (MS2702A) MT26187 (MS2802A)

-C-/(-D- blank)



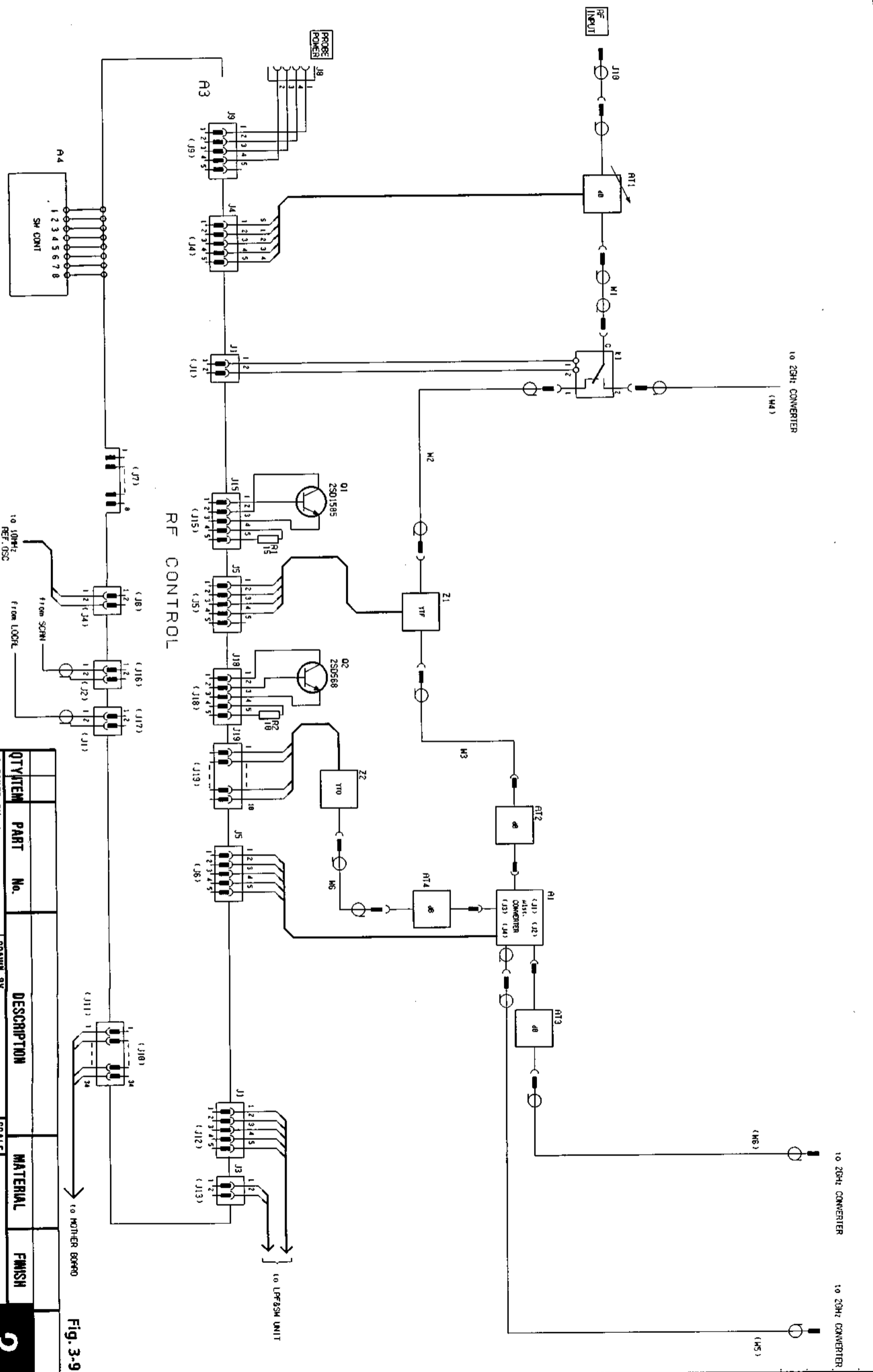


Fig. 3-9

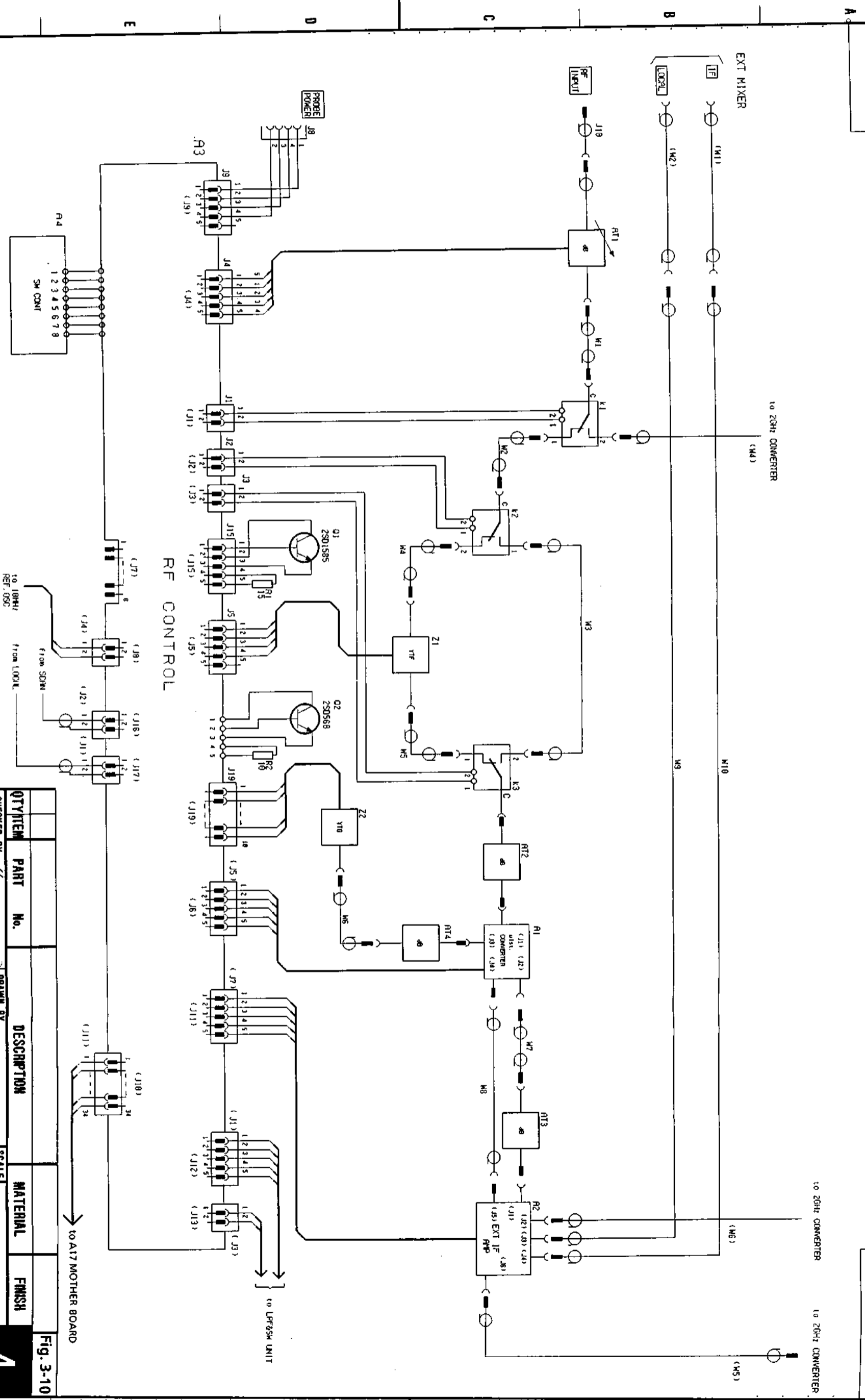
QTY/TEN	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Wang</i>		DRAWN BY	SCALE	
APPROVED BY <i>N. Shynar</i>		DESIGNED BY		
TITLE		DRAWING No.		
A1 (MS2702A) 24.5 GHz CONVERTER		33W32558		

3

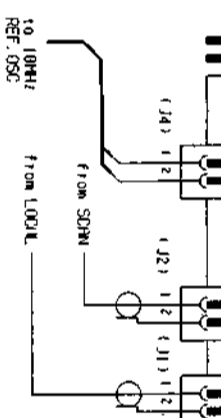
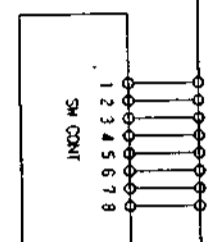


33W31404
APPLICATION

REVISIONS



RF CONTROL



QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *Jainyodan*
 APPROVED BY *N. Sarda*
 DRAWN BY
 DESIGNED BY *N. Sarda*
 SCALE
 M-1

TITLE
 A1 (MS2802A) 32 GHz CONVERTER
 DRAWING No. 33W31404

Fig. 3-10

HISTORY OF MODIFICATIONS
(MS2702A/2802A Ser.)

ITEM	DESCRIPTION		Applicable Serial NO.
	Before Modification	After Modification	
P.6-12	Parts List of: A1-A1 μ 1ST CONVERTER (34W96588 1/1) C3 Not Labeled Z4 Not Labeled	 C3 CER CAP,(TSFD40BSL1H220K) 22pF Z4 BEF	From MT07187 (MS2702A) MT26187 (MS2802A)
P.3-35	A1-A1 μ 1ST CONVERTER 33W31221 1/1	 33W31221 1/1 M-1	



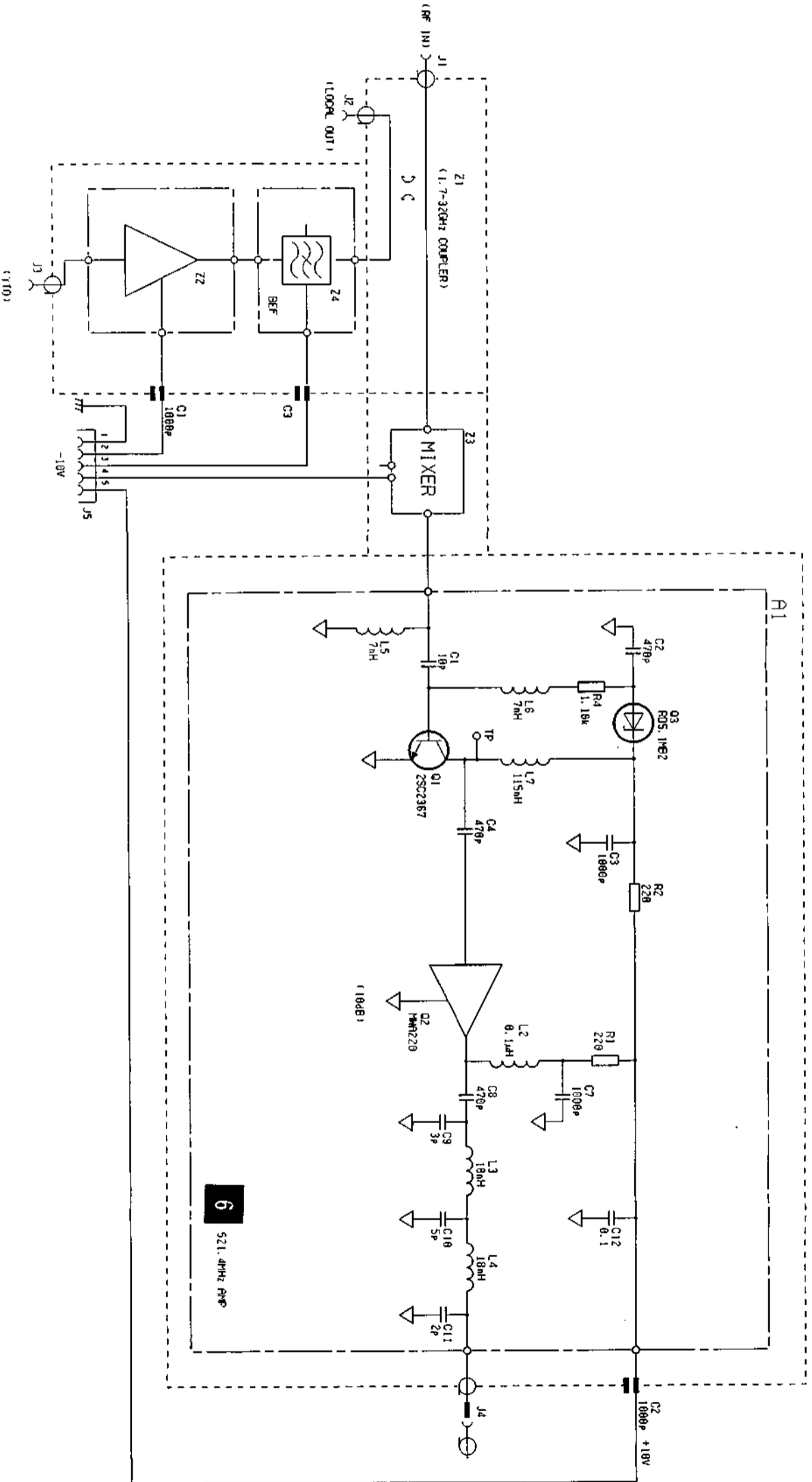


Fig. 3-12

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL
CHECKED BY <i>Ameyappa</i>		DRAWN BY	
APPROVED BY <i>N. Sanyam</i>		DESIGNED BY <i>N. Sanyam</i>	
TITLE		SCALE	
A1-A1 U 1st CONVERTER			
DRAWING No.			
33W31221			

5
6

HISTORY OF MODIFICATIONS
(MS2702A/2802A Ser.)

ITEM	DESCRIPTION		Applicable Serial NO.
	Before Modification	After Modification	
P.6-74	Parts List of: A6 IF LOG/DET (34W96537 26/47)		From MS2702A: MT07187 MS2802A: MT26187
	Q154 IC, (CS5014-KD14)	Q154 IC, (CS5014-KP14)	
P.3-259/ 3-260	A6 IF LOG/DET (33W31175 9/11)		
	Q154 CS5014-KD14	Q154 CS5014-KP14	

21
2
16



HISTORY OF MODIFICATIONS
(MS2702A/2802A Ser.)

ITEM	DESCRIPTION		Applicable Serial NO.
	Before Modification	After Modification	
P.6-82	Parts List of: A9 DISP CPU (34W96802 3/10)		
	Q11 IC.(74HC163F)	Q11 IC.(TC74AC163F)	
P.3-329/ 3-330	A9 DISP CPU (33W31289 2/9)		
	Q11 74HC163	Q11 74AC163	From MT18683



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SECTION 1

GENERAL

This manual describes how to troubleshoot and adjust the MS2702A/MS2802A Spectrum Analyzer. It is composed of the following sections.

SECTION 2 CIRCUIT DISCRIPTION

This section describes the operation of each circuit.

SECTION 3 TROUBLESHOOTING AND ADJUSTMENT

This section describes troubleshooting procedures, and adjustment procedures.

SECTION 4 OVERALL ADJUSTMENT AND CALIBRATION OF COMPENSATION DATA

This section describes overall adjustment procedure, and how to enter the compensation data for internal characteristics after repair.

SECTION 5 MECHANICAL CONFIGURATION

This section describes the mechanical parts and how to disassemble each unit (PC-board etc.)

SECTION 6 REPLACEABLE PARTS

This section includes the parts list and describes how to order replaceable parts.



SECTION 2

CIRCUIT DESCRIPTION

2.1 Overall Circuit Description

The MS2702A/MS2802A is a superheterodyne system scanning-type spectrum analyzer.

In the MS2702A/MS2802A, the input signal route varies according to the measurement frequency range. When the measurement range is in bands 1-, 1+, 2+, 3+, and 4+ (1.7GHz min.), the input signal is switched to the 32 GHz CONVERTER route. When the measurement range is in the 0 band (2 GHz max. or 1.7 GHz max. at AUTO band), the input signal is switched to the 2 GHz CONVERTER route.

When using the 32 GHz CONVERTER and the measurement range is in bands 1- and 1+ (8.5 GHz max.), the input signal is mixed in the mixer with the YTO fundamental wave and converted to a 521.1 MHz IF signal; when the measurement range is in band 2 or above, the input signal is mixed with the YTO higher harmonics and converted to the 52.1 MHz IF signal. The converted signal is output to the 2 GHz CONVERTER. If the measurement frequency range is 1.7 to 24.5 GHz (bands 1-, 1+, 2+, 3+), the input signal is passed through a YTF (preselector) to drop the image signal.

When the input signal is input directly to the [2 GHz CONVERTER], the input signal is mixed with the 1st LOCAL signal at the 1st MIXER and is converted to the 2.5214 GHz 1st IF signal.

The 1st IF signal is mixed with the 2nd LOCAL signal at the 2nd MIXER and is converted to the 521.4 MHz 2nd IF signal.

The 1st and 2nd LOCAL OSC frequencies are stabilized in the PLL (Phase Locked Loop) circuits based on the reference signal supplied by [REFERENCE OSC]. The SCAN GENERATOR circuit of [SCAN] sweeps the YTO (1st LOCAL OSC) frequency.

The 521.4 MHz signal from the [32 GHz CONVERTER] or the 521.4 MHz 2nd IF signal is mixed with the 3rd LOCAL signal at the 3rd MIXER of [2 GHz CONVERTER] and is converted to the 21.4 MHz final IF signal.

The [2 GHz CONVERTER] has internal calibration signals for LOG LINEARITY, REFERENCE LEVEL, GAIN, CENTER FREQ, and RBW.

The 21.4 MHz IF signal passes through variable gain amplifiers and BPFs of [IF BPF] which determine RBW (resolution bandwidth) and also passes through LOG or LIN amplifiers of [IF LOG/DET] for detection.

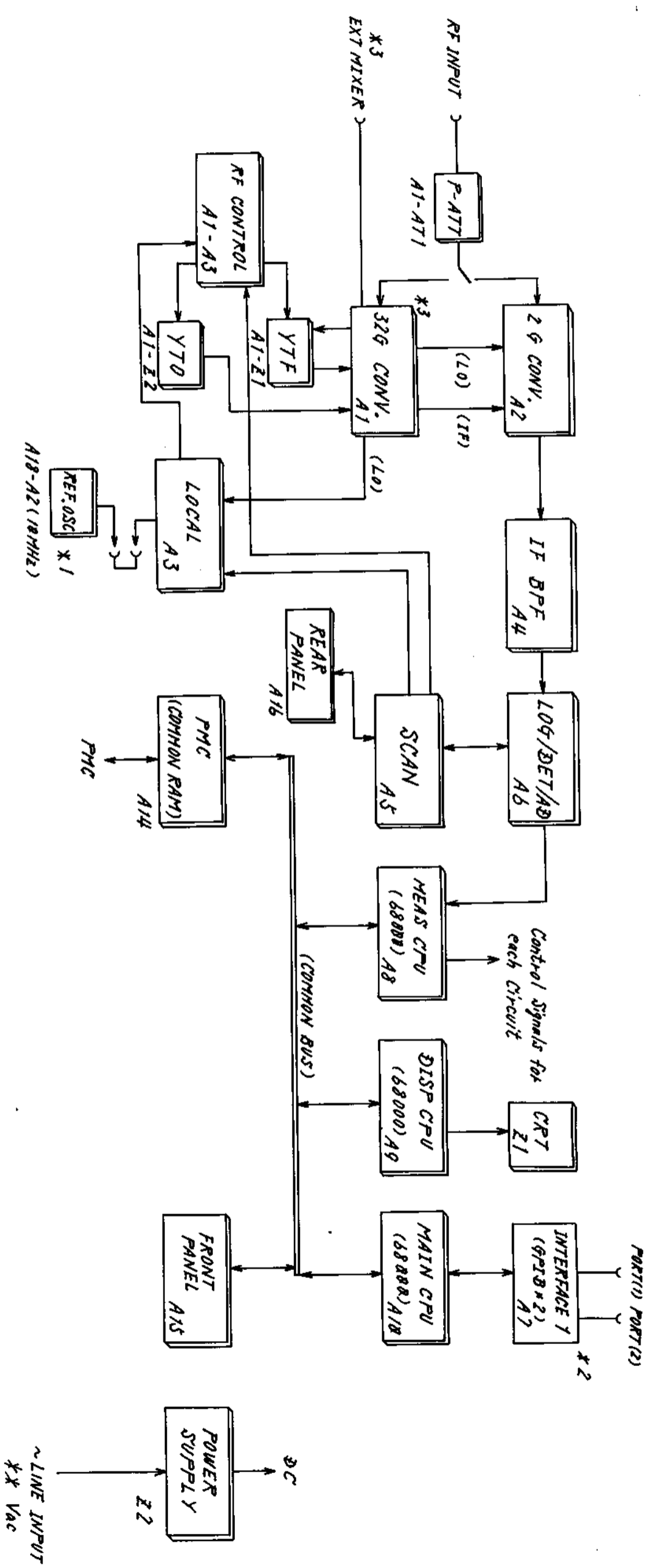
The detected signal passes through the VF (Video Filter) and is converted to a digital signal by the A/D converter.

The converted digital signal is processed at [MEAS CPU] and sent to [DISP CPU] via COMMON RAM for display on the CRT.

The data (frequency, reference level value, etc.) entered at the [FRONT PANEL] panel keys is sent to the [MAIN CPU] which controls each unit depending on the data content.

[MAIN CPU (PTA)], [MEAS CPU] and [DISP CPU] have each one CPU, and configure the multi-processor system through a common bus and common RAM. (Refer to Fig.2-1) The [INTERFACE (1), INTERFACE (2), or INTERFACE (3)] is connected to the [MAIN CPU] I/O bus. The [FRONT PANEL] is connected with COMMON bus.

The PMC is connected to COMMON BUS via connectors. Each analog circuit is controlled by the [MEAS CPU].



X 1 For OPTION R1
 * 2 For OPTION R2 : A13 INTERFACE (3)
 For OPTION R3 : A12 INTERFACE (2)
 X 3 For the MS2702A,
 the 32G CONV. changes to 24.5Ghz CONV.
 and the EXT MIXER part is omitted.

Fig. 2-1 MS2702A/MS2802A
 Block Diagram
 2-3/(2-4 blank)

2.2 RF Section

2.2.1 A2 2 GHz CONVERTER

The A2 2 GHz CONVERTER is a frequency conversion unit that receives the signal (100 Hz to 2 GHz) from the RF INPUT through the A1 32 GHz CONVERTER, and converts it to 21.4 MHz IF signal.

The 2 GHz OSC of the 2nd-local oscillator is also included in this block.

(1) A2-Z1 2 GHz LPF

This LPF prevents reception of spurious signals such as image frequencies of the A2-Z2 2 GHz MIXER.

(2) A2-A2 EQU AND SWITCH

This circuit switches RF signal to 625 kHz CAL signal or vice versa.

(3) A2-A3 1st LO AMP

This circuit amplifies the 1st-local signal from the A1 32 GHz CONVERTER, and sends it to the A2-Z2 2 GHz MIXER.

(4) A2-Z2 2 GHz MIXER

This circuit mixes the input signal with the 1st local signal from A2-A3 1st LO AMP to convert it to a 2.5214 GHz 1st IF signal.

(5) A2-Z3 DF

This filter allows only the 2.5214 GHz signal (from the A2-Z2 2 GHz MIXER) to pass through and sends it to the A2-A4 2.5214 GHz IF AMP.

(6) A2-A4 2.5214 GHz IF AMP

This circuit amplifies the 1st IF signal.

(7) A2-Z4 4 GHz LPF

This LPF prevents reception of spurious signals such as residual responses born from interaction between 1st-local signals and 2nd-local signals.

(8) A2-A11 2.5214 GHz BPF

This is the 1st IF BPF that consists of dielectric filters.

Since the signal is converted to 21.4 MHz by the A2-A5 2nd CONVERTER, this filter is designed to suppress the image frequency that is 42.8 MHz apart from the true frequency.

(9) A2-A5 2nd CONVERTER

This PCB (Printed Circuit Board) consists of 2nd converter circuit and 2nd local oscillator circuit.

The 2nd converter circuit mixes the 2.5214 GHz 1st IF signal with the 2 GHz 2nd-local oscillator signal, and converts it to a 521.4 MHz 2nd IF signal.

The 2nd-local oscillator receives a 500 MHz signal from A3 1st LOCAL UNIT which is used as the reference signal for the 2 GHz PLL. The output of the 2 GHz VCO is passed through a 1/4 divider and compared with the 500 MHz reference signal to create the loop-error voltage which is used for phase locking the 2 GHz VCO.

This circuit also includes a switch which switches the output signal between 521.4 MHz signal (received from A1 32 GHz CONVERTER) and the 521.4 MHz signal (generated within the 2nd CONVERTER).

(10) A2-A7 3rd CONVERTER

This converter mixes the 521.4 MHz 2nd-IF signal with a 500 MHz 3rd-local oscillator signal (derived from A3 1st LOCAL UNIT), and converts it to a 21.4 MHz IF signal, and feeds it to A4 IF BPF UNIT.

To compensate for the conversion loss & other losses in the A1-A1 μ 1st CONVERTER, the final stage of amplifiers is made gain-variable.

(11) A2-A9 625 kHz CAL OSC

This circuit generates a 625 kHz standard signal which is used for the calibration of the instrument.

The 625 kHz output level is accurately varied during the calibration processing.

2.2.2 A1 32 GHz CONVERTER (MS2802A)

The A1 32 GHz CONVERTER is a frequency conversion unit that receives the signal from the RF INPUT and converts it to a 521.4 MHz IF signal. Signals (from 100 Hz to 2 GHz) are processed at the A2 2 GHz CONVERTER unit while signals (from 1.7 GHz to 32 GHz) are processed in this unit.

(1) A1-J10 RF INPUT connector

This is an input connector with frequency characteristics similar to K-connector (K-connector, Wiltron Company, U.S.A.)

(2) A1-AT1 Programmable Attenuator

This RF attenuator is programmable attenuator variable from 0 to 55 dB in steps of 5 dB.

(3) A1-K1 Coaxial Switch

This switches the input signal between A2 2 GHz CONVERTER unit and A1 32 GHz CONVERTOR unit. Signals of frequency (100 Hz to 2 GHz) are processed by A2 2 GHz CONVERTER unit while signals (from 1.7 GHz to 32 GHz) are processed by 32 GHz CONVERTER unit.

(4) A1-K2 Coaxial Switch

This switch along with A1-K3 coaxial switch inserts or removes A1-Z1 YTF from the signal path.

(5) A1-Z1 YTF

This is a band pass filter which prevents the reception of spurious signals, such as image frequencies of the A1-A1 μ 1st CONVERTER.

(6) A1-K3 Coaxial Switch

In combination with A1-K2 coaxial switch, this inserts or removes A1-Z1 YTF from the signal path.

(7) A1-AT2 6 dB PAD

This is used for input-impedance matching of the A1-A1 μ 1st CONVERTER.

(8) A1-A1 μ 1st CONVERTER unit

This consists of 1.7 GHz to 32 GHz coupler, 1.7 GHz to 32 GHz harmonic mixer, 521.4 MHz IF amplifier, and 2 GHz to 8 GHz local power amplifier, local oscillator signal (generated by A1-Z2 YTO) is amplified by the 2 GHz to 8 GHz local power amplifier and coupled with the RF input signal and fed to the harmonic mixer. The harmonic mixer down-converts the RF input signal to a 521.4 MHz IF signal. This 521.4 MHz IF signal is amplified by the 521.4 MHz IF amplifier and fed to A1-A2 external IF amplifier.

(9) A1-Z2 YTO

This generates a predefined 1st local oscillator signal in the range of 2 GHz to 8 GHz.

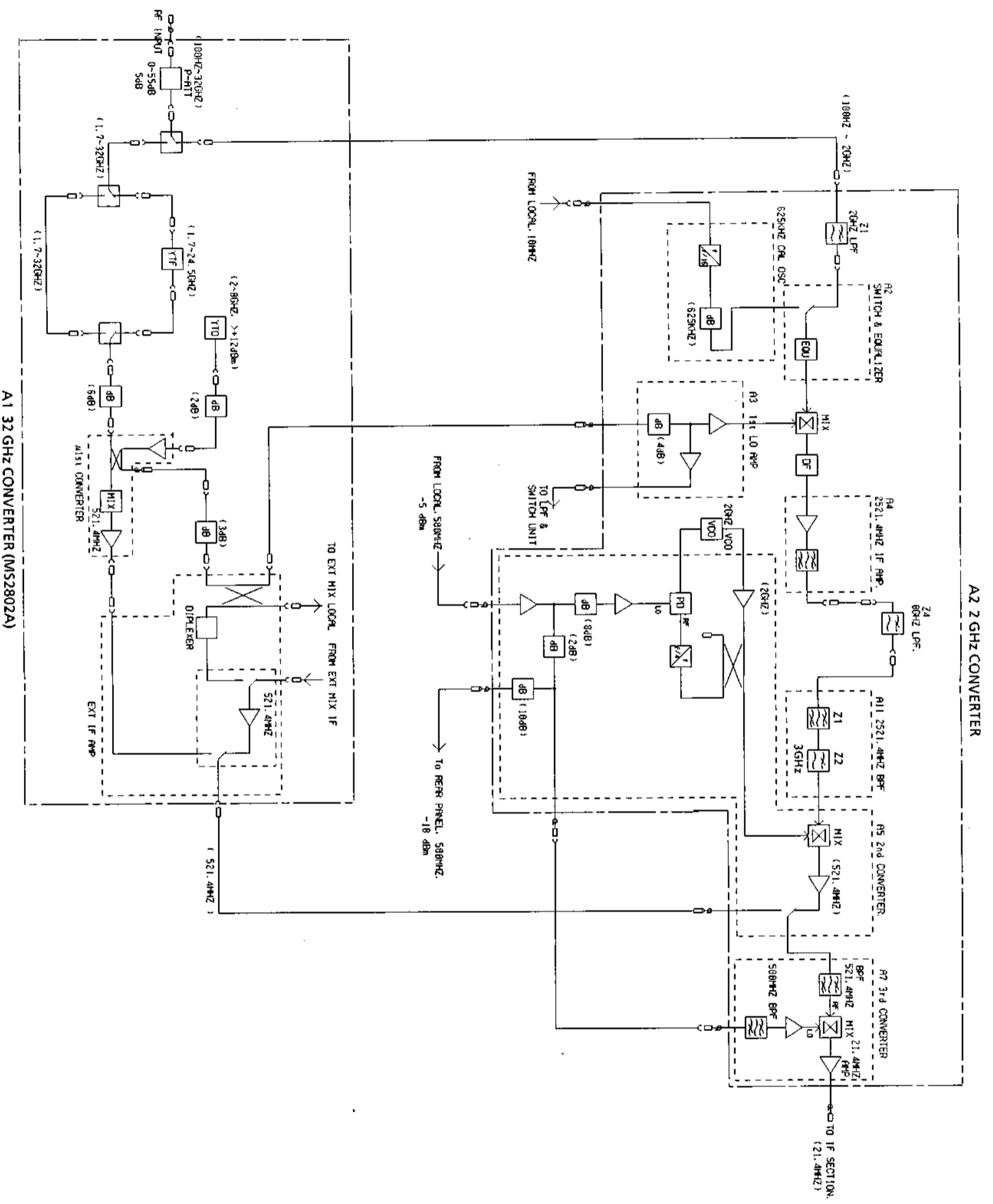
(10) A1-A2 EXT. IF AMP

This consists of circuits (to provide 1st-local oscillator signal for external mixer circuits for reception of 521.4 MHz signal from two-port and three-port external mixers), 521.4 MHz external IF amplifiers, and switching circuits. 1st-local oscillator signal (in the range of 3 GHz to 6 GHz at > +10 dBm) is coupled out at the local output port. The 521.4 MHz external IF signal [received through local port (for 2-port external mixer) or through external IF port (for 3-port external mixer)] is switched onto the external IF amplifier. A switch at the final stage selects the output between 521.4 MHz signal (received from A1-A1 μ 1st CONVERTER unit) and the amplified 521.4 MHz external IF signal. The output is fed to A2 2 GHz CONVERTER unit.

(11) A1-A3 RF CONTROL

This PCB consists of:

- ① YTO driver circuit of A1-Z2 YTO of A3 1st LOCAL unit
- ②
 - Power supplies
 - Control signals
 - Bias supplies A1-A2 EXT IF AMP of
 - A1-AT1 Programmable Attenuator
 - A1-K1, A1-K2, A1-K3 Coaxial Switches
 - A1-A1 μ 1st Converter of A1 32 GHz CONVERTER Unit.
- ③
 - Stand-by power supply
 - Switching control
 - Signals of A18 LPF & SW unit.



A1 32 GHz CONVERTER (MS2802A)

A2 2 GHz CONVERTER

Fig. 2-2 MS2802A RF Section
Block Diagram

2-9/(2-10 blank)

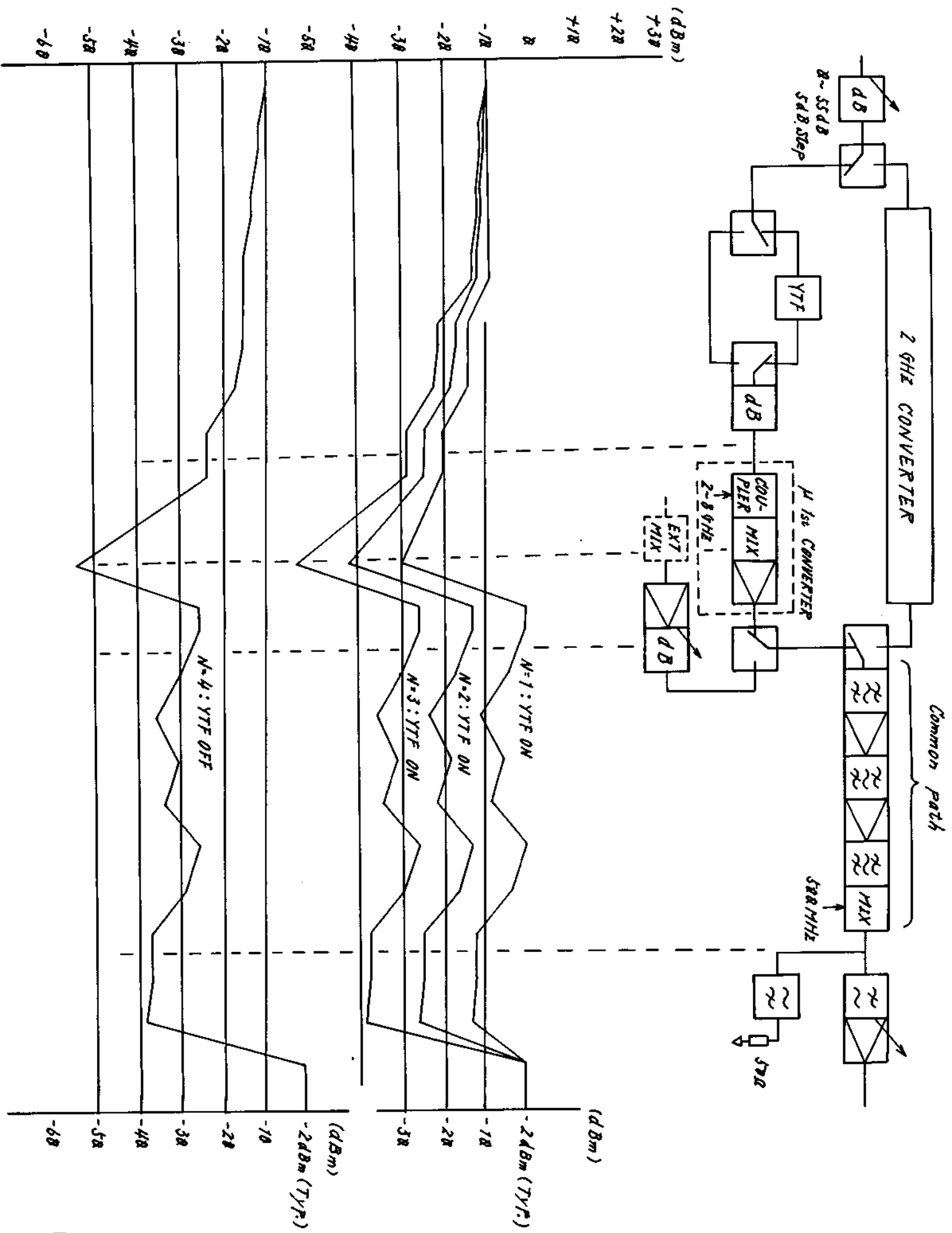


Fig. 2-3 RF Section: 32 GHz CONVERTER (A1) Level Diagram (MS2802A)

2-11/(2-12 blank)



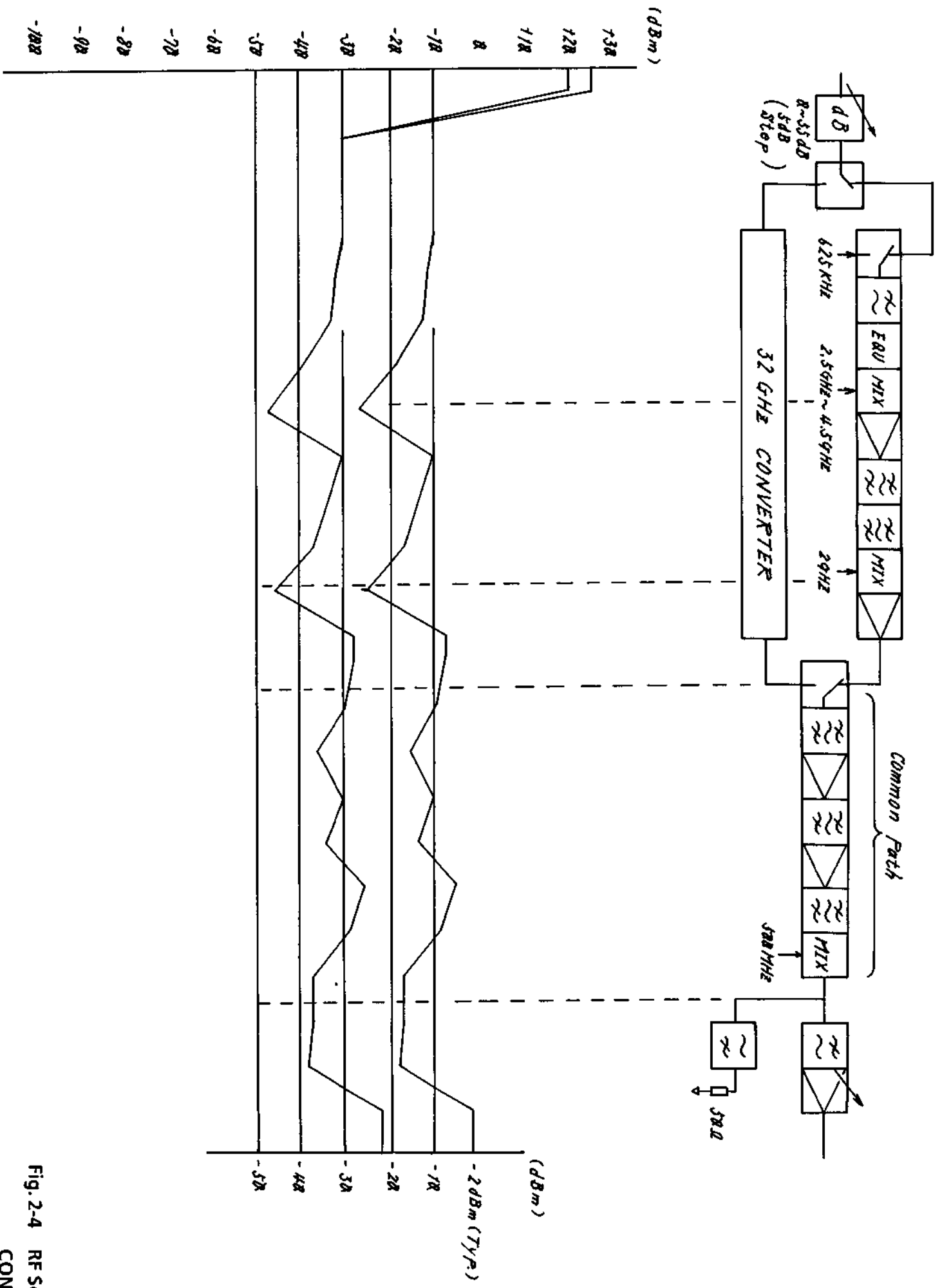


Fig. 2-4 RF Section: 2 GHz
CONVERTER (A2)
Level Diagram

2 - 13/(2 - 14 blank)

2.2.3 A1 24.5 GHz CONVERTER (MS2702A)

In the MS2702A, a 24.5 GHz CONVERTER replaces the 32 GHz CONVERTER of the MS2802A. Since no external mixer facility is available, the external IF amplifier and associated circuitry are not provided. The YTF of the MS2702A is different from that of MS2802A and it is always turned on in the 1.7 GHz to 24.5 GHz band.



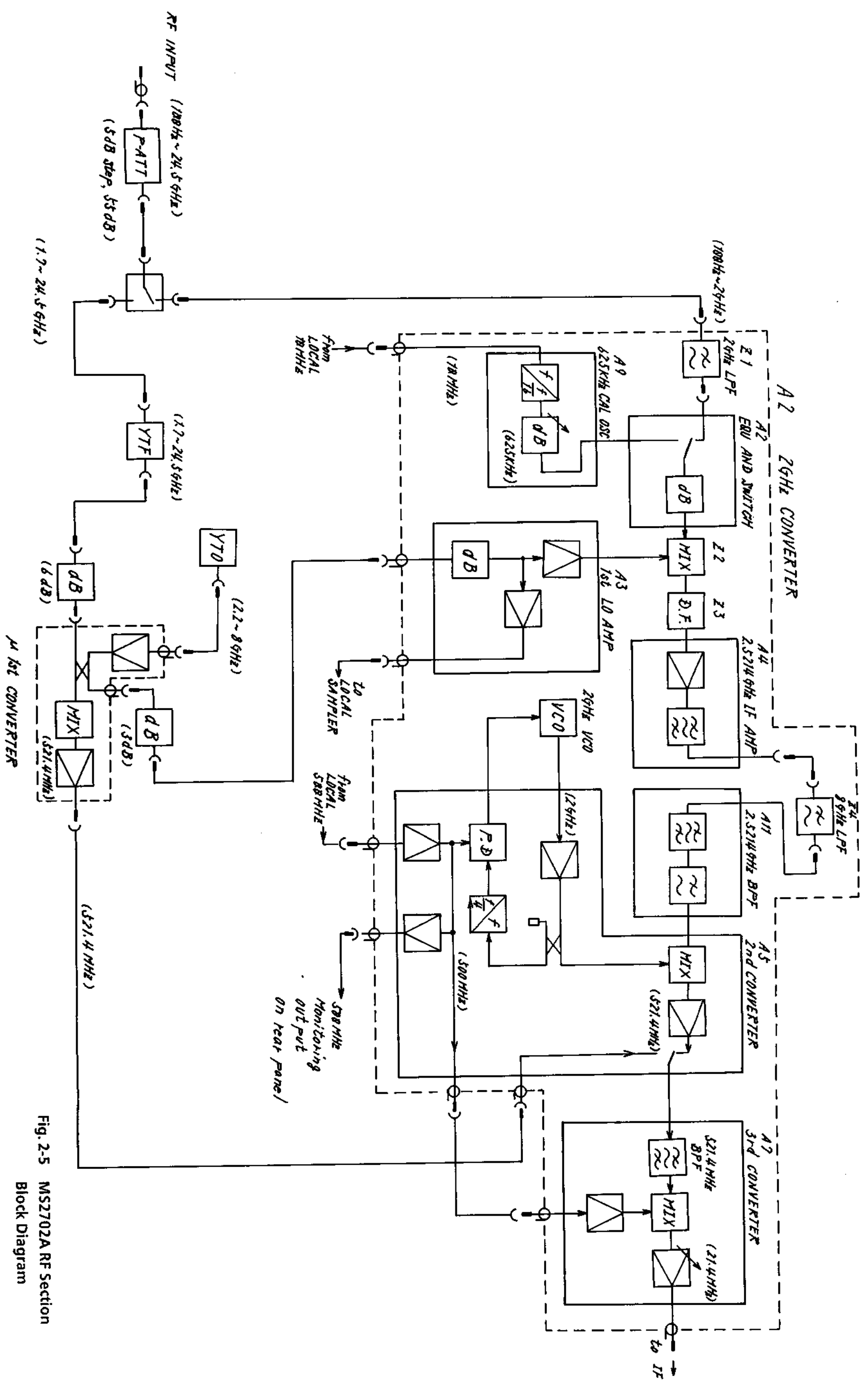


Fig. 2-5 MS2702A RF Section Block Diagram

2-17(2-18 blank)



2.3 A3 1st LOCAL UNIT

MS2702A/MS2802A utilizes a "LOCK & SWEEP" technique to generate the 1st local frequency signal. This local signal is used to convert the RF input frequency to a suitable fixed IF frequency (2521.4 MHz for 0 to 2 GHz band and 521.4 MHz for all other frequency bands).

1st local start frequency = RF input start freq + 2521.4 MHz for Band 0 (0 to 2 GHz)

1st local start frequency = RF input start freq + 521.4 MHz for Band 1 – (1.7 to 7.5 GHz)

1st local start frequency = (RF input start freq – 521.4 MHz)/N for Band N+ (Where N=1,2,3,4)

The above calculation gives the start frequency at which the YTO is locked. Similarly it is possible to obtain the 1st local stop frequency. If the difference (between the 1st local stop frequency and 1st local start frequency) is greater than 2 MHz, the YTO is first locked at the start frequency and then rolled in the required frequency span. If the above difference is less than 2 MHz, the YTO frequency is forced to be changed while remaining in the locked state.

Eg: For RF start frequency of 25 GHz (Band 4+) and span 8 MHz

$$1st\ local\ start\ frequency = (25000 - 521.4)/4 = 6119.65\ MHz$$

$$1st\ local\ stop\ frequency = (25008 - 521.4)/4 = 6121.65\ MHz$$

Hence the 1st local frequency span being 2 MHz, the YTO frequency is moved in the locked state by moving the REFERENCE frequency of the YTO PLL.

Eg: For RF start frequency of 25 GHz (Band 4+) and span 10 MHz

$$1st\ local\ start\ frequency = (25000 - 521.4)/4 = 6119.65\ MHz$$

$$1st\ local\ stop\ frequency = (25010 - 521.4)/4 = 6122.15\ MHz$$

Hence the 1st local frequency span being greater than 2 MHz, the YTO frequency is first locked at the start frequency 6119.65 MHz and then rolled in the 2.5 MHz frequency span.

How YTO locking is obtained (Corresponding circuits on A1-A3 RF CONTROL + A3-A1-Z1 SAMPLER + A3-A1-A5 YTO PLL CONT)

A1-Z2 YTO is brought near the required 1st local frequency by applying a tuning voltage by means of a D/A network (two 12-bit D/A for tuning 2000 to 8050 MHz, thus giving a tuning constant of 1 MHz/bit). The YTO is locked by placing it in a Phase Locked Loop (PLL) whose reference frequency is synthesized so as to make sure that the loop closes only when the YTO output frequency is equal to the start frequency. (Or the frequency at which it should be locked.)

Since the YTO being a current tuning oscillator (200 MHz/mA tuning constant), a loop error voltage to current converter (YTO drive circuit) is used. To reduce the frequency band of the synthesized reference, a polarity reversal technique is used at the loop filter output. In the sampler, the frequency-down conversion occurs so as to ensure.

$YTO \text{ frequency} - M * \text{Synthesized reference frequency} = 25 \text{ MHz}$ for the loop to lock. Thus by varying the synthesized reference frequency, the YTO is phase-locked to generate the start frequency as well as 1st local frequency spans up to 2 MHz are obtained.

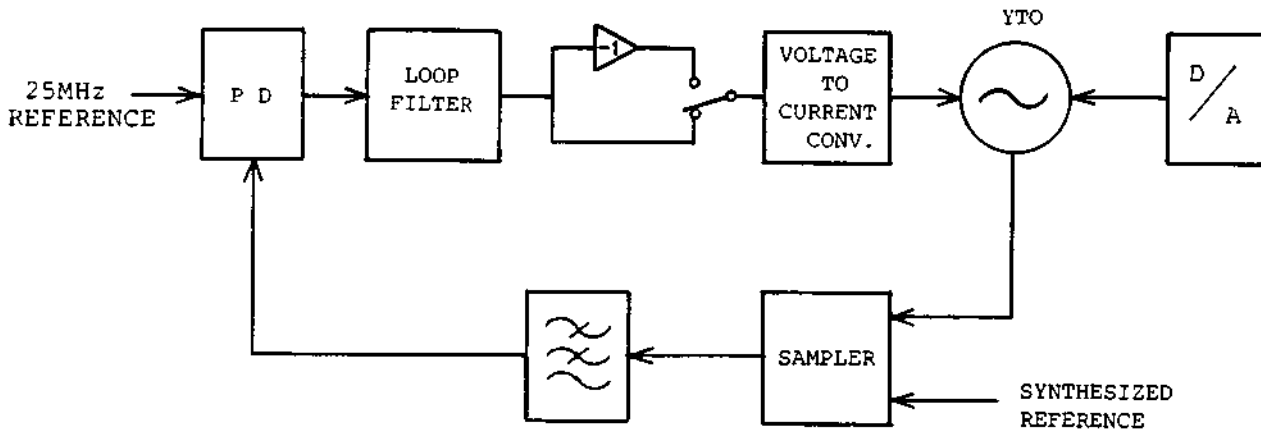


Fig. 2-6 YTO PLL Loop

How 1st local frequency span greater than 2 MHz is obtained. (Related circuit is on A1-A3 RF CONTROL)

At first, the YTO is locked at the 1st local starting frequency as explained above. After achieving the locking, the loop error voltage is held in a capacitor by using a Sample/Hold (S/H) integrated circuit (IC) and the phase-locked loop is broken thus untying the YTO, then a sweep signal of appropriate level is applied to the YTO to make it swing through the required frequency span.

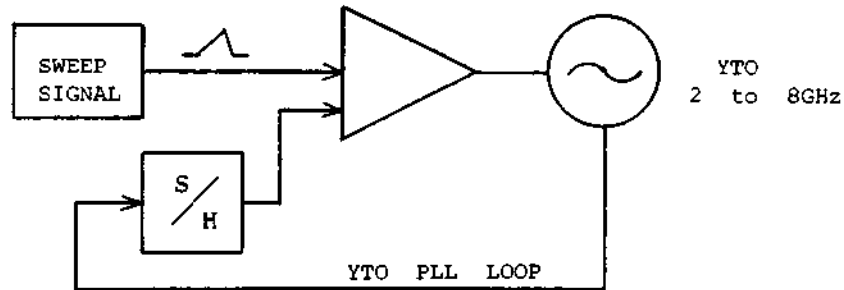


Fig. 2-7

How the synthesized reference signal is generated. (Using A3-A1 LOCAL UNIT (1) + A3-A2 LOCAL UNIT (2))

The reference (at which the YTO signal should be sampled) is calculated by MS2702A/MS2802A's CPU by an algorithm as shown in Fig. 3-35 and thereby calculating the required frequency output of each voltage controlled oscillator (VCO). A 1 Hz step synthesizer controls the last four digits (0 Hz to 9999 Hz) of the 1st local start frequency expressed in terms of Hz, while next two digits (10 kHz to 990 kHz) are taken care of by 10 kHz step synthesizer and the next two (1 MHz to 99 MHz) are managed by 1 MHz step synthesizer. Their proper combining is carried out by Summing Loop (1) & Summing Loop (2) and proper selection of M factor (M described above) is by 1/M Divider section.

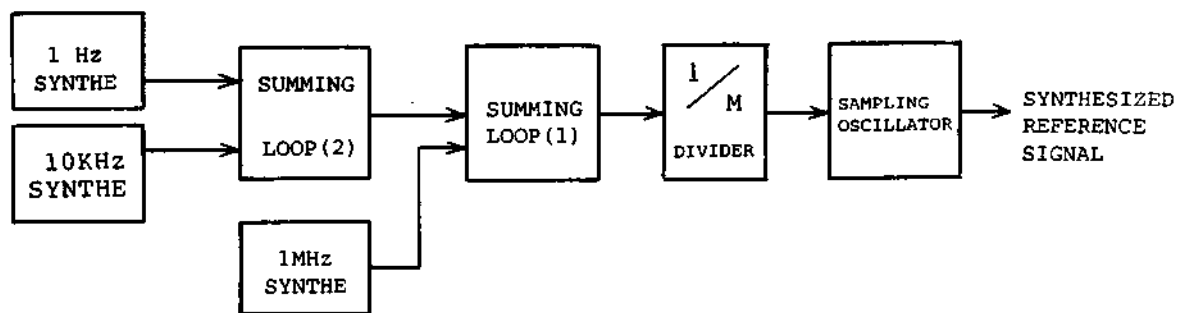


Fig. 2-8





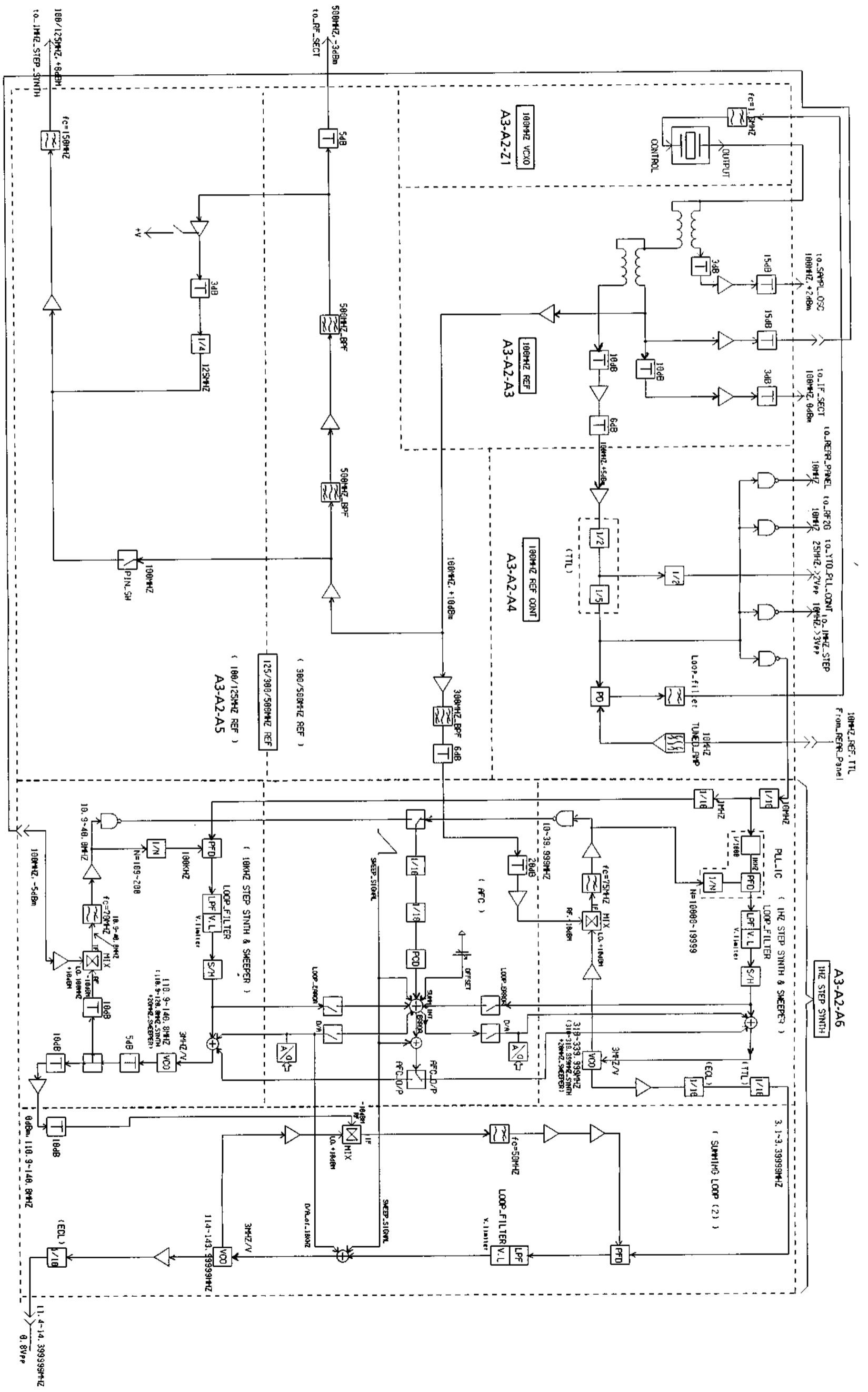


Fig. 2-10 MS2702A/MS2802A A3-A2 LOCAL UNIT (2) Block Diagram

2.4 A4 IF BPF

This block determines the amplifier gain in accordance with the RBW of the 21.4 MHz sent from the RF section 2 GHz CONVERTER (A2) and the reference level.

(a) Switching section

When the RBW is 30 kHz max., the 21.4 MHz IF signal from the RF 2 GHz CONVERTER is sent to STEP AMP&BPF (1) via the frequency converter; when the RBW is 100 kHz min., is sent directly to the STEP AMP&BPF (2).

(b) Frequency converter

When the RBW is 30 kHz max., the 21.4 MHz signal is converted to 450 kHz by the 20.95 MHz LOCAL signal and then it is sent to STEP AMP&RPF (1). After it has passed through STEP AMP&BPF (1), it is reconverted to the 21.4 MHz IF signal again and sent to STEP AMP&BPF (2).

(c) STEP AMP&BPF (1)

This is composed of a 3-stage step amplifier and 5-stage bandpass filter.

The STEP AMP is composed of a 2-stage 0/10 dB STEP AMP and a 1-stage 0/10/20 STEP AMP and the gain is changed according to the reference level and RF ATT.

The bandpass filter circuit composition is changed according to the RBW. When the RBW is 300 kHz max., a crystal filter is inserted; when it is 1 kHz min., it becomes an LC filter.

The principle of the 1 kHz to 30 kHz LC filters is described below.

The signal V is supplied to the high-Q LC parallel resonance circuit via the variable resistance R as shown below.

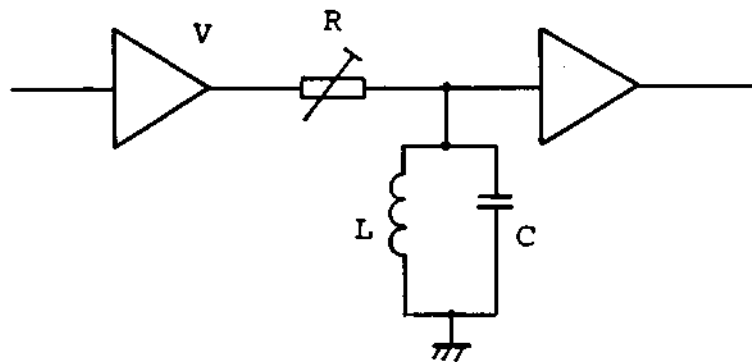


Fig. 2-11 Principle of LC Filter

The signal V is divided by the variable resistance R and the LC resonator because the input impedance of the buffer amplifier is high. If the L and C are ideal elements without any loss, the impedance of the LC resonator will be infinity at the resonance frequency, and the signal will be transmitted without any loss regardless of value R . When the frequency separates from the resonance frequency, the impedance of the resonator becomes small and the transmission loss becomes large because the signal V is divided by R . Therefore, when R becomes large, the BPF bandwidth becomes small and is controlled by the value R .

The principle of the 10 Hz to 300 Hz crystal filter is described below.

The crystal filter is composed of $C1$, which cancels the parasitic capacity such as the parallel capacity of crystal $X1$ and the output buffer amplifier, and the resonance circuits L and $C2$ as shown below.

By this parasitic capacity cancellation, the equivalent circuit becomes the LC-series resonance circuit as shown below.

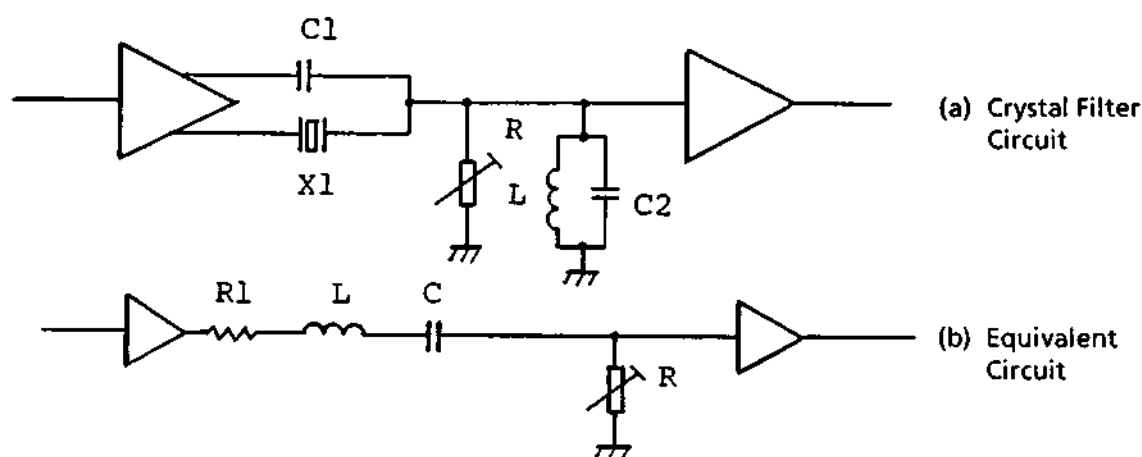


Fig. 2-12 Principle of Crystal Filter

If the crystal equivalent resistance is small enough and the buffer amplifier input impedance is high, the transmission loss is negligible.

When the signal frequency separates from the resonance frequency, the impedance of the crystal resonator becomes high and the signal is divided by R so that the transmission loss becomes large. Therefore, when R becomes small, the bandpass-filter bandwidth becomes small and the bandwidth is controlled by the value R .

In the actual circuit, the resonance circuit for crystal-filter parasitic capacity cancelling is the same as the LC-filter resonance circuit.

Also, since neither the LC-filter circuit nor the crystal-filter circuit is an ideal resonance circuit, the loss changes when the bandwidth (RBW) is switched. The amplifier gain is changed by the switch circuit to reduce the deviation when the RBW is switched.

(d) STEP AMP&BPF (2)

This block is composed of a 5-stage STEP AMP and a 4-stage (RBW 100 kHz min.) bandpass filter.

The STEP AMP is composed of a 3-stage 10/20 dB STEP AMP, a 1-stage 4/8 dB STEP AMP and a 1-stage 1/2/3 dB STEP AMP, and the gain is changed according to the reference level and RF ATT. The bandpass filter is composed of an LC filter. The operation principles are the same as the STEP AMP&BPF (1).

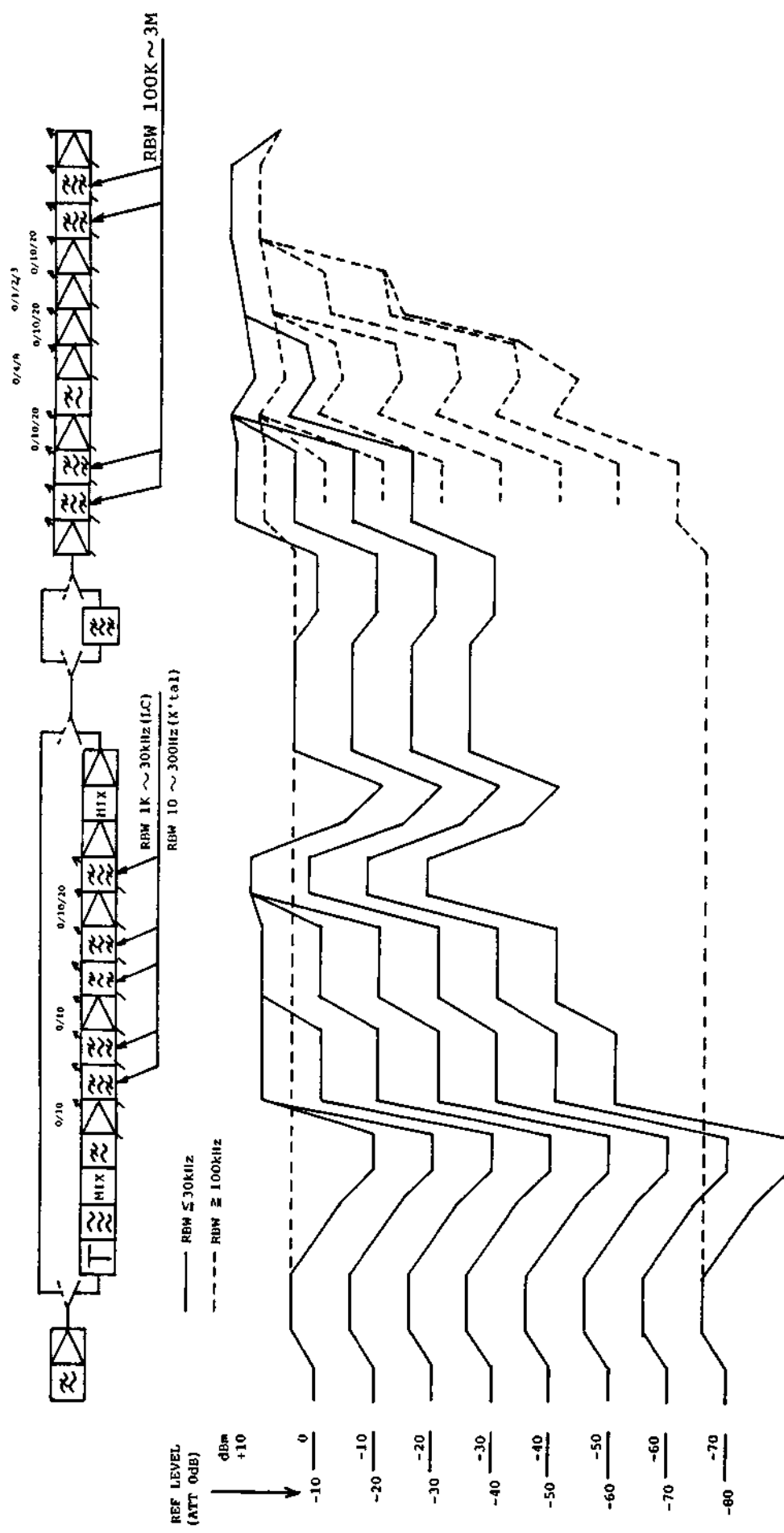


Fig. 2-13 MS2702A/MS2802A IF BPF Level Diagram

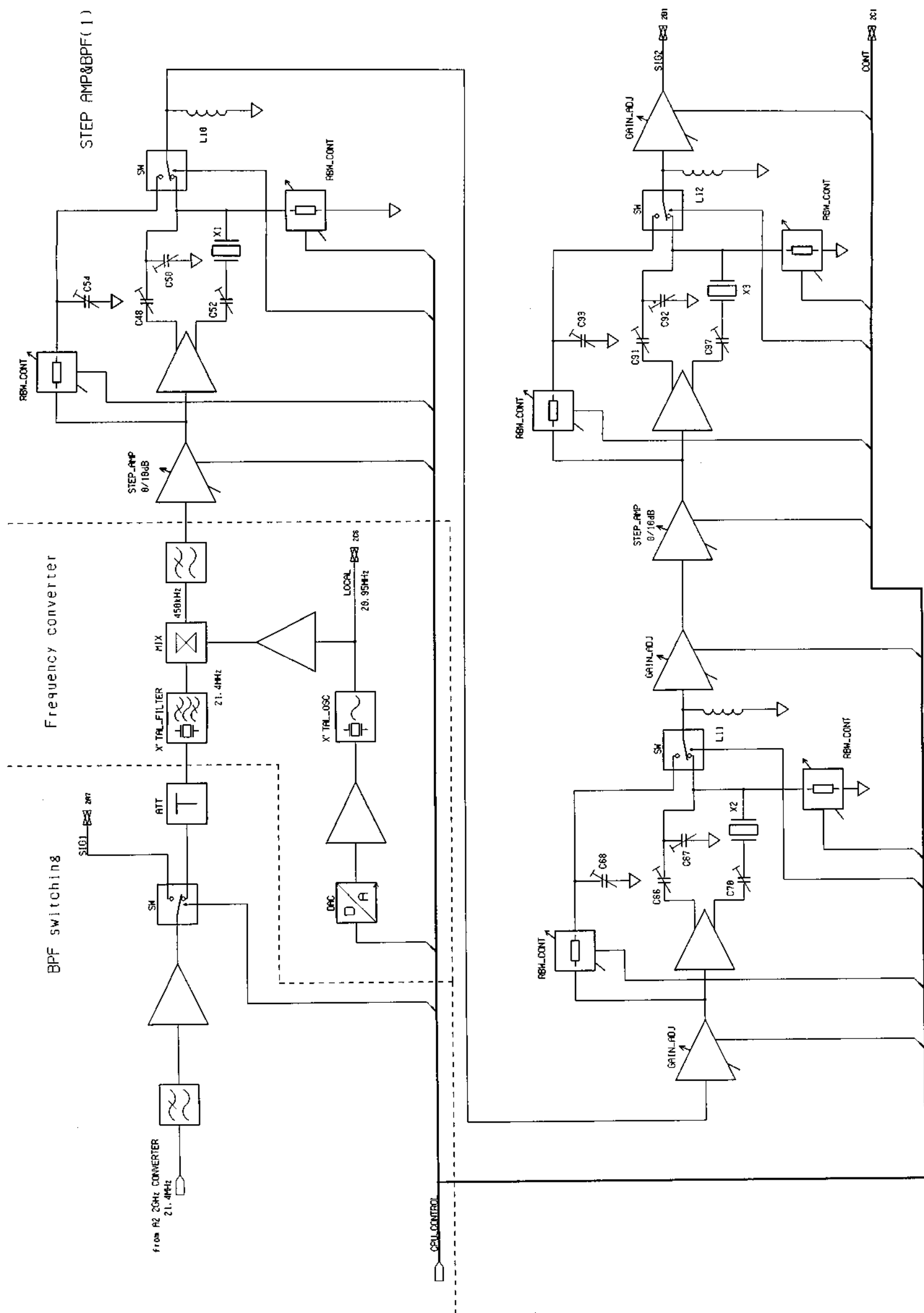


Fig. 2-14 (1/2) MS2702A/MS2802A IF BPF
Block Diagram

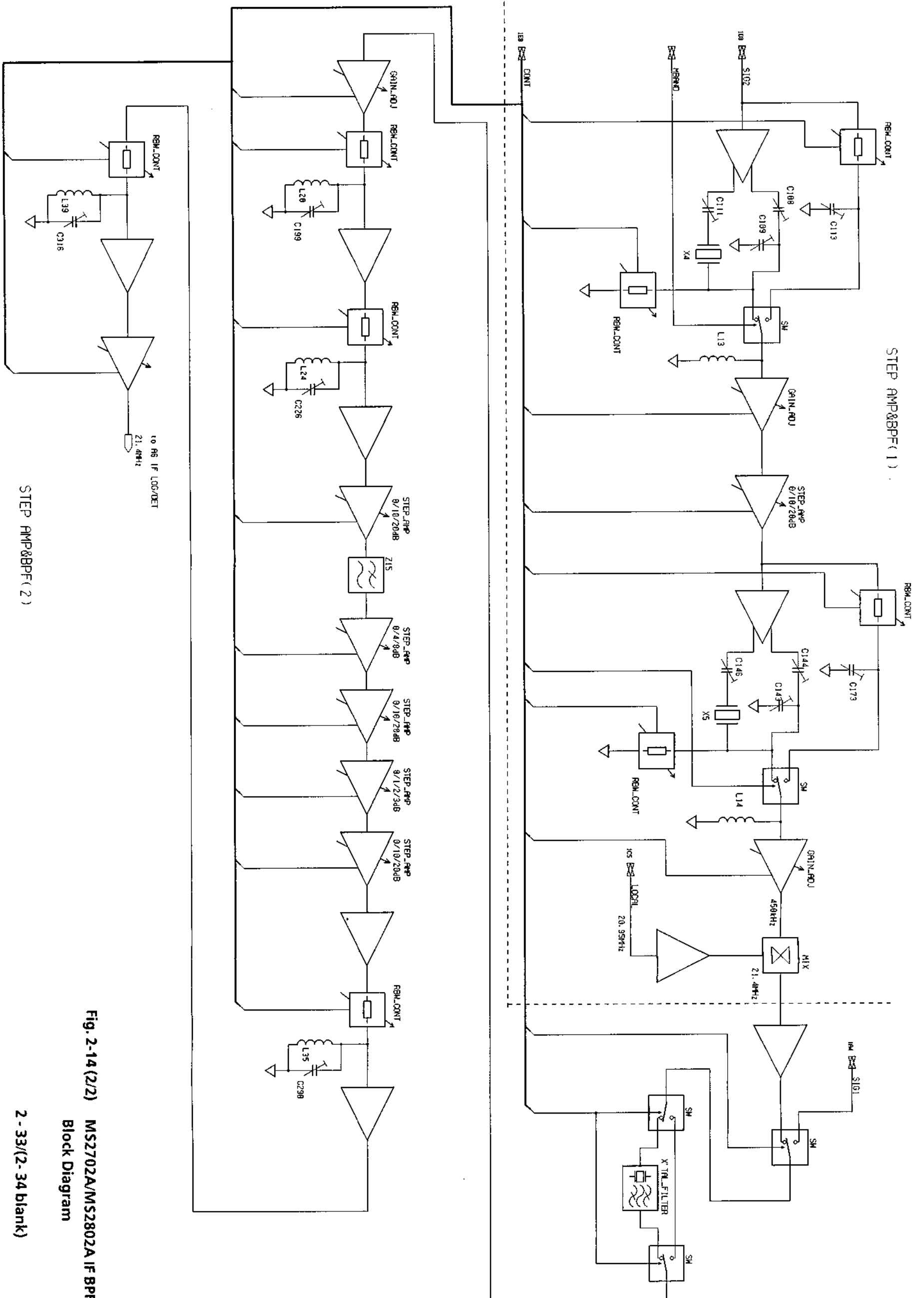


Fig. 2-14 (2/2) MS2702A/MS2802A IF BPF
Block Diagram

STEP AMP&BPF(2)

2 - 33/(2-34 blank)



2.5 A6 IF LOG/DET

After A6 LOG/DET has log-compressed the 21.4 MHz signal from A4 IF BPF with the LOG/LIN amplifier, it is detected by the envelope detector. After the detected signal has been passed through the video filter (LPF), it is converted to a digital signal by the A/D converter and sent to A8 MEAS CPU. In addition, A6 IF LOG/DET sends the IF signal to A8 MEAS CPU for frequency counter and outputs the demodulated signal from AM/FM Demodulator to the speaker.

(a) LOG/LIN AMP

LOG/LIN AMP is composed of a 9-stage log-compression amplifier with a gain of approx. 12 dB at each stage. The LOG scale has a dynamic range of 100 dB min. When an LC-type BPF is inserted in the first stage of the LOG/LIN AMP, the S/N ratio at a narrow-band RBW is improved.

In the LIN mode, the last two stages operate as a linear amplifier and the other stages operate as a gain-1 amplifier. In the LIN mode, a 6-dB attenuator is inserted before the A/D converter.

(b) Detector

The 21.4 MHz signal that has passed through the LOG/LIN AMP is full-wave rectified and converted to a DC voltage.

(c) Video filter

This is a cut-off frequency variable RC-type LPF.

(d) A/D converter

This is composed of PEAK HOLD, DIP HOLD, SAMPLE&HOLD, and A/D conversion circuits as well as their control circuits. The PEAK HOLD and DIP HOLD circuits save the maximum and minimum value, respectively, of the detected signal between each sampling point. The SAMPLE&HOLD circuit saves the value of the sampling-point detection signal.

The A/D conversion circuit uses a 14-bit, 14- μ s conversion-time CMOS IC. The converted 14-bit digital data is sent serially to A8 MEAS CPU.

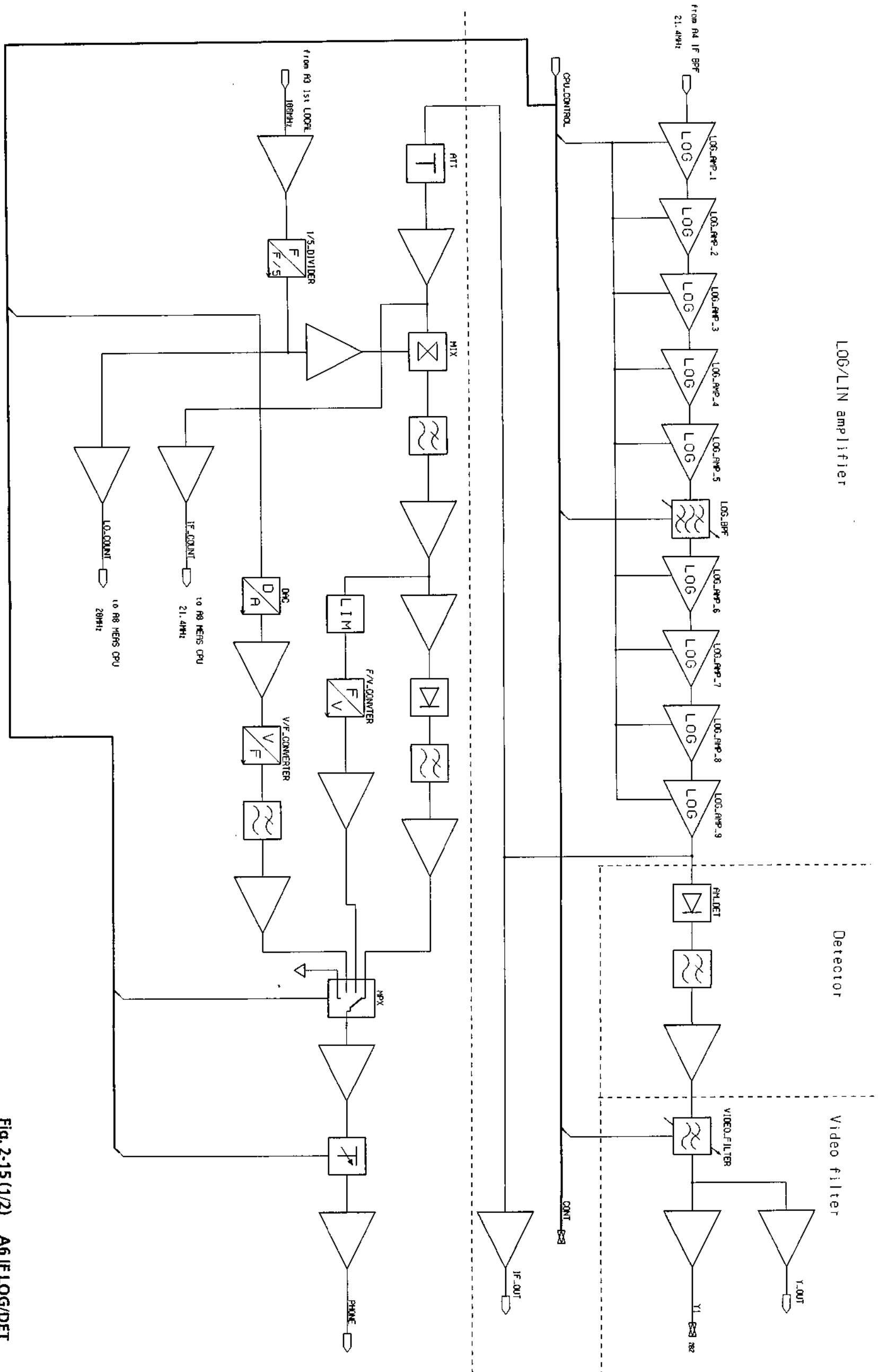
The control circuits generate the PEAK/DIP HOLD detection-circuit reset signal, the A/D start signal and channel-switching signal at 2ch-sweep (based on the sampling clock sent from A5 SCAN) to control the timing.

(e) AM/FM demodulator

This creates the 20 MHz signal by dividing the 100 MHz signal from A2 LOCAL into 5, as well as the 1.4 MHz IF signal from the 21.4 MHz IF signal. It performs detection with a full-wave rectification-type detector at AM, and demodulation with an FM demodulator at FM. These signals and the buzzer signal made by V-F conversion are switched by the switch and output to the speaker.

(f) Frequency counter

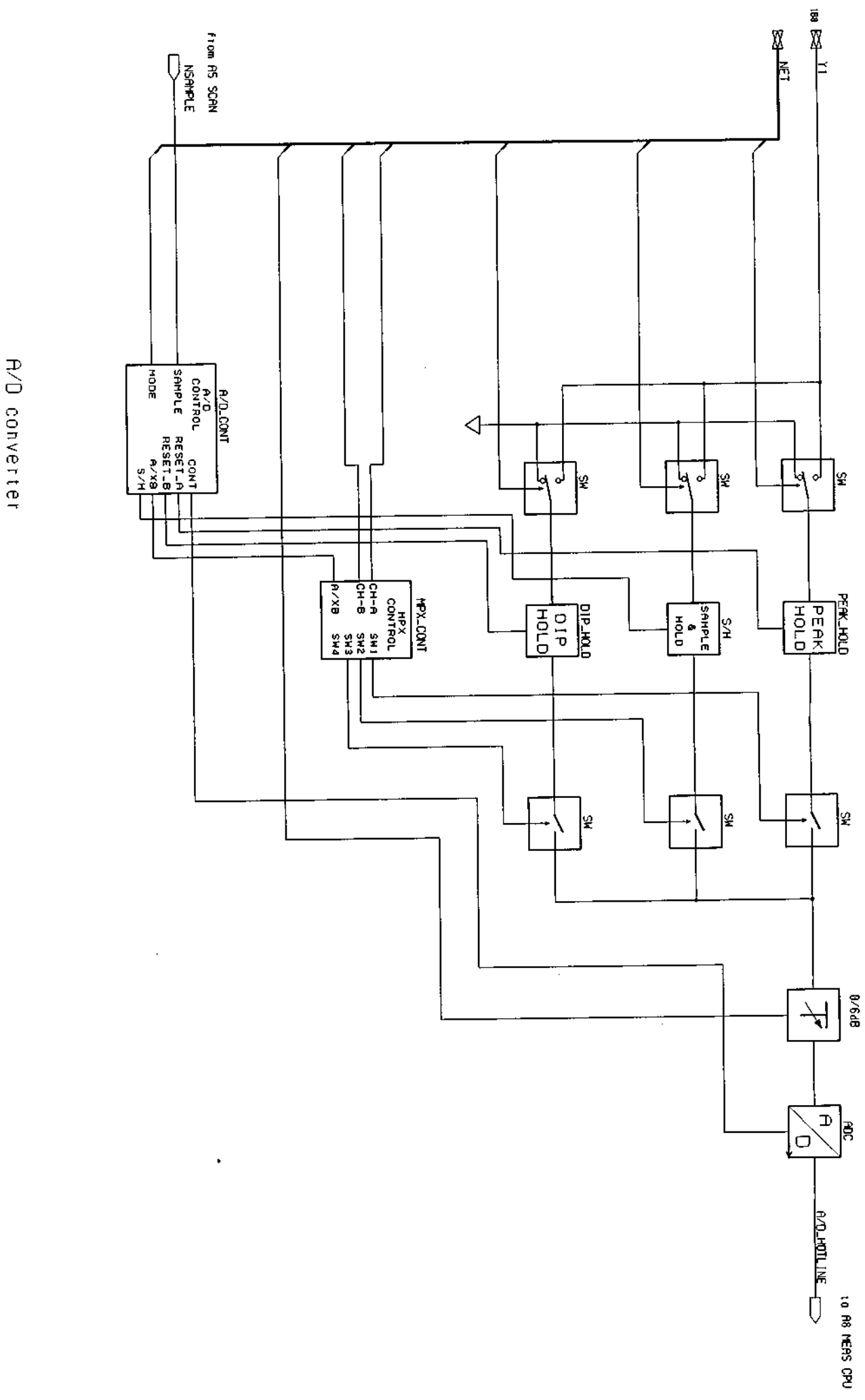
The 20 MHz signal and the 21.4 MHz IF signal before detection are sent to A8 MEAS CPU to be used by the frequency counter.



FM/AM demodulator

Fig. 2-15 (1/2) A6 IF LOG/DET
Block Diagram

2 - 37/(2- 38 blank)



A/D converter

Fig. 2-15 (2/2) A6IF LOG/DET
Block Diagram

2.6 A5 SCAN

A5 SCAN generates the clock supplied to the A/D converter and the SPAN signal for sweeping the LOCAL frequency. A5 SCAN is composed of the sweep signal generator, the X address-counter, the clock generator (TIME), the sampling clock generator, the trigger circuit and their respective control circuits.

(a) Sweep signal generator

This circuit operates when the display mode is not TIME. It generates a saw-tooth wave with a charge time that corresponds to the sweep time by varying the charging current to a condenser. The SPAN voltage for sweeping the LOCAL frequency is created based on this signal and supplied to A1 32 GHz CONVERTER and A3 1st LOCAL UNIT. The SPAN frequency is changed by varying this SPAN voltage using an attenuator.

(b) X address-counter

X address displays the data-point number on the screen horizontal axis. It is set by the sampling clock count at the counter as described below. The counter output is input to the D/A converter and this output becomes the X-SCAN signal. When the display mode is not TIME, the sweep signal voltage and the X-SCAN voltage are compared by the comparator and the output becomes the sampling clock. This clock is counted at the counter and the counter output is sent to the D/A converter; the X-SCAN signal voltage is increased at each count and the next clock is generated by comparison with the sweep signal. This operation is repeated and the SCAN-END signal is output when X address becomes the defined number of points.

When the display mode is TIME, the sampling clock is counted and the sweep-end signal is output when X address becomes the defined point number.

(c) Clock generator

When the display mode is TIME, the clock generator outputs the sampling clock based on the signal divided by the 20 MHz quartz crystal oscillator. When TIME SPAN is more than 100 ms, the divided signal is used directly as the sampling clock. When it is 100 ms or less, it becomes the equivalent sampling mode. In the equivalent sampling mode, by triggering the detection-output-signal periodic waveform, one sampling clock is output every period and the Nth sampling clock is output at $N\Delta T$ seconds after the trigger point. (ΔT seconds: a period of quartz-crystal-oscillator divided signal)

(d) Sampling clock generator

The sampling clock and the clock address signal are generated based on the X-address-counter comparator output and the clock generated by the clock generator.

When the sweep time is more than 700 ms; the clock interval time becomes long, the voltage holding time (in the A6 IF-LOG/DET PEAK-HOLD/DIP-HOLD) becomes long, and then the measurement error is increased. To suppress the measurement error, the sampling clock becomes the signal with the clock inserted in the basic clock signal interval.

(e) Trigger

The trigger can be performed by the detection signal from A6 IF LOG/DET, LINE signal or an external input signal. A reference signal corresponding to the trigger level is created by the D/A converter and this is compared with the input signal by the comparator. The comparator output is logic-converted by the rising and falling edge of the trigger and output to become the CPU interrupt signal.

With equivalent sampling, a sampling signal is generated based on this comparator output. When the period of this trigger signal is shortened, part of the trigger signal is removed so that it is not less than the specified time.

(f) Control circuit

This section controls the sweep-signal-generator charge/discharge, trigger-section trigger enable/disable, and sweep start/stop, etc, signals based on the control signal from the CPU.

(g) GATE signal generator

When the burst-signal ON/OFF control signal is input externally, the INHIBIT signal synchronized to the sampling clock is output to the CPU. The CPU does not display the data on the screen when the INHIBIT signal is L level.

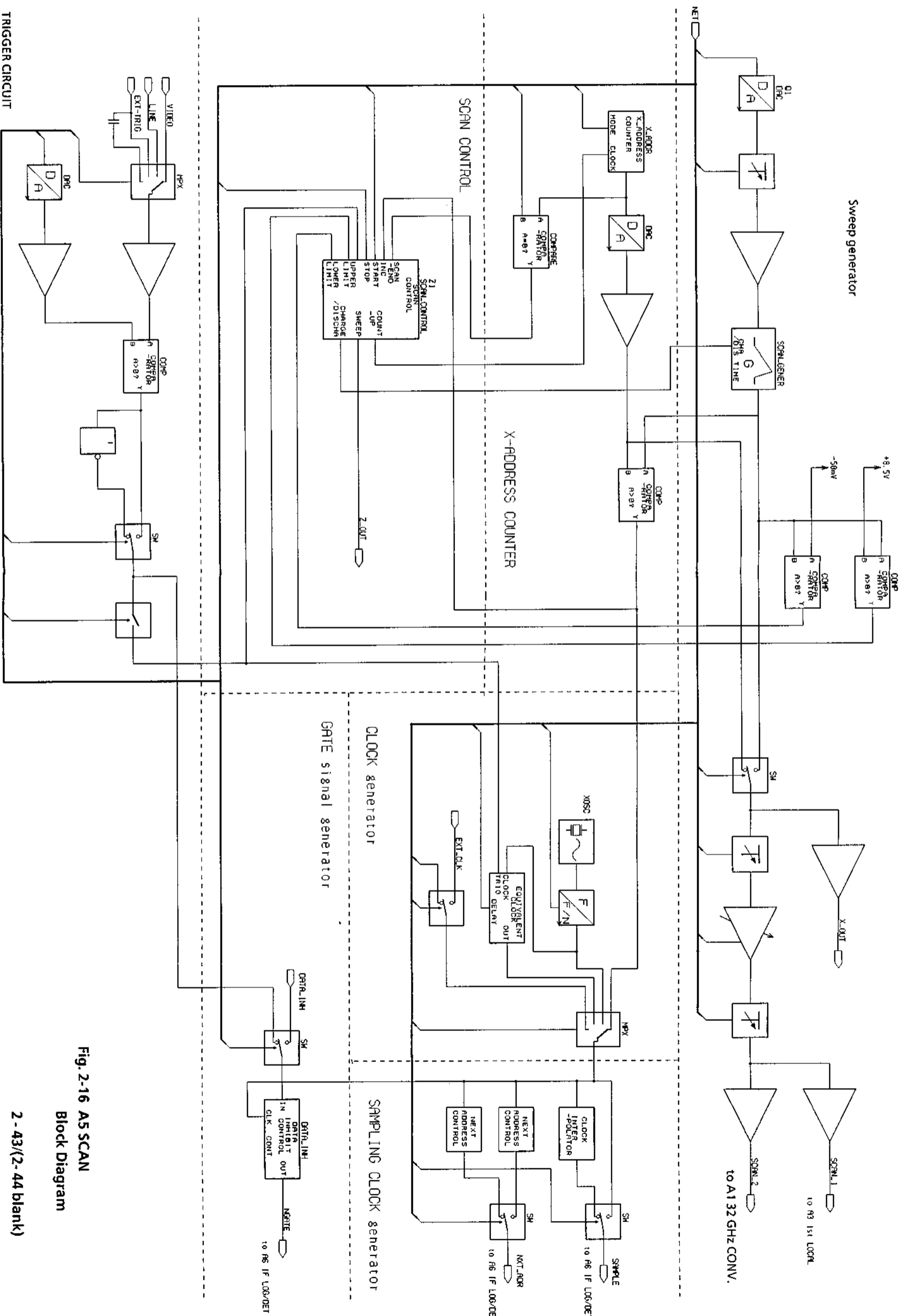


Fig. 2-16 AS SCAN
Block Diagram

2-43/(2-44 blank)



2.7 Digital Section

2.7.1 A8 MEAS CPU

(1) Composition

The A8 MEAS CPU block composition is shown below.

- CPU (MC68000, 12 MHz)

This executes the program in the ROM and performs the processes for controlling the measurement system and fetching the measurement data.

- CPU bus controller LSI (ASIC)

This application-specific LSI integrates the circuits that interface the CPU to other devices.

- ROM (1 Mbits × 2)

This ROM contains the firmware program.

- RAM (1 Mbits × 2)

This RAM contains the various types of data required by the CPU to execute the program.

- Measurement system controller LSI (ASIC)

This is the master application-specific LSI for controlling the measurement system.

The same LSI (slave) is also used on the measurement-system side. The master and slave communicate data serially.

- AD interface circuit

The main function of this circuit is to convert spectrum data (sent as serial data from the A/D converter in the A6 IF LOG/DET unit) to parallel data.

When reception of the single-point (14-bit) data is completed, it generates the CPU interrupt.

- Frequency counter circuit (μ PD71054, etc.)

The IF signal (21.4 MHz) sent from the A6 IF LOG/DET unit is waveform-shaped to a pulse shape. The required spectrum frequency is measured correctly by counting this pulse. The count time is generated by dividing the 20 MHz signal (reference oscillator 100 MHz divided signal) sent from the A6 IF LOG/DET unit.

- Common bus interface circuit

This is the common bus interface circuit for sending and receiving data to/from other CPUs via the common memory on the A14 PMC BOARD.

(2) Outline of functions

The A8 MEAS CPU function is divided into the following main 3 functions.

- ① Controlling measurement system
- ② Fetching and calculating measurement data
- ③ Counting frequency

The principles of operation for these functions are explained on the next page.

- ① When the measurement system must be controlled in accordance with the front-panel key and data knob operations or as a result of receiving a command from the GP-IB, first, A10 MAIN CPU sends this main information to A8 MEAS CPU via the common bus and common memory. When A8 MEAS CPU receives this main information, it analyzes the contents and performs the required settings for the measurement system. In this case, the CPU uses the measurement system controller LSI to control the A1-A2 RF units, the A3 LOCAL unit, the A4 IF BPF unit, and the A6 IF LOG/DET unit. When the control is completed, the principle information is sent via the common bus and common memory to A9 DISP CPU to display the converted measurement parameter contents on the CRT.
- ② When A8 MEAS CPU controls the sweep start in accordance with the instruction from the measurement system or A10 MAIN CPU, subsequently, the spectrum data from the A6 IF LOG/DET unit is fetched as serial data to A8 MEAS CPU. The data is composed of 14 bits per point; at 2-channel sweeping, it is transferred to A8 MEAS CPU in the sequence A→B→A→B for each point. This serial data is converted to parallel data at the A/D interface circuit of A8 MEAS CPU, and the CPU interrupt is sent when the conversion is completed. (An interrupt is not used when the sweep time is fast.) The 14-bit parallel data is read-out from the A/D interface circuit (when A8 MEAS CPU confirms the interrupt) and calculation is performed. When each compensation value is added and it is written as waveform data in the common memory, at the same time, an interrupt is generated via the common bus to A9 DISP CPU. When A9 DISP CPU confirms the interrupt from A8 MEAS CPU; it reads the waveform data from the common memory via the common bus, performs the calculation, and displays the spectrum on the CRT using the display controller LSI.
- ③ When the frequency-counter function is ON, A8 MEAS CPU controls the measurement system so that the frequency-counter object frequency is tuned automatically departing from the current marker frequency. When the frequency tuning is complete, the count-pulse input gate and the reference-pulse input gate for the frequency counter circuit are opened, and counting starts. When the fixed number of reference pulses is counted in accordance with the count resolution, each input gate is closed automatically. The CPU detects that counting is finished, and the counted value is read from the counter LSI, and calculation is performed; the required frequency is found and stored in the common memory via the common bus. The interrupt for display is generated and sent to A9 DISP CPU.

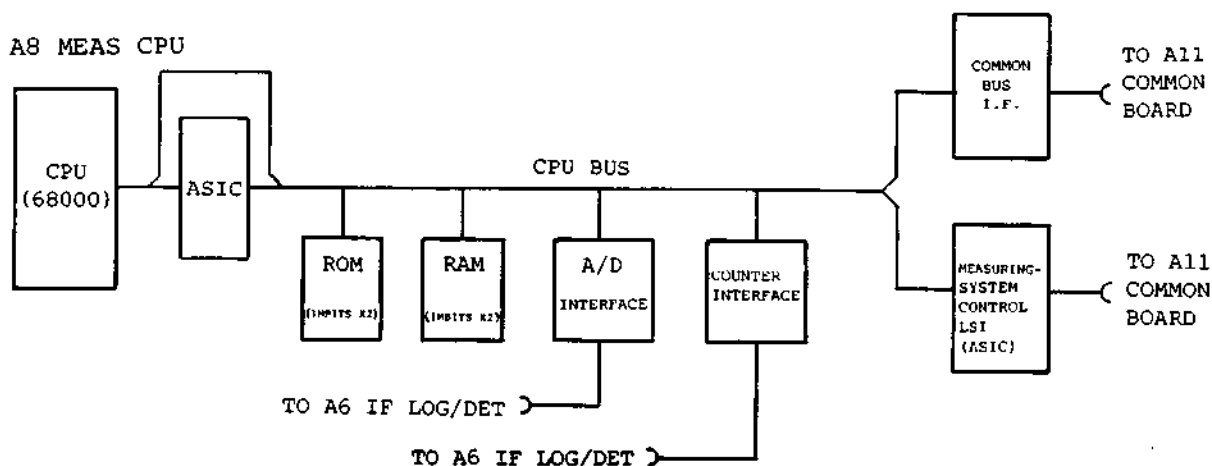


Fig. 2-17

2.7.2 A9 DISP CPU

(1) Composition

The A9 DISP CPU board is composed of the following blocks.

- CPU (MC68000, 12 MHz)

This executes the program in the ROM and performs the processes for displaying measured waveforms and characters on the CRT.

- CPU bus controller LSI (ASIC)

This application-specific LSI integrates the circuits that interface the CPU to other devices.

- ROM (1 Mbits × 2)

This ROM contains the firmware program.

- RAM (256 Kbits × 4)

This RAM contains the various types of data required by the CPU to execute the program.

- Display controller LSI (HD63484 × 2)

This LSI controls conversion of the plotting data (logical data from the CPU) to displaying information (physical data) and storage in the video memory.

- Video RAM (256 Kbits SRAM × 8 × 2)

This memory saves bit-image data displayed on the CRT. Two sets (since two display-controller LSIs) of 640 × 400-dot × 4 frames (managed frame per one display-controller LSI) are saved in this video RAM.

- Shift register circuit (74LS166 × 16)

This converts the bit-image parallel data (output from the video RAM) to serial data according to the CRT scanning direction.

- Video palette circuit (HM6716, etc.)

This weights each bit of the 8-frame data (8 bits) of each video RAM managed by each display controller LSI, and converts and outputs the data as 4-bit binary data and 1-bit control data.

- Video signal output driver circuit

This has a CRT driver circuit, separate-video-output driver circuit, and composite-video-output driver circuit; and generates the video signals corresponding to each specification based on the data output from the previous video palette circuit.

- Common bus interface circuit

This common bus interface circuit sends and receives data to/from other CPUs via the common memory on A14 PMC BOARD.

(2) Outline of functions

The A9 DISP CPU board main functions are divided into the following two functions.

- ① Displaying measured waveform
- ② Displaying characters, lines and menus other than the measured waveform.

The principles of operation are described below.

- ① When sweeping starts and A8 MEAS CPU obtains the spectrum data from the A/D converter; it writes the measured data as dBm values via the common bus to the common memory on A14 PMC BOARD, and generates an interrupt to A9 DISP CPU. When A9 DISP CPU receives the interrupt; it reads the data from the common memory via the common bus, converts it to X- and Y-coordinate plotting data for display on the CRT, and sends this data to the display controller LSIs (2). When the display controller LSIs (2) read the plotting data from the CPU, they convert it to video data and store it in the video RAM. The display data stored in the video RAM is sent to the appropriate shift register using the control signal from the display controller LSIs (2) and, after this register circuit converts the data from parallel data to serial data, it is either output via the video palette and video-signal-output driver circuit to the CRT or output externally as the separate-video or composite-video signals.
- ② When the measurement parameters are changed as a result of using the front-panel keys or data knob, or receiving a command via the GP-IB; this data is written to the common memory via A10 MAIN CPU → A8 MEAS CPU. (Depending on the parameter type, A10 MAIN CPU can write the data directly to the common memory.) When this data should be written on the CRT; A9 DISP CPU receives an interrupt for this data, reads the data from the common memory and sends it along with the display-position coordinates to a display controller LSI (1). The subsequent processing is the same as in item ①.

A9 DISP CPU

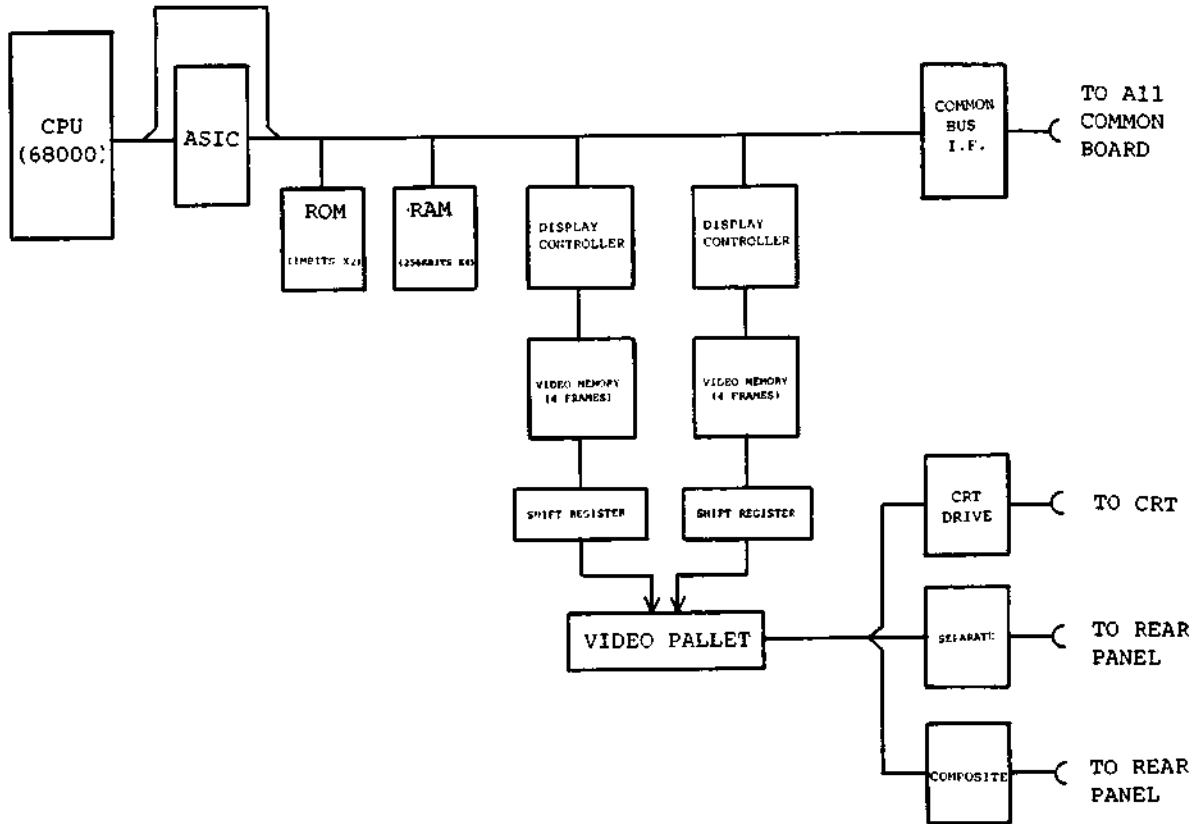


Fig. 2-18

2.7.3 A10 MAIN CPU

(1) Composition

The A10 MAIN CPU board is composed of the following blocks.

- CPU (MC68000, 12 MHz)

This executes the program in the ROM and mainly performs the front-panel, GP-IB and PMC, etc. processing.

- CPU bus controller LSI (ASIC)

This application-specific LSI integrates the circuits that interface the CPU to other devices.

- ROM (1 Mbits × 6)

This ROM contains the firmware program.

- RAM (1 Mbits × 4, 256 Kbits × 2)

This RAM contains the various types of data required by the CPU to execute the program. In addition, this memory also saves PTA user programs. So that the PTA user program is not lost even when the power is turned off, this 1 Mbit RAM is backed-up by a battery.

- Calculation LSI (MC68881)

This high-speed LSI calculates the trigonometric functions and logarithms during execution of the PTA computations.

- Timer LSI (μ PD71054)

This LSI generates the fixed-cycle interrupt to the CPU.

- Common bus interface circuit

This is the common bus interface circuit for sending/receiving data to/from other CPUs via the common memory on A14 PMC BOARD.

- I/O bus interface circuit

This is the I/O bus interface circuit for sending/receiving GP-IB and PTA keyboard data.

- PTA keyboard interface LSI (μ PD71051)

This is the LSI for converting the parallel data (sent from the PTA keyboard via the I/O interface) to serial data and generating the interrupt to the CPU.

(2) Outline of functions

The A10 MAIN CPU main functions can be divided into the following four functions.

- ① Processing for front-panel key and data knob operations and controlling LEDs.
- ② Processing for command and data I/O from the GP-IB, RS-232C (option 02) and I/O port (option 03)
- ③ Processing for PMC (in MC8104A Data Storage Unit)
- ④ Processing for PTA

These principles of operation are explained on the next page.

- ① When a front-panel key or data knob operation occurs, that data is transferred to the CPU via the common bus using an interrupt or CPU polling operation. The CPU analyzes the data and performs the processing. When processing is required by another CPU, the data is sent via the common bus in accordance with the processing contents.
- ② First, command reception is verified, the processing corresponding to the command input from the GP-IB is transferred to the GP-IB LSI (TMS9914A) on the interface board, and then an interrupt is sent to the CPU. The CPU that received the interrupt, reads the command data via the common bus, analyzes it and processes it. Even in this case, when processing is required by another CPU, the data is sent via the common bus in accordance with the processing contents. In addition, the same processing is performed by the hardware when the RS-232C (option 02) and I/O port (option 03) options are installed.
- ③ When a PMC processing request is generated from the front panel or GP-IB, the data is sent/received to/from the PMC (inserted by user from front panel) on A14 PMC BOARD or the PMC (or FDD) of the MC8104A Data Storage Unit. In the former case, it is sent to the PMC via the common bus; in the latter case, it is output externally via the I/O bus and GP-IB LSI on the interface board (GP-IB 2 side).
- ④ The data (serial) input from the PTA external keyboard is input to the CPU board via the I/O bus. The input serial data is converted to parallel data by the PTA keyboard interface LSI and transferred to the CPU.

In addition, the command or statements (input from the PTA keyboard) or the PTA user program (loaded from the PMC) are analyzed and processed by the CPU, but the trigonometric and logarithmic calculations, etc. are performed by the calculation (arithmetic) LSI.

The calculation LSI operates as a the CPU coprocessor.

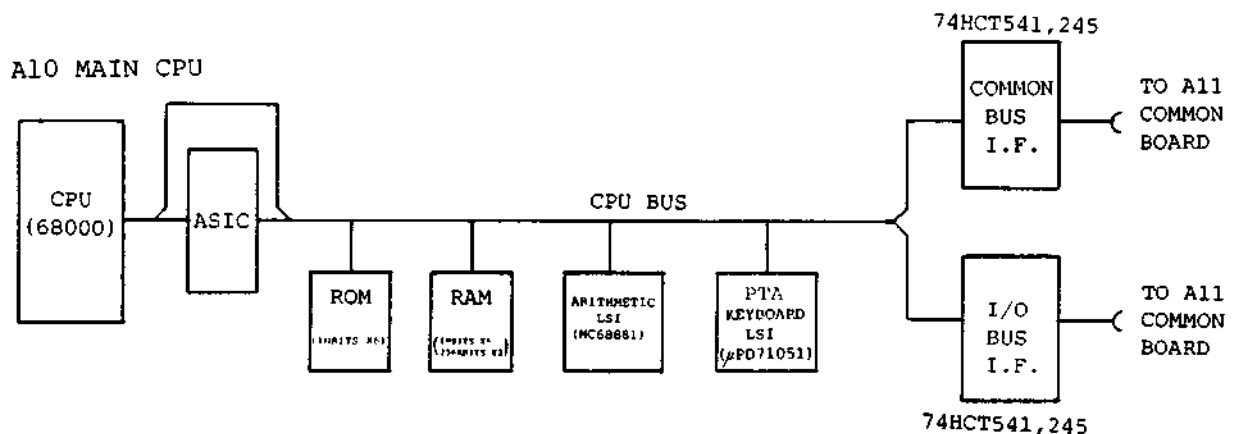


Fig. 2-19

2.7.4 A7 INTERFACE (1)

The A7 INTERFACE board (1) is composed of the following blocks.

- GP-IB1 side GP-IB dedicated LSI (TMS9914) and driver

This controls the external bus for the GP-IB1 side which operates as a normal device port. GP-IB commands sent from outside are input to the LSI through the driver. When the LSI receives the data, it generates an interrupt to A10 MAIN CPU via the I/O bus. When A10 MAIN CPU receives the interrupt, it fetches the data from the LSI via the I/O bus.

- GP-IB2 side GP-IB dedicated LSI (TMS9914) and driver

This LSI controls the external bus for the GP-IB2 side which operates as a controller port. When data is output to the GP-IB2 port, A10 MAIN CPU sends the data to the LSI via the I/O bus. When the LSI receives the data from the CPU, it outputs the data on the external bus via the driver.

- DIP SW

The maintenance DIP SW on A7 INTERFACE board (1) is not used.

2.7.5 A12 INTERFACE (2) Option 03

The A12 INTERFACE board (2) is composed of the following blocks.

- GP-IB1 side GP-IB dedicated LSI (TMS9914) and driver

This controls the external bus for the GP-IB1 side which operates as a normal device port. GP-IB commands sent from outside are input to the LSI through the driver. When the LSI receives the data, it generates an interrupt to A10 MAIN CPU via the I/O bus. When A10 MAIN CPU receives the interrupt, it fetches the data from the LSI via the I/O bus.

- I/O port controller

This inputs/outputs data from controller to external bus by reading/writing the data from/to I/O-port controller via I/O bus using A10 MAIN CPU.

- DIP SW

The maintenance DIP SW on A12 INTERFACE (2) is not used.

2.7.6 A13 INTERFACE (3) Option 02

The A13 INTERFACE board (3) is composed of the following blocks.

- GP-IB1 side GP-IB dedicated LSI (TMS9914) and driver

This controls the external bus for the GP-IB1 side which operates as a normal device port. GP-IB commands sent from outside are input to the LSI through the driver. When the LSI receives the data, it generates an interrupt to A10 MAIN CPU via the I/O bus. When A10 MAIN CPU receives the interrupt, it fetches the data from the LSI via the I/O bus.

- RS-232C firmware and driver circuit

To process the RS-232C data, this circuit is composed of CPU (8085, for RS-232C data processing), ROM, RAM, and their peripheral control circuits as well as a parallel-to-serial data-conversion LSI and a driver for external I/O. Communication with A10 MAIN CPU is performed via the I/O bus and the communication register on A13 INTERFACE (3).

- DIP SW

This switches the RS-232C communication control mode between full-duplex/half-duplex, X ON/OFF and BUSY/READY. The switch status is read and the software processing is determined immediately after A10 MAIN CPU is powered-on.

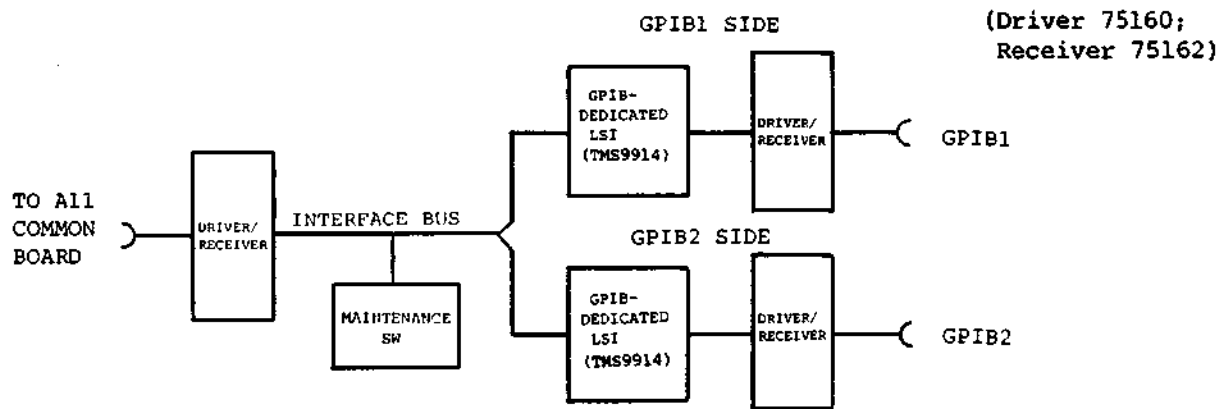


Fig. 2-20 A7 Interface (1)

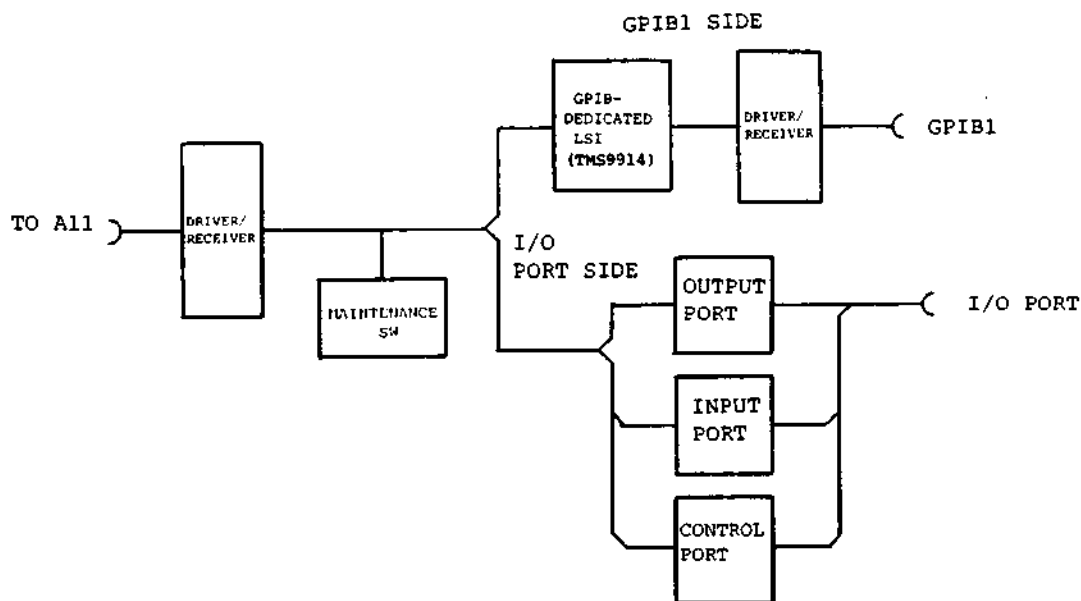


Fig. 2-21 A12 Interface (2)

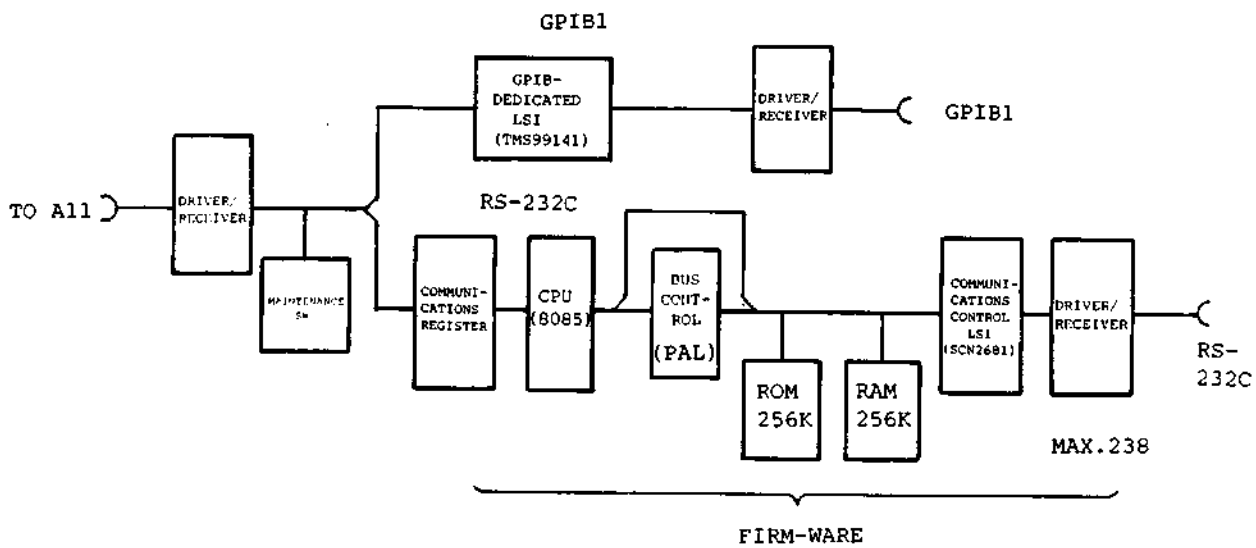


Fig. 2-22 A13 Interface (3)

2.7.7 A14 PMC BOARD

A14 PMC BOARD is composed of the following blocks.

- Common RAM (256 kbits × 4)

This battery backed-up memory can be accessed by all the CPUs via the common bus. The measurement parameters and the calibration data are all stored in this memory.

- Common bus arbiter circuit

When a CPU is using the common bus (common communication resource), this circuit works as the arbiter so that collisions between CPUs do not occur. Normally, Signals (requesting permission to use the common bus) are output periodically with different phases to all CPUs. When a CPU starts using the common bus, if the signal (requesting permission to use the common bus) is in effect for the CPU, the CPU can generate a signal (requesting use of the bus) and the bus can be used. When one CPU is using the common bus based on this procedure, the signal (permitting use of the common bus) is assigned only to this CPU; in this status, since no signal (permitting another CPU to use the bus) is output, other CPUs cannot use the common bus and must wait until the CPU (that is currently using the common bus) releases it. Collisions on the bus between the MAIN, DISP and MEAS CPUs are avoided in this way.

- Clock LSI

This battery backed-up LSI stores the current time. The clock is set at factory shipment but when the PTA is ON, A10 MAIN CPU can set and read the clock time by using the PTA command called SYSTEM VARIABLE.

- PMC interface circuit

The common-bus address space is divided into a number of banks. Of these banks, one bank is allotted for use by the PMC. When A10 MAIN CPU has accessed this address in the bank, data can be read/written from/to the PMC using only the PMC interface circuit. In addition, the voltage of the power supply to the PMC from the measuring instrument side as well as the PMC internal power supply voltage is sensed in this circuit.

- Panel interface circuit

The address for interfacing the panel is allocated one address space on the bank-divided common bus, and A15 FRONT PANEL and A10 MAIN CPU read/write the data via this panel interface circuit.

- Power supply ON/STANDBY switch circuit and power supply cut-off circuit

The power supply ON/STANDBY switch circuit, and an automatic power supply cut-off circuit, which is activated by an increase in the measuring-instrument internal temperature, are on A15 FRONT PANEL. When a rise in the instrument internal temperature is confirmed by the temperature sensor on the A3 LOCAL unit, a signal is input to the control circuit on A14 PMC BOARD via A17 MOHER BOARD and A11 COMMON board. This signal voltage is compared by the level comparator, and when it exceeds the specified voltage (specified temperature), a relay is activated to cut the main power supply. To resupply power, LINE switch on the rear panel of the main unit must be set to ON.

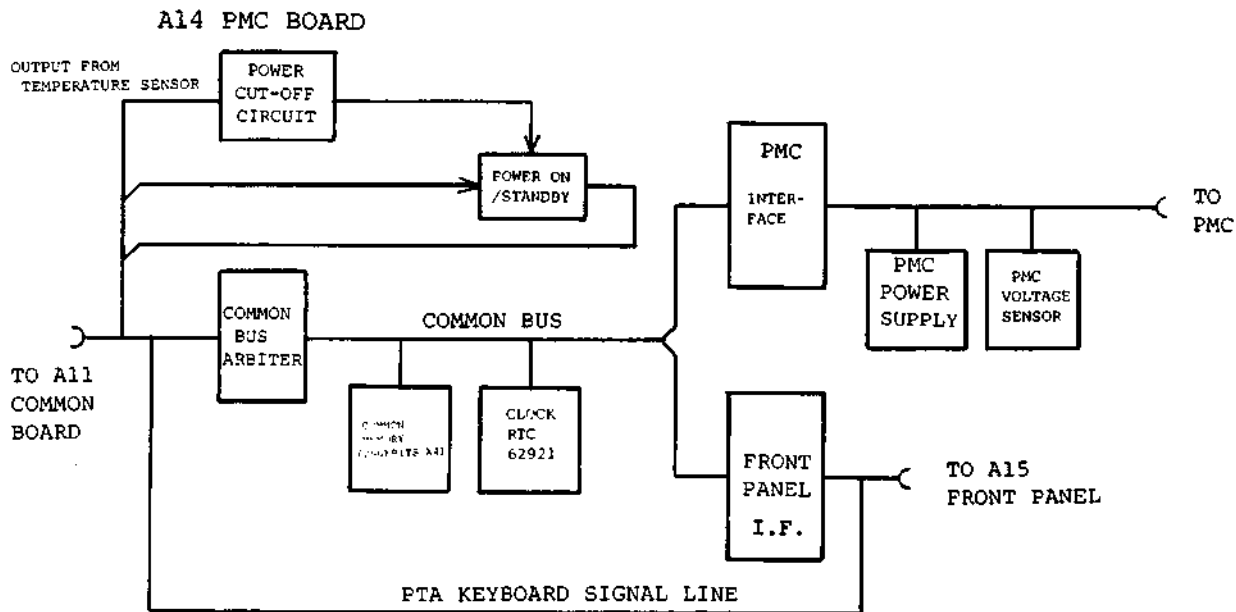


Fig. 2-23

2.7.8 A11 COMMON BOARD

A11 COMMON BOARD is connected electrically between each A8 to A10 CPU boards, A7/A12/A13 INTERFACE boards, A14 PMC board and A17 MOTHER BOARD for supplying voltages (5 V, 12 V) from the power supply unit to each board for digital circuits. It also supplies 12 V power to the CRT.

2.7.9 A15 FRONT PANEL

The A15 FRONT PANEL board is composed of the following blocks.

- Panel keys and panel-key encoder circuit

The key code (8 bits) corresponding to the pressed key is generated and sent as an interrupt via the common bus to A10 MAIN CPU. The interrupt is released automatically and at the same time A10 MAIN CPU reads the prior contents from the shift register.

- Rotary encoder (data knob) and controller LSI (μ PD4701)

When the rotary encoder is turned, a pulse train with a 180° phase difference is generated in accordance with the rotation direction by the internal photodiode and photosensor. The controller LSI detects the number of pulse trains and the phase difference, and the LSI internal

register stores the detected data as a corresponding signed binary value. A10 MAIN CPU reads the contents of the front-panel rotary-encoder controller LSI register via the common bus (when triggered by the fixed-period interrupt from the timer LSI) and performs the processing that corresponds to the value.

- LEDs

These LEDs indicate that [REMOTE] and [SHIFT], etc are enabled, and are connected to the common bus via the register (driver), A10 MAIN CPU controls the lamp status (on/off) by operating the bits corresponding to each lamp on the register.

- Signal relay from PTA keyboard

The serial signal (from the PTA keyboard connected externally) is passed through A15 FRONT PANEL and A14 PMC BOARD, and input to the I/O bus of A10 MAIN CPU. The PTA keyboard interface LSI on A10 MAIN CPU converts the serial signal to parallel data, and transfers it to A10 MAIN CPU.

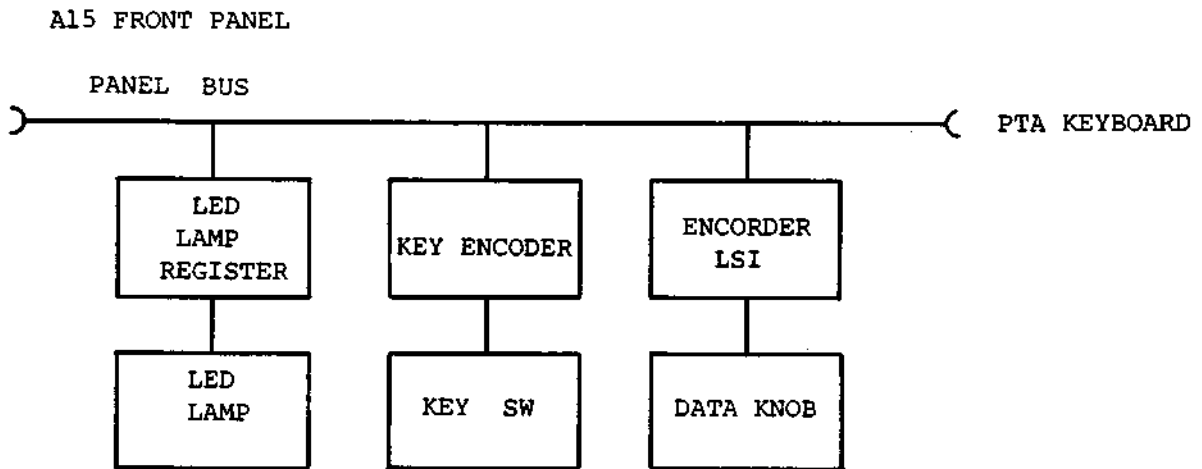


Fig. 2-24

2.7.10 A20 LED

The A20 LED board has the front-panel power ON/STANDBY lamps, the PMC BUSY lamp and the CRT intensity adjustment volume. These controls are all performed by hardware.

2.8 A18 LPF & SW UNIT

This circuit consists of A18-Z1-8.6 GHz LPF, A18-Z2-4.2 GHz LPF, A18-A1-ISOL AMP, A18-AT1-10 dB PAD, A18-AT2-20 dB PAD, A18-A2-10MHz X'tal OSC and A18-A3-LPF & SW CONT.

- A18-AT1-10 dB PAD and A18-AT2-20 dB PAD

This is for ensuring proper isolation and level control of 1st local oscillator signal fed to the A3-A1-Z1 SAMPLER.

- A18-A1 ISOL AMP

This is for ensuring proper isolation of A2-2 GHz CONV. from sampling signal applied at A3-A1-Z1 sampler.

- A18-Z1-8.6 GHz LPF

This is for ensuring the removal of the third harmonic component of the 1st local oscillator signal fed to the A3-A1-Z1 sampler.

- A18-Z2-4.2 GHz LPF

This is for ensuring the removal of the third harmonic components of the 1st local oscillator signal in the range of 2 GHz to 4.2 GHz fed to the A3-A1-Z1 sampler.

- A18-S1-SW1 and A18-S2-SW2

These switches are for switching in or out of the A18-Z2 4.2 GHz LPF depending on the current start frequency of 1st local oscillator signal is below or above 4.2 GHz.

- A18-A3-LPF & SW CONT

This PCB is for proper control of switches A18-S2-SW1 and A18-S2-SW2.

- A18-A2-10MHz X'tal OSC

This forms the reference signal for the instrument. Its output is fed to A3-A2-LOCAL UNIT (2) through the A3-J16 and U-link at the rear panel.

- Control signal state

Observe at A1-A3-RF CONTROL (in A1 32 GHz CONV.) PCB's connector J12. Signal is observed at pin-number 4 of J12.

Table 2-1

Signal at pin 4 of J12	4.2 GHz LPF state
High	ON
Low	OFF

SECTION 3 TROUBLESHOOTING AND ADJUSTMENT

3.1 Introduction

3.1.1 Composition

This section describes how the circuit operates, and how to troubleshoot and adjust the MS2702A/MS2802A after repair, etc.

When making a repair, first refer to paragraph 3.2 to determine the defective unit and locate the problem in the unit.

Table 3-4 lists the circuit diagrams, parts lists and PC boards.

Note: Calibration of compensation data

The MS2702A/MS2802A measuring accuracy can be improved by entering the compensation data shown below in the built-in memory.

1. RF gain compensation data
2. CAL level and CAL ATT compensation data
3. RF ATT switching deviation compensation data
4. Preselector offset compensation data

If the specifications are not met for the performance test described in Section 5 of the Operation Manual (Basic Operations) after the circuit (related to these compensation data) has been repaired, the compensation data must be reentered. The input method is described in paragraph 4.3.

3.1.2 Checking and replacement of parts

(1) Explanation of identification markings on the PC board

As shown in Fig. 3-1, the MS2702A/MS2802A PC board has the A number, PC board number with the revision number, PC board name, and test point name.

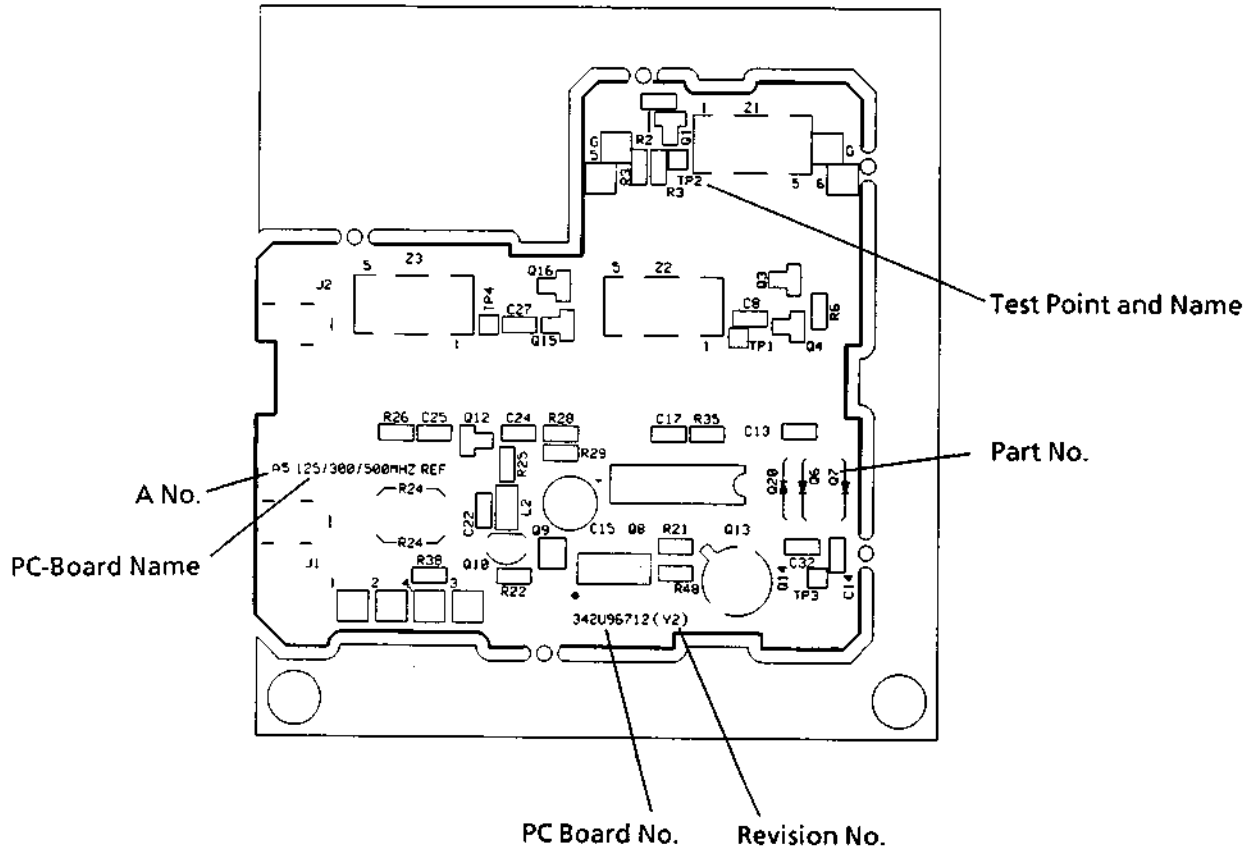


Fig. 3-1 PC Board Identification Markings

(2) Notes on soldering

1. Use an ordinary 30 to 40 watt pencil type soldering iron.
2. Before using the soldering iron, be sure it is insulated. If not, it may damage the part.
3. When removing a soldered part from a circuit board or soldering in a new part, nip the part lead with tweezers to shunt heat.
4. The tips of major part leads are bend behind the PC board to ensure tight support. To remove a part, first lift up the tips of the leads and then remove the part.

(3) Transistor and diode check

(a) Check of transistors mounted on the PC board

Transistors can be checked for acceptable quality in the operating state by measuring the base and emitter potentials. The NPN type silicon transistor shows a value that the base potential is 0.6 or 0.7 V higher than the emitter potential. In the PNP silicon transistor, the former is 0.6 or 0.7 V lower than the latter. Transistors are, therefore, faulty if these relationships are not satisfied.

(b) Check of transistors removed from the PC board

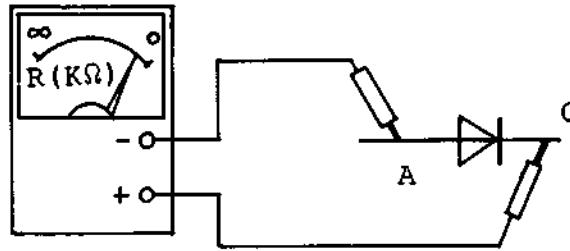
Transistors can be checked by measuring the resistance values among the emitter, base, and collector using a circuit tester. Standard values are given in Table 3-1. Note that this check should be performed at a measuring current of less than 100 μ A.

Table 3-1 Test of Transistors Removed from the PC Board

Type of transistor	Connector Ohmmeter		Resistance to be measured (ohm)
	Positive lead to	Negative lead to	
PNP silicon	Emitter, collector	Base	1 to 10 k
	Emitter	Collector	Very high
NPN silicon	Base	Emitter, Collector	1 to 10 k
	Emitter	Collector	Very high

(c) Check of diodes removed from the PC board

Diodes can be checked by measuring the resistance between the anode and cathode and the cathode and anode. If the resistance between the anode and cathode (A-C) is high and the resistance between C-A is low, when measured with an ohmmeter as shown in Fig. 3-2, the diode is normal.

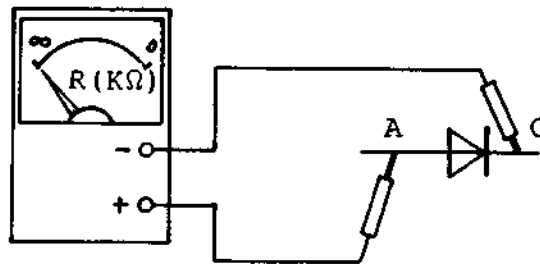


(1) Between C-A

Example: 1S953

A-C: ∞

C-A: ≈9 kΩ



(2) Between A-C

Fig. 3-2 Diode Check

3.1.3 Service kit

Table 3-2 Service Kit for MS2702A/MS2802A

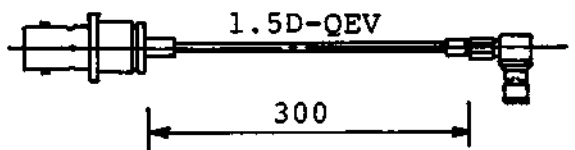
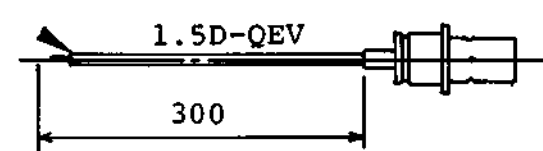
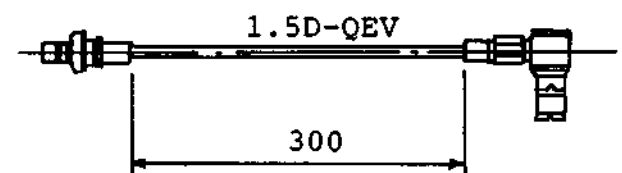
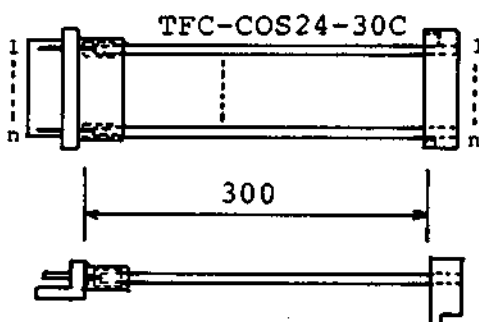
No.	Dwg. No.	Accessory Name	Q'ty	Remarks
1	34J92837F	Extender Cable	3	<p>BNC-PJ-1.5 27DP-LP-1.5</p> 
2	34J94206	Extender Cable	1	<p>BNC-PJ-1.5V</p> 
3	34J94207	Extender Cable	6	<p>27DP-BJ 27DP-LP-1.5</p> 
4	449J81722C	Extender Cable	1	<p>DF1-8P2.5DSA DF1-8S2.5R24</p> <p>n=8</p> <p>TFC-COS24-30C</p> 

Table 3-2 Service Kit for MS2702A/MS2802A (Continued)

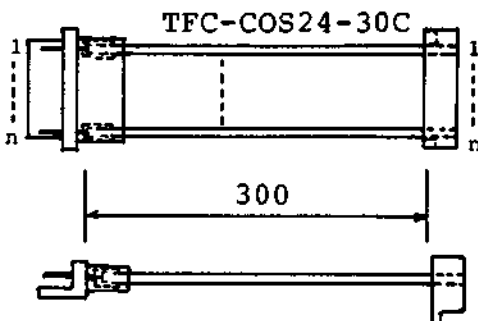
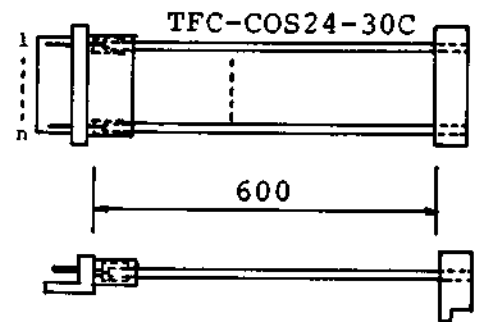
No.	Dwg. No.	Accessory Name	Q'ty	Remarks
5	449J81722D	Extender Cable	1	DF1-10P2.5DSA DF1-10S2.5R24 n=10 
6	449J81722G	Extender Cable	1	DF1-2P2.5DSA DF1-2S2.5R24 n=2
7	449J81722L	Extender Cable	1	DF1-5P2.5DSA DF1-5S2.5R24 n=5 

Table 3-2 Service Kit for MS2702A/MS2802A (Continued)

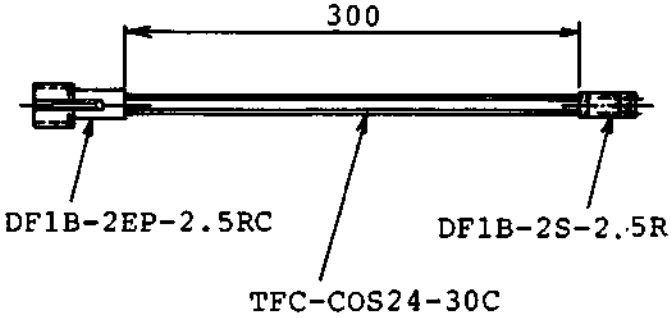
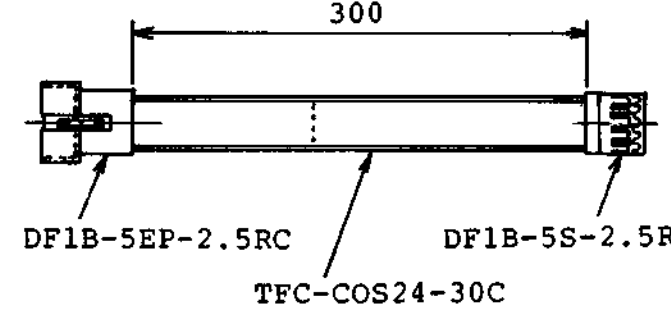
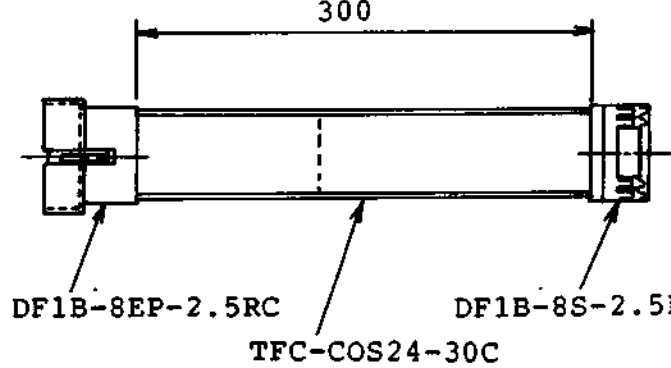
No.	Dwg. No.	Accessory Name	Q'ty	Remarks
8	349J99345	Extender Cable	2	
9	349J99346	Extender Cable	1	
10	349J99347	Extender Cable	1	

Table 3-2 Service Kit for MS2702A/MS2802A (Continued)

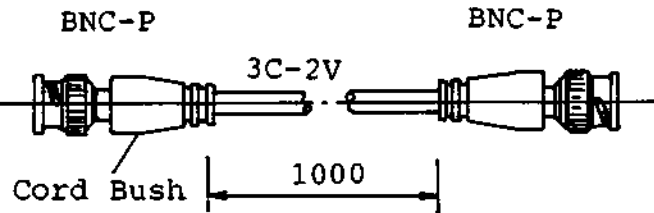
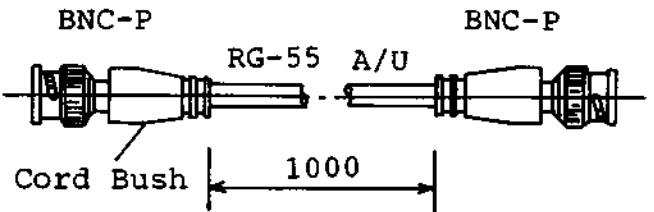
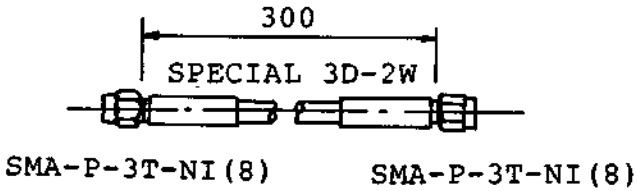
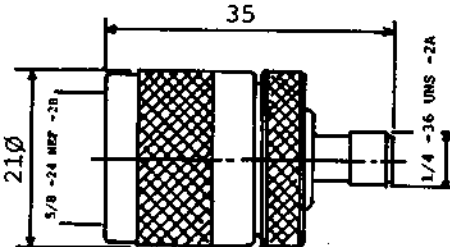
No.	Dwg. No.	Accessory Name	Q'ty	Remarks
11	34J88877	Extender Cable	2	
12	S4J10001F	Extender Cable	2	
13	S4W10184C	Extender Cable	3	
14	No. 1305	NP-SMAJ (HRM-554S) Adapter	1	

Table 3-2 Service Kit for MS2702A/MS2802A (Continued)

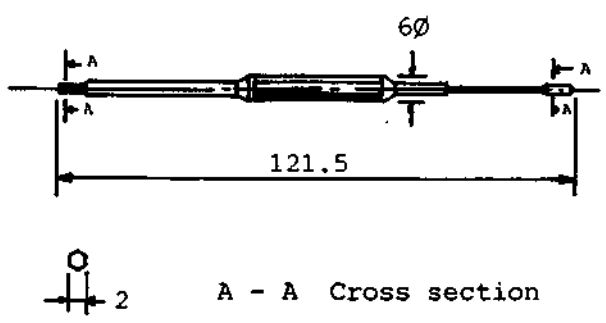
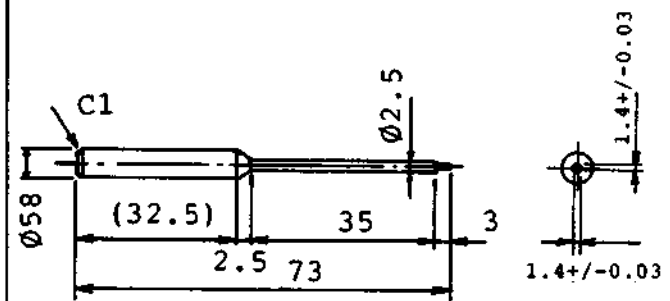
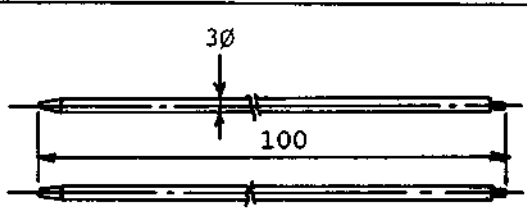
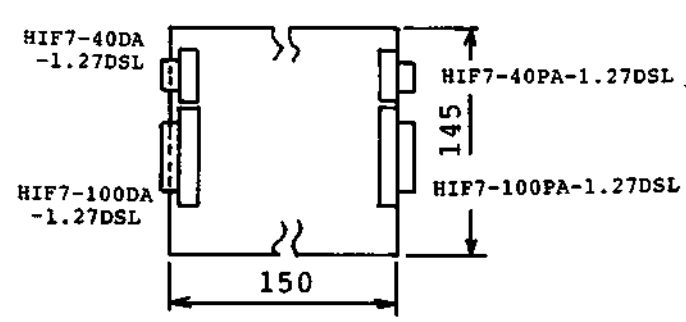
No.	Dwg. No.	Accessory Name	Q'ty	Remarks
15	24Z92109	Adjustment Driver	1	 <p>6ϕ 121.5 A - A Cross section $\phi 2$</p>
16	34Z99432	Adjustment Driver	1	 <p>$\phi 5.8$ C1 (32.5) 2.5 35 3 73 $\phi 2.5$ 1.4+/-0.03 1.4+/-0.03</p>
17	34Z81433	Adjustment Driver	1	 <p>3ϕ 100</p>
18	343J100161	Extender Board 1	1	 <p>HIF7-40DA-1.27DSL HIF7-40PA-1.27DSL HIF7-100DA-1.27DSL HIF7-100PA-1.27DSL 145 150</p>

Table 3-2 Service Kit for MS2702A/MS2802A (Continued)

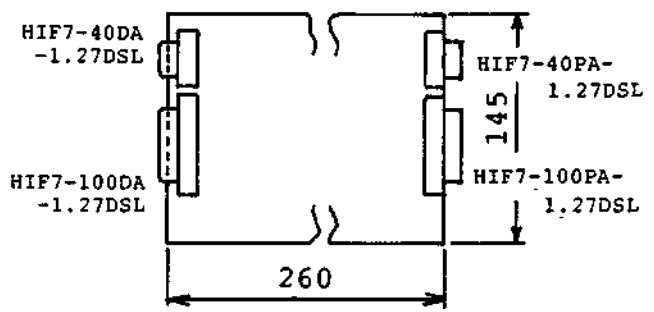
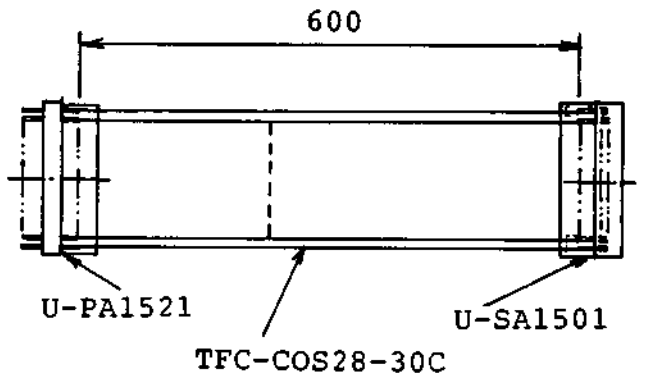
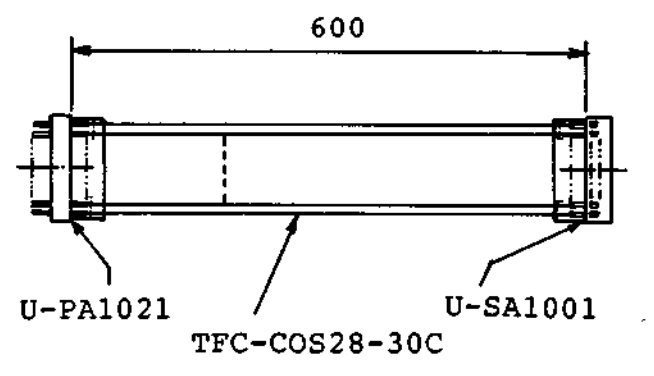
No.	Dwg. No.	Accessory Name	Q'ty	Remarks
19	343J100162	Extender Board 2	1	 <p>HIF7-40DA -1.27DSL</p> <p>HIF7-100DA -1.27DSL</p> <p>HIF7-40PA- 1.27DSL</p> <p>HIF7-100PA- 1.27DSL</p> <p>260</p> <p>145</p>
20	349J99699	Extender Cable	1	 <p>600</p> <p>U-PA1521</p> <p>TFC-COS28-30C</p> <p>U-SA1501</p>
21	349J99700	Extender Cable	1	 <p>600</p> <p>U-PA1021</p> <p>TFC-COS28-30C</p> <p>U-SA1001</p>

Table 3-2 Service Kit for MS2702A/MS2802A (Continued)

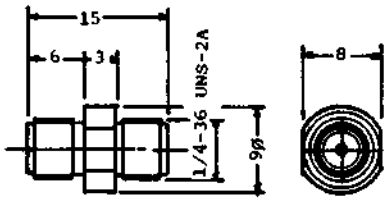
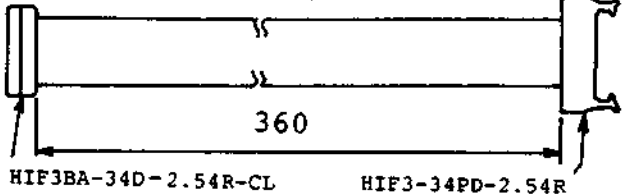
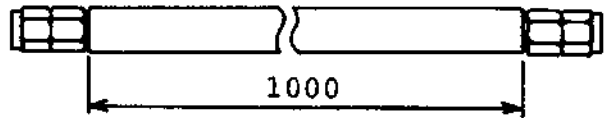
No.	Dwg. No.	Accessory Name	Q'ty	Remarks
22	No. 1305	SMAJ-SMAJ (HRM501) Adapter	3	
23	44J95055K	Extender Cable	1	<p data-bbox="973 808 1165 840">Flat Cable</p> 
24	AEJ. Japan	Extender Cable	1	<p data-bbox="877 1138 1244 1170">KPS-153ATW-240-KPS</p> 

Table 3-2 Service Kit for MS2702A/MS2802A (Continued)

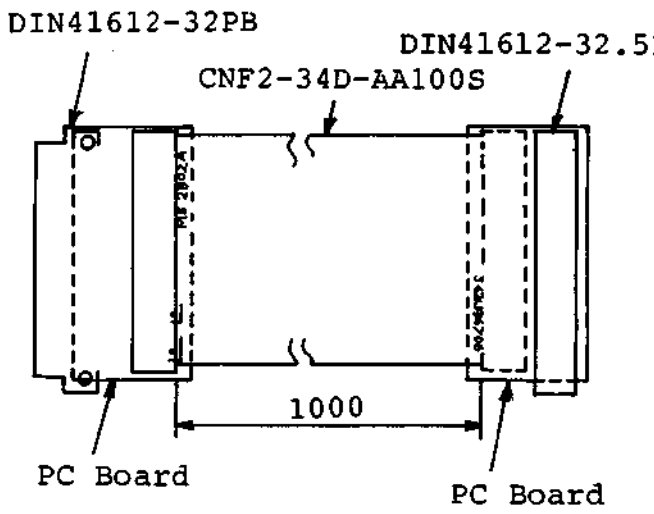
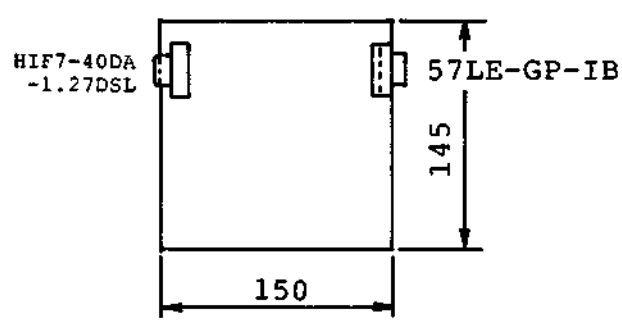
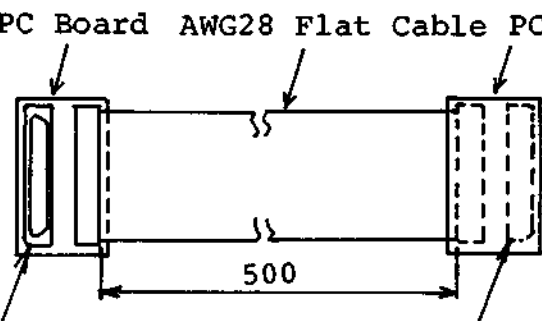
No.	Dwg. No.	Accessory Name	Q'ty	Remarks
25	343J99494	Extender Cable	1	 <p>DIN41612-32PB</p> <p>DIN41612-32.5B</p> <p>CNF2-34D-AA100S</p> <p>1000</p> <p>PC Board</p> <p>PC Board</p>
26	332U32378	Extender Board 3	1	 <p>HIF7-40DA -1.27DSL</p> <p>57LE-GP-IB</p> <p>145</p> <p>150</p>

Table 3-2 Service Kit for MS2702A/MS2802A (Continued)

No.	Dwg. No.	Accessory Name	Q'ty	Remarks
27	343J100163	Extender Cable	1	<p>PC Board AWG28 Flat Cable PC Board</p>  <p>HIF7-100DA-1.27DSAL HIF7-100PA-1.27DSAL</p>

3.1.4 Equipment required for troubleshooting, repair and adjustment

Troubleshoot, repair and adjust using the measuring instruments listed in Table 3-3. In addition, use the service kit (sold separately), including an extender board, extender cable, etc. for dedicated use shown in Table 3-2.

Table 3-3 Equipment Required for Troubleshooting, Repair and Adjustment

Instrument	Required Performance	Model (Anritsu)
Digital Voltmeter	5 digits, Minimum digit: 1 mV	
Oscilloscope	Dc to 200 MHz	
Frequency Counter	Requency range: 10 Hz to 18 GHz	MF76A
Spectrum Analyzer	Frequency range: 50 Hz to 5.5 GHz	MS612A
Network/Spectrum Analyzer	Frequency range: 10 Hz to 30 MHz	MS420L
Network/Spectrum Analyzer	Frequency range: 100 Hz to 300 MHz	MS560J
Signal Generator	Frequency range: 10 Hz to 2,700 MHz	MG3633A
Function Generator	Frequency range: Up to 100 kHz	

3.1.5 Circuit reference

Table 3-4 MS2702A/MS2802A Circuit Reference

Schematic No.	"A" number	Name	Circuit diagram number	Parts list number	PC board number	
1		Overall (MS2702A)	33W32565	34W99625	—	
2		Overall (MS2802A)	33W31887	34W98012	—	
3	A1	24.5 GHz CONVERTER (MS2702A)	33W32558	34W99612	—	
4		32 GHz CONVERTER (MS2802A)	33W31404	34W97978	—	
5	A1	μ 1st CONVERTER	33W31221	34W96588	—	
6	A1	521.4 MHz AMP	33W31221	34W96604	342U96702	
7	A2	EXT IF AMP	33W31222	34W96589	—	
8	A1	521.4 MHz EXT IF AMP	33W31222	34W96605	342U96704	
9	A3	RF CONTROL	33W31223	34W96590	332U31257	
10	A2	2 GHz CONVERTER	33W31216	34W96578	—	
11		A 2	EQU AND SWITCH	34W96574	34W96580	342U96688
12		A 3	1st LO AMP	34W96575	34W96581	342U96690
13		A 4	2.5214 GHz IF AMP	34W96576	34W96582	342U96692
14		A 5	2nd CONVERTER	33W31217	34W96583	332U31259
15		A 7	3rd CONVERTER	33W31219	34W96585	342U96698
16		A 9	625 kHz CAL OSC	33W31220	34W96587	332U31251
17		A 11	2.5214 GHz BPF	34W97101	34W97103	342U96824

Table 3-4 MS2702A/MS2802A Circuit Reference (Continued)

Schematic No.	"A" number	Name	Circuit diagram number	Parts list number	PC board number
18	A3	1st LOCAL UNIT	33W31890	34W97976	—
19	A1	LOCAL UNIT (1)	33W31891	34W97941	—
20	A1	LOCAL MB1	33W31281	34W96776	322U11203
21	A2	1 MHz STEP SYNTH	33W31276	34W96771	332U31255
22	A3	1/M DIVIDER	33W31277	34W96772	342U96714
23	A4	SAMPL OSC LOOP	33W31279	34W96774	332U31823
24	A5	YTO PLL CONT	33W31280	34W96775	342U96720
25	A2	LOCAL UNIT (2)	33W31892	34W97942	—
26	A1	LOCAL MB2	33W31275	34W96770	322U11205
27	A3	100 MHz REF	33W31271	34W96766	342U96708
28	A4	100 MHz REF CONT	33W31272	34W96767	342U96710
29	A5	125/300/500 MHz REF	33W31273	34W96768	342U96712
30	A6	1 Hz STEP SYNTH	33W31274	34W96769	332U31253
31	A4	IF BPF	33W31110	34W96357	322U11167
32	A5	SCAN	33W31247	34W96649	322U11171
33	A6	IF LOG/DET	33W31175	34W96537	322U11169
34	A7	INTERFACE (1)	33W31295	34W96808	332U31197
35	A8	MEAS CPU	33W31290	34W96803	332U31193
36	A9	DISP CPU	33W31289	34W96802	322U11159
37	A10	MAIN CPU	33W31288	34W96801	322U11161
38	A11	COMMON BOARD	33W31291	34W96804	332U31201

Table 3-4 MS2702A/MS2802A Circuit Reference (Continued)

Schematic No.	"A" number	Name	Circuit diagram number	Parts list number	PC board number
39	A14	PMC BOARD	33W31292	34W96805	332U31203
40	A15	FRONT PANEL	33W31293	34W96806	322U11163
41	A16	REAR PANEL	34W97268	34W97267	—
42	A17	MOTHER BOARD	33W31502	34W97269	—
43	A18	LPF & SW UNIT	33W31893	34W97949	—
44	A1	ISOL AMP	34W97062	34W97067	342U96832
45	A2	10 MHz REF ... Standard	34W97060	34W97065	342U96830
46	A3	LPF & SW CONT	34W98422	34W98423	342U98398
47	A19	(Not used)			
48	A20	LED	33W31294	34W96807	332U31671
49	A21	FILTER BOARD	33W32101	34W98514	342U98517
	(Options)				
50	A12	INTERFACE (2) Option 03	33W31296	34W96809	332U31199
51	A13	INTERFACE (3) Option 02	33W31297	34W96810	332U31205
45	A18, A2	10 MHz REF Option 01	34W97061	34W97066	342U96694
	(Service kit)				
		EXTENDER 1	—	—	322U11173
		EXTENDER 2	—	—	322U11174
		EXTENDER 4	—	—	342U96706

3.2 Overall Troubleshooting

3.2.1 Faulty block location troubleshooting

1, 2

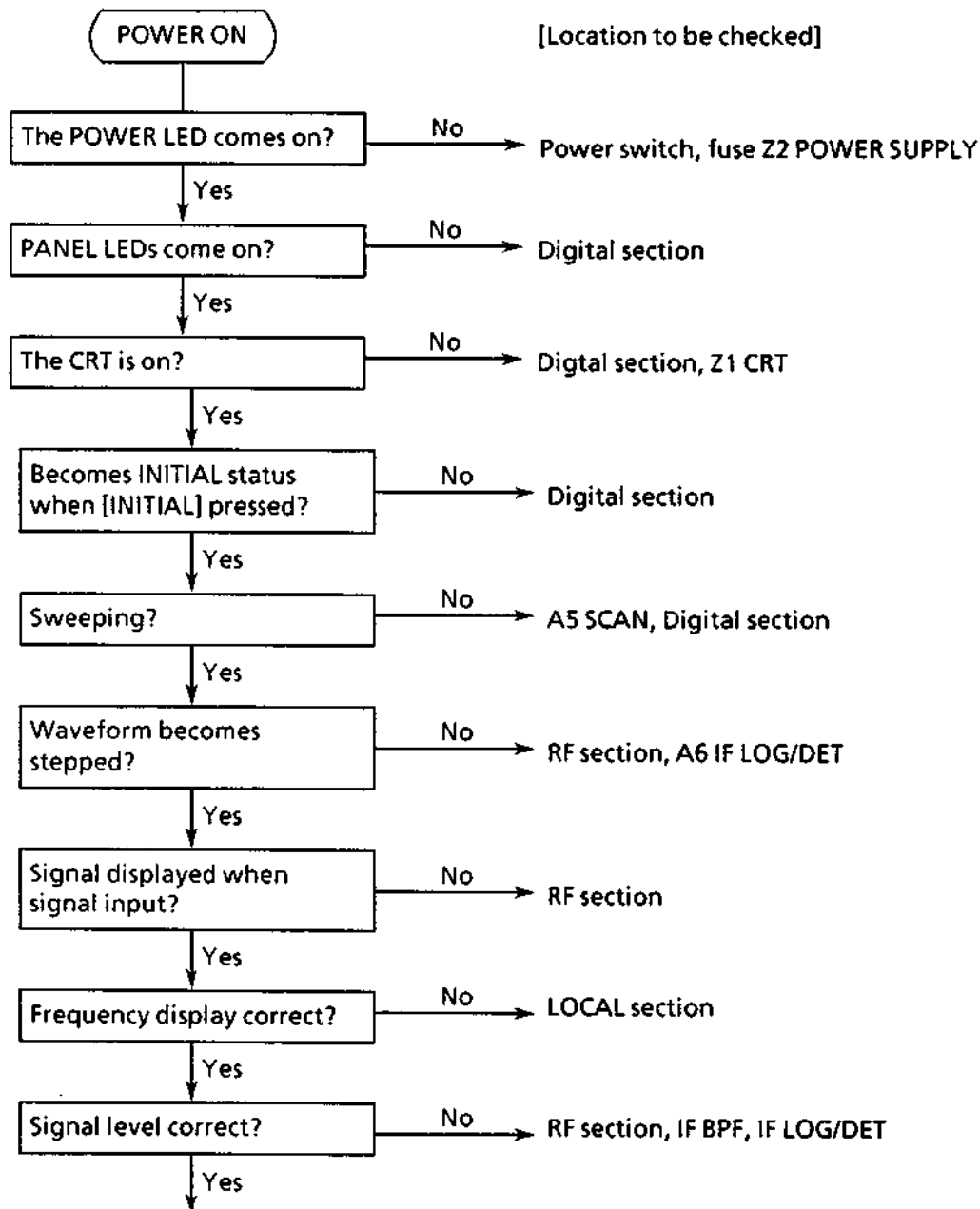


Fig. 3-3 Faulty Block Location Troubleshooting Flowchart (1/2)

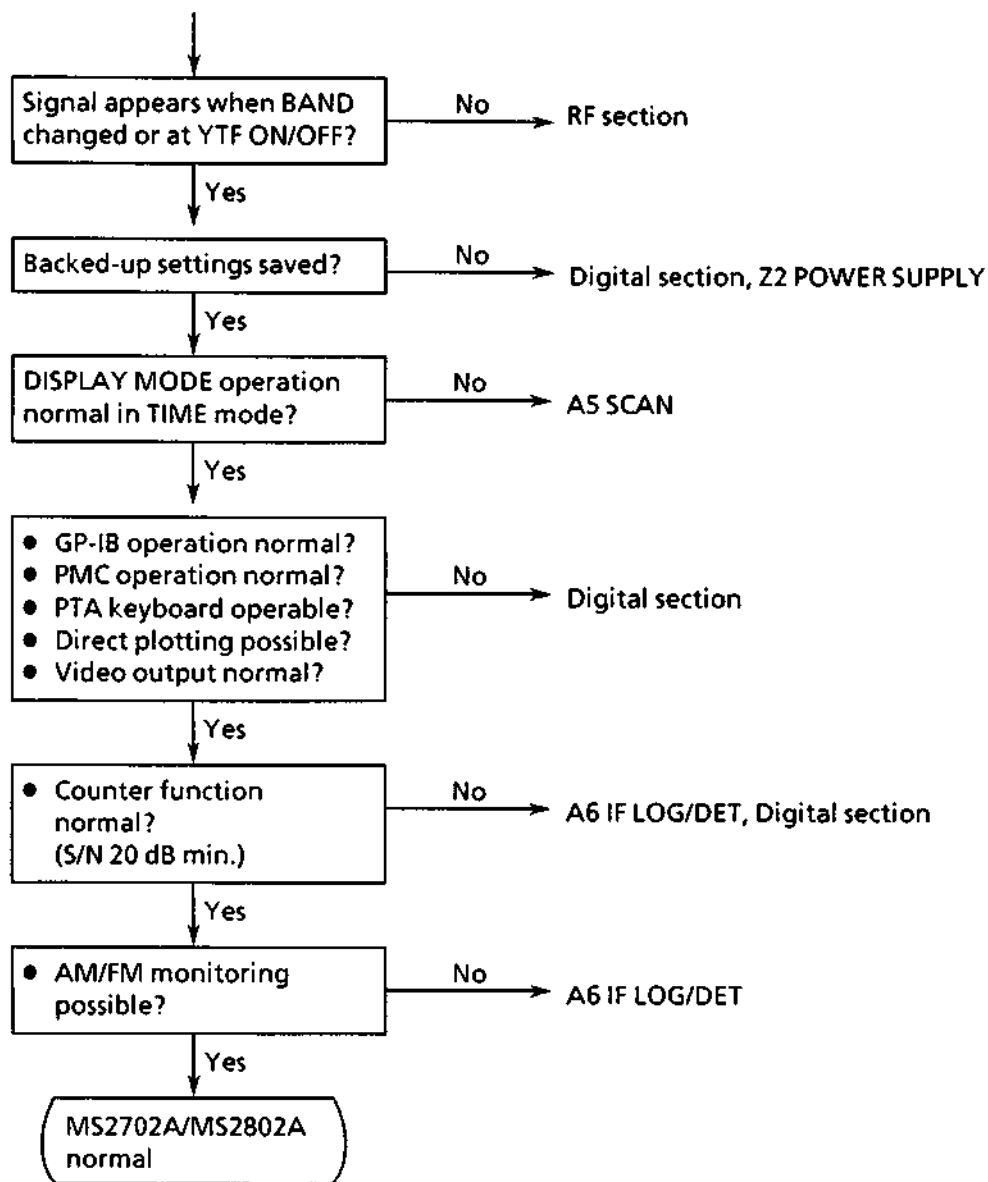


Fig. 3-3 Faulty Block location Troubleshooting Flowchart (2/2)



33W32565
APPLICATION

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REVISIONS

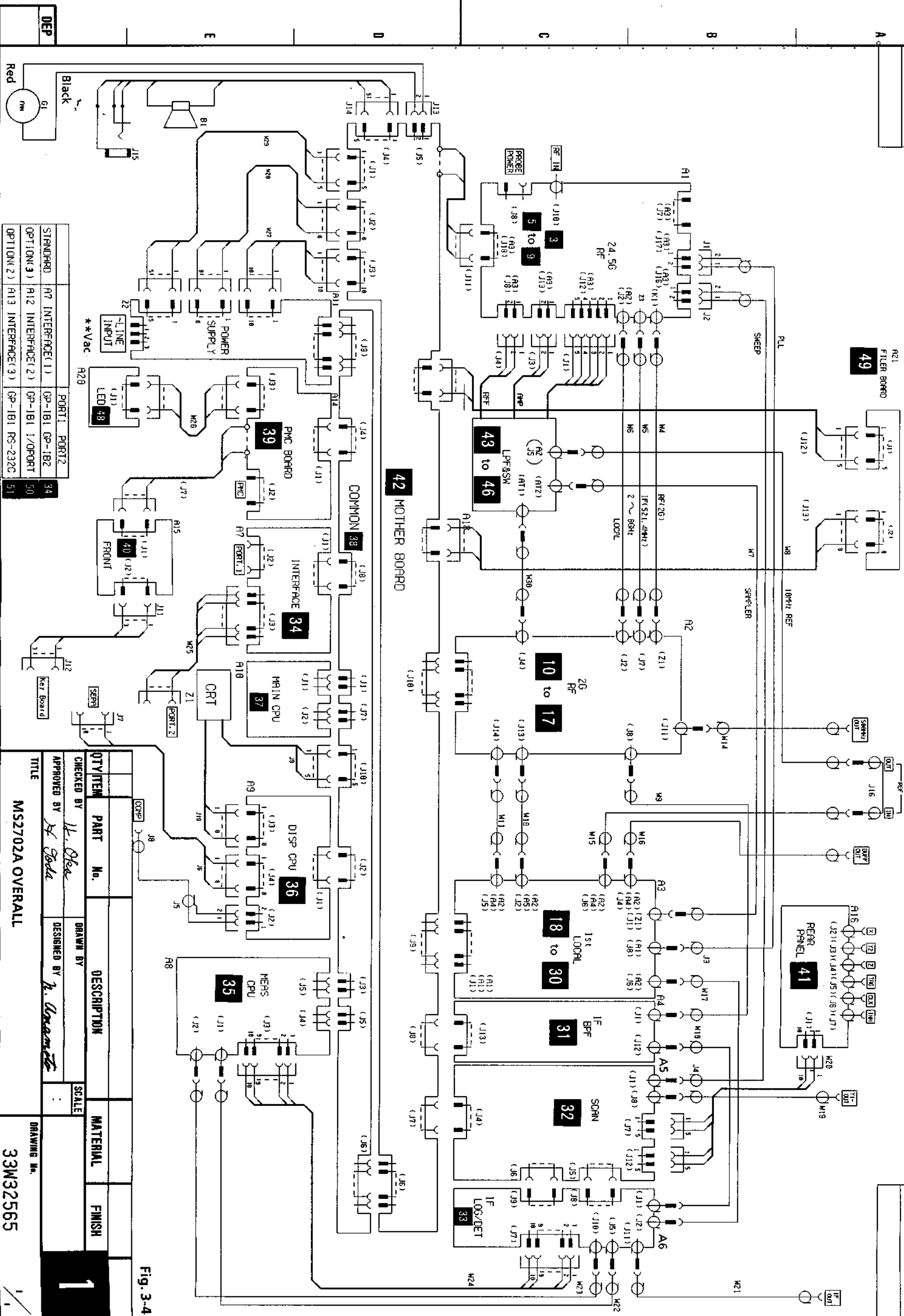


Fig. 3-4

QTY/ITEM	PART No.	DESCRIPTION	SCALE	MATERIAL	FINISH
CHECKED BY <i>H. Oka</i>					
APPROVED BY <i>H. Oka</i>					
DRAWN BY <i>H. Oka</i>					
DESIGNED BY <i>H. Oka</i>					
TITLE					
MS2702A OVERALL					
DRAWING No.					
33W32565					



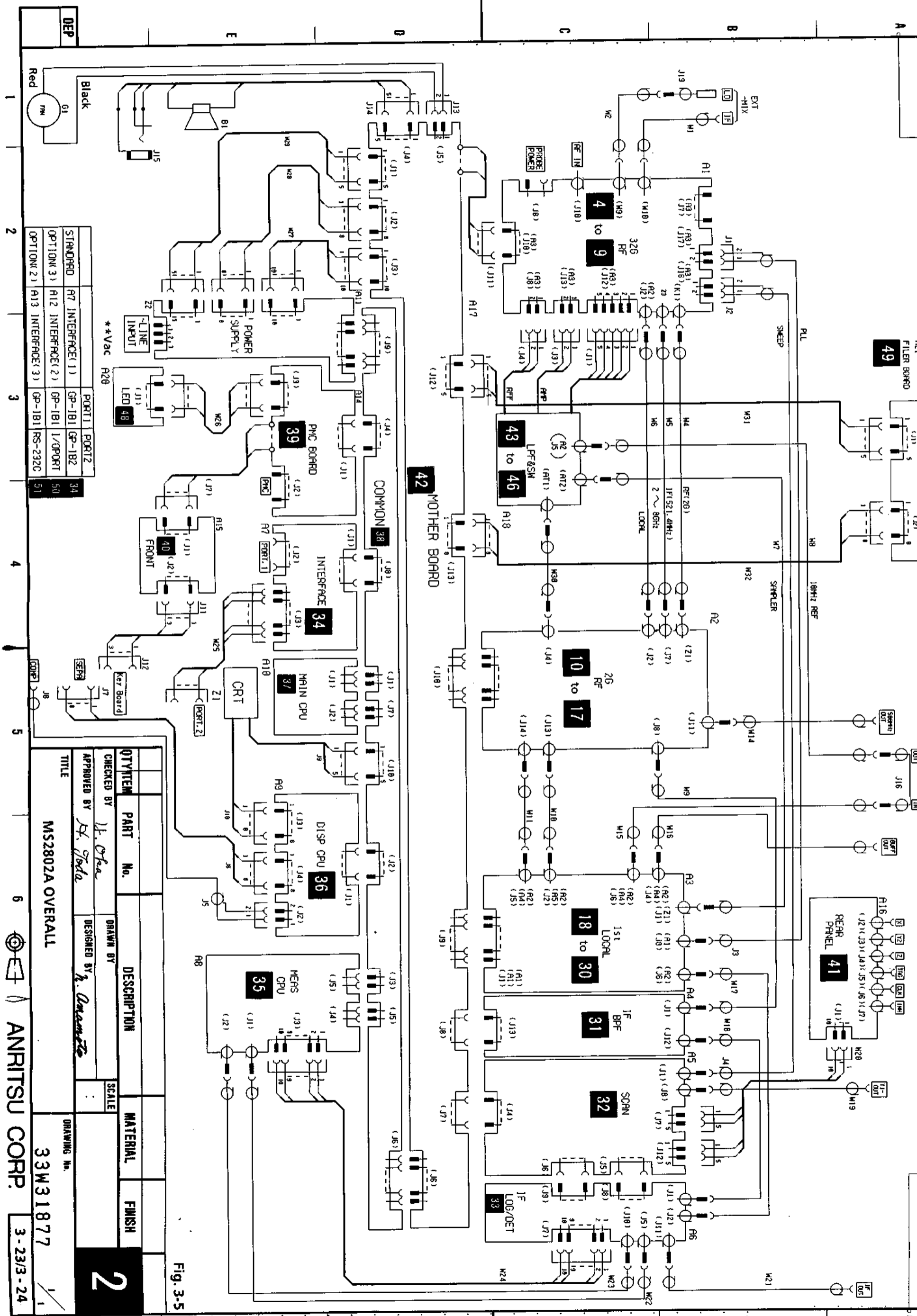


Fig. 3-5

STANDARD	A7 INTERFACE (1)	GP-1B1	GP-1B2	34
OPTION (3)	A12 INTERFACE (2)	GP-1B1	1/OPPORT	50
OPTION (2)	A13 INTERFACE (3)	GP-1B1	RS-232C	51

QTY/TEN	PART No.	DESCRIPTION	MATERIAL	FINISH
APPROVED BY	DESIGNED BY			
CHECKED BY	DRAWN BY			
TITLE	SCALE			

MS2802A OVERALL

33W31877

3-23/3-24

2



3.2.2 Power supply check

The check to test whether or not the power supply is normal is performed by measuring the voltages listed in the table below at each test point (refer to Fig. 3-112) on A17 MOTHER BOARD.

Note: When the output is shorted for a instant, the power supply protection circuit operates and cuts the power. Consequently, when the power is cut-off, set the LINE switch on the rear panel to OFF and then set it to ON again to restore the original output.)

Test point (A17)	Voltage
J1-2 ① + 12 VF	11.4 to 12.6 V
J1-3 ② LINE	Pulse with the same frequency as AC input power, TTL level
J1-4 ③ + 12 VS	11.4 to 12.6 V
J2-5, 6 ④ + 13 V	12.6 to 14.0 V
J2-7, 8 ⑤ + 6 V	5.9 to 6.5V
J3-6, 7 ⑥ - 15 V	- 14.2 to - 15.8 V
J3-8, 9 ⑦ + 16 V	15.8 to 17.4

If an abnormality is detected when the power supply, is checked, change the power supply unit Z2.

3.3 RF Section

3.3.1 Introduction

Note that you should not attempt to tamper with any of the semi-rigid cables, since it would result in loss of calibration of the instrument. All the tests should be carried out only after the signal has been down converted to 521.4 MHz or 21.4 MHz. RF troubleshooting has been designed to take care of the above problem. All the observations are made at the front panel or at points where frequency of signal in question is low enough.

In the next paragraph, a method of tracking down a faulty block is shown by just removing only the top lid of the MS2702A/MS2802A.

3.3.2 RF section troubleshooting

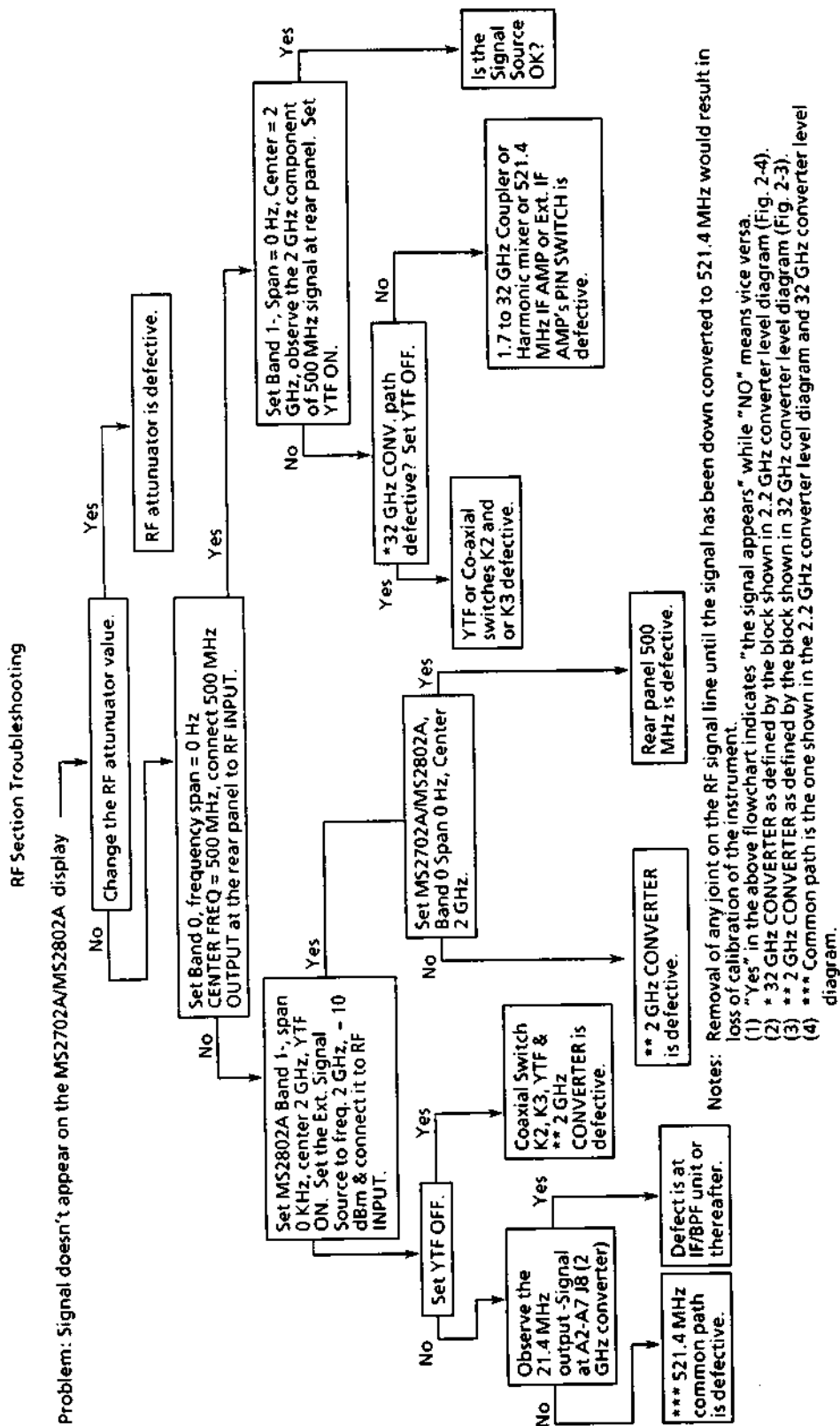


Fig. 3-6

3.3.3 32 GHz CONVERTER control signals on A1-A3 **3** to **17**

All of the below SIGNALS can be tested at RF CONTROL PCB (A1-A3) which is visible when the right side lid of the MS2702A/MS2802A is opened. A 0 in the following table implies 0 V and 1 implies nearly 5 V (TTL logic).

Table 3-5 Co-axial Switch Control Logic

YTF Position (BAND)	DSW2 (Q36 #2)	DSW3 (Q36 #3)
YTF ON (1-, 1+, 2+, 3+)	1	0
YTF OFF (1-, 1+, 2+, 3+, 4+)	0	1

* MS2802A only

Table 3-6 Co-axial Switch Control Logic

Band Selected	DSW1 (Q36 #1)
BAND 0 (0 to 2 GHz)	0
BAND 1-, 1+, 2+, 3+, 4+ (1.7 to 32 GHz)	1

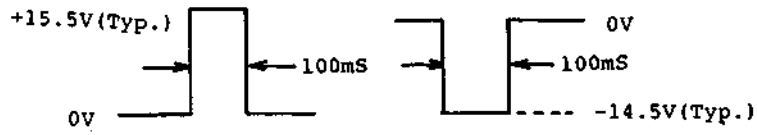
Table 3-7 RF Attenuator Control Logic

RF attenuator value	DAT5 (Q36 #5)	DAT10 (Q36 #6)	DAT20 (Q36 #8)	DAT30 (Q36 #9)
0 dB	0	0	0	0
5 dB	1	0	0	0
10 dB	0	1	0	0
15 dB	1	1	0	0
20 dB	0	0	1	0
25 dB	1	0	1	0
30 dB	0	0	0	1
35 dB	1	0	0	1
40 dB	0	1	0	1
45 dB	1	1	0	1
50 dB	0	0	1	1
55 dB	1	0	1	1

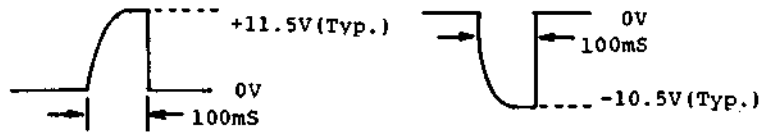
Table 3-8 Mixer Bias

Band Selected	*Voltage at TP5 15	Tuning resistor
BAND 1-	+11.0 V	R69 - 16
BAND 1+	+11.0 V	R69 - 16
BAND 2+	+0.4 V	R70 - 17
BAND 3+	+8.0 V	R72 - 18
BAND 4+	+2.0 V	R73 - 19

* Can be adjusted by-resistors shown under the right side cover.

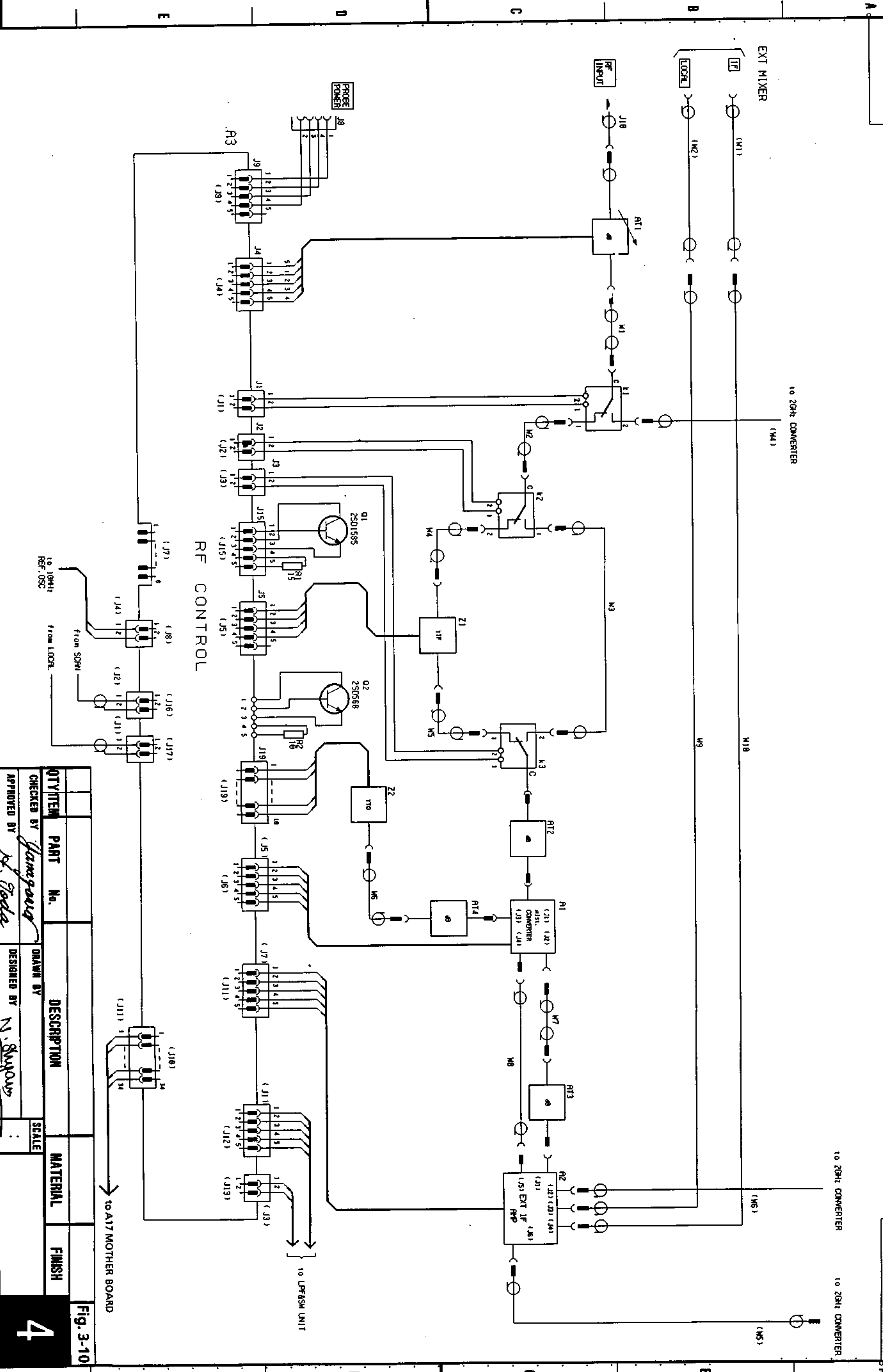


**Fig. 3-7 Waveform at RF Attenuator Switching
(observed at pins 1, 2, 3 or 4 of J4)**



**Fig. 3-8 Waveform at Co-axial Switch Switching
(observed at Pins 1 of J1/J2/J3)**





QTY/TEN	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *Jamspour* DRAWN BY
 APPROVED BY *N. Sanyal* DESIGNED BY
 SCALE
 TITLE: A1 (MS2802A) 32 GHz CONVERTER
 DRAWING No. 33W31404
 Fig. 3-10

4

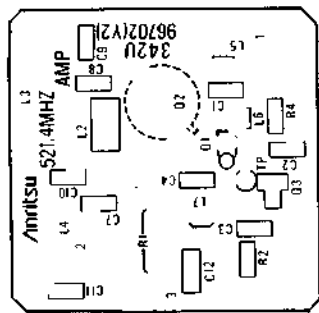


Fig. 3-11 A1-A1-A1 521.4 MHz AMP PC-Board Parts Layout **6**

33W31221
APPLICATION

REVISIONS

12.1.3
1182802
12/1/3

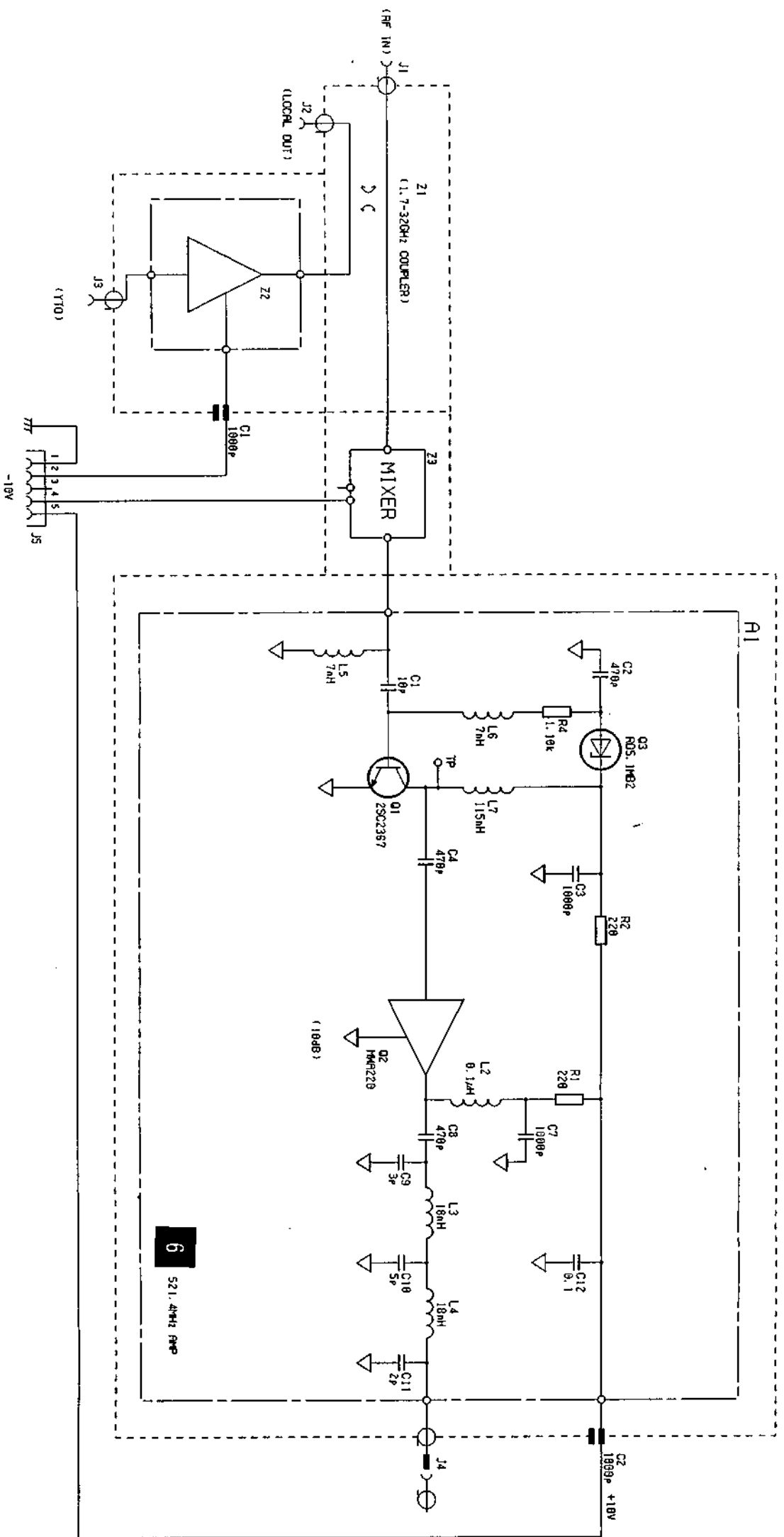


Fig. 3-12

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL
CHECKED BY	DRAWN BY		SCALE
APPROVED BY	DESIGNED BY		
TITLE			
A1-A1 U1st CONVERTER			

5
6

33W31221
DRAWING No.
ANRITSU CORP.
3-35

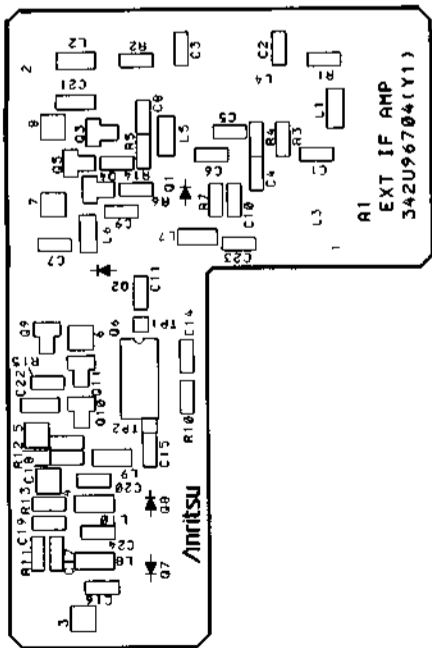


Fig. 3-13 A1-A2-A1 521.4 MHz EXT IF AMP PC-Board Parts Layout 8

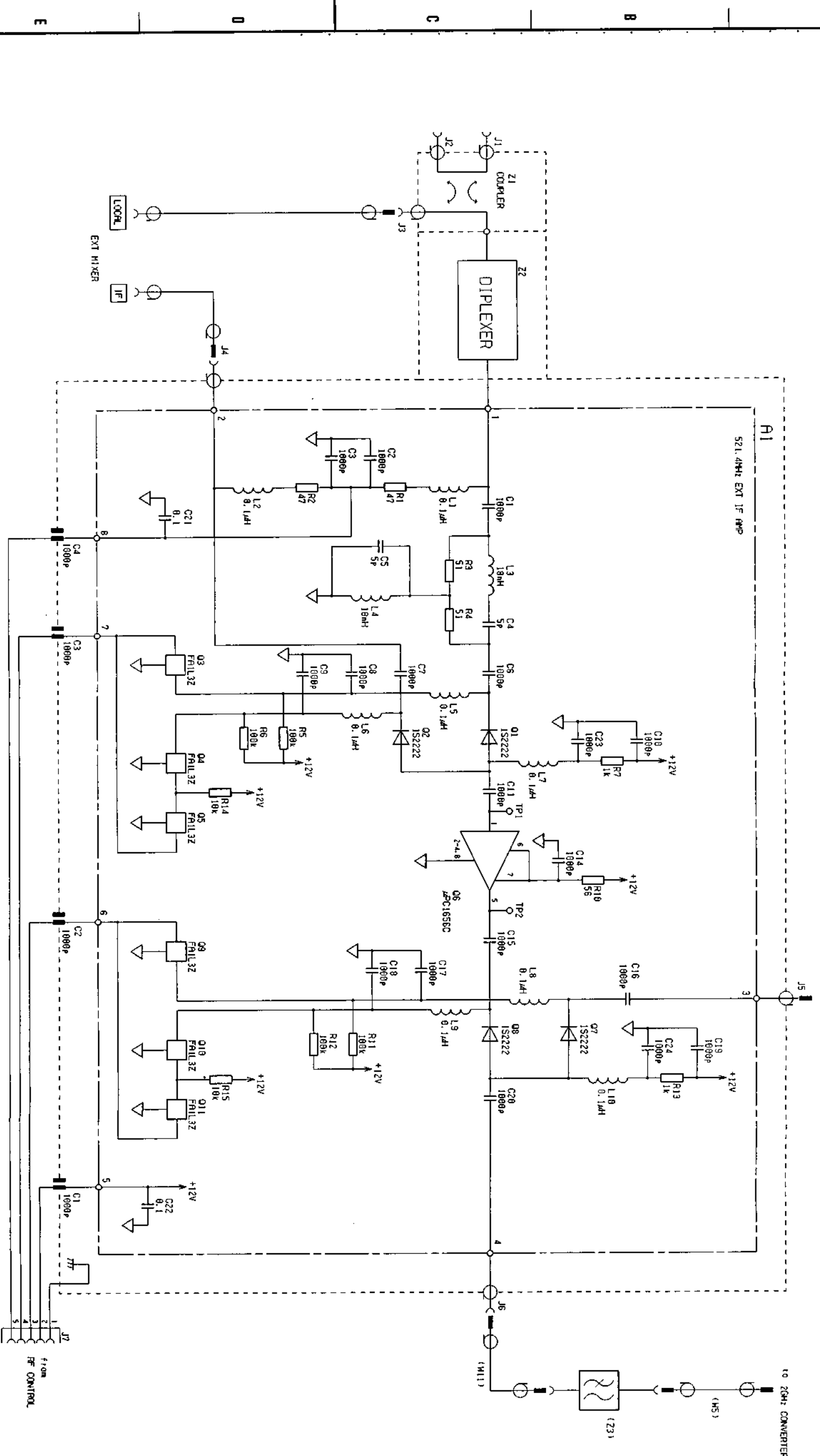


Fig. 3-14

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL
CHECKED BY <i>H. S. Sada</i>			
DESIGNED BY <i>N. S. Sada</i>			
DRAWN BY			
SCALE			
TITLE A1-A2 EXT IF AMP			
DRAWING No. 33W31222			

7
8

DEP

ANRITSU CORP.

3-37

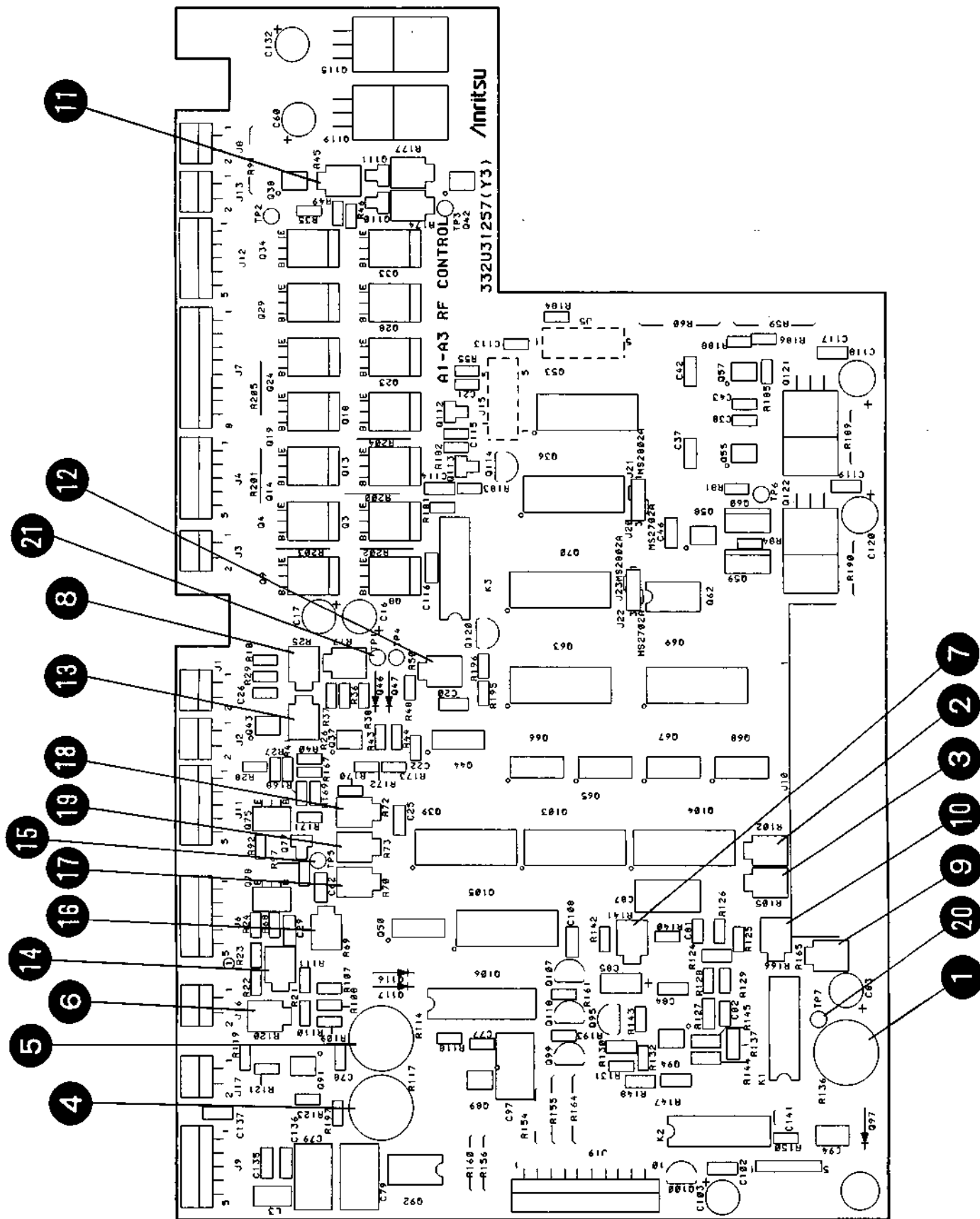


Fig. 3-15 (1/2)

A1-A3 RF CONTROL PC-Board
Parts Layout (Component Side) **9**



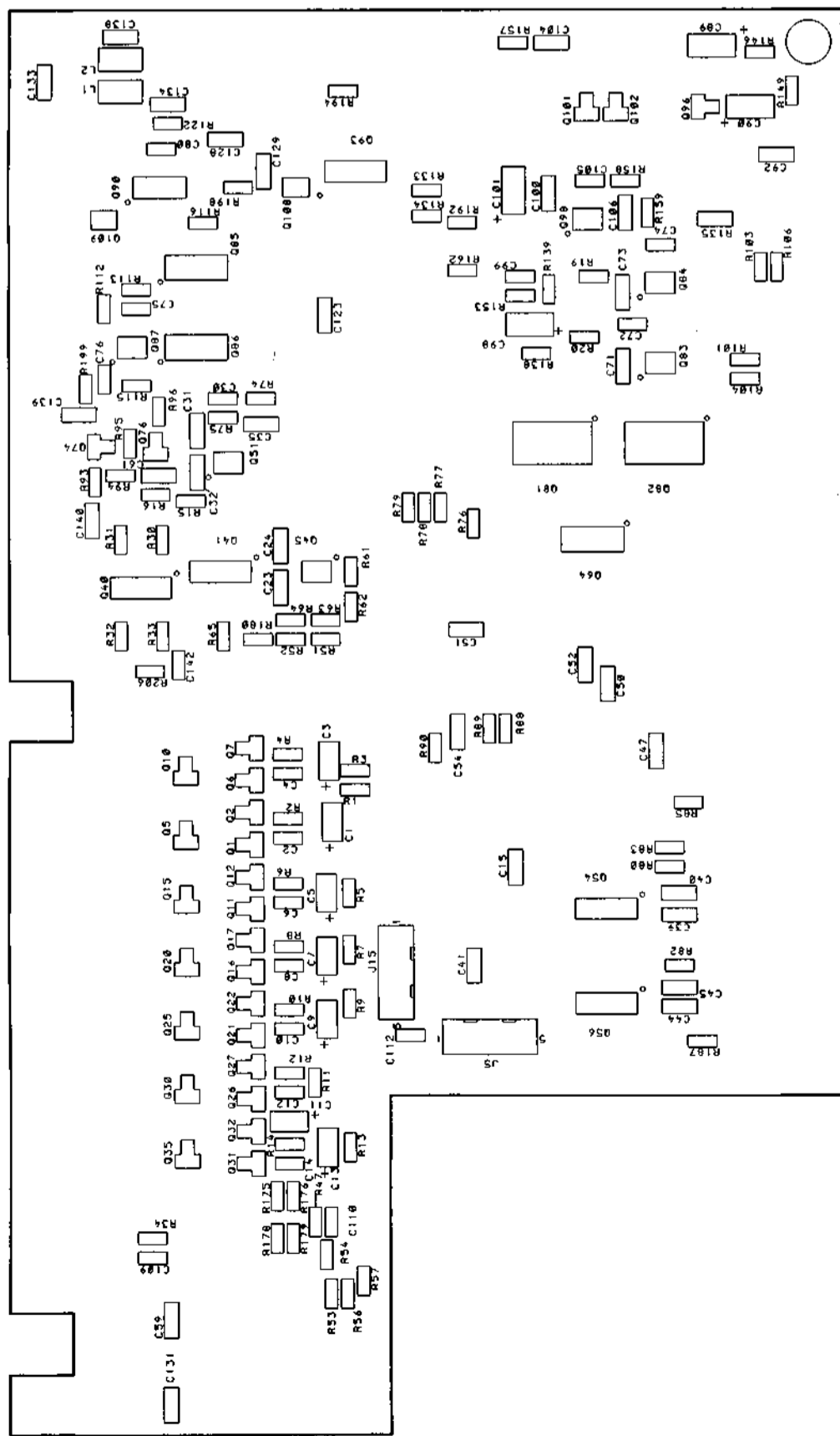


Fig. 3-15 (2/2)

A1-A3 RF CONTROL PC-Board
 Parts Layout (Pattern Side) **9**

33W31223
APPLICATION

REVISIONS

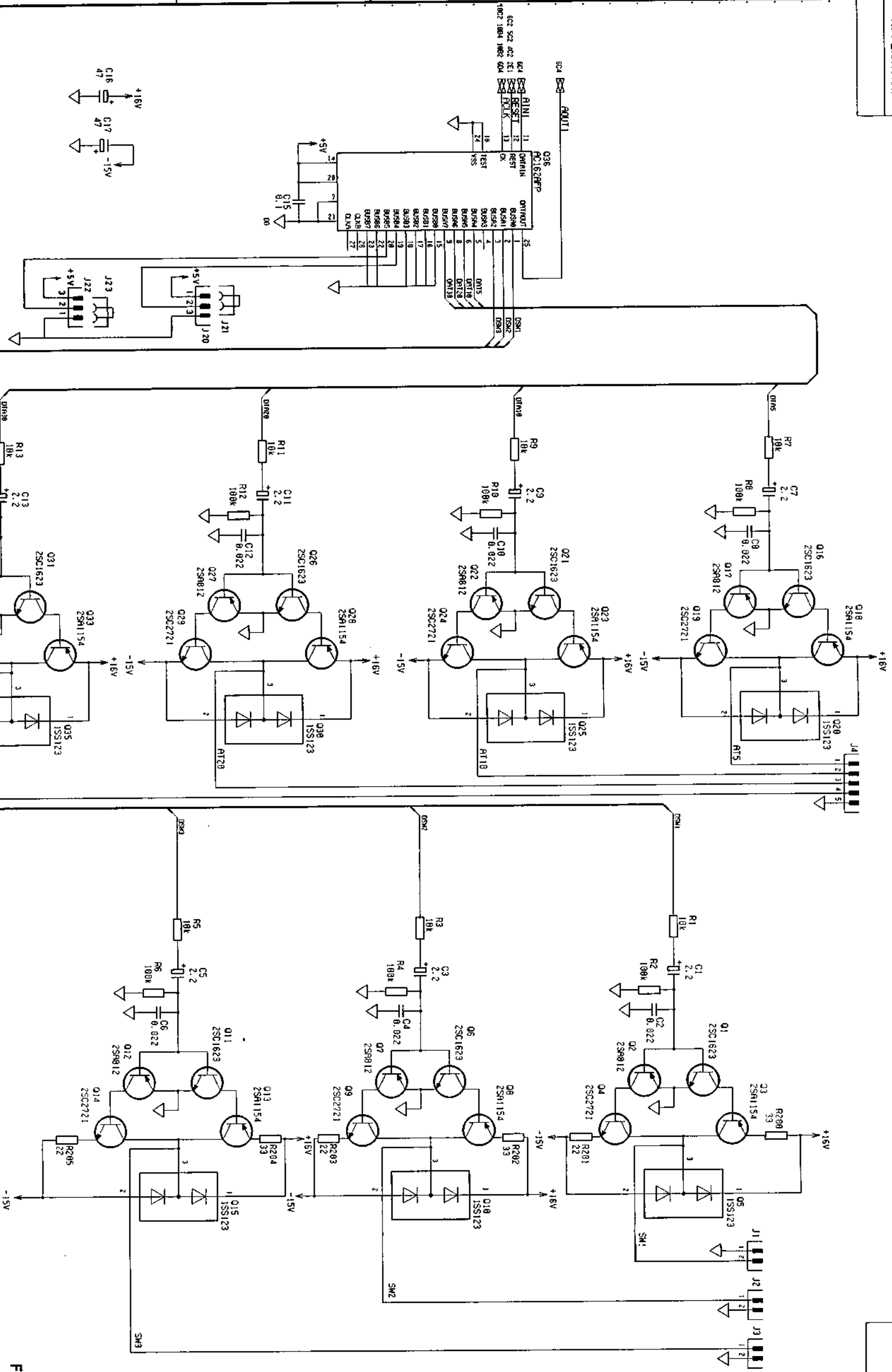


Fig. 3-16 (1/10)

J20, 22	2-3 short
MS2702A	1-2 short
MS2802A	

QTY	PART No.	DESCRIPTION	MATERIAL	FINISH
1	2SC1623	DRIVER TRANSISTOR		
1	2N59812	POWER TRANSISTOR		
1	2N91154	POWER TRANSISTOR		
1	1SS123	DIODE		
1	100K	RESISTOR		
1	10K	RESISTOR		
1	33K	RESISTOR		
1	2.2	CAPACITOR		
1	0.022	CAPACITOR		
1	100P	CAPACITOR		

CHECKED BY *J. S. Sada*
 APPROVED BY *J. S. Sada*
 DRAWN BY *N. S. Sada*
 DESIGNED BY *N. S. Sada*

TITLE: A1-A3 RF CONTROL

DRAWING No. 33W31223

3-41/3-42

9



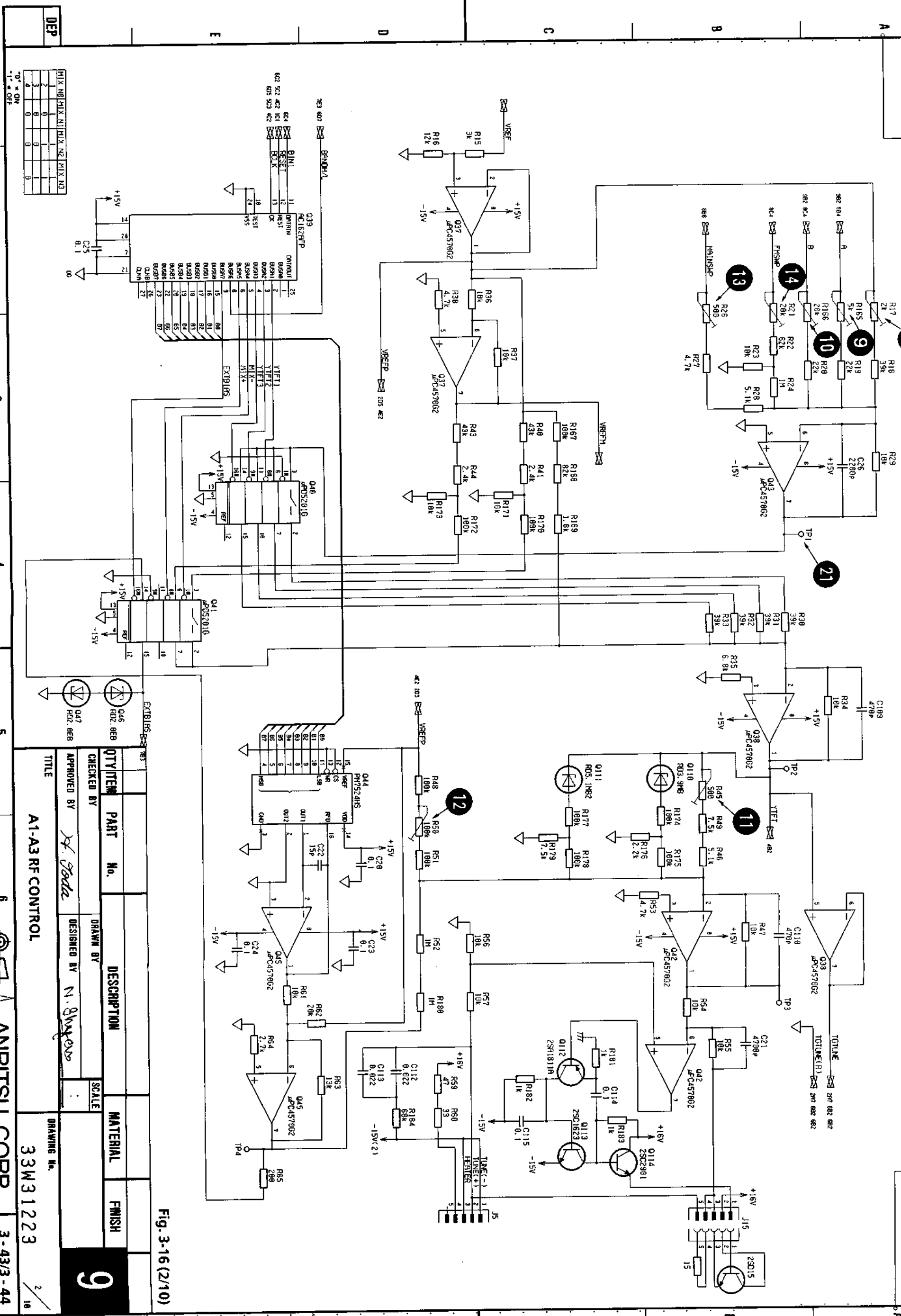


Fig. 3-16 (2/10)

DEP	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0

Q39	Q37	Q43	Q48	Q49	Q54	Q55	Q56	Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64	Q65	Q66	Q67	Q68	Q69	Q70	Q71	Q72	Q73	Q74	Q75	Q76	Q77	Q78	Q79	Q80	Q81	Q82	Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90	Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99	Q100
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

CHECKED BY	DESIGNER	SCALE
APPROVED BY	DESIGNED BY	
DRAWN BY		
DESCRIPTION		
PART NO.	MATERIAL	
QTY	FINISH	
TITLE		

A1-A3 RF CONTROL

33W31223

3-43/3-44

9

33W31223
APPLICATION

REVISIONS

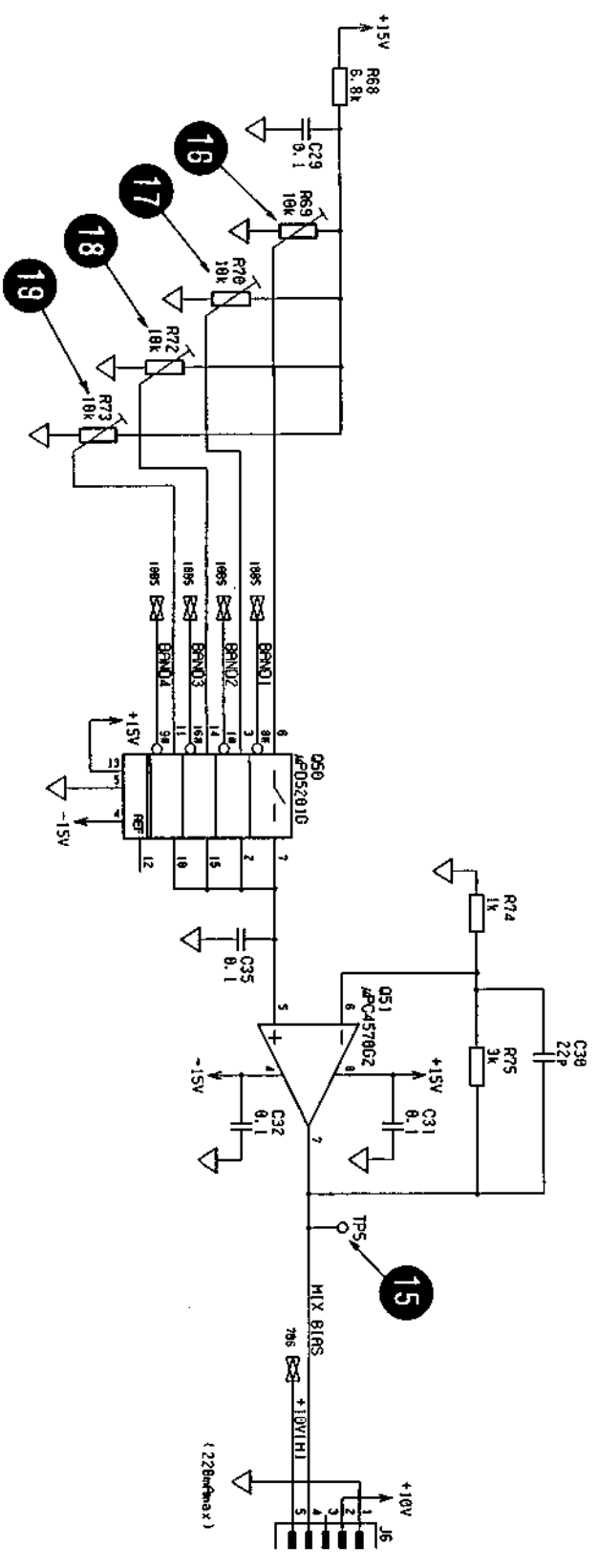


Fig. 3-16 (3/10)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY		
APPROVED BY	<i>N. S. Snyder</i>	DESIGNED BY		
TITLE A1-A3 RF CONTROL				
DRAWING No. 33W31223				3/18

ANRITSU CORP. 3-45/3-46



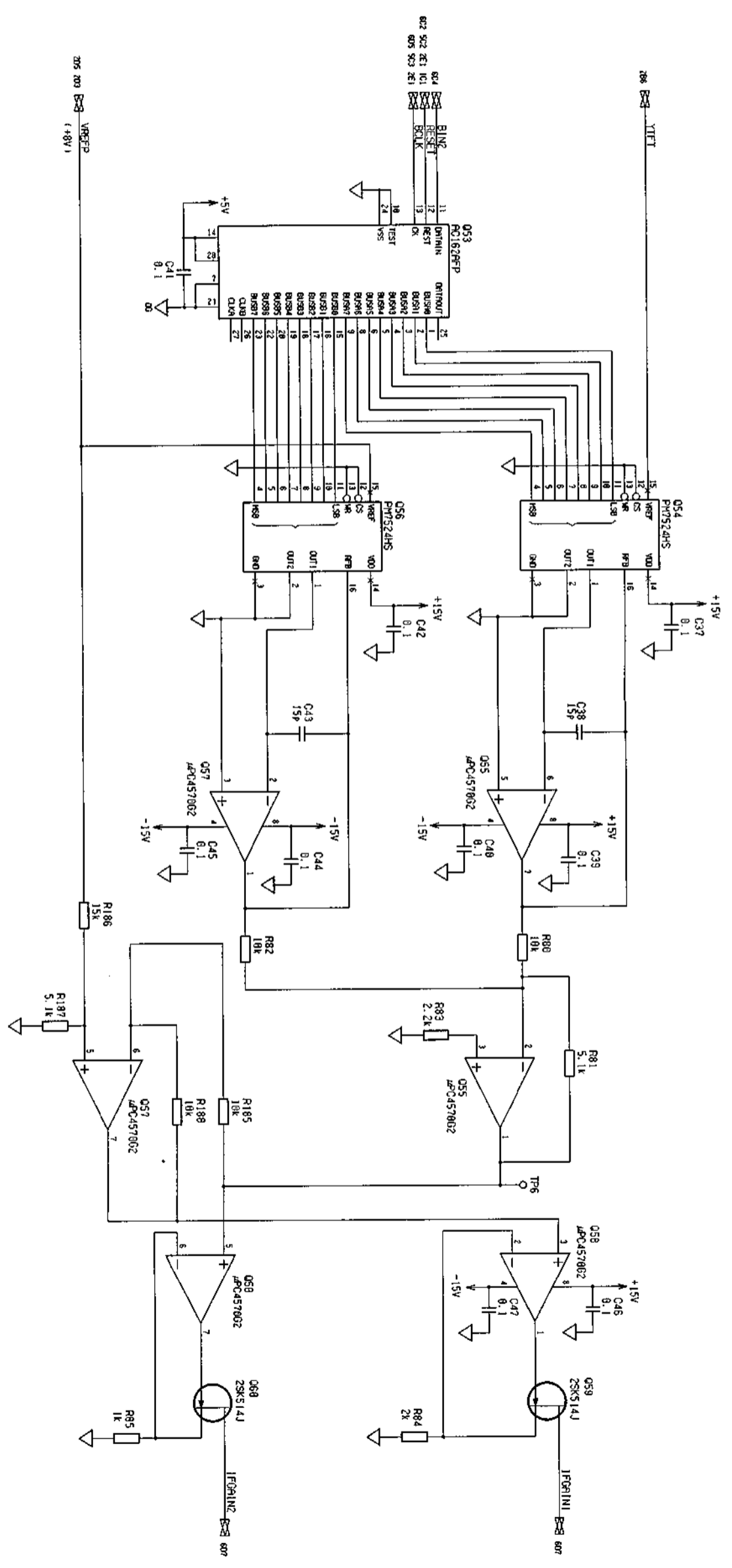


Fig. 3-16 (4/10)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY: *N. Yoda* DRAWN BY: *N. Shimizu*

APPROVED BY: *N. Shimizu* DESIGNED BY: *N. Shimizu*

TITLE: A1-A3 RF CONTROL

DRAWING No. 33W31223



33W31223
APPLICATION

REVISIONS

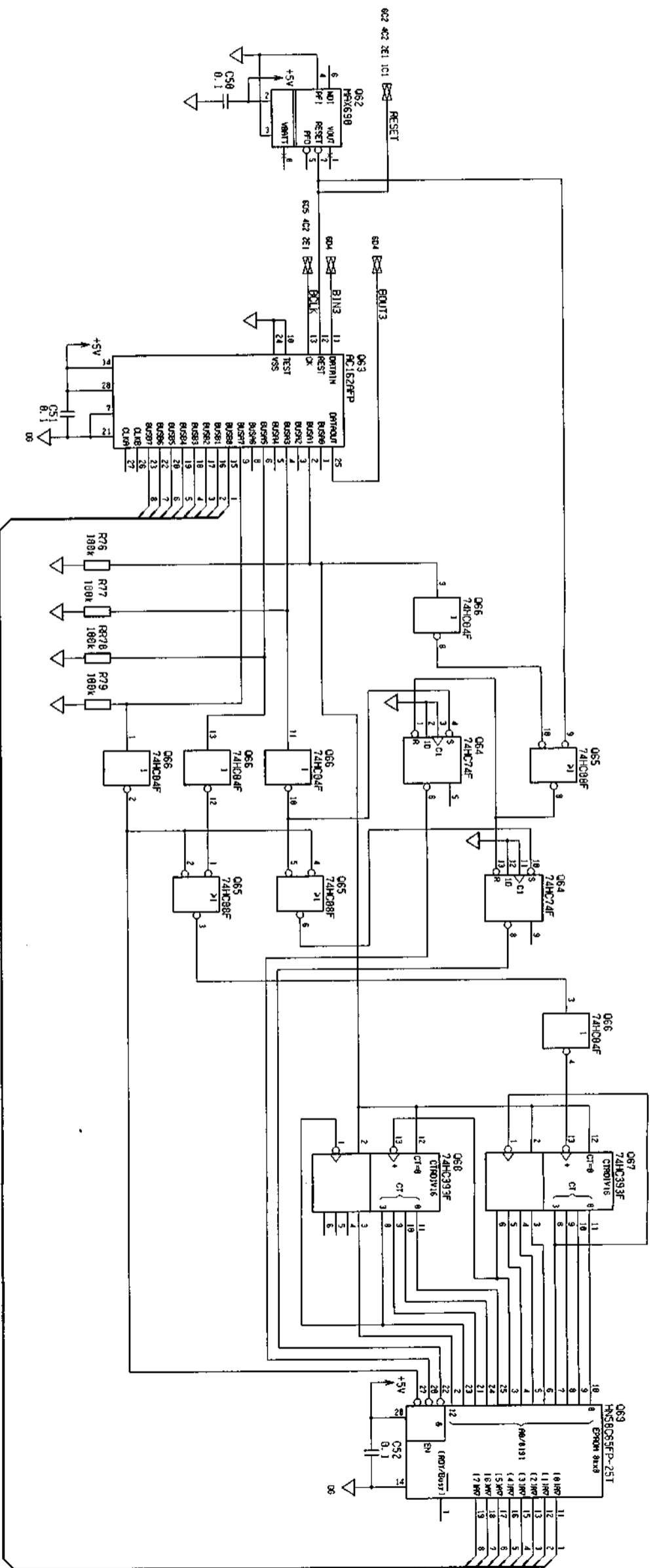


Fig. 3-16 (5/10)

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APPROVED BY		DESIGNED BY		
TITLE				
A1-A3 RF CONTROL				
DRAWING No.				
33W31223				5
				16

9

DEP

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ANRITSU CORP.

3-49/3-50



33W31223
APPLICATION

REVISIONS

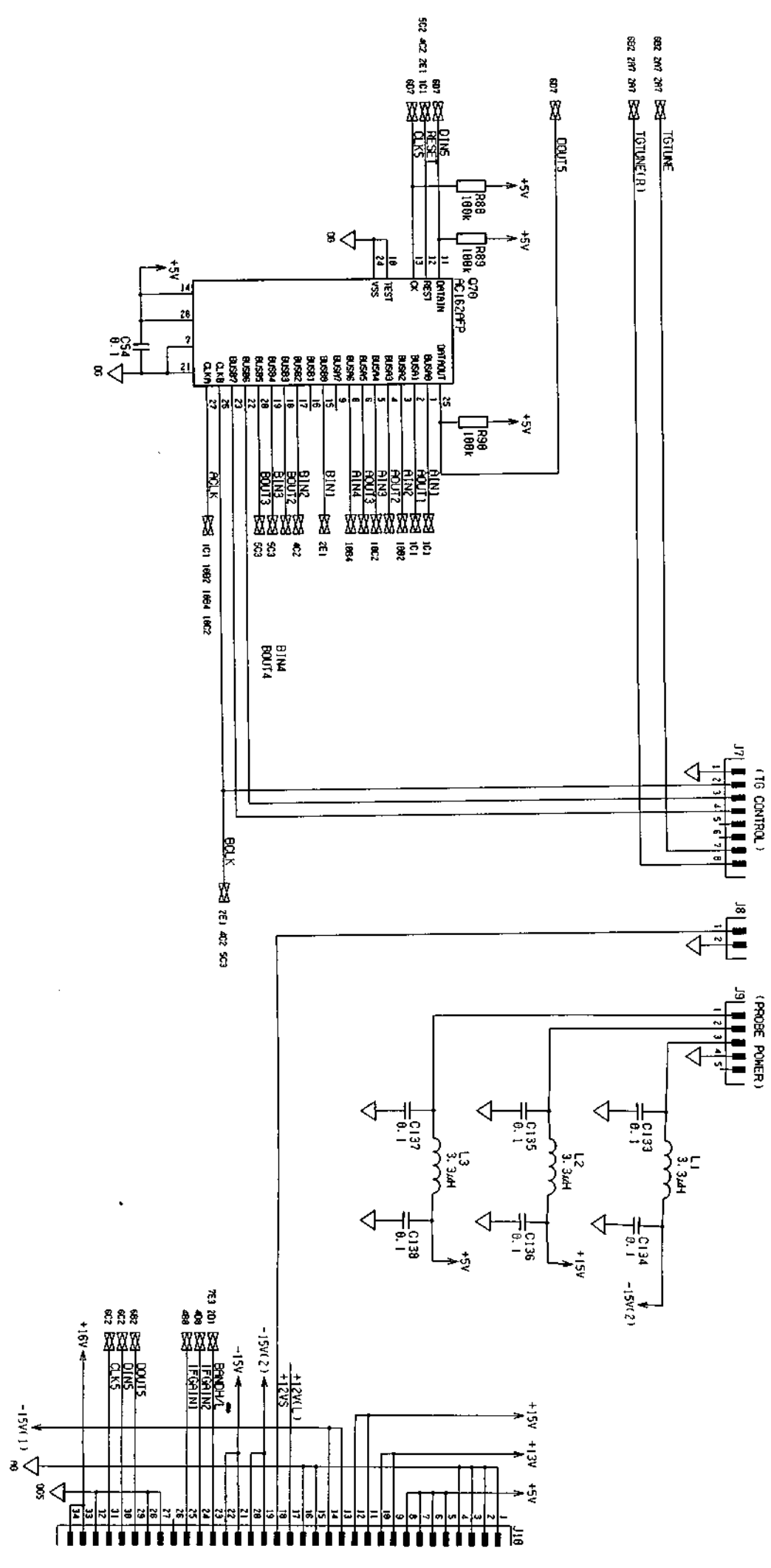


Fig. 3-16 (6/10)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY		
APPROVED BY		DESIGNED BY		
TITLE A1-A3 RF CONTROL				
DRAWING No. 33W31223				
SCALE				

9

DEP

ANRITSU CORP.

3-51/3-52



33W31223
APPLICATION

REVISIONS

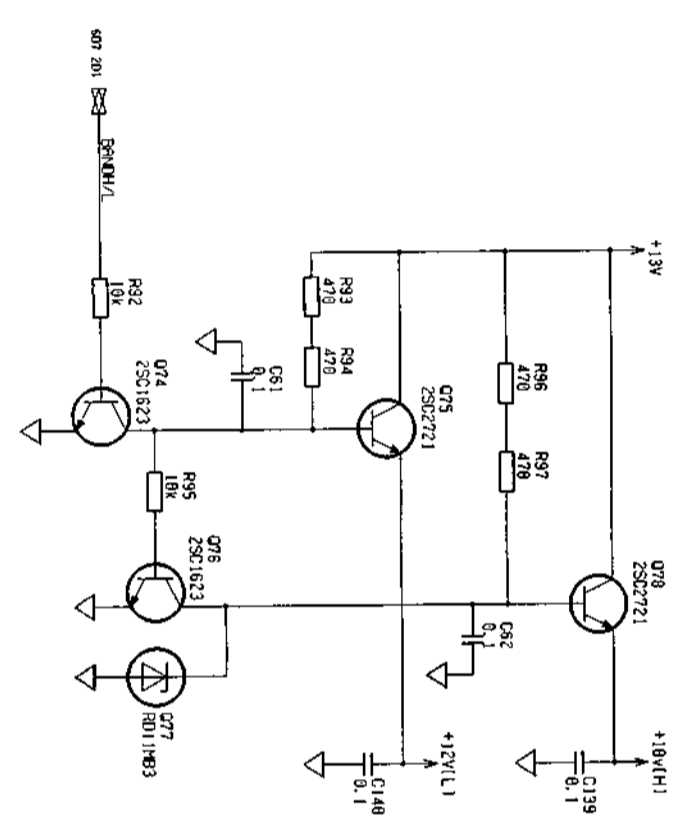
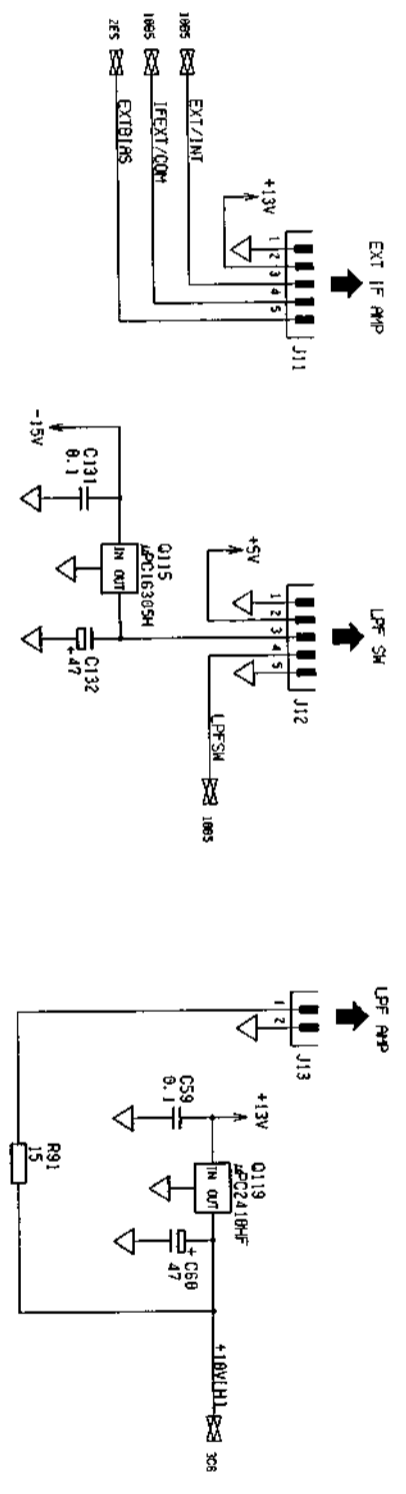


Fig. 3-16(7/10)

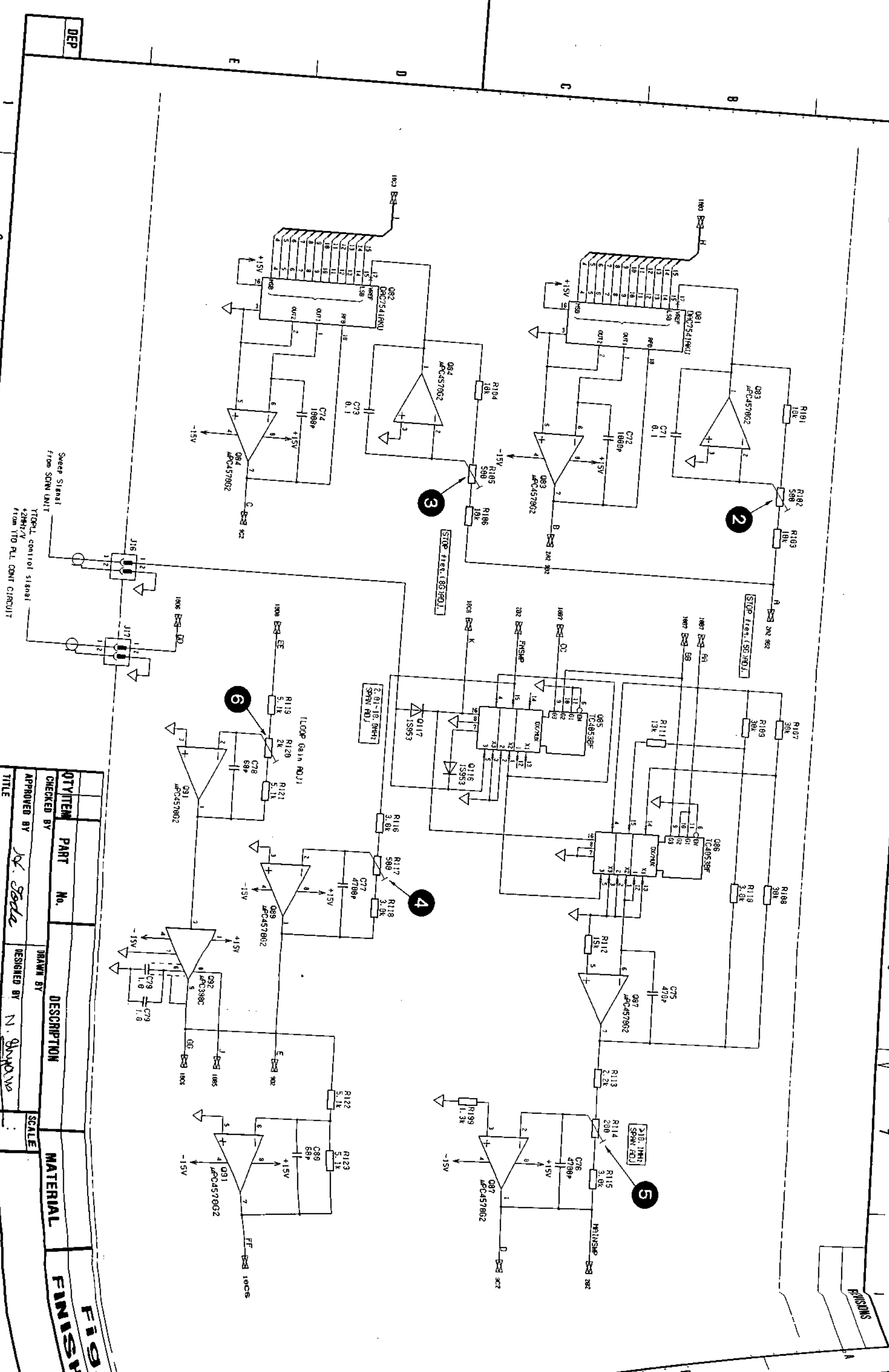
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APPROVED BY		DESIGNED BY		
TITLE		DRAWING No.		
A1-A3 RF CONTROL		33W31223		
		3-53/3-54		

9

ANRITSU CORP



33W31223
APPLICATION



QTY/TEN	PART No.	DESCRIPTION	MATERIAL	FINISH
APPROVED BY	DESIGNED BY	SCALE		
CHECKED BY				
TITLE: A1-A3 RF CONTROL				
DRAWING No. 33W31223				

33W31223
APPLICATION

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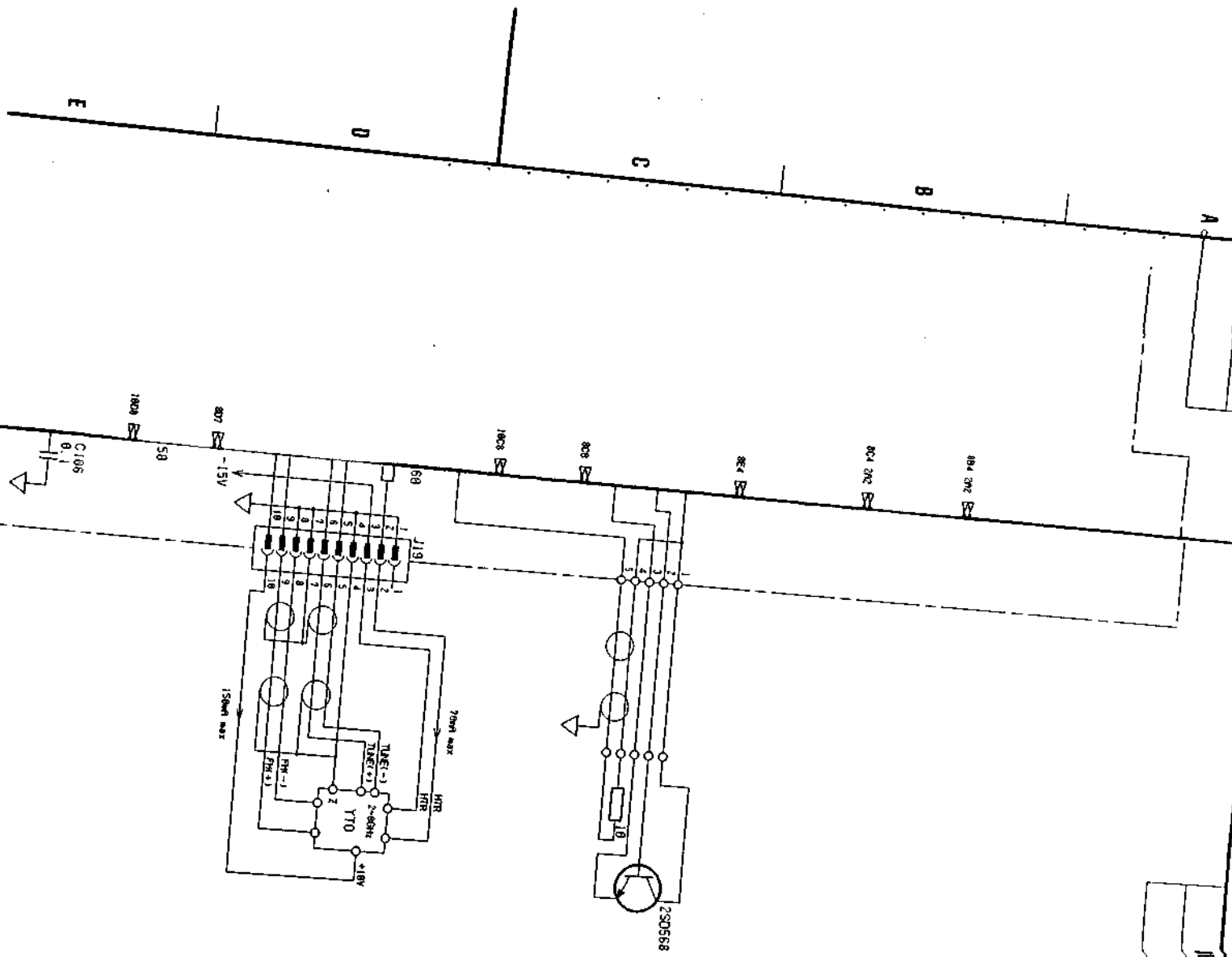


Fig. 3-1 6 (9/10)

DESCRIPTION

MATERIAL

FINISH

N. Shivers

SCALE

DRAWING No.

33W31223

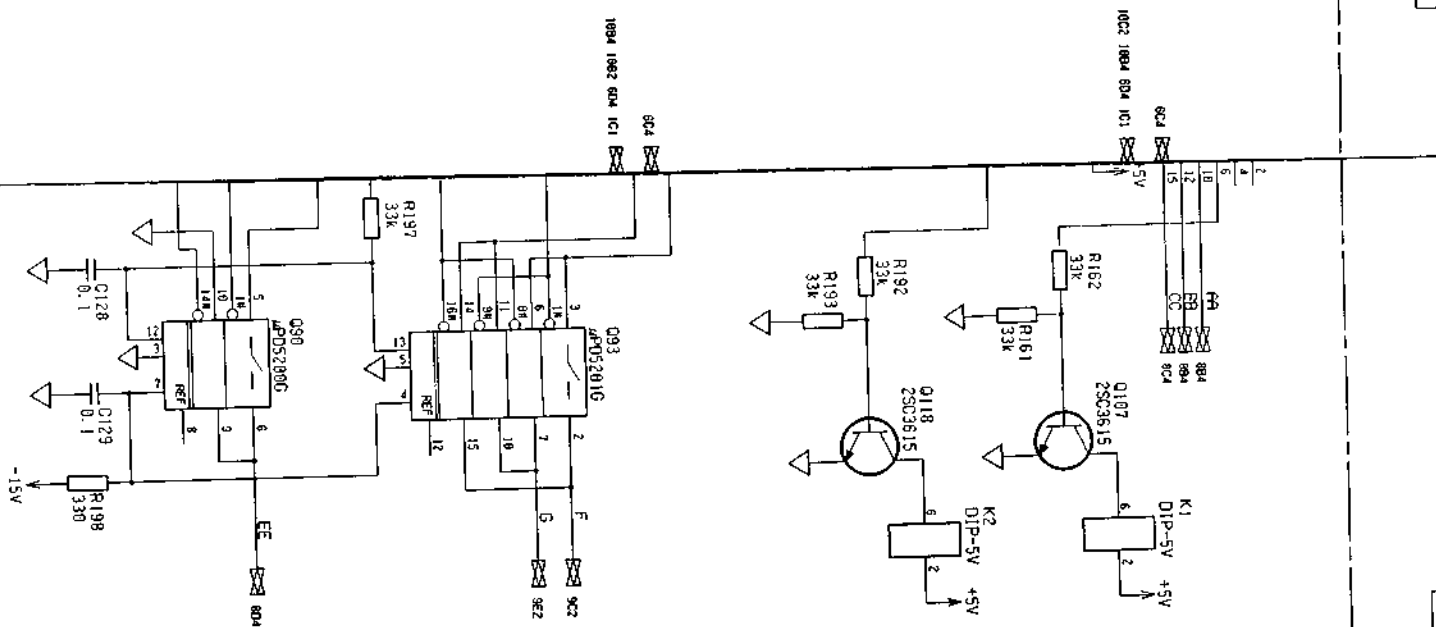
ANRITSU CORP.

3-57

33W31223
APPLICATION

7

REVISIONS



DESCRIPTION

MATERIAL

FINISH

Fig. 3-16 (1)

ANRITSU CORP

N. Shigenawa

SCALE

DRAWING No.

33W31223

3-59/3

DEP



33W31216
APPLICATION

REVISIONS

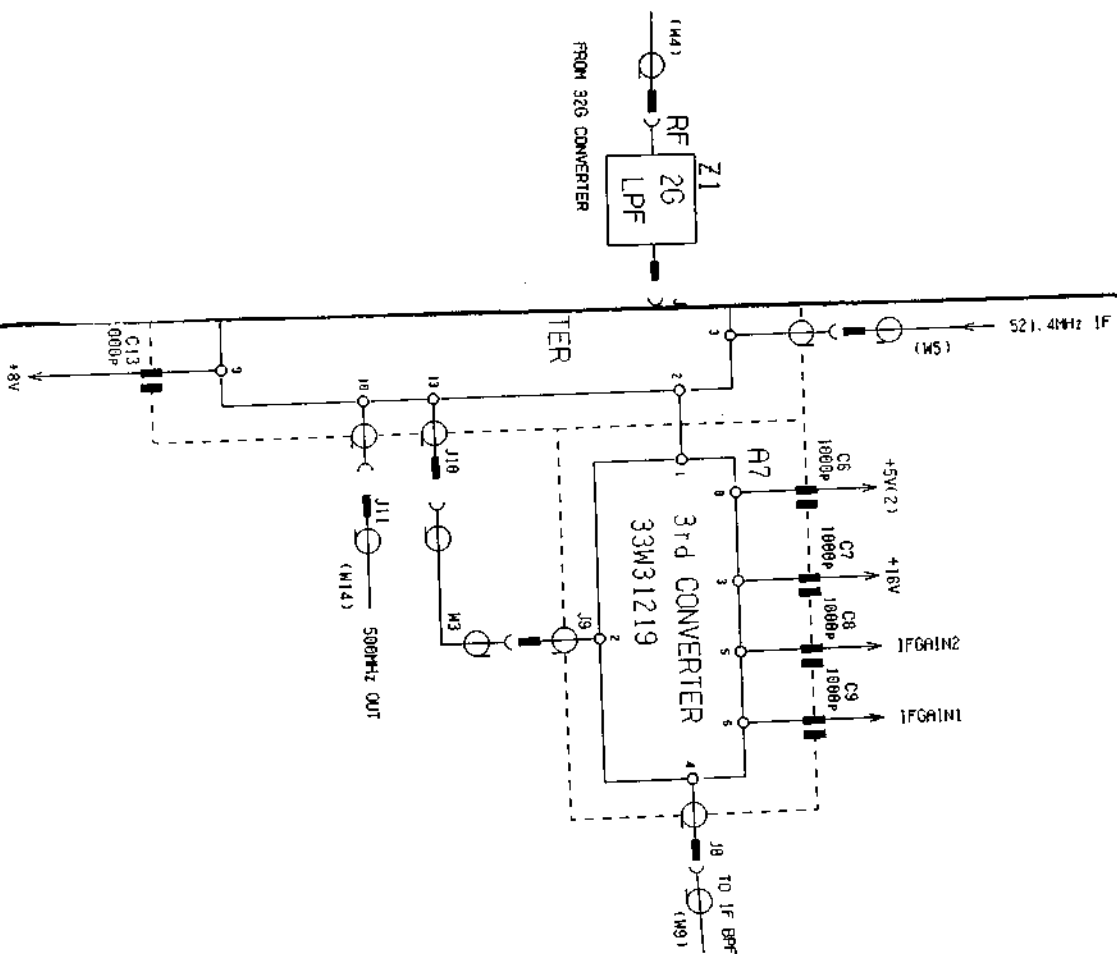


Fig. 3-17

DESCRIPTION

MATERIAL

FINISH

SCALE

10

N. SWANSON

DRAWING No.

33W31216

3-61

DEP

ANRITSU CORP.



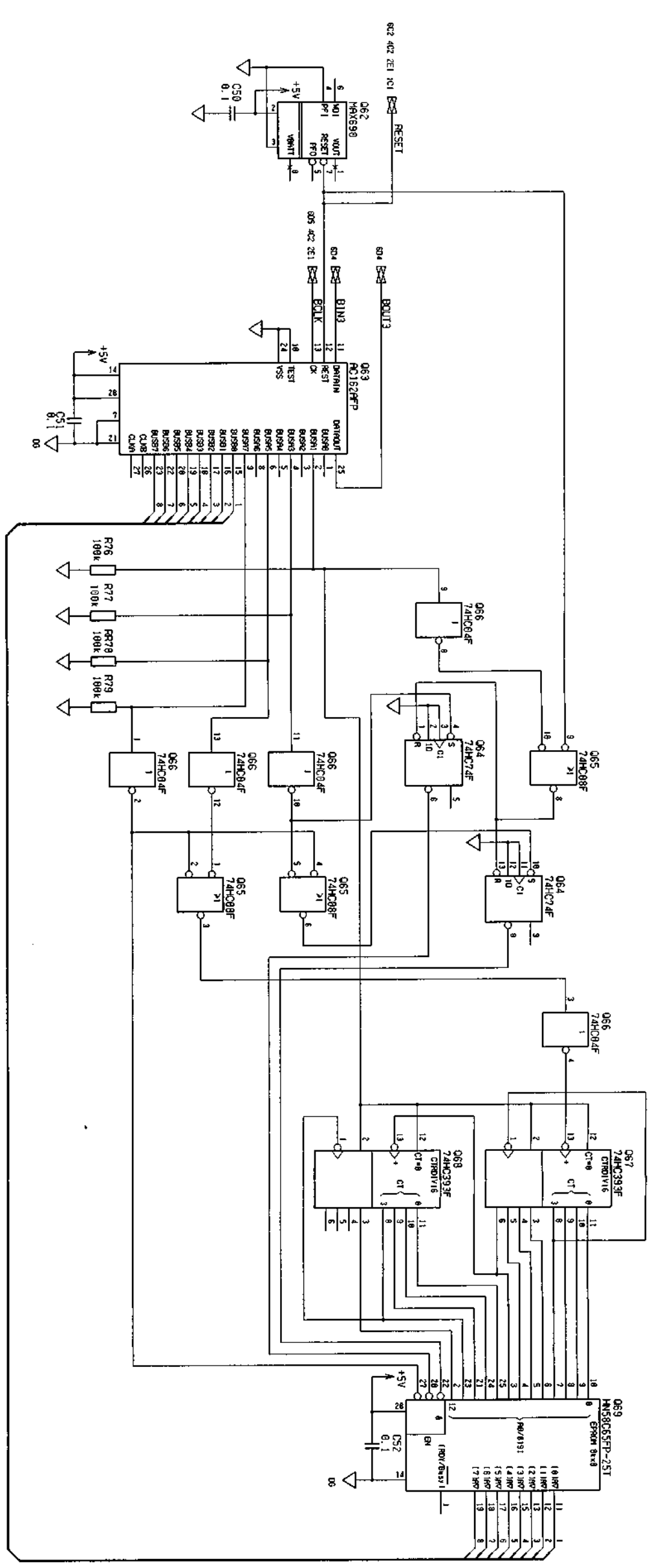


Fig. 3-16 (5/10)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY: *N. Shupova* DRAWN BY: *N. Shupova* SCALE: *1:1*

APPROVED BY: *N. Shupova* DESIGNED BY: *N. Shupova*

TITLE: A1-A3 RF CONTROL

DRAWING No. 33W31223

9

DEP

33W31223
APPLICATION

REVISIONS

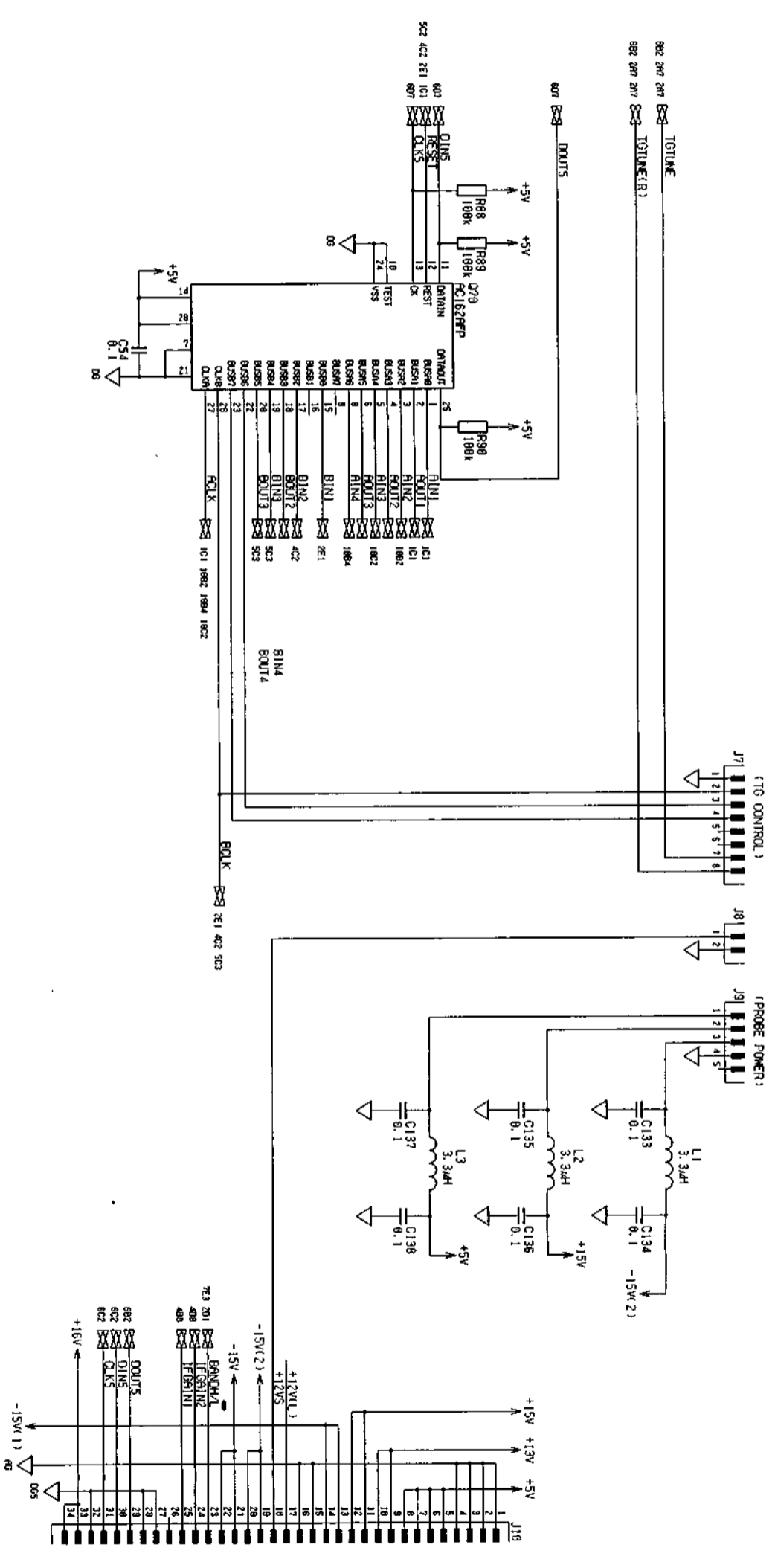


Fig. 3-16 (6/10)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
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<p>SCALE: _____</p>				
<p>DRAWING No. 33W31223</p>				

9



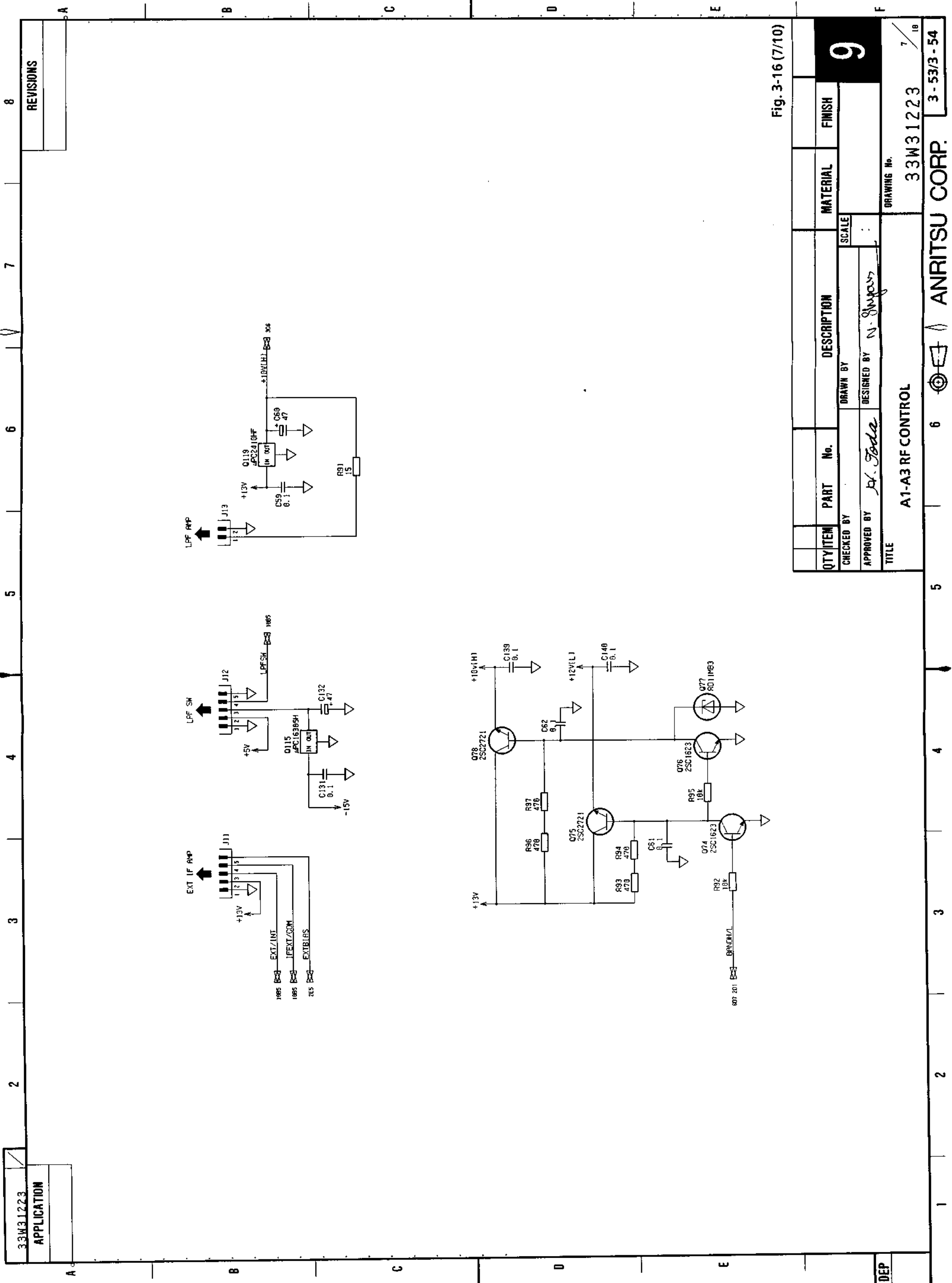


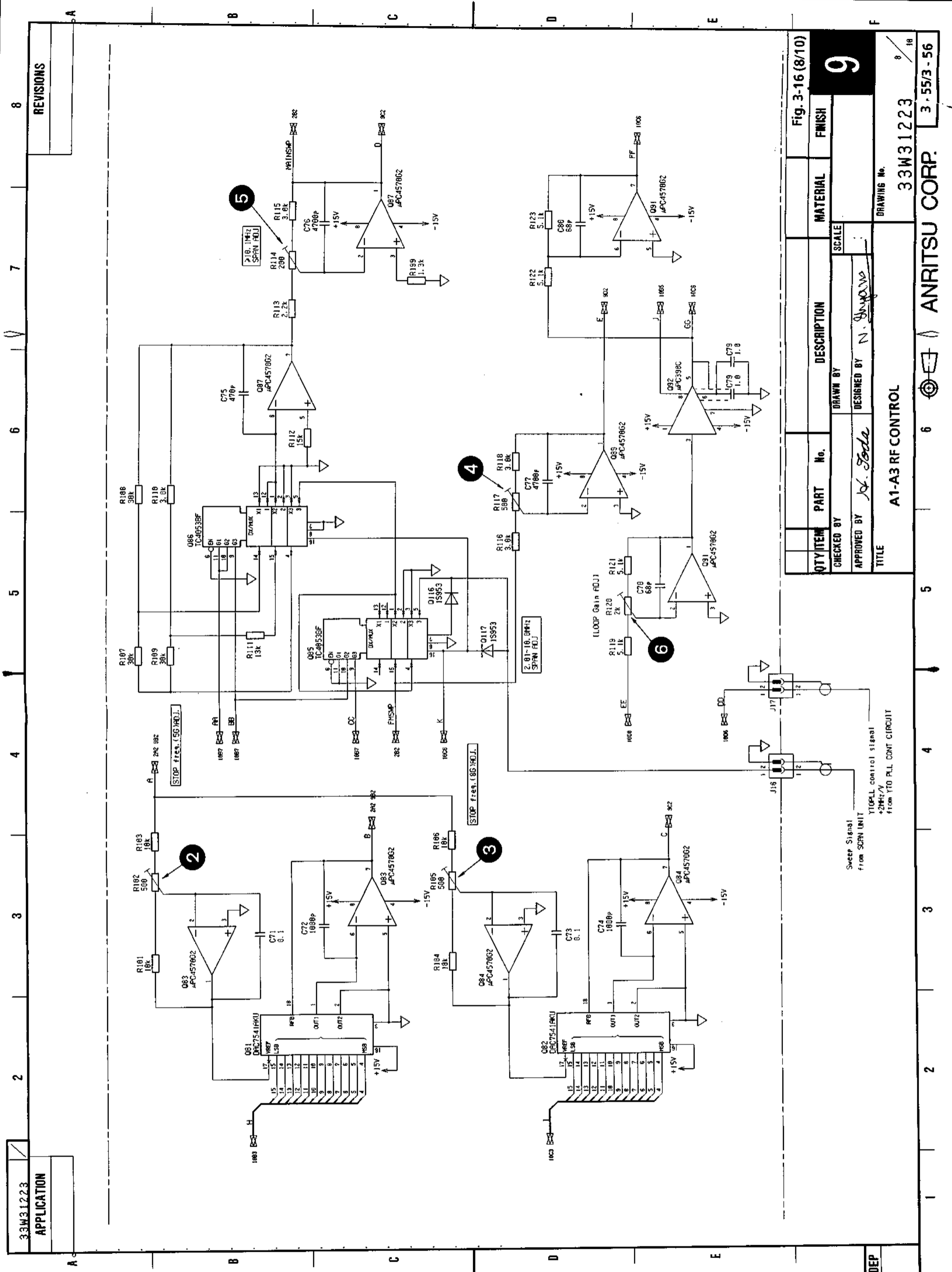
Fig. 3-16 (7/10)

33W31223
APPLICATION

REV	REVISIONS

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY	SCALE	
APPROVED BY	<i>H. Joda</i>	DESIGNED BY	<i>N. Jupp</i>	
TITLE	A1-A3 RF CONTROL			
	DRAWING No. 33W31223			7/10
	ANRITSU CORP. 3-53/3-54			

9



33W31223	APPLICATION	REVISIONS	8																			
<table border="1"> <thead> <tr> <th>QTY/ITEM</th> <th>PART No.</th> <th>DESCRIPTION</th> <th>MATERIAL</th> <th>FINISH</th> </tr> </thead> <tbody> <tr> <td>CHECKED BY</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>APPROVED BY</td> <td><i>N. Jorda</i></td> <td>DRAWN BY</td> <td></td> <td></td> </tr> <tr> <td>TITLE</td> <td colspan="2">A1-A3 RF CONTROL</td> <td>DRAWING No.</td> <td>33W31223</td> </tr> </tbody> </table>		QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH	CHECKED BY					APPROVED BY	<i>N. Jorda</i>	DRAWN BY			TITLE	A1-A3 RF CONTROL		DRAWING No.	33W31223	Fig. 3-16 (8/10)
QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH																		
CHECKED BY																						
APPROVED BY	<i>N. Jorda</i>	DRAWN BY																				
TITLE	A1-A3 RF CONTROL		DRAWING No.	33W31223																		
DEP			9																			
			3-55/3-56																			

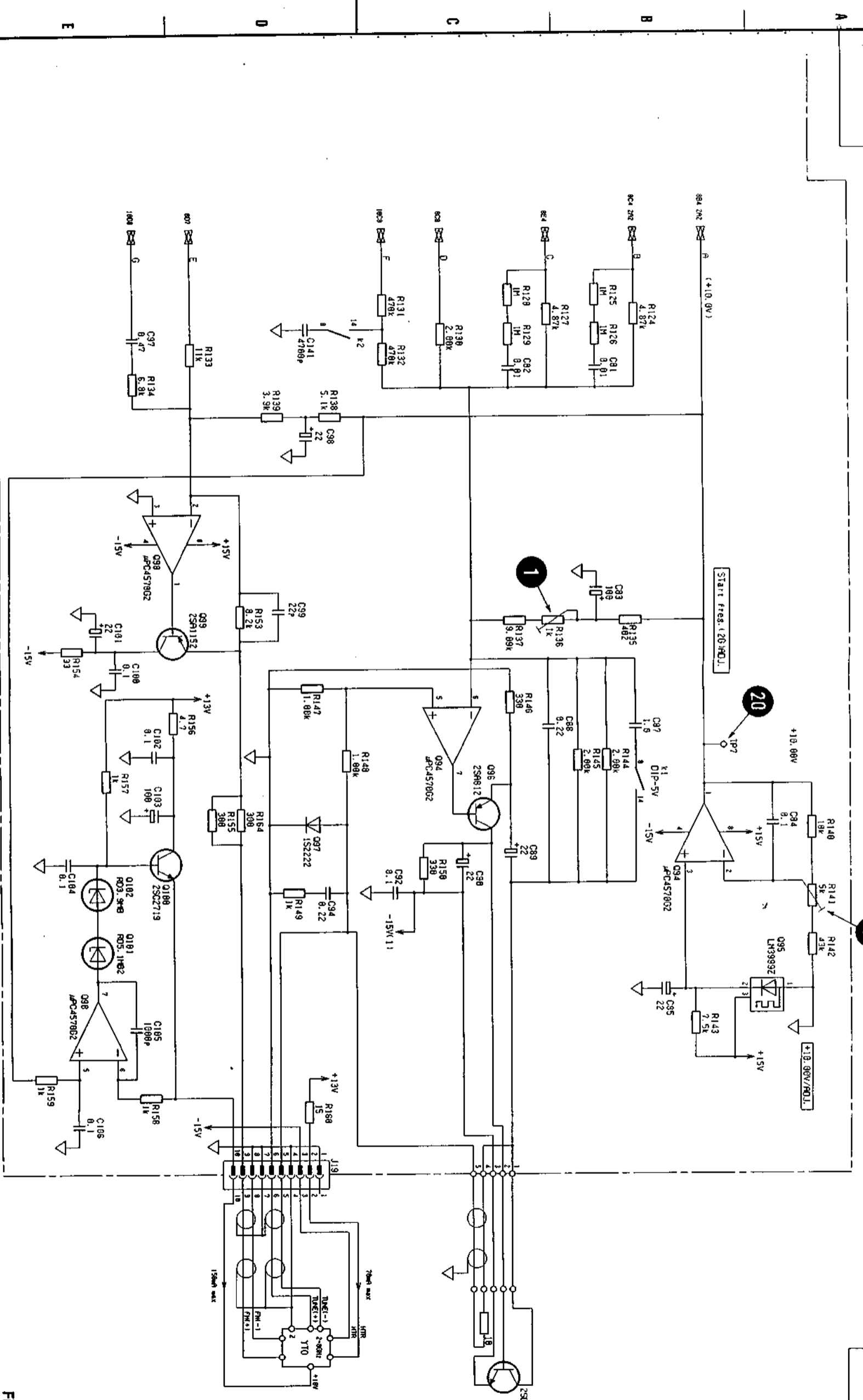
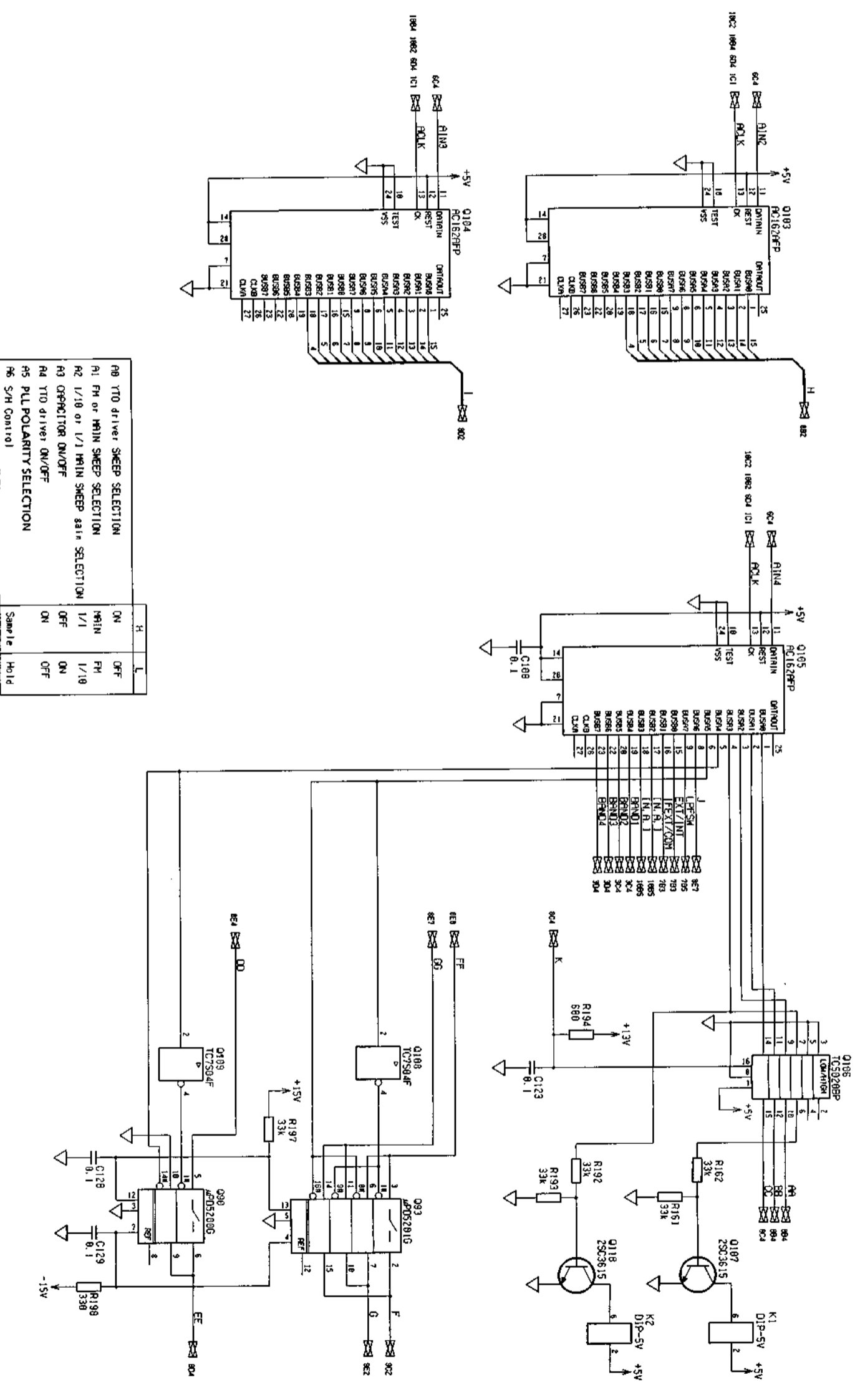


Fig. 3-16 (9/10)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY		
APPROVED BY	<i>N. Sada</i>	DESIGNED BY	<i>N. Sada</i>	
TITLE		DRAWING No.		
A1-A3 RF CONTROL		33W31223		
		3-573-58		

9



R0 YTO driver SKEEP SELECTION	H	L
R1 FM or MAIN SKEEP SELECTION	ON	OFF
R2 1/18 or 1/1 MAIN SKEEP gain SELECTION	1/1	1/18
R3 OPERATOR ON/OFF	OFF	ON
R4 YTO driver ON/OFF	ON	OFF
R5 PLL POLARITY SELECTION	ON	OFF
R6 S/H Control	Sample	Hold

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY	DRAWN BY		SCALE	
APPROVED BY	DESIGNED BY			
TITLE				
A1-A3 RF CONTROL				
DRAWING No.				Fig. 3-16 (10/10)
33W31223				9
3-59/3-60				

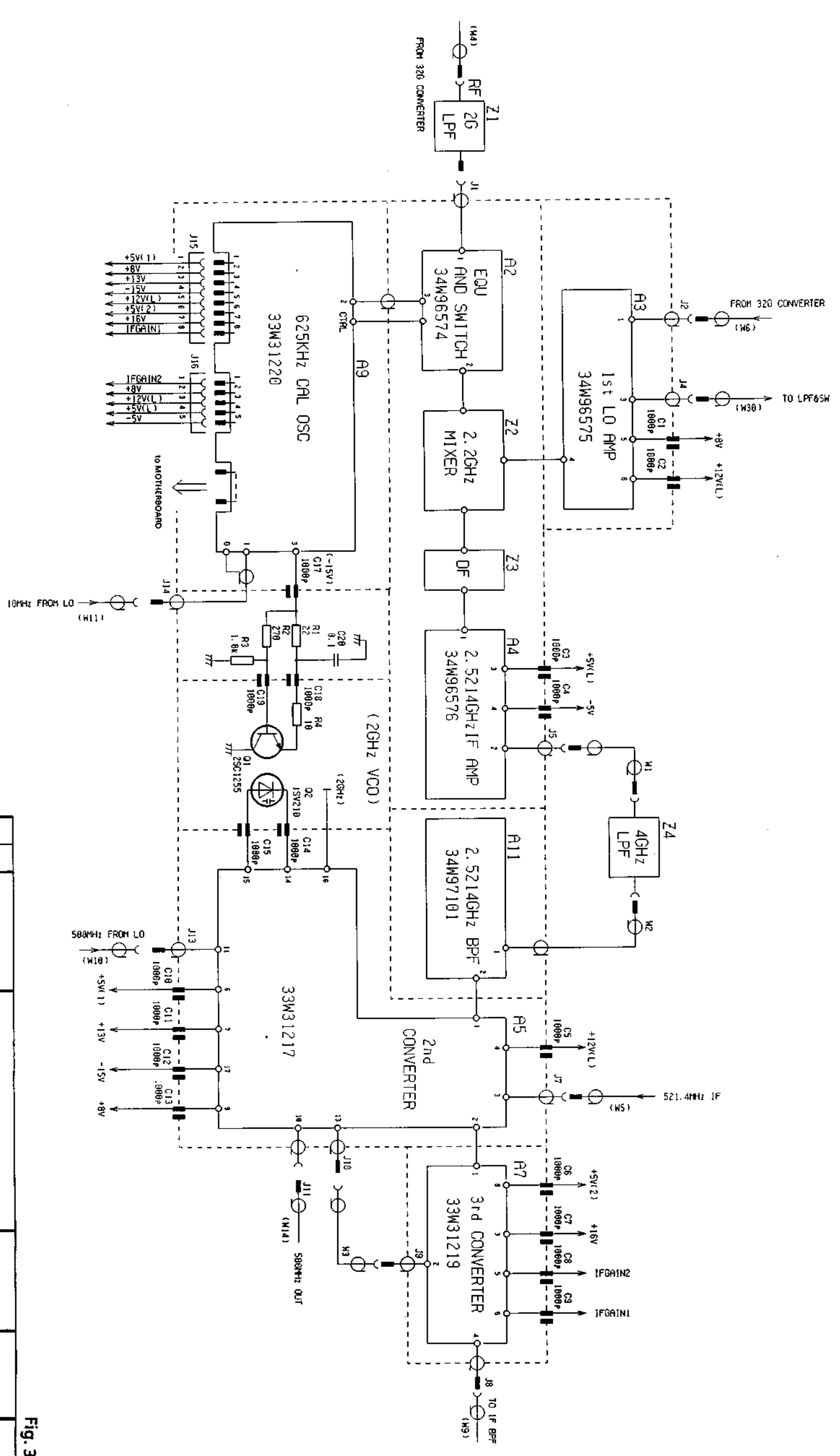


Fig. 3-17

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Hungarian</i>				
DRAWN BY				
APPROVED BY <i>N. S. Gupta</i>				
DESIGNED BY <i>N. S. Gupta</i>				
TITLE				
A2 2 GHz CONVERTER				
DRAWING No.				
33W31216				
3-61				

10

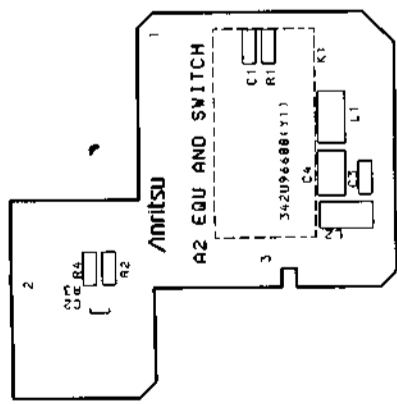


Fig. 3-18 A2-A2 EQU AND SWITCH PC-Board Parts Layout 11

34W96574

APPLICATION

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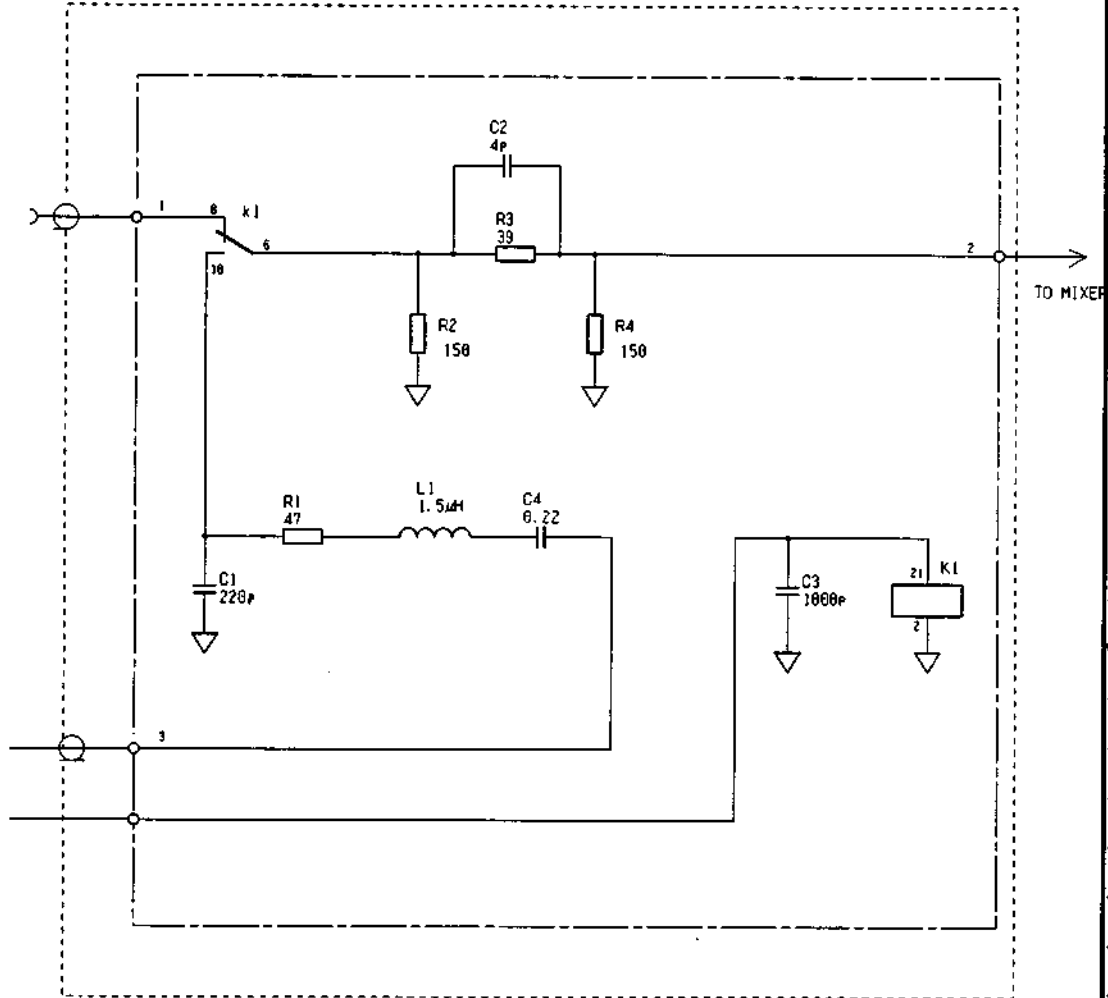


Fig. 3-19

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Yamaguchi</i>		DRAWN BY		SCALE	
APPROVED BY <i>H. Toda</i>		DESIGNED BY <i>N. Shima</i>			
TITLE				DRAWING No.	
A2-A2 EQU AND SWITCH				34W96574	

11



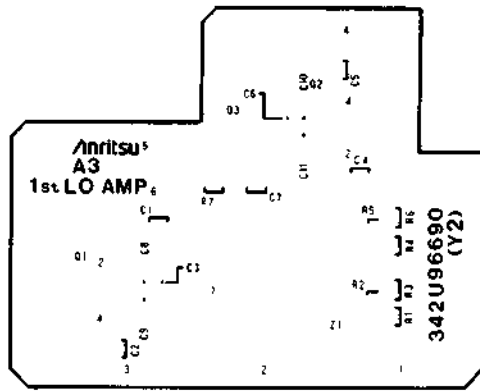


Fig. 3-20 A2-A3 1st LO AMP PC-Board Parts Layout 12

34W96575

APPLICATION

REVISIONS

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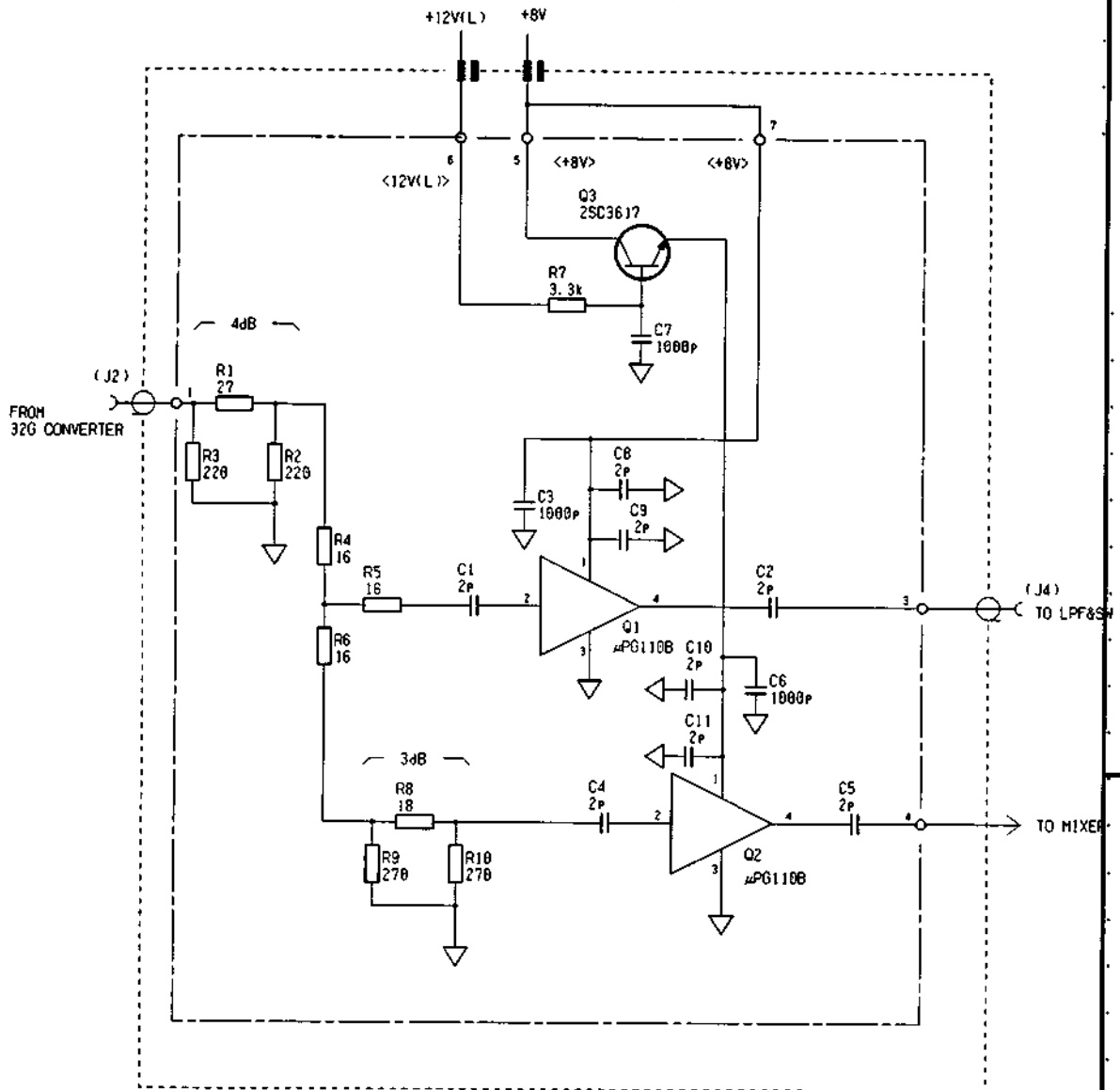


Fig. 3-21

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Yanagawa</i>		DRAWN BY		SCALE	
APPROVED BY <i>K. Toda</i>		DESIGNED BY <i>N. Shima</i>			
DEP	TITLE			DRAWING No.	
	A2-A3 1st LO AMP			34W96575	

12



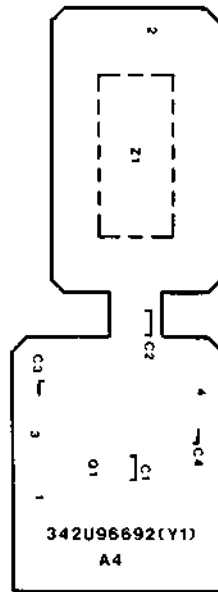


Fig. 3-22

A2-A4

2.5214 GHz IF AMP PC-Board Parts Layout

13

34W96576

APPLICATION

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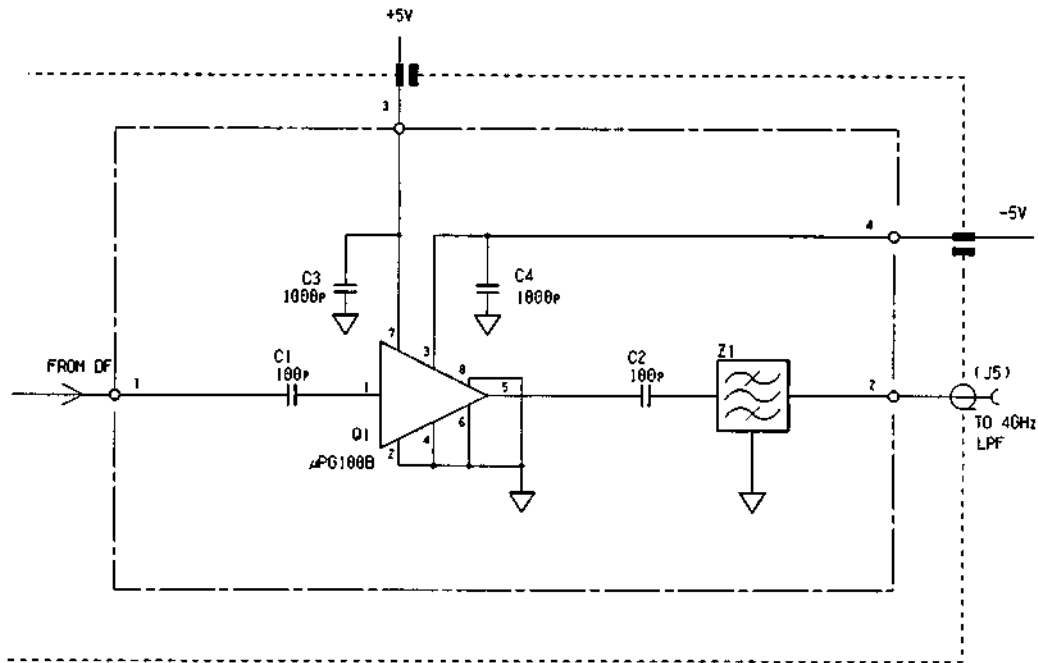


Fig. 3-23

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY		SCALE	
APPROVED BY		DESIGNED BY			
DEP	TITLE			DRAWING No.	
	A2-A4 2.5214 GHz IF AMP			34W96576	

13



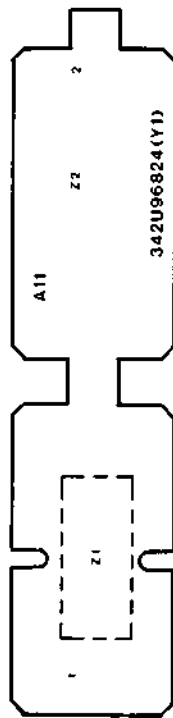


Fig. 3-24

A2-A11 2.5214 GHz BPF PC-Board Parts Layout

17

34W97101

APPLICATION

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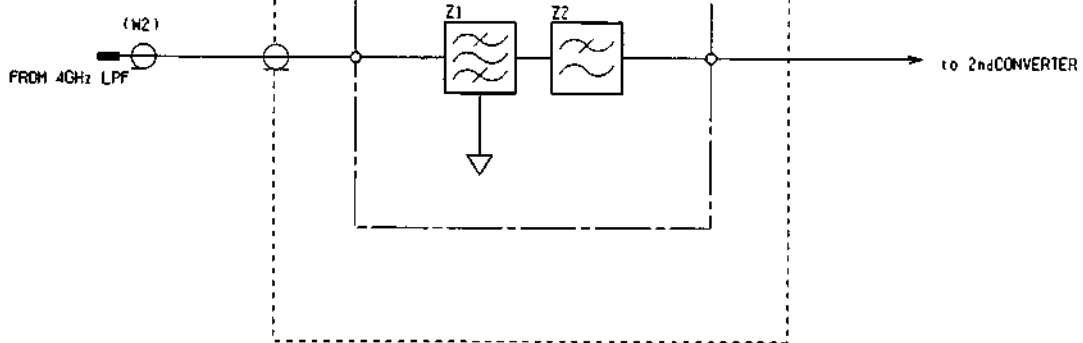


Fig. 3-25

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Yamagawa</i>		DRAWN BY		SCALE	17
APPROVED BY <i>H. Tada</i>		DESIGNED BY <i>N. Shimizu</i>		:	
DEP	TITLE A2-A11 2.5214 GHZ BPF			DRAWING No. 34W97101	



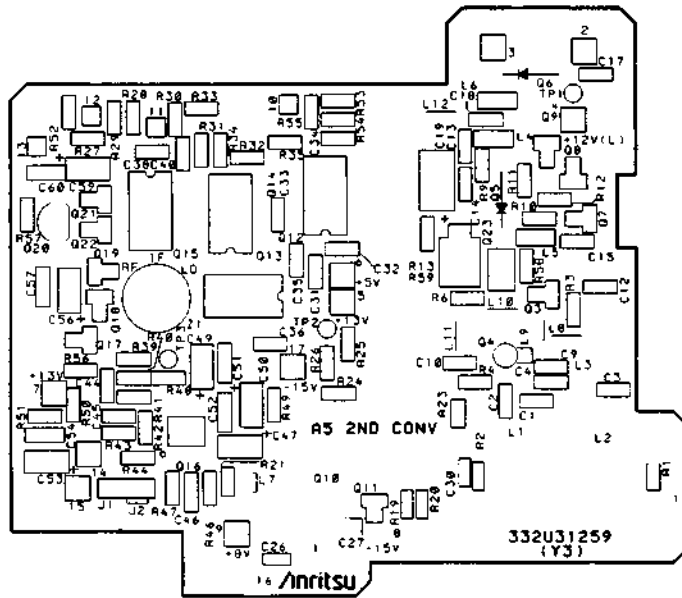


Fig. 3-26(1/2)

A2-A5 2nd CONVERTER PC-Board Parts Layout (Component Side)

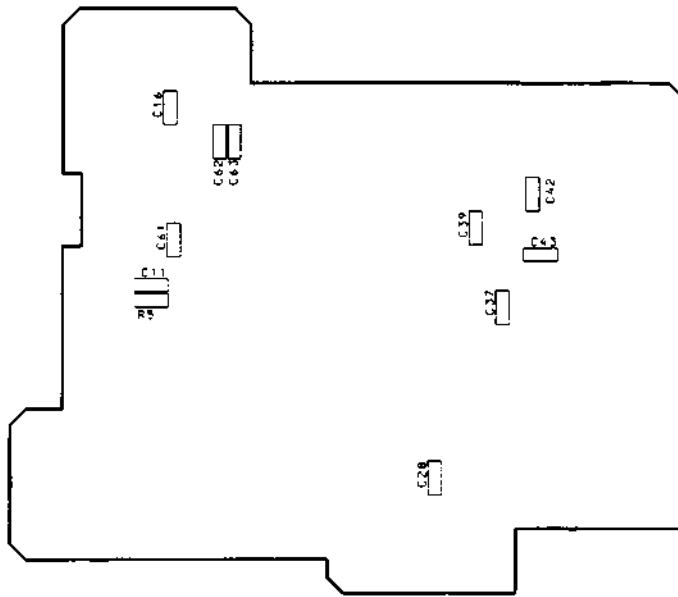


Fig. 3-26(2/2)

A2-A5 2nd CONVERTER PC-Board Parts Layout (Pattern Side) 14



33W31217

APPLICATION

REVISIONS

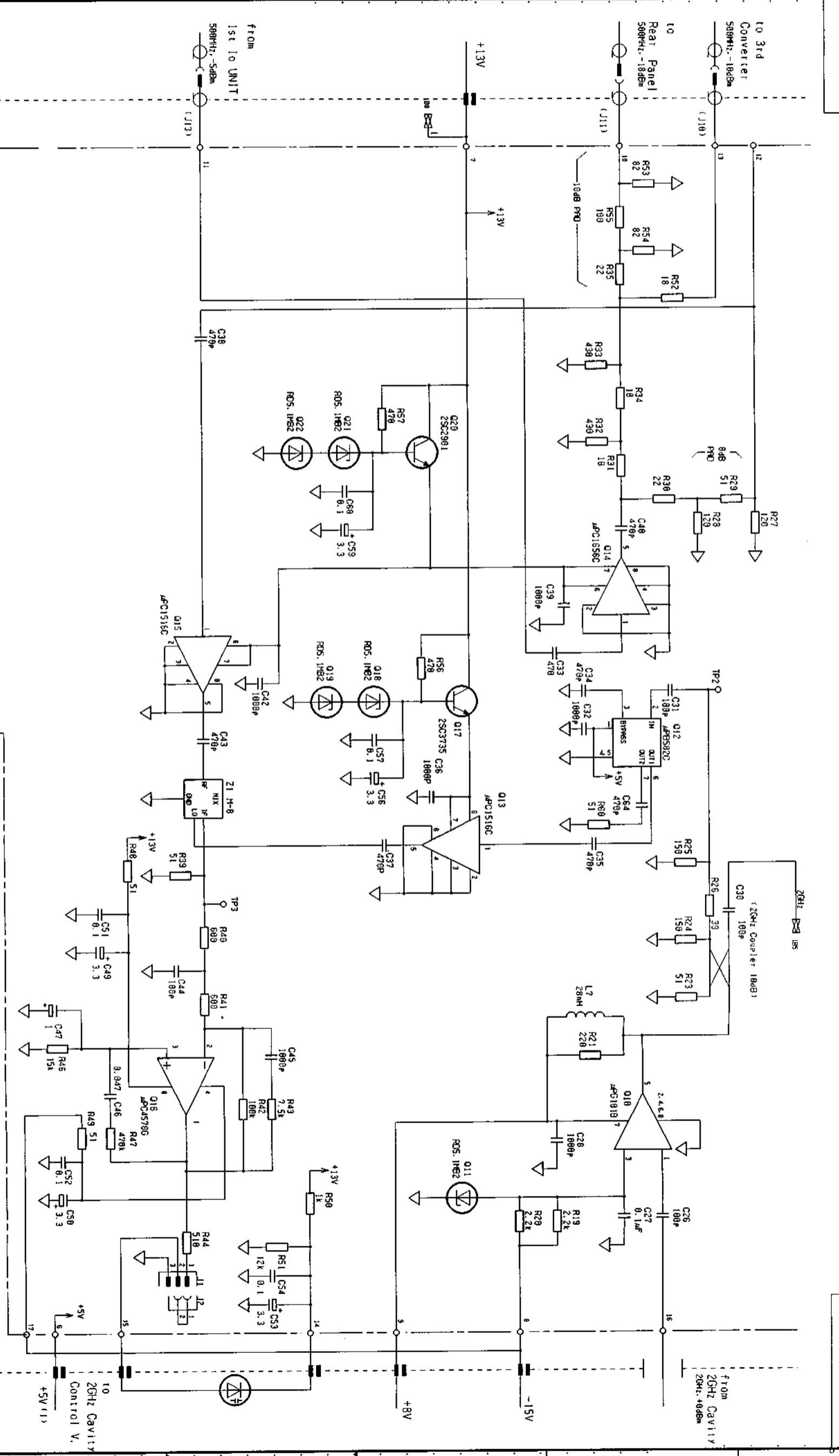


Fig. 3-27 (2/2)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

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 DESIGNED BY: *[Signature]*
 SCALE: *[Blank]*

TITLE: **A2-A5 2nd CONVERTER**
 DRAWING No.: **33W31217**
 3-75

14

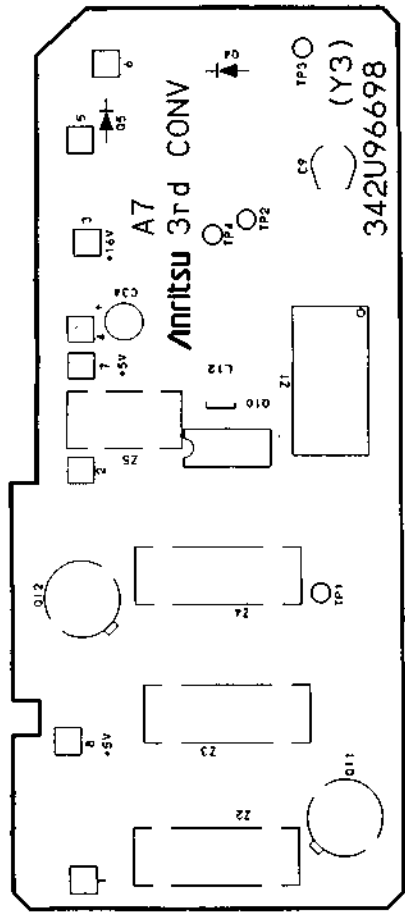


Fig. 3-28(1/2) A2-A7 3rd CONVERTER PC-Board Parts Layout (Component Side) 15

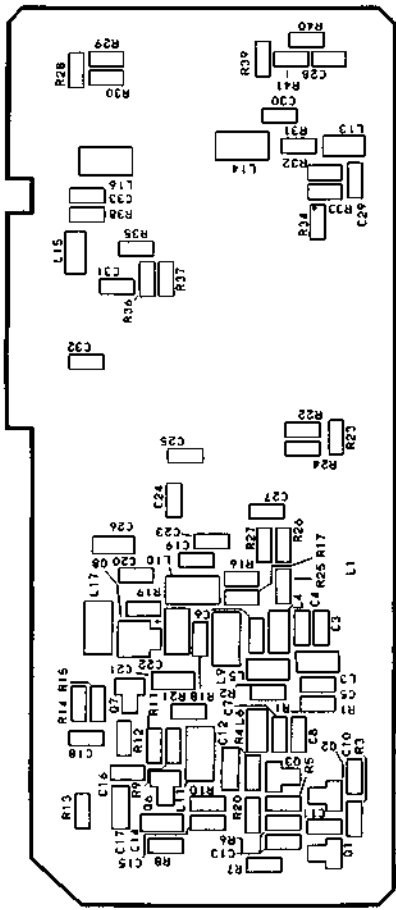


Fig. 3-28(2/2)
 A2-A7 3rd CONVERTER PC-Board Parts Layout (Pattern Side) **15**

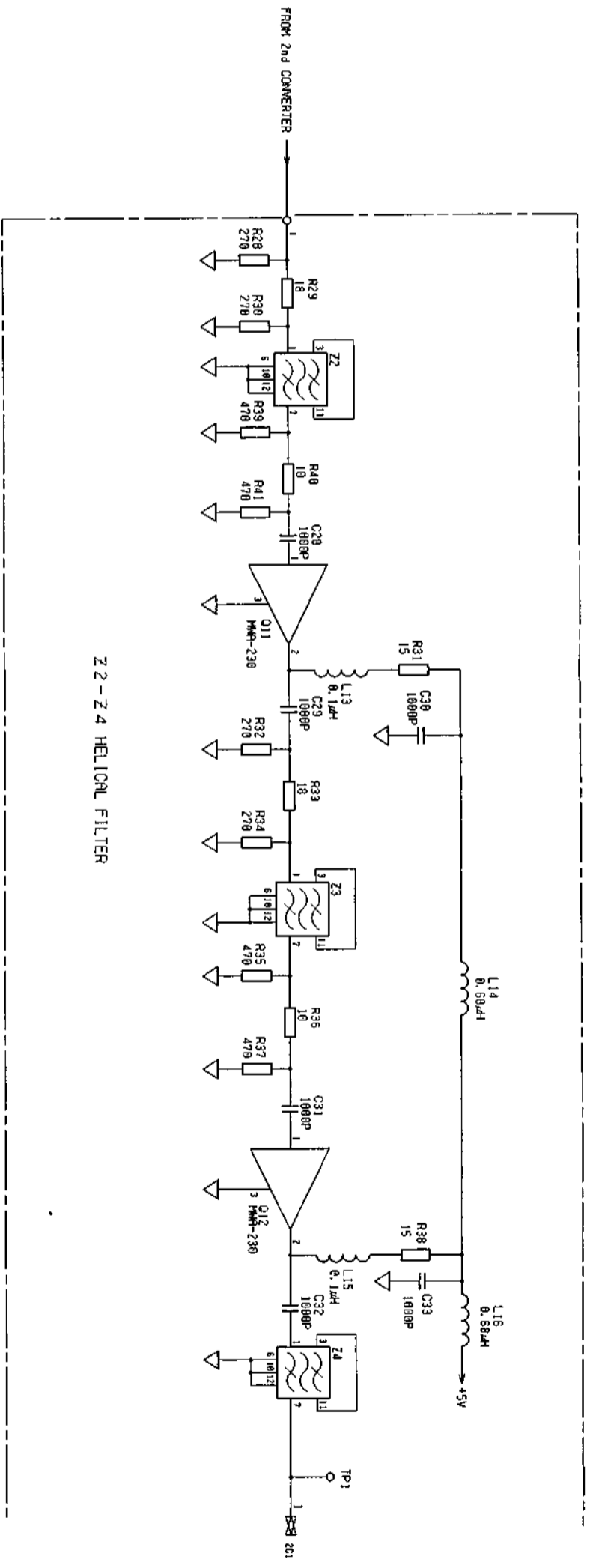


Fig. 3-29 (1/2)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Haragawa</i>				
DRAWN BY				
APPROVED BY <i>W. Sada</i>				
DESIGNED BY <i>N. Shigen</i>				
TITLE				
A2-A7 3rd CONVERTER				
DRAWING No.				
33W31219				
3-79/3-80				

15



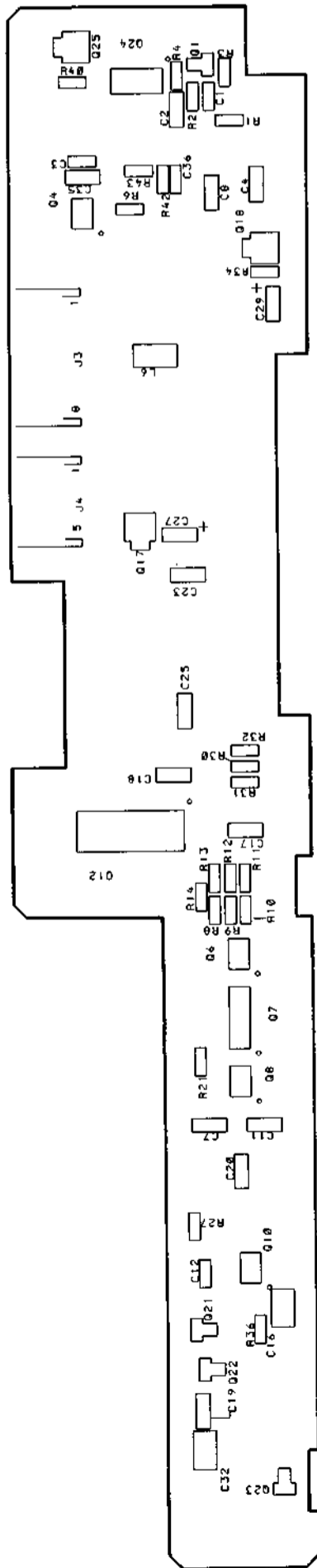


Fig. 3-30 (2/2)

A1-A9

625 KHZ cal osc pc-Board

Parts Layout (Pattern Side)



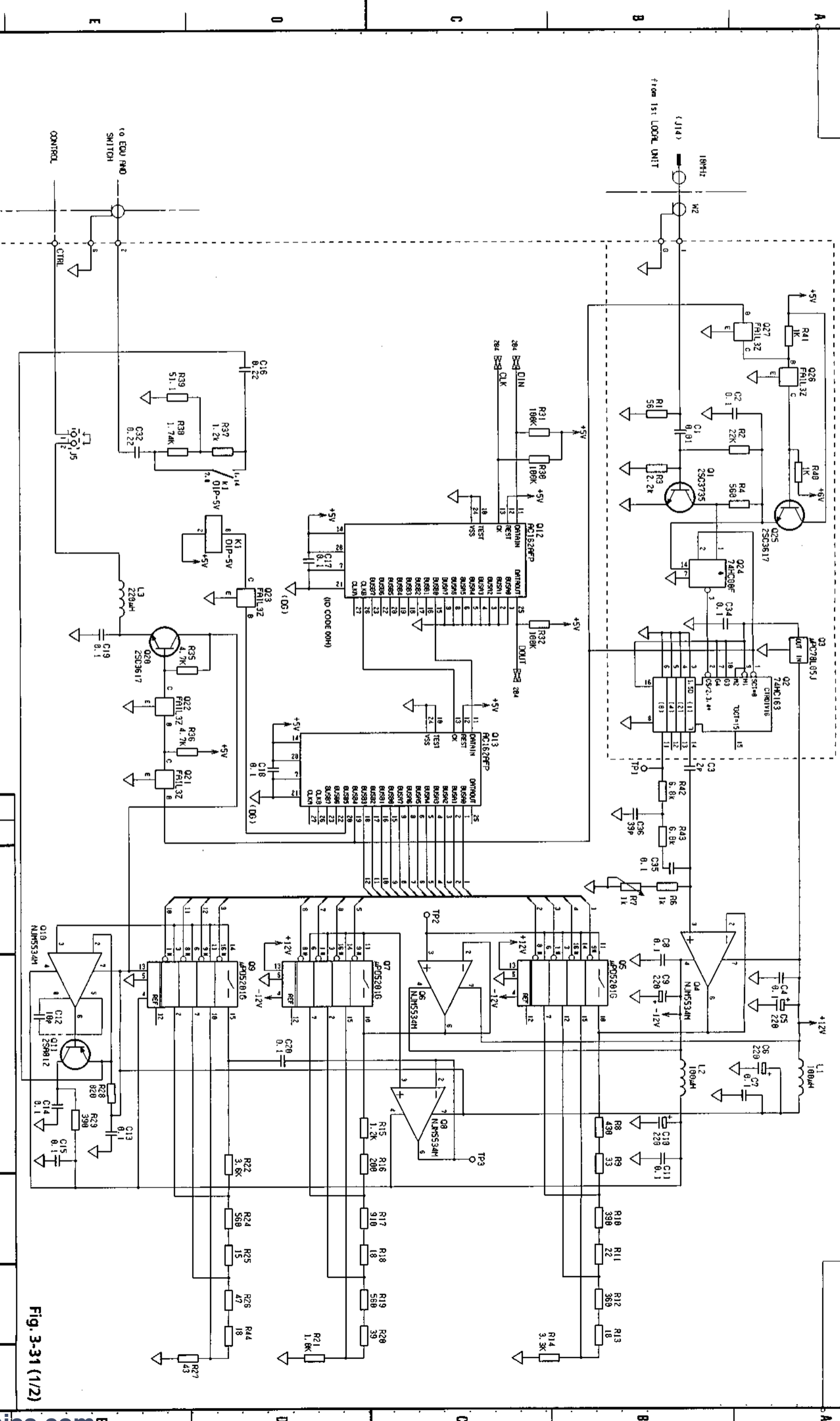


Fig. 3-31 (1/2)

QTY	PART No.	DESCRIPTION	MATERIAL	FINISH
1	A2-A9	625 KHZ CAL OSC		

CHECKED BY *Hanagawa*
 DRAWN BY
 APPROVED BY *N. Suda*
 DESIGNED BY *N. Suda*

SCALE
 TITLE
 DRAWING No. 33W31220
 3-85/3-86

16



33W312
APPLICATION

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ANRITSU CORP.

33W31220

3-87/3-88

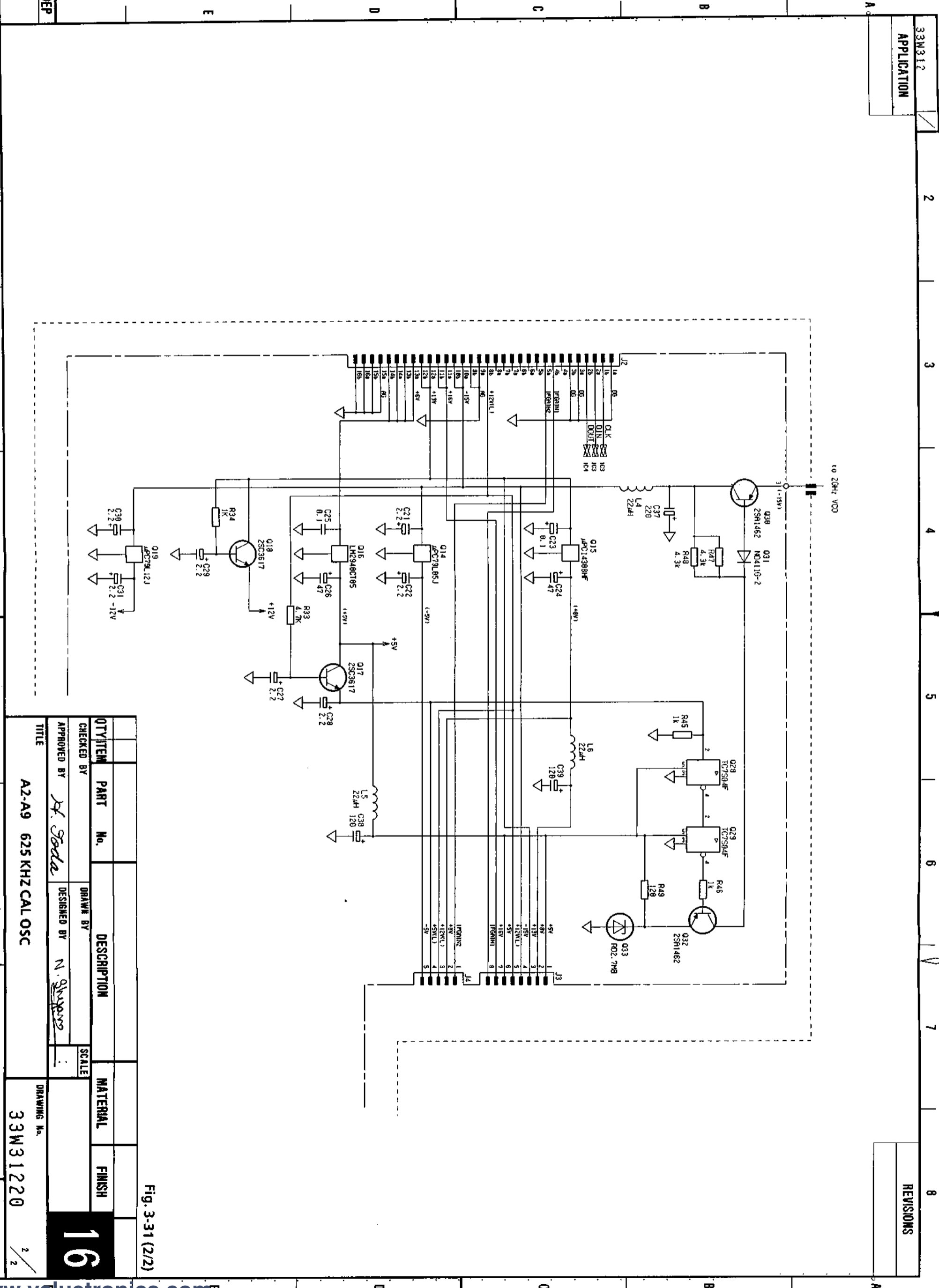


Fig. 3-31 (2/2)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY					
DRAWN BY					
APPROVED BY <i>H. Sada</i>					
DESIGNED BY <i>N. Shigemura</i>					
TITLE					
A2-A9 625 KHZ CAL OSC					
DRAWING No. 33W31220					
2					

16



3.4 Local Section

3.4.1 Check and troubleshooting 18 to 30

(1) Introduction

The first local oscillator output (which is used for frequency conversion of the RF input signal) is also available at the front panel of the MS2702A/MS2802A. So it is convenient to check this when you suspect a fault with the local unit of the MS2702A/MS2802A. Whenever a problem (like non-appearance of a signal or appearance of it at a location other than expected) occurs, the reliability can be confirmed by setting the frequency span to zero without altering the current start frequency. In this case, 1st local oscillator is locked to a single frequency. (Given by F1 in the "flowchart for calculation of expected frequencies at various points of local unit" in paragraph (20).)

The frequency spans in the MS2702A/MS2802A are divided into following groups.

- | | | |
|------------------------|--|---|
| 1) 100 Hz to 20 kHz | : Swept by 1 Hz SYNTHSIZER AFC CIRCUIT | } of A3 - A2 LOCAL UNIT (2) |
| 2) 20.1 kHz to 2 MHz | : Swept by 10 kHz SYNTHSIZER AFC CIRCUIT | |
| 3) 2.01 MHz to 10 MHz | : Swept by the FM COIL of YTO | } of which controls are in A1 - A3 RF CONTROL |
| 4) 10.1 MHz to 100 MHz | : Swept by the MAIN TUNING COIL OF YTO | |
| 5) 100.1 MHz to 1 GHz | : Swept by the MAIN TUNING COIL OF YTO | |
| 6) 1.01 GHz to 10 GHz | : Swept by the MAIN TUNING COIL of YTO | |

Hence changing the span to a different range and checking for the defect can be further localized to a smaller section of the local unit. The FLOWCHART for CHECK has been designed to help the user locate a fault without getting too much involved with the circuit details.

As in any troubleshooting, check the DC power supply to the circuit before actually getting involved in further details.

Local section basically consists of a number of Phase Locked Loops (PLLs) which are easy to troubleshoot. Any section under suspicion should first be checked; and if it is faulty, go to corresponding troubleshooting section after ensuring the signals fed to the PLL are at correct levels and frequencies. PLL troubleshooting being an easy process, a few of them are abridged.

Finally, good use of block diagrams and the flowchart (showing the various frequencies expected at various PLL outputs) would reduce the "pain" of troubleshooting.

CAUTION: *The 1st local frequency is altered slightly to compensate for the shift in the center frequencies of Resolution band filters, for Resolution Bandwidth ≥ 3 kHz. Whenever observing the accuracy of a locking frequency, set the Resolution Bandwidth (RBW) to less than 3 kHz.*

(2) Faulty block location flowchart

Details of each item of the flowchart below are described in the following paragraphs.

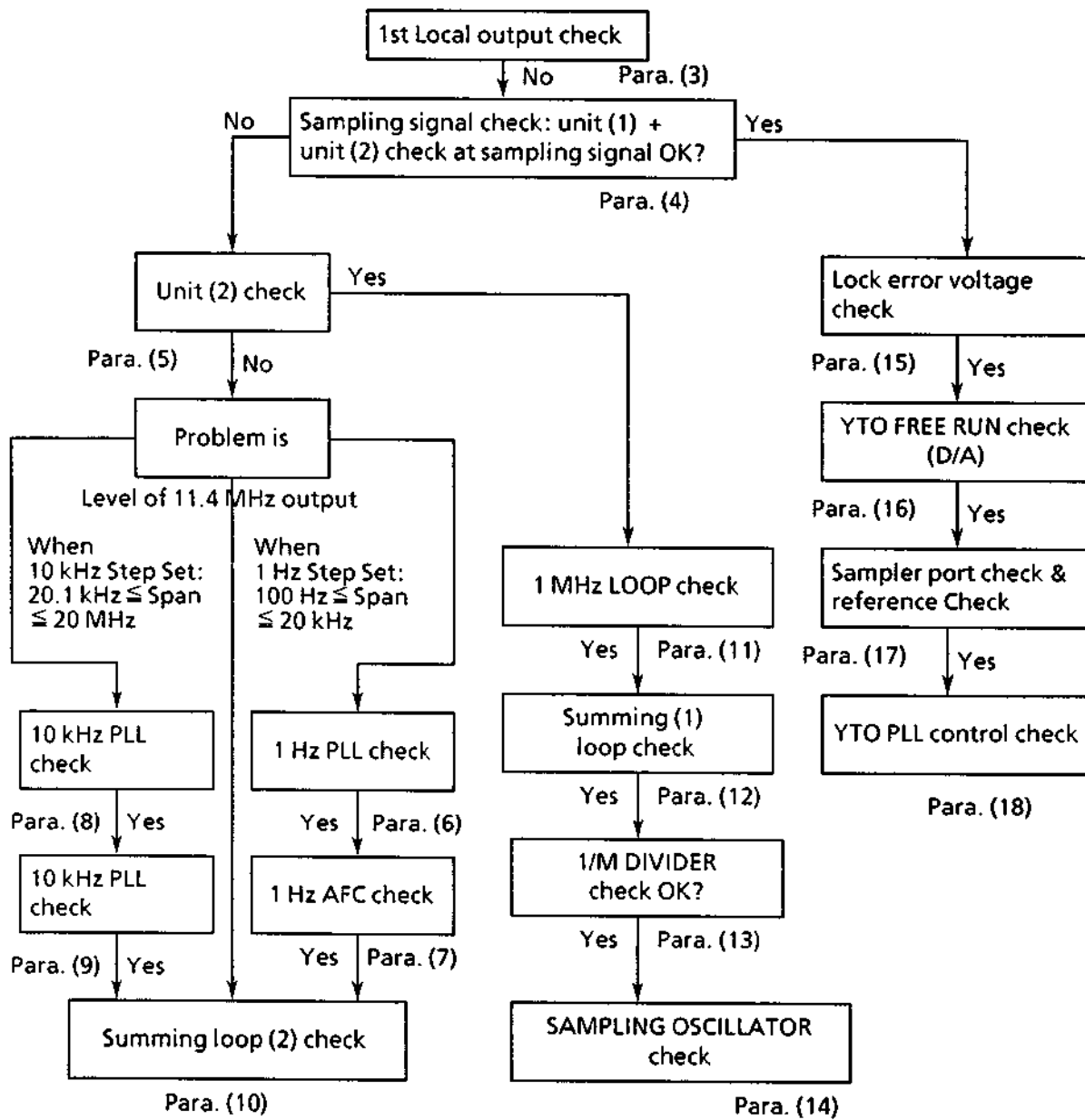


Fig. 3-32 Faulty Block Location Troubleshooting Flowchart

(3) 1st LOCAL output check

1. Keep start frequency same as the current start frequency, and set span 0 MHz.
2. Set Resolution Bandwidth to less than 3 kHz.
3. Connect a frequency counter to the LOCAL OUTPUT at the front panel.
4. *Connect the BUFFERED OUTPUT (10 MHz) of the MS2702A/MS2802A to the REFERENCE INPUT of the counter.
5. Calculate the expected 1st local frequency (F1) using the "flowchart for calculation of expected frequencies at various points of LOCAL UNIT in paragraph (20)".
6. If the counter doesn't read a fixed frequency, LOCAL UNIT can be considered defective.
7. If the counter display's frequency variation is less than a MHz, then LOCAL UNIT (2) is likely to be defective.
8. If the counter display's frequency is 20 MHz or more away from the expected frequency, then the fault is very likely to be YTO PLL control circuit. First of all, run YTO FREE RUN CHECK in paragraph (16).

Note: * Though this is not a must, it avoids a drift in frequency counter display due to phase difference between MS2702A/MS2802A reference and counter reference. In such a case, such small frequency-counter display drift should not be wrongly interpreted as a defect in LOCAL UNIT.

(4) Sampling signal check (A3-A1-A4 SAMPL OSC LOOP)

The following gives a table of check for the correct operation A3-A1 LOCAL UNIT 1 and A3-A2 LOCAL UNIT 2. It should be noted that below is the necessary but not sufficient condition for correct operation. The J8 point is easily accessible by removing the top cover of the MS2702A/MS2802A. Remove the 27DP cable (connecting J8 to Sampler Local Oscillator input port) during the below test. Use the buffered output of the MS2702A/MS2802A (at rear panel) as the REFERENCE INPUT for the frequency counter during this measurement.

1. Set the MS2702A/MS2802A as band 0, frequency span 0 Hz
2. Connect a frequency counter to J5.

Table 3-9

Center frequency	Span	Expected value at J8	Comments
0 MHz	0 MHz	106.100 MHz	
9.999 kHz	0 MHz	106.100416 MHz	1 Hz SYNTH at MAX
990 kHz	0 MHz	106.14125 MHz	10 kHz SYNTH at MAX
24 MHz	0 MHz	107.10000 MHz	1 MHz SYNTH at MAX, 159 M 100/125 MHz REF at 125
25 MHz	0 MHz	105.058333 MHz	1 MHz SYNTH at MIN, 110 M 100/125 MHz REF at 100
49 MHz	0 MHz	106.058333 MHz	1 MHz SYNTH at MAX, 134 M 100/125 MHz REF at 100

Notes:

1. The level of the signal output at connector J5 must be greater than +22 dBm.
2. If the output at J5 is not correct in frequency, then go to UNIT (2) check in paragraph (5).
3. Above is check for zero frequency span operation, and this does not guarantee correct operation for a different span of operation.
4. If a malfunction occurs for frequency span ≤ 2 MHz, then the LOCAL UNIT (2) is faulty.
5. If a malfunction occurs for frequency span > 2 MHz, then RF CONTROL circuit or SWEEP UNIT is faulty.

(5) LOCAL UNIT (2) check (A3-A2-A6 1Hz STEP SYNTH)

Since the signal at this point is in 1:1 relation with the display of the MS2702A/MS2802A, any unwanted signal appearing at this point will be actually displayed.

1. Set the MS2702A/MS2802A as band 0, frequency span 2 MHz
2. Remove the 27DP cable connecting the LOCAL UNIT (2) output at J3 of Summing Loop (2).
3. The level of the signal at this point is 0 dBm (Typ). (A level < -5 dBm indicates a defective Summing Loop (2)).

Table 3-10

Start freq.	Span	Expected value at J3	Sweep	Comments
0 kHz	0 kHz	11.4 MHz	AUTO	
9.999 kHz	0 kHz	11.409999 MHz	AUTO	Checking 1 Hz STEP SYNTH PLL
9.999 kHz	20 kHz	11.41 to 11.43 MHz	60 s	Checking 1 Hz STEP AFC LOOP
990 kHz	0 MHz	12.39 MHz	AUTO	Checking 10 kHz STEP SYNTH PLL
999.999 kHz	2 MHz	12.4 to 14.4 MHz	60 s	Checking 10 kHz STEP AFC LOOP

After completing the above check, further check for confirmation of a defect should be carried out before starting the troubleshooting process.

(6) 1 Hz PLL check (A3-A2-A6 1Hz STEP SYNTH)

The 1 Hz PLL in this paragraph generates the lower four digits of the start frequency expressed in units of Hz (from 0 Hz to 9.999 kHz). The 1 Hz PLL locks onto a single frequency varying from 310 MHz to 319.999 MHz corresponding to the above mentioned frequency range. After attaining the lock at the frequency; the PLL error voltage may be held in a capacitor connected to a SAMPLE & HOLD integrated circuit, after which the PLL may be opened thus releasing the 1 Hz synthesizer VCO. After this done when the 1st local oscillator signal sweep span is between 100 Hz and 20 kHz (inclusive); the 1 Hz VCO sweeps in the range between 100 kHz and 20 MHz, respectively. Since this is achieved with the help of AFC circuit, check the correct AFC operation with 1 Hz AFC check in paragraph (7).

1. Set the MS2702A/MS2802A band 0, frequency span 20 kHz
2. Set the MS2702A/MS2802A frequency span 0 kHz

Table 3-11

Center freq.	Expected freq. and level at J8	Comments
0 kHz	310 MHz - 12 dBm (Typ)	If the PLL does lock when connecting J6 to ground, it indicates an abnormal state of AFC and hence the defect is likely to be with the AFC circuit.
9.999 kHz	319.999 MHz - 12 dBm (Typ)	

(7) 1 Hz AFC check (A3-A2-A6 1 Hz STEP SYNTHESIS)

Table 3-12

Start freq.	Span	Expected value at J8	Comments
9.999 kHz	20 kHz	Freq. sweep of 320 to 340 MHz	
9.999 kHz	2 kHz	Freq. sweep of 320 to 322 MHz	

(8) 10 kHz PLL check (A3-A2-A6 1 Hz STEP SYNTHESIS)

The 10 kHz PLL in this paragraph generates 5th & 6th digits of the start frequency expressed in unit of Hz (From 10 kHz to 990 kHz). The 10 kHz PLL locks onto a single frequency varying from 110.9 MHz to 120.8 MHz corresponding to the above mentioned frequency range. After attaining the lock at the frequency; the PLL error voltage may be held in a capacitor connected to a SAMPLE & HOLD integrated circuit, after which the PLL may be opened thus releasing the 10 kHz synthesizer VCO. After this done when the 1st local oscillator signal sweep span is between 20.1 kHz and 2 MHz (inclusive); the 10 kHz VCO sweeps in the range between 201 kHz and 20 MHz, respectively. Since this is achieved with the help of AFC circuit, the check the correct AFC operation with 10 kHz AFC check in paragraph (8).

1. Set MS2702A/MS2802A band 0, frequency span 2MHz
2. Set MS2702A/MS2802A frequency span 0 kHz

Table 3-13

Center freq.	Expected freq. and level at J16	Comments
0 kHz	110.9 MHz -13 dBm (Typ)	If the PLL does lock when connecting J6 to ground, it indicates an abnormal state of AFC and hence the defect is likely to be with the AFC circuit.
990 kHz	120.8 MHz -13 dBm (Typ)	

(9) 10 kHz AFC check (A3-A2-A6 1 Hz STEP SYNTHESIS)

Table 3-14

Center freq.	Span	Expected value at J16	Comments
990 kHz	2 MHz	Freq. sweep of 120.8 to 140.8 MHz	
990 kHz	200 kHz	Freq. sweep of 120.8 to 122.8 MHz	

(10) Summing Loop (2) PLL check (A3-A2-A6 1 Hz STEP SYNTHSE)

Brief Explanation

The 3.1 MHz to 3.4 MHz output of the 1 Hz Step Synthesizer (used as the reference to Summing Loop (2) PLL) is added to the 110.9 to 140.8 MHz output of the 10 kHz Step Synthesizer. Basically, one of the two outputs above is a single frequency component (which is decided by the current start frequency of the MS2702A/MS2802A), while the other may be a single frequency (if the current local frequency span of the MS2702A/MS2802A is zero or greater than 2 MHz) or a varying frequency with a sweep range (equal to 10 times the local frequency span). Since the 1 Hz PLL is operated as a sweeper as well for 1st Local frequency span of 100 Hz to 20 kHz, its output frequency sweeps within a range of 1000 Hz to 200 kHz after locking at a frequency (decided by the current starting frequency of the MS2702A/MS2802A), while the output frequency of the 10 kHz Step Synthesizer will be a single frequency (decided by the current starting frequency of the MS2702A/MS2802A).

Similarly the 10 kHz PLL is operated as a sweeper as well for 1st Local frequency span of 20.1 kHz to 2 MHz, its output frequency sweeps within a range of 201 kHz to 20 MHz after locking at a frequency (decided by the current starting frequency of the MS2702A/MS2802A), while the output frequency of 1 Hz Step Synthesizer will be a single frequency (decided by the current starting frequency of the MS2702A/MS2802A). Since the variation in frequency is small in the case of 1 Hz Step Synthesizer sweeping, the Summing Loop (2) PLL phase lock is maintained in spite of varying PLL error voltage. However, the PLL lock is maintained in the case of the 10 kHz Step Synthesizer sweeping with the help of sweep signal voltage applied to the Summing Loop (2) VCO.

(1) Set the MS2702A/MS2802A band 0

Table 3-15

Setting	Frequency at J3	Level at J3	Comments
Center freq.: 0 MHz Freq. span: 0 MHz	11.4 MHz	0 dBm (typ)	
Start: 999.999 kHz Freq. span: 2 MHz	Sweeps from 12.4 to 14.4 MHz	0 dBm (typ)	Observe by making sweep time of 50 s

(11) 1 MHz Step Synthesizer check (A3-A1-A2 1 MHz STEP SYNTHSE)

The 1 MHz STEP SYNTHSE synthesizes a single frequency output which is decided by the current start frequency of the MS2702A/MS2802A. Since the PLL is operated over a wide range (110 MHz to 159 MHz), the PLL loop gain is changed for small sections of the operating range, as shown below. This is done by adding resistors parallel to R9 (7.5 k Ω).

Table 3-16

VCO Freq. range in MHz	Q45			Register parallel to R9
	Pin 7	Pin 5	Pin 3	
110 to 115	0	1	1	None
116 to 123	1	0	1	R 101
124 to 131	1	1	1	R 102
132 to 134	0	0	1	R 102
135 to 140	0	1	0	R 100
141 to 148	1	0	0	R 102
149 to 156	1	1	0	R 103
157 to 159	0	0	0	R 103

Since the VCO is operated in two ranges and so there is the possibility of locking onto image frequency, a lock control technique described below is used. When the set frequency is changed, the loop is first opened by grounding the feed back signal (via Q15) thus forcing the VCO to oscillate at the highest frequency of operation of the range. This limiting frequency is changed for each range by switching between limiters Q4 & (Q2 + Q3) combination using switch Q24.

(1) Using J6, connect J7 to loop side and confirm locking of the loop

1. Set MS2702A/MS2802A band 0, frequency span 0 MHz.
2. Set center frequency as follows and confirm the lock voltage and check spectral quality.

Table 3-17

Center freq.	Lock voltage at J7 (Typical)	Freq. and level at J8	Refq. output and level at TP3 ①
75 MHz	-5 V	110 MHz	10 MHz, TTL level
95 MHz	-1.3 V	130 MHz	30 MHz, TTL level
124 MHz	+6.3 V	159 MHz	34 MHz, TTL level

(2) Confirming limiter action

1. Set the MS2702A/MS2802A band 0, center frequency 75 MHz, and frequency span 0 MHz.
 $F_{lo} = 100$ MHz
2. Check limiter voltage appearing at J7.

Table 3-18

When 10 MHz REF signal (J3) is removed		When 100 MHz LO signal (J4) is removed	
Voltage at J7	Freq. at J8	Voltage at J7	Freq. at J8
-7.3 V (Typ)	95 MHz (Typ)	0 V (Typ)	136 MHz (Typ)

3. Set the MS2702A/MS2802A band 0, center frequency 100 MHz, and frequency span 0 MHz.
 $F_{lo} = 125$ MHz.
4. Check limiter voltage appearing at J7.

Table 3-19

When 10 MHz REF signal (J3) is removed		When 100 MHz LO signal (J4) is removed	
Voltage at J7	Freq. at J8	Voltage at J7	Freq. at J8
-1.4 V (Typ)	130 MHz (Typ)	+7.5 V (Typ)	163 MHz (Typ)

(12) Summing Loop (1) PLL check (A3-A1-A2 1 MHz STEP SYNTHSE)

The 11.4 MHz to 14.4 MHz output of A3-A2 LOCAL UNIT (2) (used as the reference to Summing Loop (1) PLL) is added to the 121.4 to 173.4 MHz output of 1 MHz Step Synthesizer. Basically, the output of 1 MHz Synthesizer is a single frequency (which is decided by the current start frequency of the MS2702A/MS2802A), while the LOCAL UNIT (2) output may be a single frequency (if the current local frequency span of the MS2702A/MS2802A is zero or greater than 2 MHz) or a varying frequency with a sweep range (equal to the local frequency span for less than 2 MHz). Since the PLL is operated in two ranges and so there is the possibility of locking onto image signal when working in the higher range, a lock control signal is used to avoid it.

Eg: When the LOCAL UNIT (2) output is 11.4 MHz and 1 MHz Synthesizer output is 158 MHz, there is a possibility that Summing Loop (1) PLL locking onto (158 - 11.4) MHz image signal instead of (158 + 11.4) MHz signal. To avoid the above happening; a lock signal (applied at the base of Q41) causes the feedbacked lock control signal to PLL to fall to zero, thus forcing the VCO to oscillate at it's highest frequency (limited by limiter [Q27 + Q28]). After this, the lock control signal is removed, allowing the PLL oscillating frequency to decrease and lock at the appropriate frequency.

1. Set the MS2702A/MS2802A band 0, and frequency span 0 kHz.

Table 3-20

Center freq.	PLL freq. at J11	PLL output at J11 in dBm	Signal at TP5 ②	Lock voltage at J10	
75 MHz	121.4 MHz	- 12 (Typ)	11.4 MHz, >0.8 Vpp	- 5.4 V (Typ)	
95 MHz	141.4 MHz	- 12 (Typ)	11.4 MHz, >0.8 Vpp	- 1.1 V (Typ)	
124 MHz	170.4 MHz	- 12 (Typ)	11.4 MHz, >0.8 Vpp	- 5.5 V (Typ)	

2. Set the MS2702A/MS2802A band 0, start frequency 124.999999 MHz, and frequency span 2 MHz.

Table 3-21

Freq. sweep at J11	Level at J11	Signal at TP5 ②	
171.4 to 173.4 MHz	- 12dBm (Typ)	12.4 to 14.4 MHz >0.8 Vpp	

(13) 1/M DIVIDER check (A3-A1-A3 1/M DIVIDER)

1. Connect pre-tuned Summing Loop (1) output to the input of A3-A1-A3 1/M DIVIDER.
2. Set the MS2702A/MS2802A band 1 – and frequency span 0 MHz.
3. Observe ④ and ⑤ terminal signal's waveforms, frequency and level.

Table 3-22

Center freq. in MHz	M value	Input freq.	④ and ⑤ terminal signal freq. and level ① ②
1721.6 MHz	21	168 MHz	8.0 MHz (125 ms), TTL level
7409.6 MHz	78	156 MHz	2.0 MHz (500 ms), TTL level

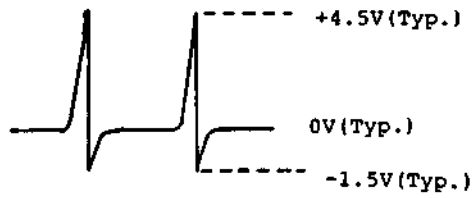


Fig. 3-33 ④ Terminal Signal Waveform



Fig. 3-34 ⑤ Terminal Signal Waveform

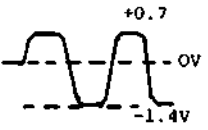
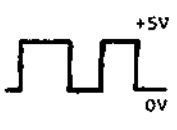
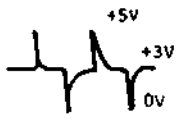
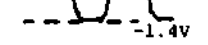


Note: If the signal at J5 is applied using a signal generator, it's setting must be 12.0 MHz, -5 dBm.

(14) Sampling oscillator PLL check (A3-A1-A4 SAMPL OSC LOOP)

(a) CONTROL SECTION CHECK using oscilloscope

1. Set the MS2702A/MS2802A band 1 – and frequency span 0 MHz.
2. Check output level of TP1, TP2 and TP3 using an oscilloscope.

Table 3-23

Center freq.	Frequency of TP1, TP2 and TP3	TP1 Waveform (Typ) ①	TP2 Waveform (Typ) ②	TP3 Waveform (Typ) ③
7409.6 MHz	2.0 MHz			
1721.6 MHz	8.0 MHz			

(b) Using J7, connect J8 to loop side and confirm locking of the loop

1. Set MS2702A/MS2802A band 1 – and frequency span 0 MHz.
2. Set center frequency as follows and confirm the lock voltage and check spectral quality.

Table 3-24

Center freq.	Lock voltage at J8	Frequency at terminal ⑦ ④	
1721.6 MHz	- 3.5 V (Typ)	108.0 MHz	
4000.0 MHz	+ 2.8 V (Typ)	103.327272 MHz	
7409.6 MHz	+ 4.7 V (Typ)	102.0 MHz	

(c) Confirming limiter action

1. Remove the + 5 V power supply to 1/M DIVIDER at terminal ③.
2. Check the limiter voltage appearing at J8 and frequency at terminal ⑦.

Table 3-25

When + 5V (terminal ③) to 1/M DIVIDER is removed			
Voltage at J8	FREQ O/P at terminal ⑦ ④		
- 6.66 V (Typ)	100 MHz < Freq. < 101.3 MHz		

(d) Confirming signal level to mixer

1. Confirm the signal level at J2 is 0 dBm (Typ).

(15) Lock error voltage check (A1-A3 RF CONTROL)

This check is useful in determining if the YTO PLL lock is lost or not. If the voltage at pin 2 of J17 is nearly ± 10 volts, it indicates an unlocked state of YTO PLL. Refer to YTO PLL adjustments in paragraph 3.4.2 (6).

(16) YTO free run check (A1-A3 RF CONTROL)

Here basically the YTO tuning sensitivity of D/A is checked.

1. Remove the 27DP cable connecting the loop error voltage to YTO via J17.
2. Set the MS2702A/MS2802A band 1 – , span 0 Hz.
3. Connect a frequency counter to the LOCAL OUTPUT at front panel.

Table 3-26

Center freq.	LOCAL OUT freq. at front panel	Tuning resistor	Comments
1.7 GHz	2221.4 ± 2 MHz	R136 ①	Initial offset at YTO is adjusted.
4.5 GHz	5021.4 ± 2 MHz	R102 ②	D/A sensitivity for 1500 to 5500 MHz is adjusted.
7.5 GHz	7021.4 ± 2 MHz	R105 ③	D/A sensitivity for 5501 to 9500 MHz is adjusted.

(17) Sampler port and reference check

This essentially confirms the level of signals at sampler ports.

1. Set the MS2702A/MS2802A band 1 – and frequency span 0 MHz.
2. Remove the 27DP cable connecting the loop error voltage to YTO via J17 of A1-A3.
3. Remove sampling signal fed to the port J2 of A3-A1-Z1 SAMLER to observe the signal being input to port J2 using a spectrum analyser, and remove the signal fed to port J1 to observe the signal normally being fed to port J1 using a power meter.
4. Connect a frequency counter at the 1st LOCAL OUTPUT (YTO output) at the front panel.

Table 3-27

Center freq. in MHz	Sampler signal freq. to J2	Sampler signal level to J2	YTO frequency	Signal level to J1
1721.6 MHz	108.0 MHz	> +20 dBm	2243 ± 4 MHz	> -15 dBm
7409.6 MHz	102.0 MHz	> +20 dBm	7931 ± 4 MHz	> -15 dBm

5. Connect the semi-rigid cable back to port J1.
6. Connect the Sampling Signal back to J2 port of the Sampler, remove the 27DP cable leading IF output of port J3, and observe the IF signal at J3 port.

Table 3-28

Center freq. in MHz	IF signal freq. at J3	IF signal level at J3
1721.6 MHz	25 MHz	> -45 dBm
7409.6 MHz	25 MHz	> -45 dBm

7. Confirm the signal fed to J7 of A3-A1-A5 YTO PLL CONT is 25 MHz, 2 Vpp.

(18) YTO PLL control check (A3-A1-A5 YTO PLL CONT)

This check allows the confirmation of correct operation of 25 MHz IF signal processing circuits of A3-A1-A5 YTO PLL CONT.

1. Disconnect the semi-rigid cable feeding to port J1 of A3-A1-Z1 SAMPLER.
2. Connect 2243 MHz, -10 dBm signal from a signal generator to port J1 of the Sampler.
3. Set the MS2702A/MS2802A band 1 -, frequency span 0 MHz and center frequency 1721.6 MHz.
4. The signal observed at TP3 of YTO PLL CONT must be at 25 MHz, >1 Vpp on DC voltage of +3.8 V (Typ).
5. Connect the Port J1 back, set the MS2702A/MS2802A center frequency 7409.6 MHz, and confirm the locking of the loop. (A frequency counter [connected to the LOCAL OUTPUT signal at the front panel] reads a steady 7931 MHz.)
6. Set the MS2702A/MS2802A center frequency 1721.6 MHz and confirm the locking of the loop. (A frequency counter (connected to the LOCAL OUTPUT signal at the front panel) reads a steady 2243 MHz.)

(19) YTO related data

1. D/A setting (Q81 and Q82 of A1-A3 RF CONTROL, control of 1 MHz/Bit for YTO start frequency).

Table 3-29

YTO lock freq.	D/A of Q81	D/A of Q82	
1500 MHz	0	0	Voltage at Q83 pin 7 = V_{ref} (~10 V) \times (current D/A value of Q81/4096). (Typical)
5500 MHz	4000 (Decimal)	0	
5501 MHz	4000 (Decimal)	1	Voltage at Q84 pin 7 = V_{ref} (~10 V) \times (current D/A value of Q82/4096). (Typical)
9500 MHz	4000 (Decimal)	4000 (Decimal)	

2. Frequency span of 2.01 MHz to 10 MHz is swept by the FM coil of the YTO with a voltage sensitivity of 1.25 MHz/V (Max voltage of ~8 V) at the J16 (A1-A3 RF CONTROL) connector input.
3. Frequency span of 10.1 MHz to 100 MHz is swept by the YTO main coil with a sensitivity of 125 MHz/Volts (Max voltage ~0.8 V) at the J16 (RF CONTROL).
4. Frequency span of 101 MHz to 1 GHz is swept by the YTO main coil with a sensitivity of 1.25 GHz/Volts (Max voltage ~8 V) at the J16 (RF CONTROL).
5. Frequency span of 1.01 GHz to 10 GHz is swept by the YTO main coil with a sensitivity of 1.25 GHz/Volts (Max voltage ~8 V) at the J16 (RF CONTROL).
6. YTO has a sensitivity of 20 MHz/mA.
7. A3-A1-A5 YTO PLL CONT output signal has a sensitivity of 2 MHz/V at J17 of RF CONTROL.
8. Switch K1 of RF CONTROL is switched on when frequency span of 100 Hz to 10.0 MHz span and off for spans greater than 10 MHz.
9. Switch K2 of RF CONTROL is switched on when frequency span is greater than 10 MHz and is off for frequency spans from 100 Hz to 10 MHz.
10. Initial offset voltage at YTO preset using R136.



(20) Flowchart for calculation of expected frequencies at various points of LOCAL UNIT

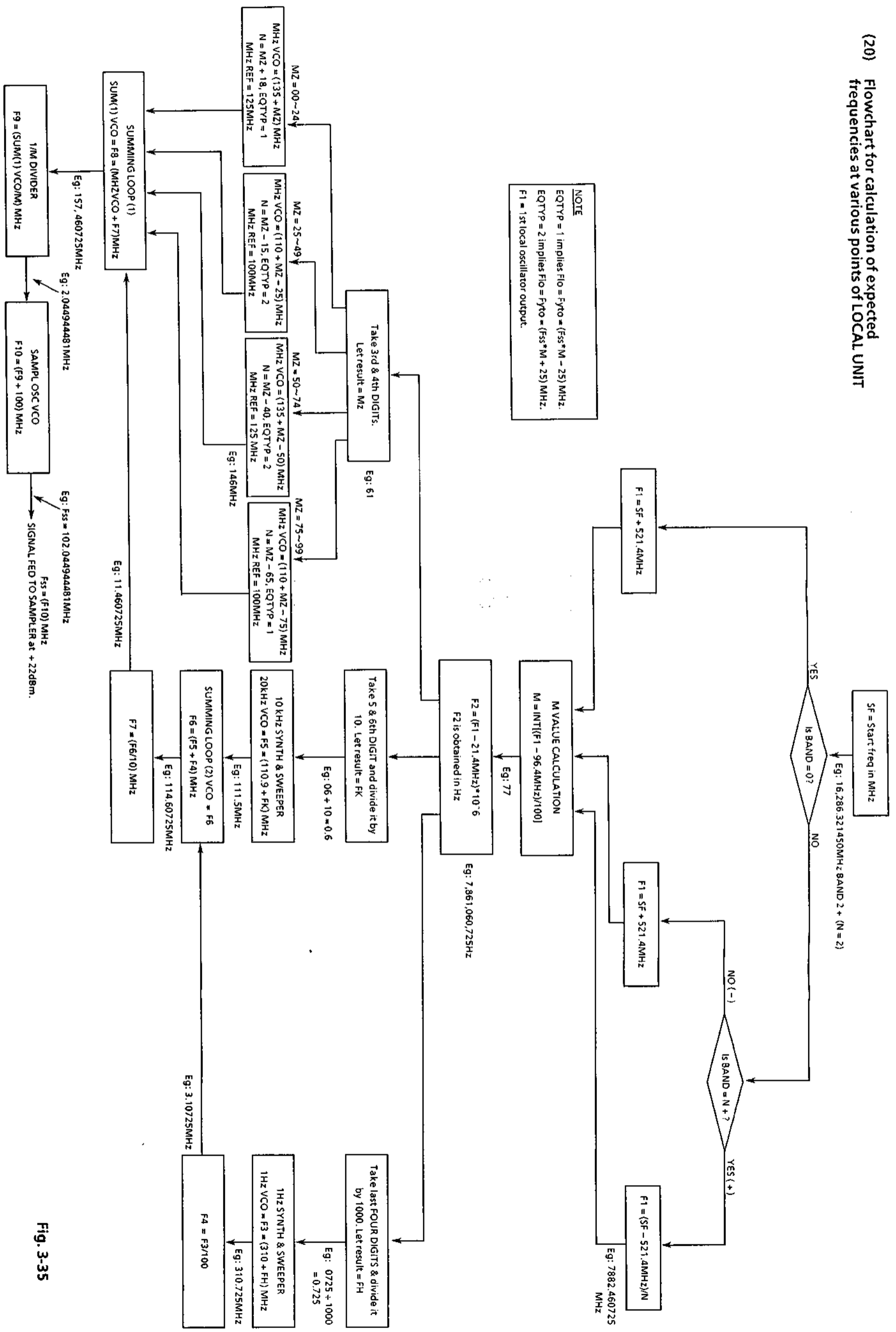


Fig. 3-35



(21) Reference unit check (A3-A2-A3/A4/A5)

This unit receives a 10 MHz reference signal from the 10 MHz crystal frequency generator in the A18 LPF & SW unit or from an external source. Reference unit uses this to phase lock a 100 MHz voltage controlled 100 MHz crystal oscillator (VCXO). From the output of this VCXO, the various frequency references needed in various PLLs are generated. A 100/125 MHz reference switching (for 1 MHz Step Synthesizer PLL) is also done in this unit.

1. Connect J6 of A3-A2-A4 100 MHz REF CONT to a high purity signal source.
2. Set the signal source to 10 MHz, + 5 dBm.

• Confirmation of output level and frequency

(1) 100 MHz REF (A3-A2-A3)

Table 3-30

Test point	Frequency	Level	
PIN number 5, ②	100 MHz	> + 16 dBm	
PIN number 4, ①	100 MHz	> 0 dBm	

(2) 100 MHz REF CONT (A3-A2-A4)

Table 3-31

Test point	Frequency	Level	
J2	10 MHz	+ 9 dBm (Typ)	
J4	10 MHz	+ 9 dBm (Typ)	
J5	10 MHz	+ 9 dBm (Typ)	
J3	25 MHz	+ 12 dBm (Typ)	

(3) 125/300/500 MHz REF (A3-A2-A5)

Table 3-32

Test point	Frequency	Level	MS2702A/MS2802A setting
J1	100 MHz	> +7 dBm	Center freq 75 MHz, Freq span 0 Hz
J1	125 MHz	> +7 dBm	Center freq 100 MHz, Freq span 0 Hz
J2	500 MHz	-3 dBm (Typ)	
J3	25 MHz	+12 dBm (typ)	

(4) 100 MHz REF CONT (A3-A2-A4)

1. Connect J4 of 100 MHz REF CONT to a frequency counter and confirm it's reading is 10.000 000 MHz (indicating the locked state of 100 MHz PLL).
2. Confirm the level of lock voltage at pin number 1 ② is -3.0 V (Typ).
3. Connect TP2 ③ to an oscilloscope and confirm the level and waveshape. (100 MHz, TTL level, >4 Vpp)
4. Confirm the lock range of PLL by varying the signal input at J6. (Monitor J4 with a frequency counter.)

Frequency lock range : 10 MHz \pm 200 Hz


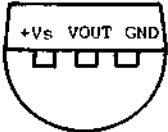
Level lock range : Locked for > +2 dBm.

Note: Checks other than item 4 above can be carried out by the 10 MHz signal (output of the 10 MHz crystal oscillator) available at the rear panel of the MS2702A/MS2802A.

(22) MOTHER BOARD 1 (LOCAL MB1) check and troubleshooting (A3-A1-A1)

This board consists of 7 three-terminal voltage regulators and a temperature sensor (LM35DZ). The inputs and outputs of these are indicated below.

Table 3-33

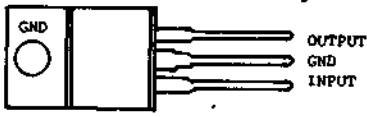
Device number	Name	Input	Output	Pin configuration
Q1	LM2940CT05	+6 V	+5 V	<p>TO-220 3-Lead Plastic Package</p>  <p>Front View</p> <p>LM2940CT05 LM2940CT12</p>
Q2	LM2940CT12	+13 V	+12 V	
Q3	LM2940CT05	+6 V	+5 V	
Q4	LM2940CT12	+13 V	+12 V	
Q5	LM2940CT05	+6 V	+5 V	
Q6	LM2940CT05	+6 V	+5 V	
Q7	LM2940CT12	+13 V	+12 V	
Q8	LM2940CT05	+6 V	+5 V	
Q24	LM35DZ	Temperature sensor 10 mV/°C		<p>TO-92 Plastic Package</p>  <p>Bottom View</p> <p>LM35DZ</p> <p>Output of LM35DZ (Eg: 700 mV at 70°C)</p>

(23) MOTHER BOARD 2 (LOCAL MB2) check and troubleshooting (A3-A2-A1)

This board consists of 5 three-terminal voltage regulators and a 1/1 or 1/10 Sweep Switch (μ PD5200G + μ PC4570G).

The inputs and outputs of these are indicated below.

Table 3-34

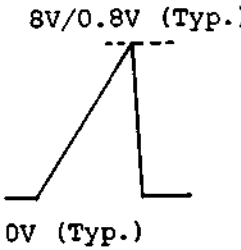
Device number	Name	Input	Output	Pin configuration
Q1	LM2940CT05	+6 V	+5 V	<div style="text-align: center;"> <p>T0-220 3-Lead Plastic Package</p>  <p>Front View</p> </div>
Q2	LM2940CT12	+13 V	+12 V	
Q3	LM2940CT12	+13 V	+12 V	
Q4	LM2940CT05	+6 V	+5 V	
Q5	LM2940CT05	+6 V	+5 V	

LM2940CT05

LM2940CT12

Set the MS2702A/MS2802A band 0 and center frequency 1 GHz.

Table 3-35

Freq. span	Sweep voltage at TP1 (Typ)	Waveform at TP1	
20 kHz	0 to 8 V		
20 kHz	0 to 0.8 V		
2 MHz	0 to 8 V		
200 kHz	0 to 0.8 V		

(24) 1 Hz PLL troubleshooting (A3-A2-A6 1 Hz STEP SYNTH)

1. Run D/A check in paragraph (27).
2. Ground the loop-error shorting plug J4 and ground the AFC plug J6.
3. Set the MS2702A/MS2802A frequency span to 20 kHz.
4. Set the MS2702A/MS2802A frequency span to 0 kHz.

Table 3-36

Start freq.	S/H output voltage	VCO base voltage	VCO frequency in MHz	VCO output level (Typ)	Feedback signal level & freq.	÷ N setting
0 kHz	0 V at #5 of Q33	+5 V (Typ)	310 ± 1 MHz at J8	- 11 dBm at J8	10 MHz, 3 Vpp at TP18 ①	10,000
Problem → (Refer to circuit diagram)	S/H (Q33)	Offset bias circuit	VCO (Tune using L10), Q43	VCO (Adjust by bending L12), Q43	Mixing Signal (300 MHz), Q39, Q41	PLL IC (Q28)
9.999 kHz	0 V at #5 of Q33	1.67 V (Typ)	319.999 ± 1 MHz at J8	- 11 dBm at J8	19.999 MHz, 3 Vpp at TP18 ①	19,999
Problem →		D/A network	VCO (Tune using L10)	VCO (Adjust by bending L12, C82/83)	Mixing Signal (300 MHz), Q39, Q41	PLL IC (Q28)

5. Check the reference signal 1 MHz (3 Vpp) fed to PFD. (Q28 pin number 1)
6. Connect the PLL error plug J4 to UNGROUND position.
If the PLL doesn't lock; check PFD (Q28), loop filter (Q31), and limiter (Q29 & Q30).
Finally though troublesome, check ÷ N setting.
7. Make sure that the PLL error is less than 3.5 V for start frequency 9.999kHz (0 span).
8. Connect the AFC-loop plug J6 to UNGROUNDED position.

9. When the frequency span is 0 kHz, the AFC output observed at TP4 must be smaller than 1 V. If the error is greater than 1 V, AFC circuit is defective. Go to AFC troubleshooting in paragraph (26).

(25) 10 kHz PLL troubleshooting (A3-A2-A6 1 Hz STEP SYNTH)

1. Run D/A check in paragraph (27).
2. Ground the loop-error shorting plug J9 and ground the AFC plug J11.
3. Set the MS2702A/MS2802A frequency span to 2 MHz.
4. Set the MS2702A/MS2802A frequency span to 0 kHz.

Table 3-37

Start freq.	S/H output voltage	VCO base voltage	VCO frequency in MHz	VCO output level (Typ)	Feedback signal level & freq.	+ N output at TP19
0 kHz	0 V at #5 of Q52	+5 V (Typ)	110.9 ± 1 MHz at J16	- 12 dBm at J16	10.9 MHz, 3 Vpp at TP19 ②	100 kHz 3 Vpp
Problem → (Refer to circuit diagram)	S/H (Q52)	Offset bias circuit	VCO (Tune using L22), PD-2(Z4), Q65	VCO, Q65	Mixing Signal (100 MHz), Q88, Q58, Q89	Q61, Q62, Q63, Q64
990 kHz	0 V at #5 of Q33	1.82 V (Typ)	120.8 ± 1 MHz at J16	- 12 dBm at J16	19.999 MHz 3 Vpp at TP19 ②	100 kHz 3 Vpp
Problem →		D/A network	VCO (Tune using L22)	VCO,	Mixing Signal (100 MHz), Q88, Q58, Q89	Qs61, Q62, Q63, Q64

5. Check the reference signal 100 kHz (3 Vpp) fed to PFD. (Q46, pin number 1)
6. Connect the PLL error plug J9 to UNGROUND position.
If the PLL doesn't lock; check PFD (Q46), loop filter (Q48), and limiter (Q49 & Q50).
Finally though troublesome, check $\div N$ setting.
7. Make sure that the PLL error is less than 3.5 V for start frequency 9.999kHz (0 span).
8. Connect the AFC-loop plug J11 to UNGROUNDED position.
9. When the frequency span is 0 kHz, the AFC output observed at TP4 must be smaller than 1 V. If the error is greater than 1 V, AFC circuit is defective. Go to AFC troubleshooting in paragraph (26).

(26) AFC troubleshooting (A3-A2-A6 1 Hz STEP SYNTHSE)

• How to connect AFC loop to 1 Hz Step Synthesizer VCO

1. Set starting frequency of the MS2702A/MS2802A to any frequency of interest.
2. Set frequency span to 20 kHz. ($100 \text{ Hz} \leq \text{Frequency span} \leq 20 \text{ kHz}$ is swept by 1 Hz Step VCO.)
3. Set frequency span to 0 kHz. (AFC-loop switches remain connected to 1 Hz Step VCO.)

• How to connect AFC loop to 10 kHz Step Synthesizer VCO

1. Set starting frequency of the MS2702A/MS2802A to any frequency of interest.
2. Set frequency span to 2 MHz. ($20.1 \text{ kHz} \leq \text{Frequency span} \leq 2 \text{ MHz}$ is swept by 10 kHz Step VCO.)
3. Set frequency span to 0 kHz. (AFC-loop switches remain connected to 10 kHz Step VCO.)

• CHECKS

1. Run D/A check in paragraphs (27).
2. Connect AFC-plug J6 of 1 Hz Step PLL to ground position.
3. Connect AFC loop to 1 Hz Step Synthesizer VCO.

Table 3-38

Start freq.	J8	TP18 ①	TP 11 ③	TP6 ④	TP12 ⑤	TP2 ⑥
0 kHz	310 MHz locked	10 MHz TTL drive	100 kHz TTL level	5 MHz 8 pulses	100 kHz, Off ratio: 0.16	-2.5 V
9.999 kHz	319.999 MHz locked	19.999 MHz TTL drive	200 kHz TTL level	5 MHz 8 pulses	200 kHz, Off ratio: 0.32	-5.0 V
Problem→ (Refer to circuit diagram)	Within the synthesizer loop. Go to 1 Hz Synthesizer Loop check.		Switches (Q3), 1/10 dividers (Q4 & Q5).	Ringing Osc (Q8), Level Converters (Q9, Q11, Q12), Count 8 Ckt (Q13, Q14, Q6)	Q6 operational ?	Buffer amp (Q17), Switch (Q18), Filter (Q19)

4. Confirm that PLL error voltage is also at TP13 after passing through switch Q84.
5. Confirm that D/A voltage is applied to error integrating summer (Q19) through switch Q42.
6. Confirm that TP1 voltage is approximately 2.5 V (typical-this voltage is adjusted by tuning R125 so as to make loop error voltage [with start frequency 0 Hz, frequency span 0 Hz, and AFC loop connected to phase locked 1 Hz Synthesizer VCO] zero.)
7. Since the error integrating summer (Q19) saturates when the AFC loop is broken, it is difficult to test it off loop.
8. Buffer amplifier, SWEEP summing amplifier (Q20 - μ PC4570G), and switch Q22 (TC4053BF) can be separately checked for their operation.
9. Connect the AFC-loop plug J6 to it's ungrounded position.
10. Set the MS2702A/MS2802A frequency span to 20 kHz.

Table 3-39

Start freq.	J8	TP18 ①	TP 11 ③	TP6 ④	TP12 ⑤	TP2 ⑥
9.999 kHz	320 to 340 MHz, sweeping	20 to 40 MHz, TTL drive	200 to 400 kHz, TTL level	5 MHz, 8 pulses	200 to 400 kHz, Off ratio: 0.32 to 0.64	- 5.0 to -10.02 V
Problem→ (Refer to circuit diagram)	Within the synthesizer loop. Go to 1 Hz Synthesizer Loop check.		Switches (Q3), 1/10 dividers (Q4 & Q5).	Ringing Osc (Q8), Level Converters (Q9, Q11, Q12), Count 8 Ckt (Q13, Q14, Q6)	Q6 operational?	Buffer amp (Q17), Switch (Q18), Filter (Q19)

11. Set the MS2702A/MS2802A frequency span to 2 MHz. (Checking 10 kHz VCO + AFC combination)

Table 3-40

Start freq.	J16	TP20 ⑦	TP 11 ③	TP6 ④	TP12 ⑤	TP2 ⑥
990 kHz	120.8 to 140.8 MHz, sweeping	20.8 to 40.8 MHz, TTL drive	208 to 408 kHz, TTL level	5 MHz, 8 pulses	208 to 408 kHz, Off ratio: 0.33 to 0.65	- 5.21 to - 10.22 V
Problem→ (Refer to circuit diagram)	Within the synthesizer loop. Goto 10 kHz Synthesizer Loop check.		Switches (Q3), 1/10 dividers (Q4 & Q5).	Ringing Osc (Q8), Level Converters (Q9, Q11, Q12), Count 8 Ckt (Q13, Q14, Q6)	Q6 operational?	Buffer amp (Q17), Switch (Q18), Filter (Q19)

(27) D/A check (A3-A2-A6 1 Hz STEP SYNTH)

Before starting this check, make sure that the reference voltage at TP is $8 \pm .001V$. (Reference is generated using Q16 (1SZ55) and Q17 (μ PC4570G) and adjusted using variable resistor R19.)

- 1 Hz-step VCO setting D/A

Ground the AFC-loop plug J6 and loop-error plug J4.

Table 3-41

Center frequency	Span	Test point	Instrument required	Expected value	D/A setting
0 kHz	0 kHz	TP14 ⑧	Volt meter	0 V	0
5 kHz	0 kHz	TP14 ⑧	Volt meter	3.92 V	125
9.999 kHz	0 kHz	TP14 ⑧	Volt meter	7.81 V	249

- Notes:** 1. One step of D/A setting value corresponds to 40 Hz step in starting frequency.
2. Voltage in volts at TP14 ⑧ = $\text{INTEGER} (F_s/40) * 8.00/255$.
Where $0 \text{ Hz} \leq F_s \text{ in Hz} \leq 9999 \text{ Hz}$.
3. After the above test, return AFC-loop plug J6 and loop-error plug J4 to their original correct positions.
- 10 kHz-step VCO setting D/A
- Ground the AFC-loop plug J11 and loop-error plug J9.

Table 3-42

Center frequency	Span	Test point	Instrument required	Expected value	D/A setting
0 kHz	0 kHz	TP15 ⑨	Volt meter	0 V (Typ)	0
500 kHz	0 kHz	TP15 ⑨	Volt meter	3.14 V	100
990 kHz	0 kHz	TP15 ⑨	Volt meter	6.21 V	198

- Notes:** 1. Two step of D/A setting value corresponds to 10 kHz step in starting frequency.
2. Voltage in volts at TP15 ⑨ = $\text{INTEGER} (F_s/10) * 2 * 8.00/255$.
Where $0 \text{ kHz} \leq F_s \text{ in kHz} \leq 990 \text{ kHz}$.
3. After the above test, return AFC-loop plug J11 and loop-error plug J9 to their original correct positions.

(28) Summing Loop (2) PLL troubleshooting (A3-A2-A6 1 Hz STEP SYNTSHE)

Since this PLL is the adder of the output of 1 Hz Step Synthesizer PLL Output /100 and the output of 10 kHz Step Synthesizer PLL, the following troubleshooting is carried out with the assumption that above both are in their correct operation state as far as their output frequency and level are concerned.

1. Set the MS2702A/MS2802A band 0 and start frequency 0 MHz.
2. Using J13, connect J14 to ground. (Under this condition, the voltage at varactor anodes (Q72, Q73) is +5.1 V).

Table 3-43

Freq. span	Frequency at J15	Level at J15	Frequency at TP23 ⑩	Level at TP23 ⑩	* Frequency at TP22 ⑪	Level at TP22 ⑪
0 MHz	~ 116 MHz	-8 dBm (Typ)	~ 116 MHz	+10 dBm (Typ)	~ 5.1 MHz	> 0.7 Vpp
Problem→ (Refer to circuit diagram)	VCO (Q74, Q75, Q76, L29 tune), AMP (Q81)	VCO (Q74, Q75, Q76), AMP (Q81)	AMP (Q77)	AMP (Q77)	RF signal to 23 Mixer ?	Q79, Q78, Q80

* : The frequency at TP22 = Frequency at J15 - Frequency of signal at RF port of Z3 Mixer. When start frequency of the MS2702A/MS2802A is 0 MHz, signal at RF port of Z3 is 110.9 MHz.

3. Using J13, connect J14 to loop side.
If the PLL doesn't lock; check PFD (Q66), loop filter (Q68), and limiter (Q69 and Q70).
4. Set the MS2702A/MS2802A band 0, start frequency 999.999 kHz, and frequency span 2 MHz.

Table 3-44

Sweep time	Frequency at J15	Level at J15	Loop error at J14	Level at TP22 ①
50 s	170.4 MHz	-8 dBm (Typ)	~ +3.5 V	> 0.7 Vpp
Problem→ (Refer to circuit diagram)	VCO (L29)	VCO	VCO adjustment? limiter	RF port signal to Z3 Mixer?

5. The output at J3 must be at 1/10th frequency at J15. The level is at nearly 0 dBm or > 0.7 V when observed using an oscilloscope. (If Q82 is not defective.)

(29) Summing Loop (1) PLL troubleshooting (A3-A1-A2 1 MHz STEP SYNTH)

1. Confirm the level of LOCAL UNIT (2) output applied to J5 is approximately 0.8 Vpp.
2. Confirm the level of 1 MHz output applied at RF port of Z2 (M8 mixer) is approximately 0 dBm.
3. Set the MS2702A/MS2802A band 0 and frequency span 0 MHz.
4. Connect a Standard Voltage Source to J10 and set the voltage to -5.4 V.

Table 3-45

Center freq.	Frequency at J11	Level at J11	Frequency at TP6 ③	Level at TP6 ③	* Frequency at TP5 ②	Level at TP5 ②
75 MHz	~ 121 MHz	- 12 dBm (Typ)	~ 121 MHz	+ 10 dBm (Typ)	~ 11 MHz	> 0.7 Vpp
Problem→ (Refer to circuit diagram)	VCO (Q31, Q32, Q33), AMP (Q34)	VCO (Q31, Q32, Q33), AMP (Q34)	AMP (Q35)	AMP (Q35)	RF port signal to Z2 Mixer? Q39, Q40, Q41	Q41, Q39, Q40

* : The frequency at TP5 = Frequency at J11 – Frequency of signal at RF port of Z2 Mixer. When start frequency is 75 MHz, signal at RF port of Z2 is 110 MHz.

6. Remove the Standard Voltage Source connected to J10.
7. Using J9, connect J10 to loop side.
8. Set the MS2702A/MS2802A center frequency to 80 MHz.
9. Set the MS2702A/MS2802A center frequency to 75 MHz.

If the PLL doesn't lock; check PFD (Q43), loop filter (Q26), and limiter (Q27 & Q28).

Table 3-46

Center freq.	Frequency at J11	Level at J11	Loop error voltage at J10	Level at TP5 ②		
124 MHz	170.4MHz	- 12 dBm (Typ)	~ +5.5 V	> 0.7 Vpp		
Problem→ (Refer to circuit diagram)	VCO (Q31, Q32, Q33), Q27, Q28?	VCO (Q31, Q32, Q33)	VCO adjustment?	RF port signal to Z2 Mixer?		

(30) 1 MHz PLL troubleshooting (A3-A1-A2 1 MHz STEP SYNTH)

Since the 1 MHz PLL is operated in two ranges and so there is the possibility of locking onto image, a lock control signal is used to prevent from the incorrect locking when working in the higher range (135 to 159 MHz), as described below. Eg: When operated in the 135 to 159 MHz range, a lock signal (applied at base of Q15) causes the signal (feedback to PLL) to fall to zero thus forcing the VCO to oscillate at its highest frequency (limited by limiter Q4). After this, the lock control signal is removed thus allowing the PLL oscillating frequency to decrease and lock at the appropriate frequency.

Using 1 MHz Step Synthesizer adjustment information in paragraph 3.4.2 (3) and 1 MHz Step Synthesizer check information in paragraph 3.4.1 (11), the 1 MHz PLL troubleshooting can be carried out as in the case of any other PLL like SUMMING LOOP (1) PLL troubleshooting in paragraph 3.4.1 (29).

(31) Sampling Oscillator PLL troubleshooting (A3-A1-A4 SAMPL OSC LOOP)

This is double-looped PLL in the sense that there are two possible ways to complete the PLL. One of them is through a Phase & Frequency Detector (Q6) with a low loop gain, while the other is through a Phase Detector (Q8) with a high loop gain. The PFD (Q6) brings the loop VCO frequency to near the lock-frequency value, after which the PD (Q8) takes over the control due to the higher loop gain. This technique is used for obtaining high Carrier to Noise ratio (C/N).

Using Sampling Oscillator PLL adjustment information in paragraph 3.4.2 (5) and Sampling Oscillator PLL check information in paragraph 3.4.1 (14), the troubleshooting can be carried out as in the case of any other PLL.

3.4.2 Adjustment

(1) A3-A2-Z1 100 MHz VCXO, A3-A2-A3 100 MHz REF, A3-A2-A4 100 MHz REF CONT and A3-A2-A5 125/300/500 MHz REF

(a) 100 MHz PLL adjustment (100 MHz REF CONT adjustment)

1. Connect J6 of 100 MHz REF CONT to a high purity Signal Source.
2. Set the Signal Source to 10 MHz, +5 dBm.
3. Connect TP1 ❶ to an oscilloscope and adjust L1 so as to obtain the maximum sinusoidal wave (> 10 Vpp) at TP1.
4. Connect J4 of 100 MHz REF CONT to a frequency counter and confirm it's reading is 10.000 000 MHz (indicating the locked state of 100 MHz PLL).
5. Confirm the level of lock voltage at pin number 1 ❷ is -3.0 V (Typ).
6. Connect TP2 ❸ to an oscilloscope and confirm the level and waveshape. (100 MHz, TTL, > 4 Vpp).
7. Confirm the lock range of PLL by varying the signal input at J6. (Monitor J4 with a frequency counter.)

Frequency lock range : 10 MHz \pm 200 Hz

Level lock range : Locked for > +2 dBm.

(b) Confirmation of output level and frequency

(i) 100 MHz REF

Table 3-47

Test point	Frequency	Level	
Terminal number 5 ❷	100 MHz	> +16 dBm	
Terminal number 4 ❶	100 MHz	> 0 dBm	

(ii) 100 MHz REF CONT

Table 3-48

Test point	Frequency	Level	
J2	10 MHz	+9 dBm (Typ)	
J4	10 MHz	+9 dBm (Typ)	
J5	10 MHz	+9 dBm (Typ)	
J3	25 MHz	+12 dBm (Typ)	

(iii) 125/300/500 MHz REF

Table 3-49

Test point	Frequency	Level	MS2702A/MS2802A setting
J1	100 MHz	> +7 dBm	Center freq 75 MHz, Freq span 0 Hz
J1	125 MHz	> +7 dBm	Center freq 100 MHz, Freq span 0Hz
J2	500 MHz	-3 dBm (Typ)	-
J3	25 MHz	+12 dBm (Typ)	

(2) A3-A2-A6 1 Hz STEP SYNTH

Note: All item (2) adjustments must be performed with the MS2702A/MS2802A RBW of 1 kHz.

(a) AFC section

Table 3-50

Step	Adjustment	Target
1	R19	-8 V at TP5 ⑬

(b) 1 Hz STEP SYNTH

1. Connect J4 and J6 to GND.
2. Connect a spectrum analyzer to J8 ($f_c = 315$ MHz, Span = 20 MHz, REF = 0 dBm).
3. Set the MS2702A/MS2802A F span to 0 kHz.

Table 3-51

Step	Setting	Adjustment	Target
1	F start = 0 kHz	Adjust the frequency with L10. Adjust the output level with L12 (Bend L12 toward or backward L10). ⓑ	- 11 dBm (Typ), 310.2 MHz \pm 0.5 MHz at J8
2	F start = 9.999 kHz		- 11 dBm (Typ), 320 MHz \pm 1 MHz at J8

4. Connect J4 to GND.
5. Connect a spectrum analyzer to J8 ($f_c = 315$ MHz, Span = 20 MHz, REF = 0 dBm).
6. Remove J6 and supply external DC power to pin 2 of J7.

Table 3-52

Step	Setting	Adjustment	Target
1	F start = 9.999 kHz Freq span = 0 MHz External voltage = 6.33 Vdc	Adjust the frequency with L10. Adjust the output level with L12 (Bend L12 toward or backward L10). ⓑ	- 11 dBm (Typ), 340 MHz \pm 1 MHz at J8
2	F start = 0 kHz Freq span = 0 MHz External voltage = 0 Vdc		- 11 dBm (Typ), 310 MHz \pm 1 MHz at J8

(c) 1 Hz STEP SYNTHESIS (confirmation)

1. Connect J6 to GND and connect a loop to J4.
2. Connect a spectrum analyzer to J8 ($f_c = 315$ MHz, Span = 20 MHz, REF = 0 dBm).
3. Connect an oscilloscope to TP18 (2 V/div, 50 ns/div, DC input mode).
4. Set the MS2702A/MS2802A F span to 0 kHz.

Table 3-53

Step	Setting	Target	
1	F start = 0 kHz	- 11 dBm (Typ), 310 MHz at J8	10 MHz, 4 Vp-p signal at TP18 ①
2	F start = 9.999 kHz	- 11 dBm (Typ), 320 MHz at J8	20 MHz, 4 Vp-p signal at TP18 ①
3	F start = 9.999 kHz	3.2 MHz, 4 Vp-p signal at TP16 ② Oscilloscope settings: 2 V/div, 100 ns/div, DC input mode	

(d) 10 kHz STEP SYNTHESIS

1. Connect J10 and J12 to GND.
2. Connect a spectrum analyzer to J16 ($f_c = 116$ MHz, Span = 20 MHz, REF = 0 dBm).
3. Set the MS2702A/MS2802A F span to 0 kHz.

Table 3-54

Step	Setting	Adjustment	Target
1	F start = 0 kHz	Adjust the frequency with L22. ③	- 12 dBm (Typ), 112.4 MHz \pm 0.5 MHz at J16
2	F start = 990 kHz		- 12 dBm (Typ), 121.4 MHz \pm 1 MHz at J16

4. Connect a spectrum analyzer to J16 ($f_c = 140.8$ MHz, Span = 20 MHz, REF = 0 dBm).
5. Remove J11 and connect an external DC power supply to pin 2 of J12.

Table 3-55

Step	Setting	Adjustment	Target
1	F start = 990 kHz Freq span = 0 MHz External voltage = 6.33 Vdc	Adjust the frequency with L22. ⑬	- 12 dBm (Typ), 140.4 MHz \pm 1 MHz at J16
2	F start = 0 kHz Freq span = 0 MHz External voltage = 0 Vdc		- 12 dBm (Typ), 112.4 MHz \pm 0.5 MHz at J16

(e) 10 kHz STEP SYNTHESIS (confirmation)

1. Connect J12 to GND and connect a loop to J10.
2. Connect a spectrum analyzer to J16 ($f_c = 116$ MHz, Span = 20 MHz, REF = 0 dBm).
3. Connect an oscilloscope to TP20 (2 V/div, 50 ns/div, DC input mode).
4. Set the MS2702A/MS2802A F span to 0 kHz.

Table 3-56

Step	Setting	Target	
1	F start = 0 kHz	- 12 dBm (Typ), 110.9 MHz at J16	10.9 MHz, 4 Vp-p signal at TP20 ⑦
2	F start = 990 kHz	- 12 dBm (Typ), 120.8 MHz at J16	20.8 MHz, 4 Vp-p signal at TP20 ⑦

(f) AFC section

1. Connect J12 and J7 to the AFC loop.
2. F start = 0 kHz
3. F span = 10 kHz
4. F span = 0 kHz

Table 3-57

Step	Adjustment	Target
1	R39	≈ 0 V at TP 3 15

(g) Summing Loop (2) Synthe

1. Connect J14 to GND.
2. Connect a spectrum analyzer to J15 ($f_c = 119$ MHz, Span = 20 MHz, REF = 0 dBm).
3. Set the MS2702A/MS2802A F span to 0 kHz.

Table 3-58

Step	Setting	Target
1	F start = 0 kHz Freq span = 0 MHz	- 8 dBm (Typ), 116 ± 0.2 MHz at J15

4. Connect J14 to GND.
5. Connect the MS612 to J15 ($f_c = 116/144$ MHz, Span = 10 MHz, REF = 0 dBm).

Table 3-59

Step	Setting	Adjustment	Target
1	F start = 999.999 kHz Freq span = 2 MHz Sweep time = 30 s	Adjust the frequency with L29. ⑩	- 8 dBm (Typ), Max. 144 MHz ± 2 MHz at J15 (Spectrum Analyzer in MAX HOLD mode)
2	F start = 0 kHz Freq span = 0 MHz Sweep mode = AUTO		- 8 dBm (Typ), 116 MHz ± 1 MHz at J15

(h) Summing Loop (2) synthe (confirmation)

1. Connect an oscilloscope to TP22 ⑪ (2 V/div, 50 ns/div, DC input mode).
2. Connect a loop to J14.

Table 3-60

Step	Setting	Target
1	F start = 999.999 kHz Freq span = 2 MHz Sweep time = 30 s	12.4 MHz to 14.4 MHz, 0 dBm (Typ) signal at J3 ECL level (0.7 V _{p-p})

(i) Adjusting all 1 Hz unit lids

1. Connect a spectrum analyzer to J3 (F span = 4 MHz, f_c = 13.4 MHz).
2. F start = 999.999 kHz.
3. F span = 2 MHz.
4. Set the MS2702A/MS2802A sweep time to 100 s.
5. Restart the MS2702A/MS2802A with RESTART.
6. Set the spectrum analyzer to the MAX HOLD mode.

Table 3-61

Step	Adjustment	Target
1	Adjust the width with L2. ⑦	HOLD of 2 MHz + 20 kHz width

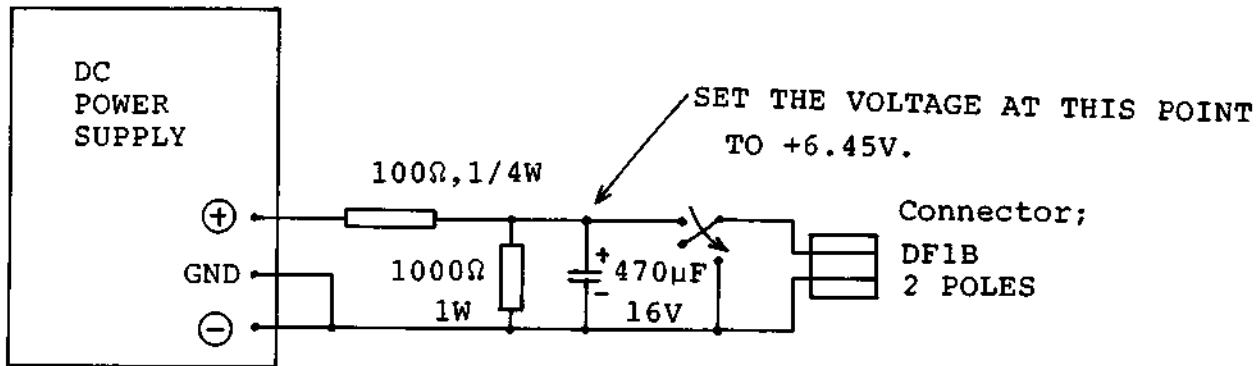


Fig. 3-36 Setup Required for 1 Hz STEP SYNTH Adjustment

(3) A3-A1-A2 1 MHz STEP SYNTHESIS

(a) 1 MHz STEP Synthesizer

- (i) Adjusting linearity of 110 to 159 MHz VCO using a spectrum analyzer.
1. Connect a Standard Voltage Source to J7.
 2. Adjust L4 so as to make frequency output at J8 is $110.5 \pm .5$ MHz when applied voltage at J7 is -5 V.
 3. Make sure that the following table holds good when the applied voltage at J7 is varied.

Table 3-62

Applied voltage at J7	Oscillation frequency in MHz at J8	Output level at J8 in dBm (Typ)
-5 V	110.5 ± 0.5	-14
0 V	136 ± 1 MHz	-14
$+5$ V	156.5 ± 2.5 MHz	-14

- (ii) Checking TP3 output level using an oscilloscope.

1. Confirm the input to J4 is 100/125 MHz at $+8$ dBm (Typ).
2. Connect a Standard Voltage Source to J7 as in the paragraph (i) above.
3. Set the MS2702A/MS2802A band 0, center frequency 75 MHz and frequency span 0 MHz.
Fl₀ = 100 MHz

Table 3-63

Applied voltage in volts at J7	Frequency and level at TP3 ①
-5 V	10 MHz (Typ), TTL level
0 V	35 MHz (Typ), TTL level

4. Set the MS2702A/MS2802A band 0, center frequency 100 MHz and frequency span 0 MHz.

Table 3-64

Applied voltage in volts at J7	Frequency and level at TP3 ①
-5 V	10 MHz (Typ), TTL level
0 V	35 MHz (Typ), TTL level

(iii) Confirming PLL lock

1. Using J6, connect J7 to loop side.
2. Set the MS2702A/MS2802A band 0 and frequency span 0 MHz.
3. Set center frequency as follows, confirm the lock voltage, and check spectral quality.

Table 3-65

Center freq.	Lock voltage at J7	Output freq. at J8
75 MHz	- 5 V (Typ)	110 MHz
95 MHz	- 1.3 V (Typ)	130 MHz
124 MHz	+ 6.3 V (Typ)	159 MHz

(iv) Confirming limiter action

1. Set the MS2702A/MS2802A band 0, center frequency 75 MHz and frequency span 0 MHz.
Flo = 100 MHz.
2. Check limiter voltage appearing at J7.

Table 3-66

When 10 MHz REF signal (J3) is removed.		When 100 MHz LO signal (J4) is removed.	
Voltage at J7	Freq. at J8.	Voltage at J7	Freq. at J8.
- 7.3 V (Typ)	95 MHz (Typ)	0 V (Typ)	136 MHz (Typ)

3. Set the MS2702A/MS2802A band 0, center frequency 100 MHz, frequency span 0 MHz.
Flo = 120 MHz.
4. Check limiter voltage appearing at J7.

Table 3-67

When 10 MHz REF signal (J3) is removed.		When 100 MHz LO signal (J4) is removed.	
Voltage at J7	Freq. at J8.	Voltage at J7	Freq. at J8.
- 1.4 V (Typ)	130 MHz (Typ)	+ 7.5 V (Typ)	163 MHz (Typ)

(b) Summing Loop (1) PLL

(i) Adjusting linearity of 121.4 to 173.4 MHz VCO

1. Connect a Standard Voltage Source to J10.
2. Adjust L11 so as to make frequency output at J11 is 125 MHz when applied voltage at J10 is -5 V.
3. Make sure that the following table holds good when the applied voltage at J10 is varied.

Table 3-68

Applied voltage at J10	Oscillation frequency in MHz at J11	Level at J11 in dBm (Typ)
-6 V	121 MHz (Typ)	-12
+6 V	174 MHz (Typ)	-12

(ii) Checking TP5 output level using an oscilloscope

1. Connect a Standard Voltage Source to J7 as in the paragraph (i) above.
2. Set MS2702A/MS2802A band 0, center frequency 75 MHz, frequency span 0 MHz.

Table 3-69

Applied voltage in volts at J7	Frequency and level at TP5 ②
-5 V	10 MHz (Typ) > 0.8 V _{pp}

(iii) Confirming PLL lock

1. Using J9, connect J10 to loop side.
2. Set the MS2702A/MS2802A band 0 and frequency span 0 MHz.
3. Set center frequency as follows, confirm the lock voltage, and check spectral quality.

Table 3-70

Center freq.	Lock voltage at J10	Freq. and level at J11
75 MHz	-5.4 V (Typ)	121.4 MHz, -10 dBm (Typ)
100 MHz	-1.1 V (Typ)	146.4 MHz, -10 dBm (Typ)
124 MHz	+5.5 V (Typ)	170.4 MHz, -10 dBm (Typ)

(iv) Confirming limiter action

1. Set the MS2702A/MS2802A band 0, center frequency 75 MHz, and frequency span 0 MHz.
2. Check limiter voltage appearing at J10.

Table 3-71

When 11 MHz REF signal (J5) is removed.	
voltage at J10	FREQ O/P at J11
-7 V (Typ)	110 MHz (Typ)

(4) A3-A1-A3 1/M DIVIDER

1. Connect pre-tuned Summing Loop (1) output to the input of 1/M DIVIDER.
2. Set the MS2702A/MS2802A band 1 – and frequency span 0 MHz.
3. Observe ④ and ⑤ terminal signal's waveform, frequency, and level.

Table 3-72

Center freq. in MHz	M value	Input freq.	① ②
			④ & ⑤ terminal signal freq & level
1721.6 MHz	21	168 MHz	8.0 MHz (125 ns), TTL level
7409.6 MHz	78	156 MHz	2.0 MHz (500 ns), TTL level

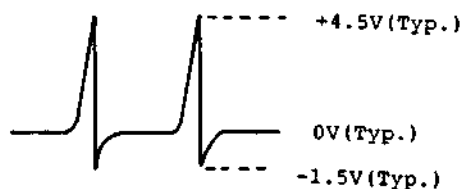


Fig. 3-37 ④ pin Signal Waveform



Fig. 3-38 ⑤ pin Signal Waveform

Note: If the signal at J5 is applied using a signal generator, it's setting must be 12.0 MHz, -5 dBm.

(5) A3-A1-A4 SAMPL OSC LOOP

(i) Adjusting linearity of 101.52 to 108.67 MHz VCO

1. Connect a Standard Voltage Source to J8.
2. Adjust L30 (by bending it towards or away from ground) so as to make frequency at terminal ⑦ is 101.75 ± 0.25 MHz when applied voltage at J8 is +5 V.
3. Make sure that the following table holds good when the applied voltage at J8 is varied.

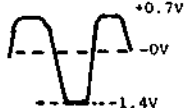

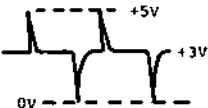
Table 3-73

Applied voltage at J8	Oscillation frequency in MHz at ⑦ ④ terminal	Level at terminal ⑦ in DBm ④
+5 V	101.75 ± 0.25 MHz	> +22
0 V	105.35 ± 0.25 MHz	> +22
-5 V	108.95 ± 0.25 MHz	> +22

(ii) Checking control section using an oscilloscope

1. Connect a Standard Voltage Source to J8 as in the paragraph (i) above.
2. Check output level at TP1, TP2 and TP3 using an oscilloscope.

Table 3-74

Applied voltage in volts at J8	Frequency at TP1, TP2, & TP3	TP1 Waveform	TP2 Waveform	TP3 Waveform
-5 V	1.5 MHz (Typ)			
	5.1 MHz (Typ)			
-5 V	8.7 MHz (Typ)	(Typ)	(Typ)	(Typ)

(iii) Confirming PLL lock

1. Using J7, connect J8 to loop side.
2. Set the MS2702A/MS2802A band 1 – and frequency span 0 MHz.
3. Set center frequency as follows, confirm the lock voltage, and check spectral quality.

Table 3-75

Center freq.	Lock voltage at J8	Frequency at terminal ⑦ ④
1721.6 MHz	-3.5 V (Typ)	108.0 MHz
4000.0 MHz	+2.8 V (Typ)	103.327272 MHz
7409.6 MHz	+4.7 V (Typ)	102.0 MHz

(iv) Confirming limiter action

1. Remove the +5 V power supply ③ to 1/M DIVIDER.
2. Check the limiter voltage appearing at J8 and frequency at ⑦.

Table 3-76

When +5 V (terminal ③ ③) to 1/M DIVIDER is removed.	
Voltage at J18	Freq. at Terminal ⑦ ④
-6.66 V (Typ)	100 MHz < Freq. < 101.3 MHz

(v) Confirming signal level to mixer

Confirm the signal level at J2 is 0 dBm (Typ).

(6) A3-A1-A5 YTO PLL CONT

(a) YTO pretuning (A1-A3 RF CONTROL)

(i) Adjustment of + 10 V reference voltage.

Connect a voltmeter to TP7 ④ and adjust R141 ⑦ to make the voltmeter reading + 10.00 V.

(ii) YTO pretuning (This adjustment should be done only after turning on the instrument for at least one hour and 27 DP cable to J17 should be disconnected.)

Table 3-77

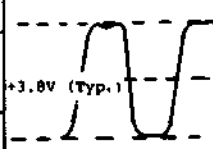
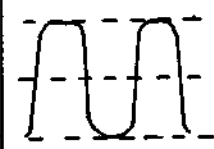
Step	Center freq.	YTO frequency at LOCAL OUTPUT on front panel	Tuning resistor	Remarks
1	1.7 GHz	2221.4 ± 1 MHz	R136 ①	Repeat steps 1, 2, 3, in 1, 2, 3, 2, 1 order three or four times to average out hysteresis effects.
2	4.5 GHz	5021.4 ± 1 MHz	R102 ②	
3	7.5 GHz	8021.4 ± 1 MHz	R105 ③	

(b) Confirming YTO PLL lock

(i) Checking test points on YTO PLL CONT.

1. Confirm locking of YTO PLL by connecting J17.
2. Set the MS2702A/MS2802A band 1- and frequency span 0 Hz, and confirm that J6 input is 25 MHz at - 25 dBm.
3. Set the MS2702A/MS2802A center frequency as shown below, and test the waveforms at TP3 and TP4 using an oscilloscope.

Table 3-78

Center freq.	Freq & level at TP3 ①	Freq & level at TP4 ②
1700 MHz	25 MHz	25 MHz
5000 MHz		
7500 MHz	≥ 1 Vpp	≥ 1 Vpp

CAUTION: *The following adjustments in paragraphs (c) and (d) below must be carried out after the assembling process is completed and a signal fed at the RF INPUT is visible on the display of the MS2702AIMS2802A. Also note that the following adjustments must be carried out before tuning of the YTF.*

(c) Adjusting span linearity for frequency spans greater than 2 MHz

(i) Frequency span 2.01 MHz to 10 MHz

1. Set the MS2702A/MS2802A band 0, center freq. 1 GHz, and freq. span 5 MHz.
2. Feed a 1 GHz, -10 dBm signal at the RF INPUT of the MS2702A/MS2802A.
3. Adjust R117 ④ so as to make the signal trace coincide with the central line of the MS2702A/MS2802A display.
4. Change the signal generator frequency by step equal to nominal value of one display division of the MS2702A/MS2802A (ie 500 kHz for frequency span of 5 MHz.) and check span linearity of the MS2702A/MS2802A.
5. Carry out similar span linearity check for 2.01 MHz and 10 MHz also.

(ii) Frequency span greater than 10 MHz

1. Set the MS2702A/MS2802A band 0, center freq. 1 GHz, and freq. span 100 MHz.
2. Feed a 1 GHz, -10 dBm signal at the RF INPUT of the MS2702A/MS2802A.
3. Adjust R114 ⑤ so as to make the signal trace coincide with the central line of the MS2702A/MS2802A display.
4. Change the signal generator frequency by step equal to nominal value of one display division of the MS2702A/MS2802A (ie 10 MHz for frequency span of 100 MHz.), and check the span linearity of the MS2702A/MS2802A.
5. Carry out similar span linearity check for 10.1 MHz, 1 GHz, and 2 GHz also.

(d) Final adjustment of 1st local oscillator C/N ratio

(i) Loop gain adjustment

1. Set the MS2702A/MS2802A band 0, center freq. 1 GHz, and freq. span 50 kHz.
2. Feed a 1 GHz, -10 dBm signal (high purity signal like the one from the MG3633A) at the RF INPUT of the MS2702A/MS2802A.
3. Adjust R120 **ⓐ** so as to make the MS2702A/MS2802A meet the specification. (<103 dBc at 10 kHz offset)



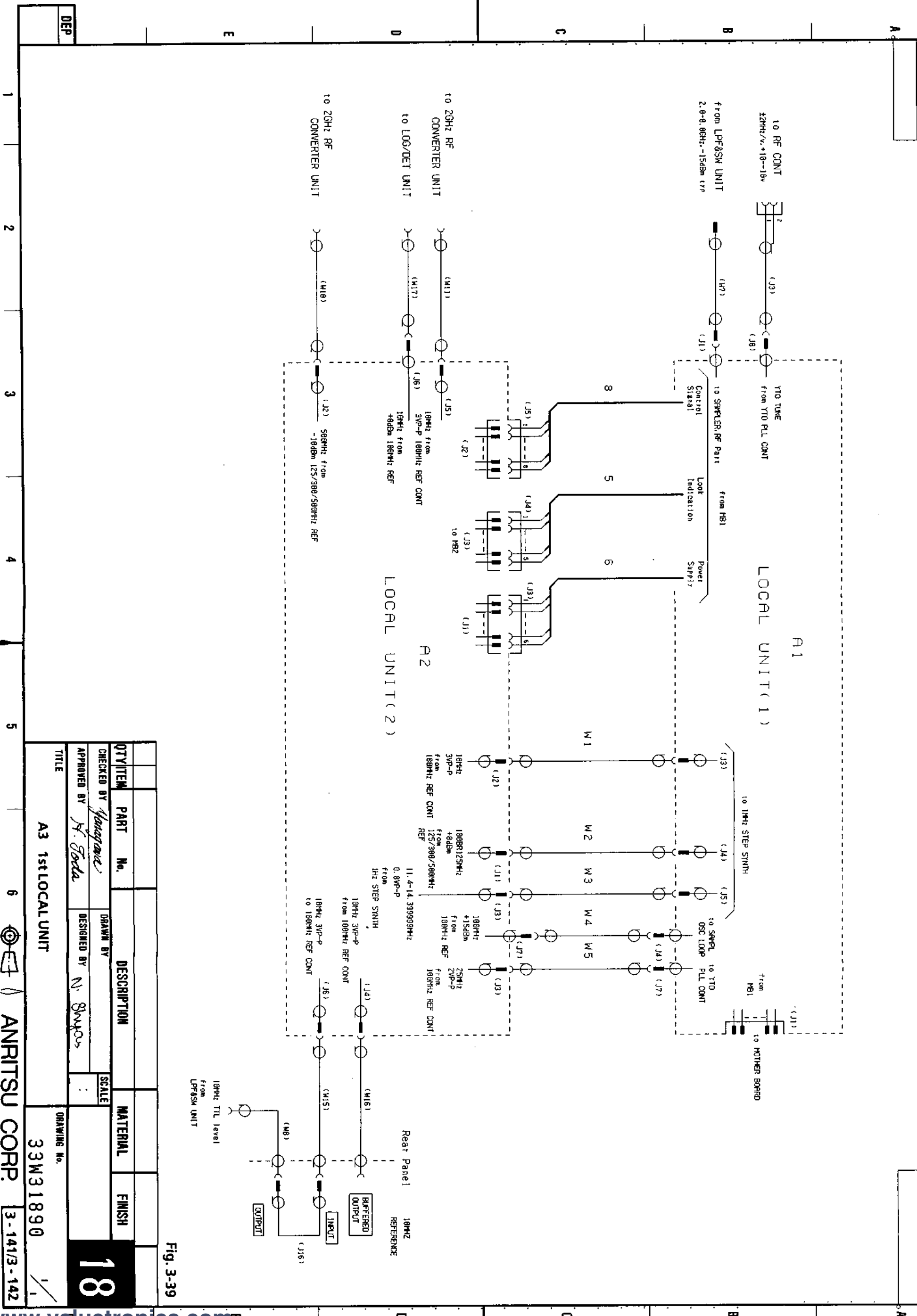


Fig. 3-39

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Montague</i>				
DRAWN BY				
APPROVED BY <i>N. Sada</i>				
DESIGNED BY <i>N. Sadas</i>				
TITLE				

A3 1st LOCAL UNIT

33W31890

ANRITSU CORP. 3-141/3-142

18

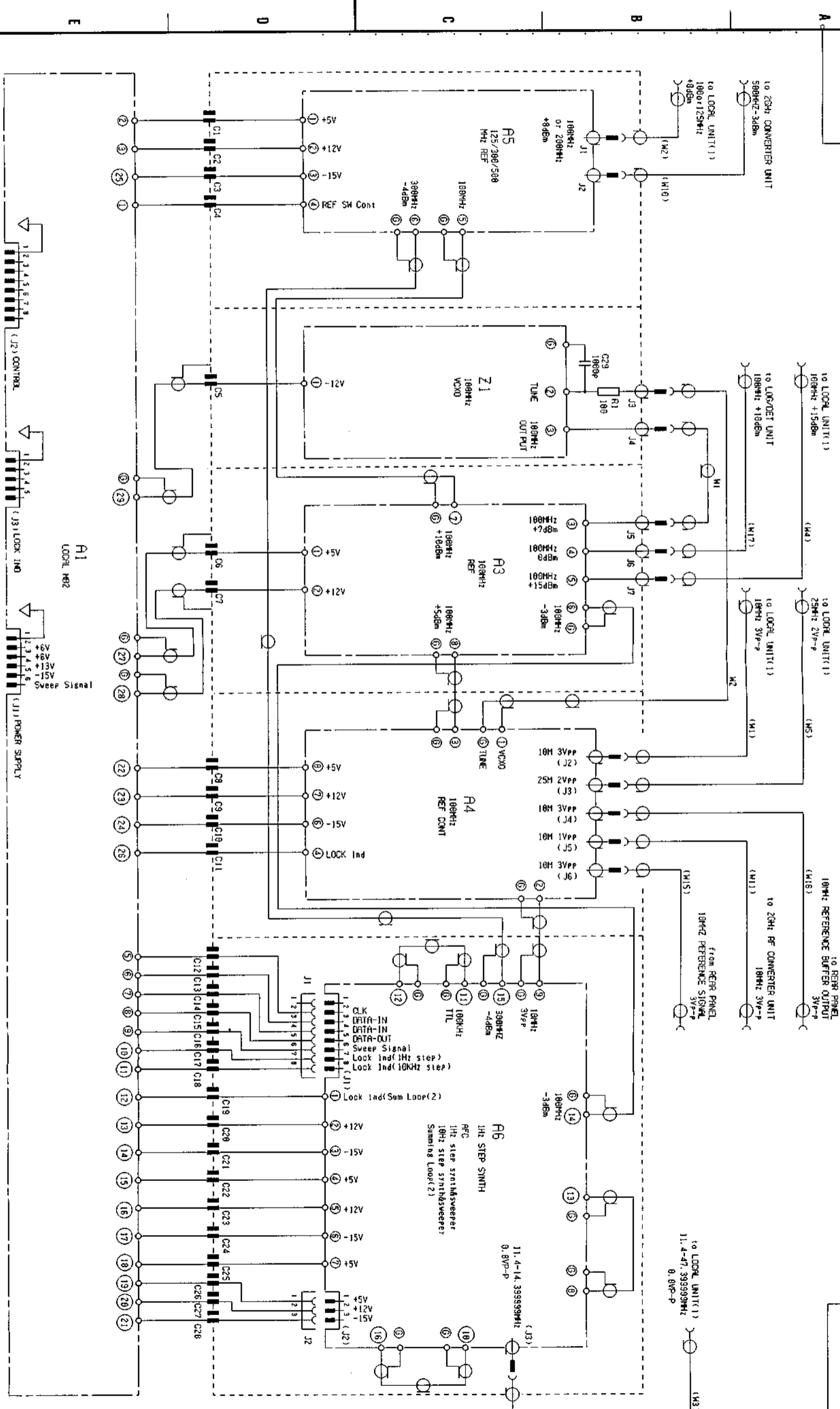


Fig. 3-40

25

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>[Signature]</i>				
DRAWN BY <i>[Signature]</i>				
APPROVED BY <i>[Signature]</i>				
DESIGNED BY <i>[Signature]</i>				
TITLE				
A3-A2 LOCAL UNIT (2)				
DRAWING No.				
33W31892				
3-143				

DEP

1 2 3 4 5 6 7 8

ANRITSU CORP.

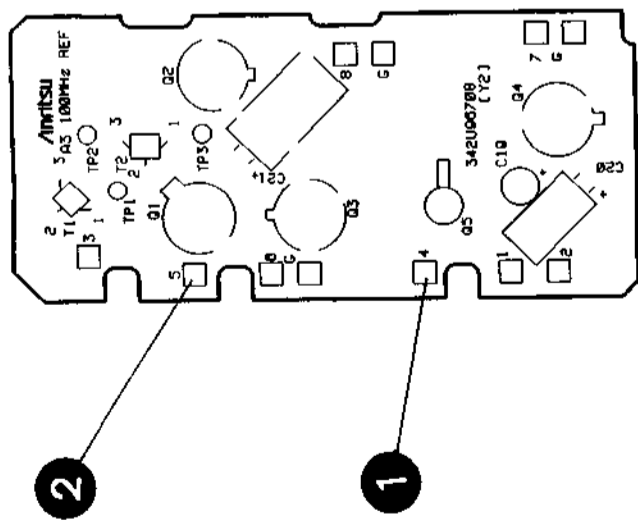


Fig 3-41(1/2)
 A3-A2-A3 100 MHz REF PC-Board Parts Layout (Component Side) 27

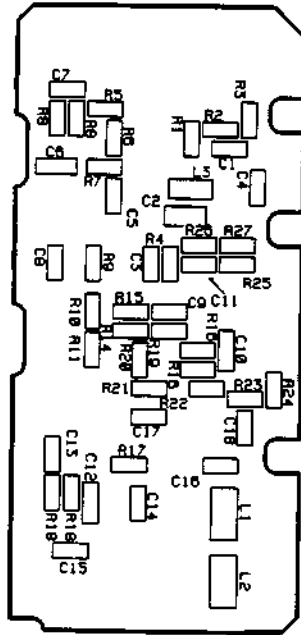


Fig 3-41(2/2)

A3-A2-A3

100 MHz REF PC-Board Parts Layout (Pattern Side)

27



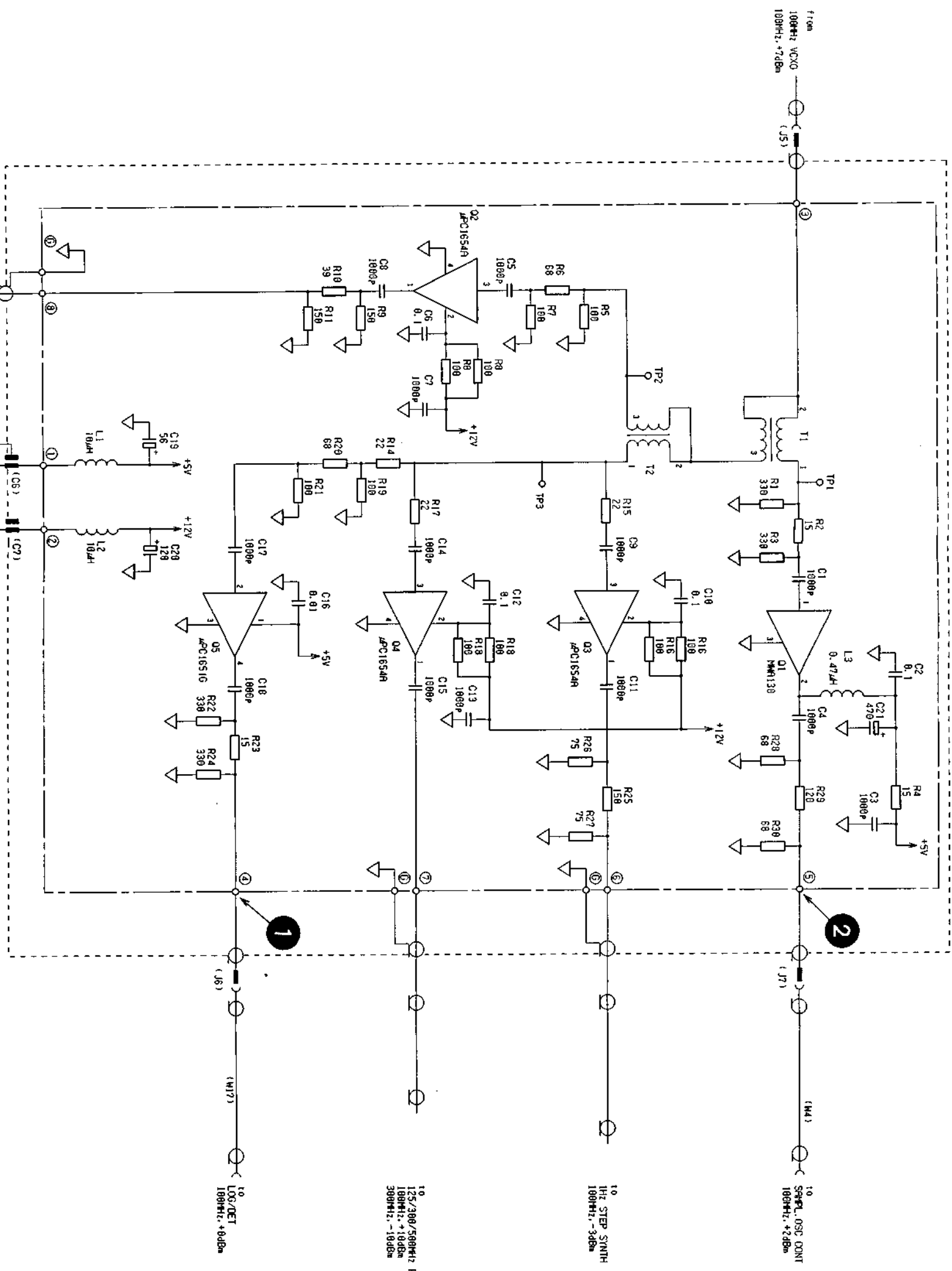


Fig. 3-42

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Yanagawa</i>				
DRAWN BY				
APPROVED BY <i>S. Toda</i>				
DESIGNED BY <i>N. Nishida</i>				
TITLE				
A3-A2-A3 100 MHz REF				
DRAWING No.				
33W31271				

27

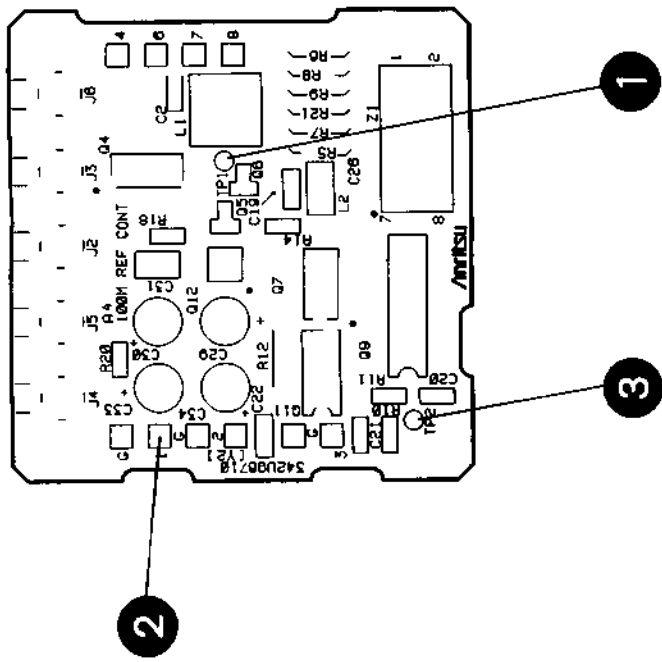


Fig 3-43(1/2)
 A3-A2-A4 100 MHz REF CONT PC-Board Parts Layout (Component Side) 28

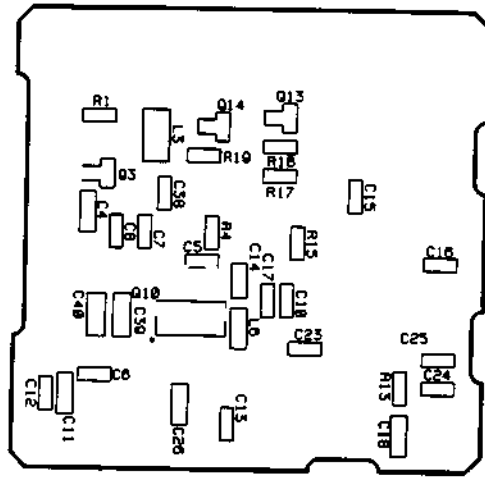


Fig 3-43(2/2)

A3-A2-A4 100 MHz REF CONT PC-Board Parts Layout (Pattern Side)



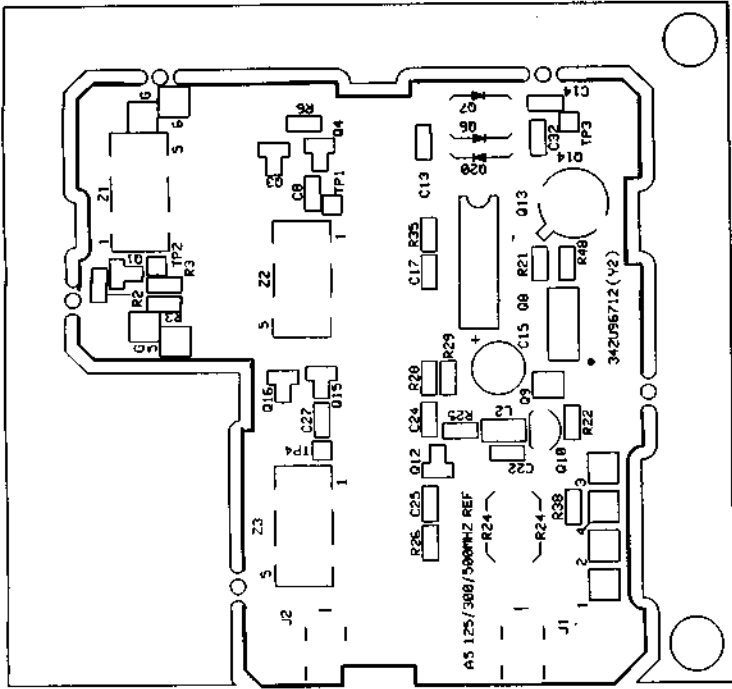


Fig 3-45(1/2)

A3-A2-A5 125/300/500 MHz REF PC-Board Parts Layout (Component Side) 29

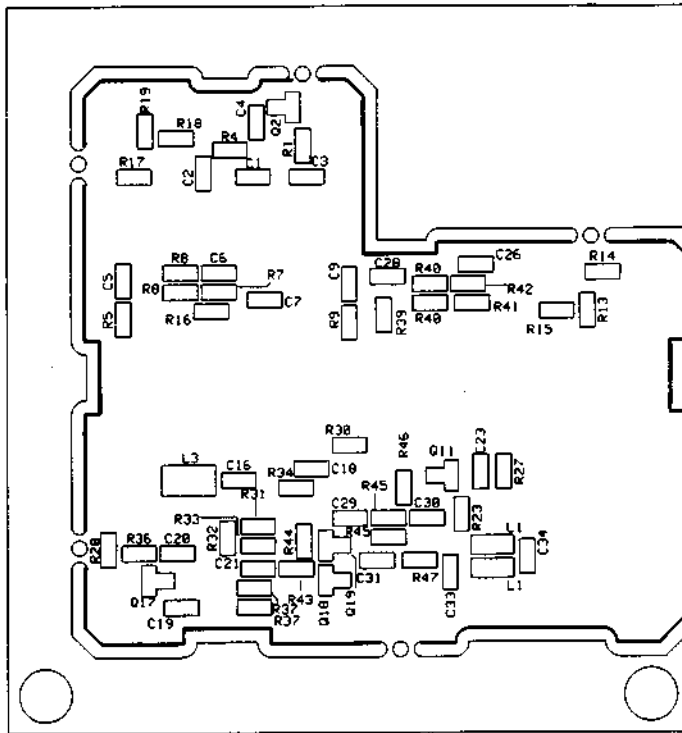


Fig 3-43(2/2)

A3-A2-A5 125/300/500 MHz REF PC-Board Parts Layout (Pattern Side)



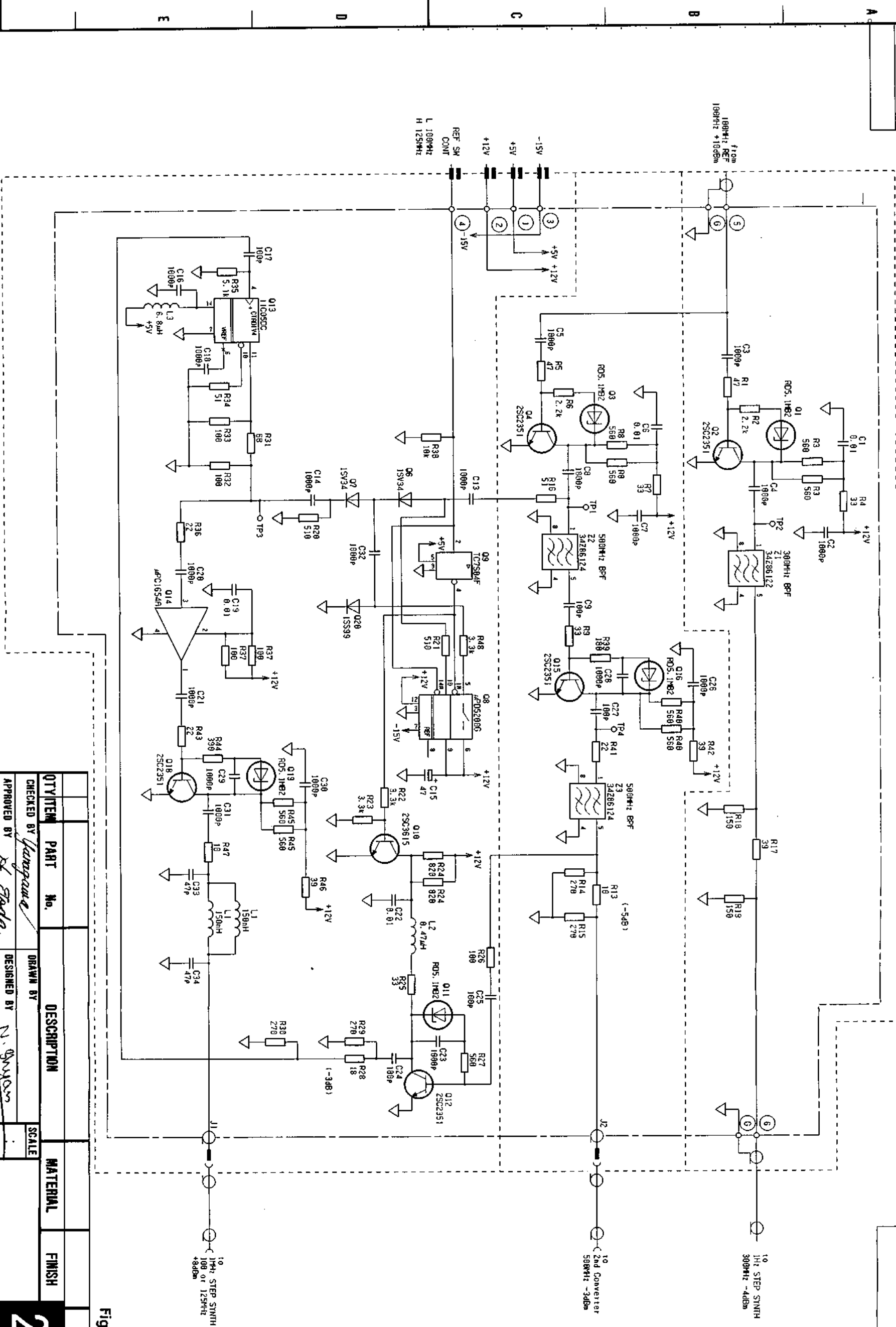


Fig. 3-46

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Jungwon</i>				
DRAWN BY				
APPROVED BY <i>H. Bada</i>				
DESIGNED BY <i>N. Jungwon</i>				
SCALE				
TITLE				
A3-A2-AS 125/300/500 MHz REF				
DRAWING No.				
33W31273				
3-155				

29

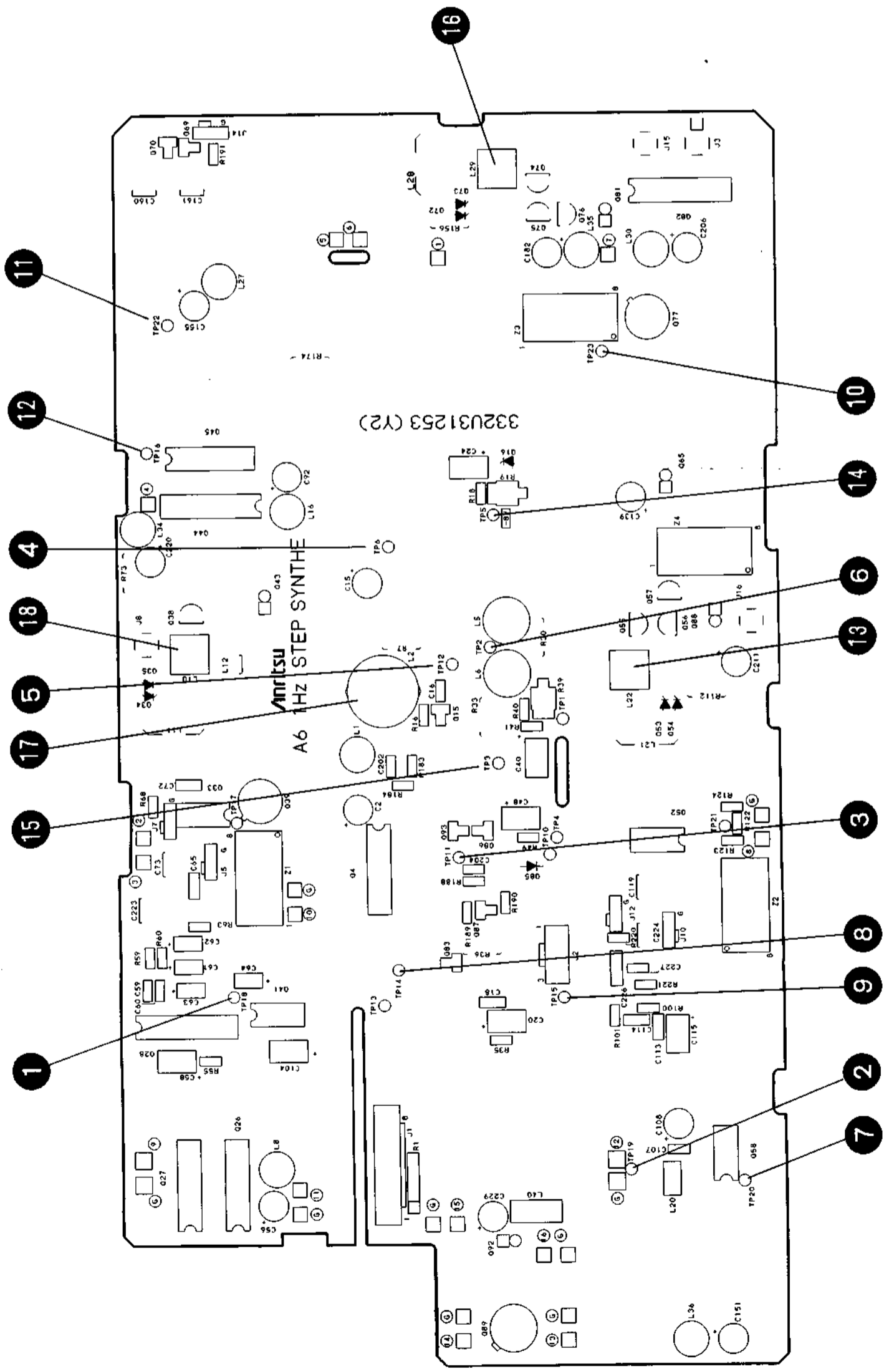


Fig. 3-47 (1/2)
 A3-A2-A6 1 Hz STEP SYNTHESIZER
 PC-Board Parts Layout
 (Component Side) 30

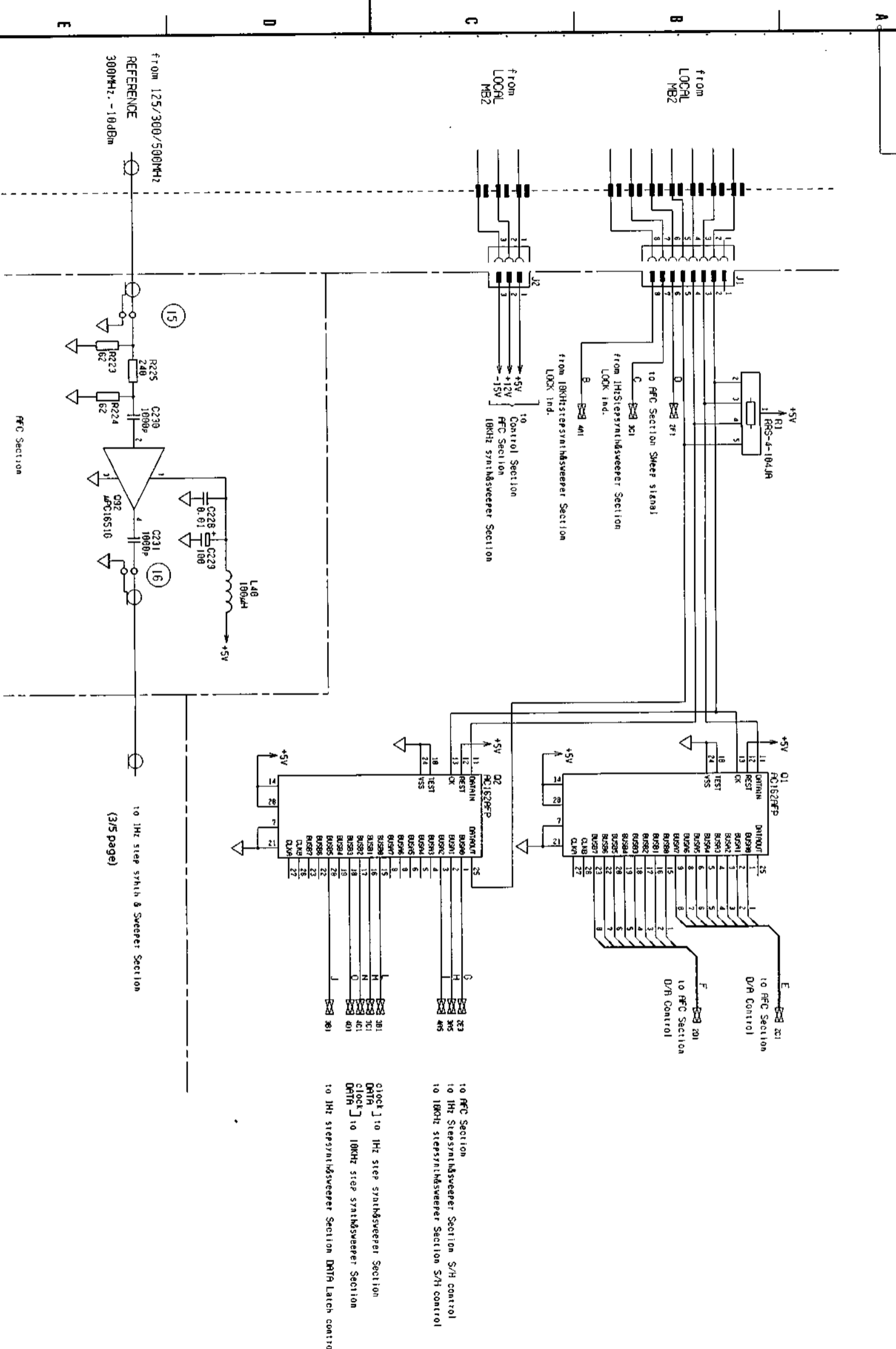


Fig. 3-48 (1/5)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Langgave</i>				
DRAWN BY				
APPROVED BY <i>S. Soda</i>				
DESIGNED BY <i>N. S. S. S.</i>				
TITLE				
A3-A2-A6 1 Hz STEP SYNTH				
DRAWING No.				
33W31274				
3-159/3-160				

30



33W31274
APPLICATION

REVISIONS

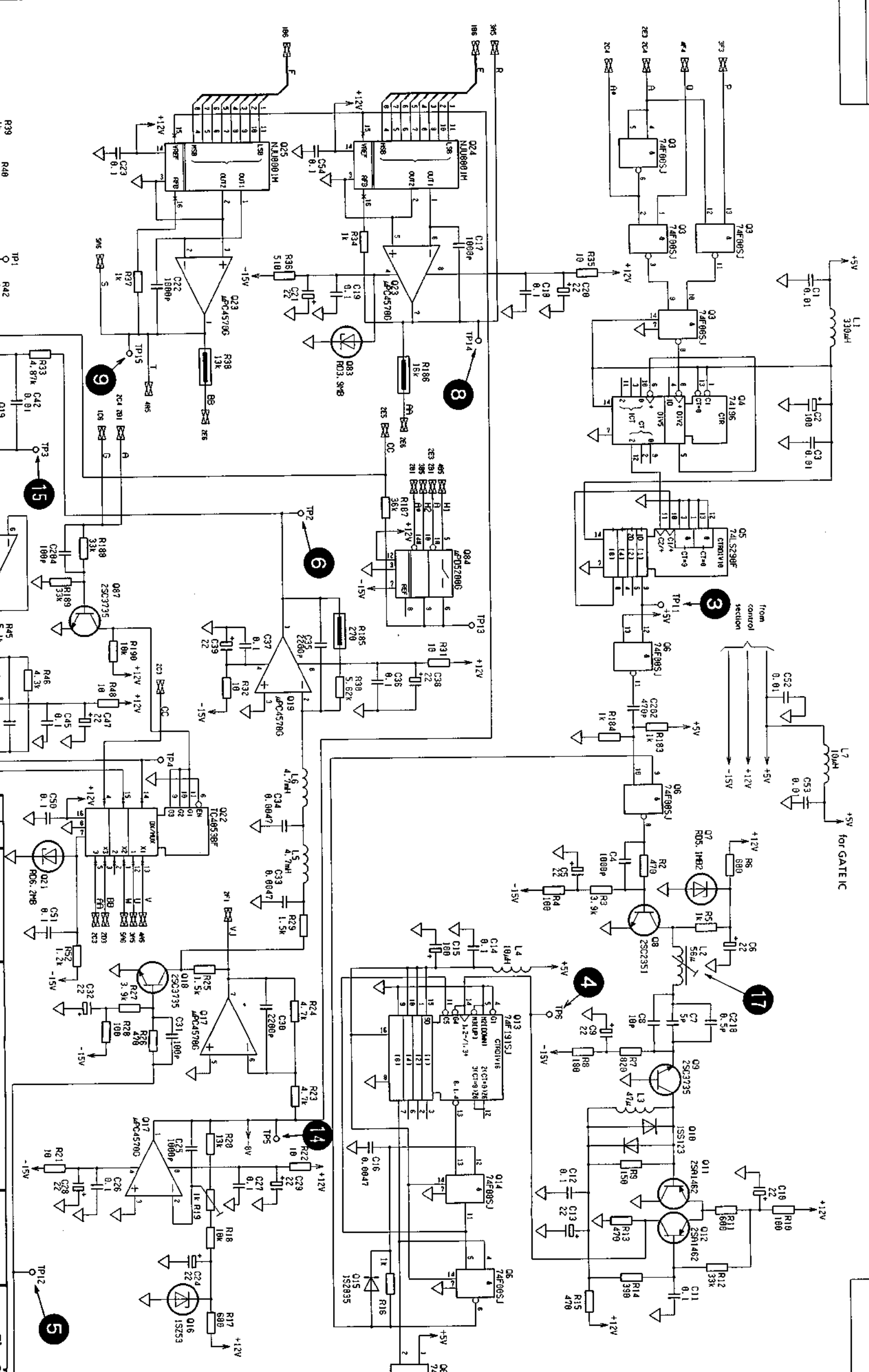


Fig. 3-48 (2/5)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

30

CHECKED BY: *[Signature]*
 APPROVED BY: *[Signature]*
 TITLE: A3-A2-A6 1 HZ STEP SYNTHESIS (AFC)
 DRAWING No. 33W31274
 DESIGNED BY: *[Signature]*
 SCALE: *[Blank]*

DEP

1 2 3 4 5 6 7 8

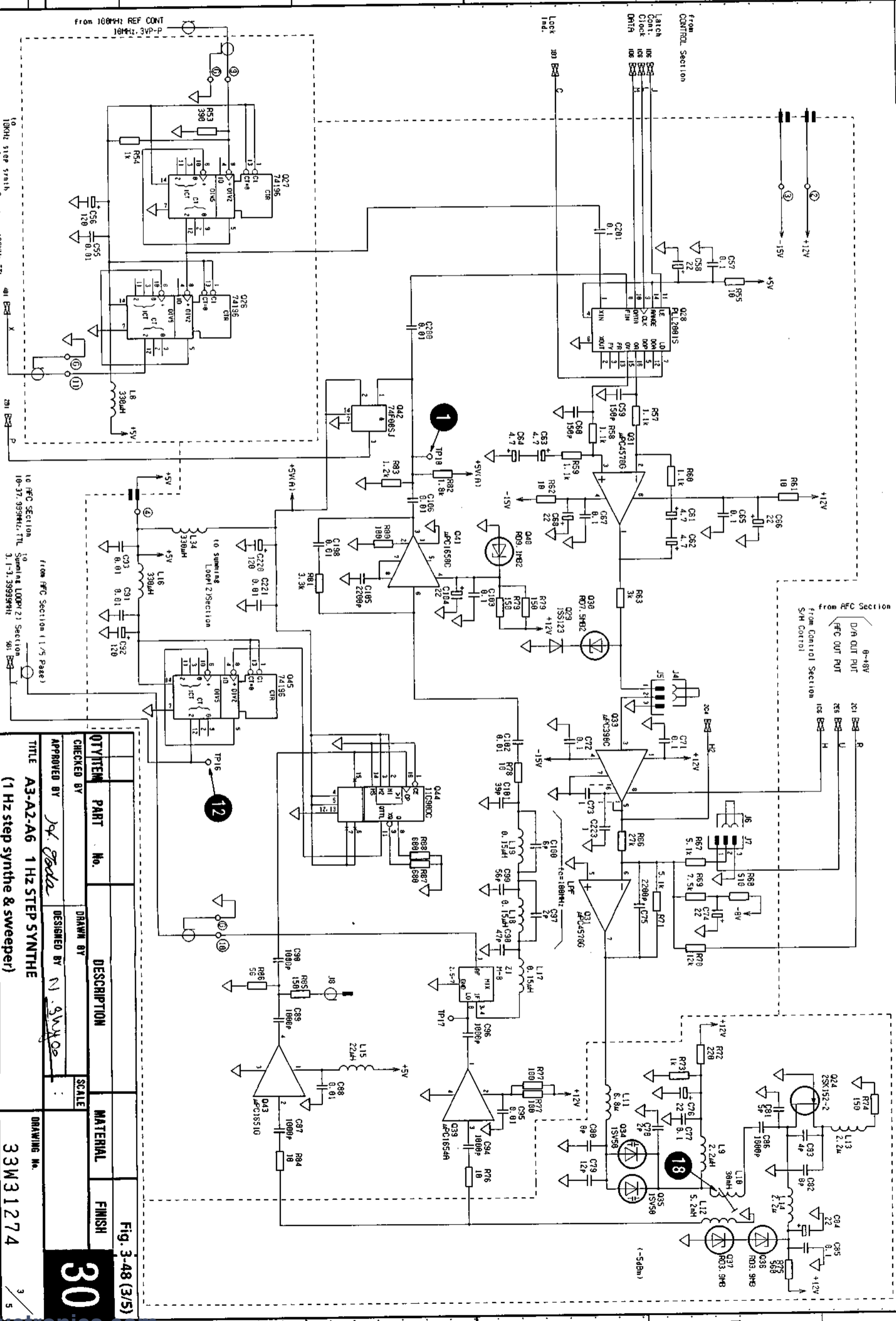
ANRITSU CORP. 3-16/13-162



33W31274
APPLICATION

2 3 4 5 6 7 8

REVISIONS



DEP

From 100MHz REF CONT
10MHz step synthe Sweeper Section 100MHz TTL

10 AFC SECTION
10 Summing Loop (2) Section
3.1-3.39999MHz

from AFC Section (1/5 Pass)
10 Summing Loop (2) Section
3.1-3.39999MHz

Fig. 3-48 (3/5)

30

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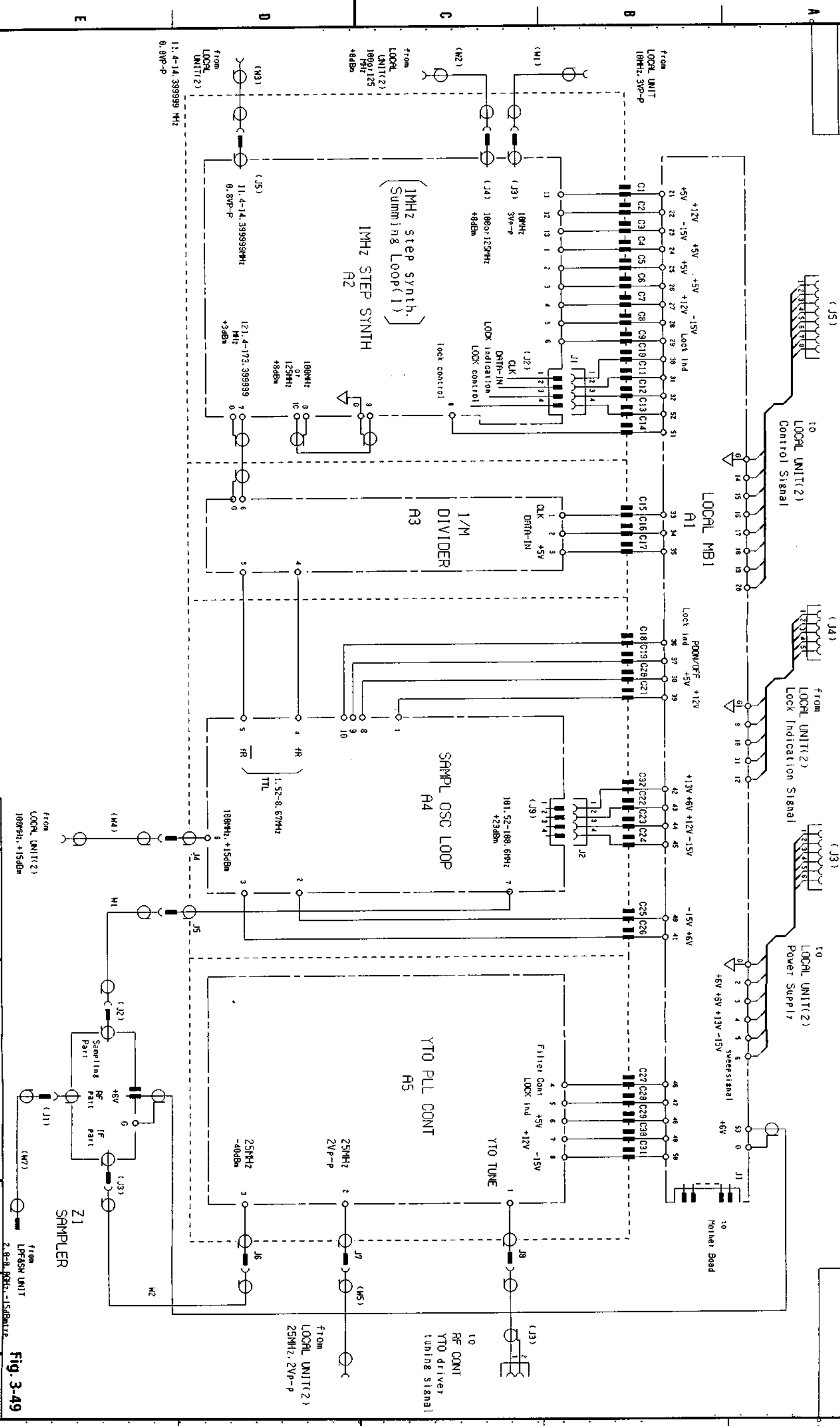


Fig. 3-49

DEP

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY	<i>Morgan</i>	DRAWN BY		
APPROVED BY	<i>R. Tada</i>	DESIGNED BY	<i>N. Snyder</i>	
TITLE		DRAWING No.		
A3-A1 LOCAL UNIT (1)		33W31891		

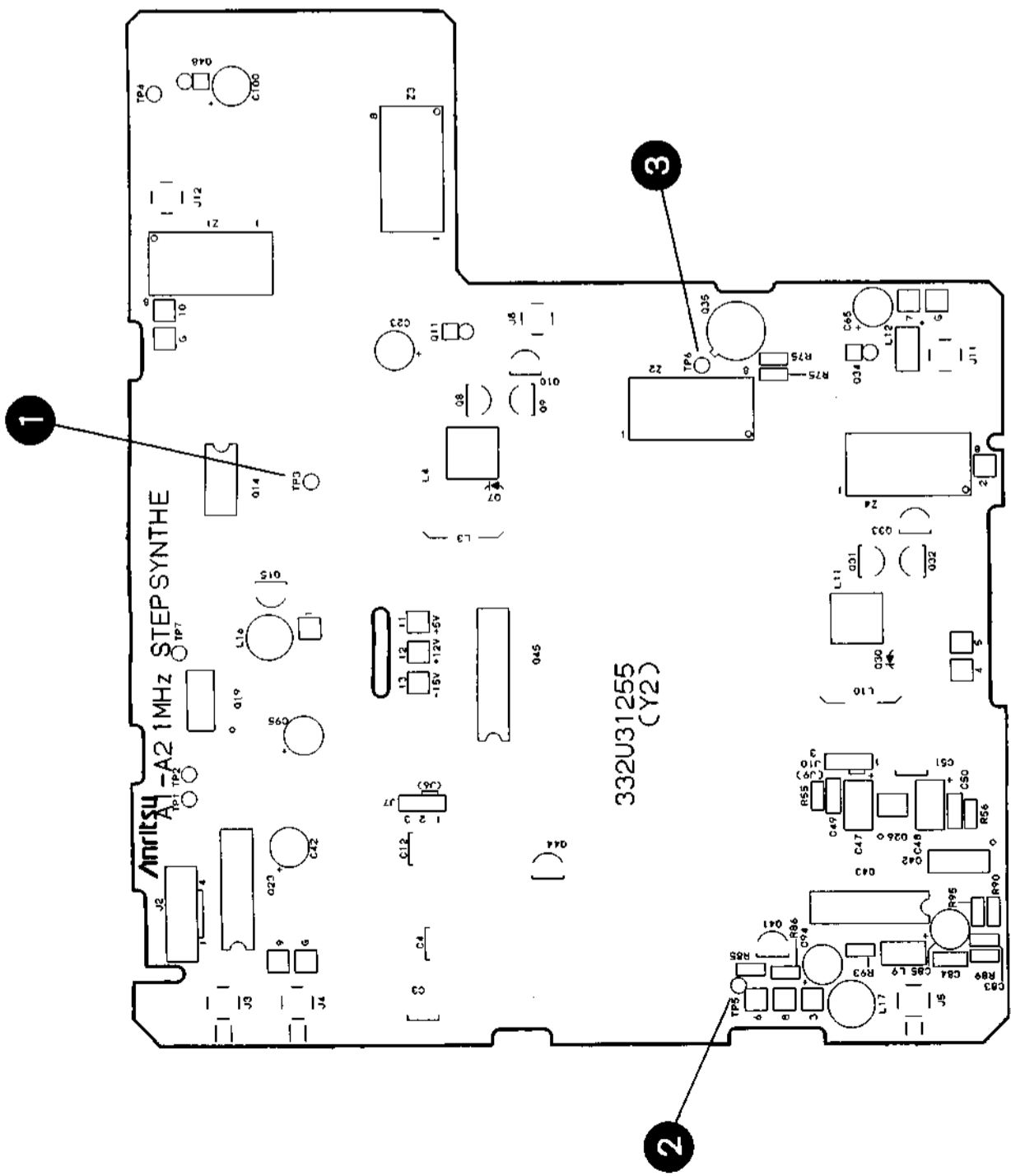


Fig. 3-50 (1/2)
 A3-A1-A2 1 MHz STEP SYNTH
 PC-Board Parts Layout
 (Component Side) 21



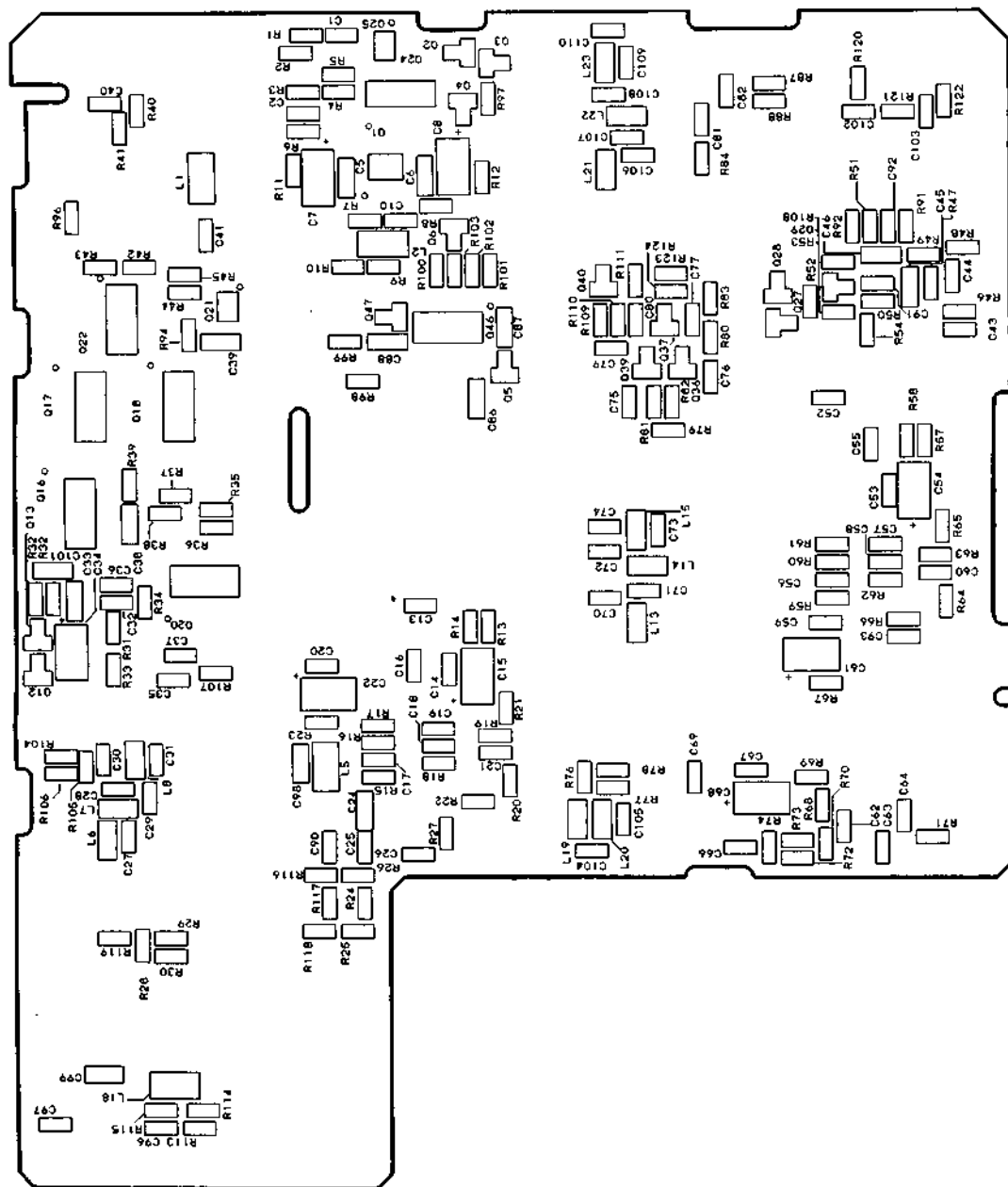
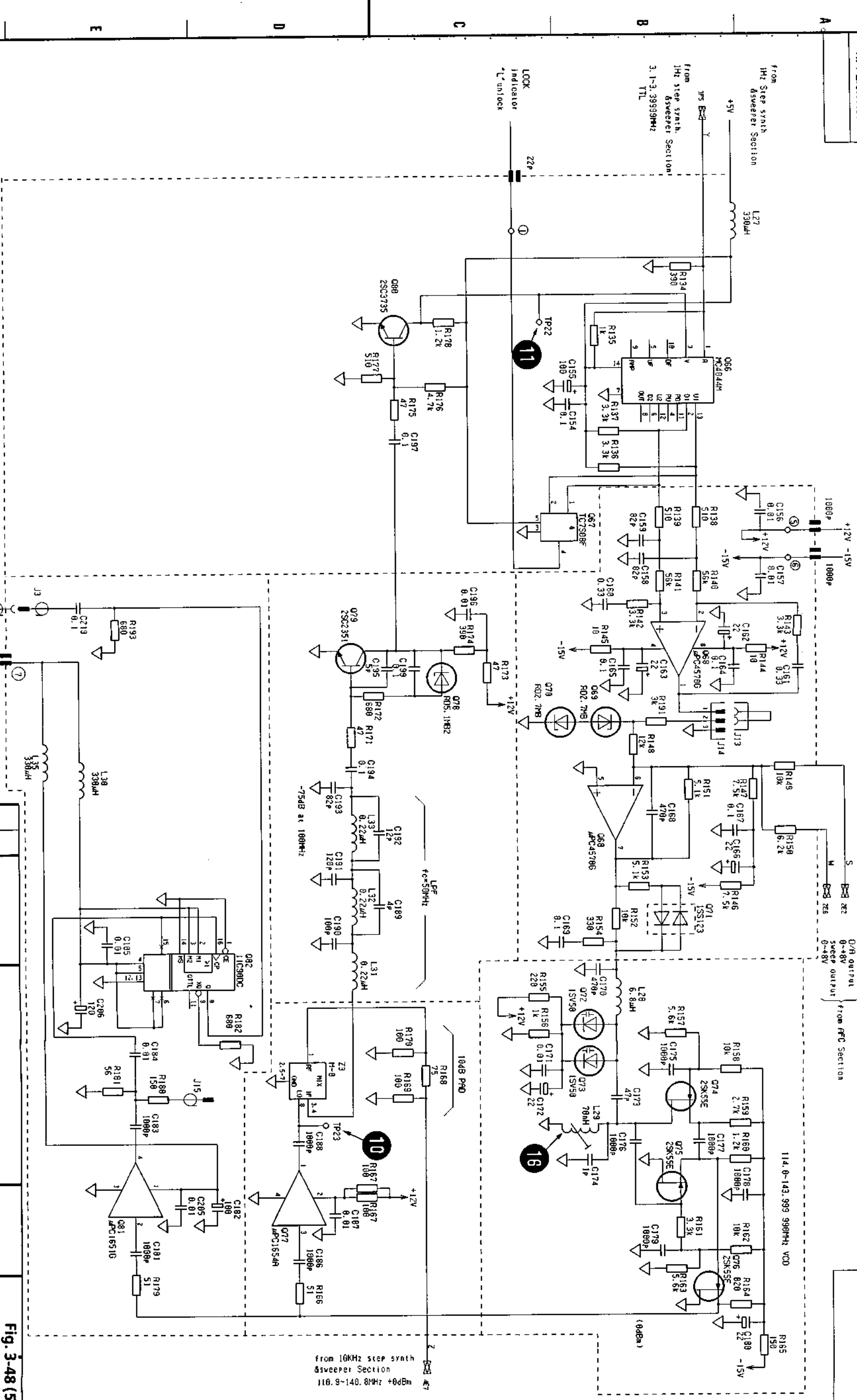


Fig. 3-50 (2/2)
 A3-A1-A2 1 MHz STEP SYNTHESIS
 PC-Board Parts Layout
 (Pattern Side) 21

33W31274
APPLICATION

REVISIONS



QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

TO Summing
LOCK (1)
0.89P-P

CHECKED BY
APPROVED BY *N. Boda*
DESIGNED BY *N. Swanson*

DRAWN BY
SCALE
DRAWING No.

30

TITLE
A3-A2-A6 1 HZ STEP SYNTH
(summing loop (2))

33W31274
3-167/3-168



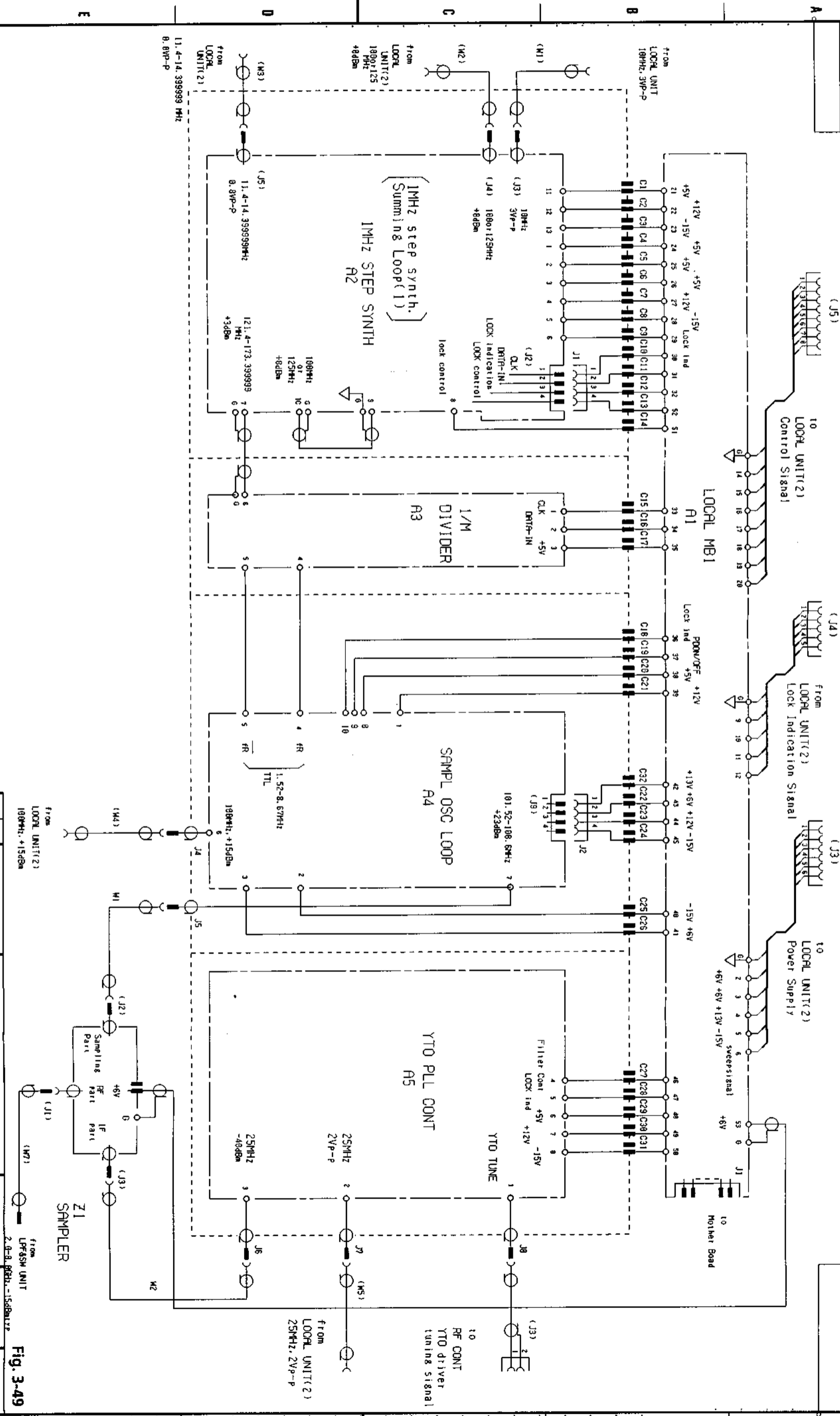


Fig. 3-49

19

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>[Signature]</i>				
DRAWN BY				
APPROVED BY <i>[Signature]</i>				
DESIGNED BY <i>[Signature]</i>				
TITLE				
A3-A1 LOCAL UNIT (1)				
DRAWING No.				
33W31891				
3-169				

DEP

1 2 3 4 5 6

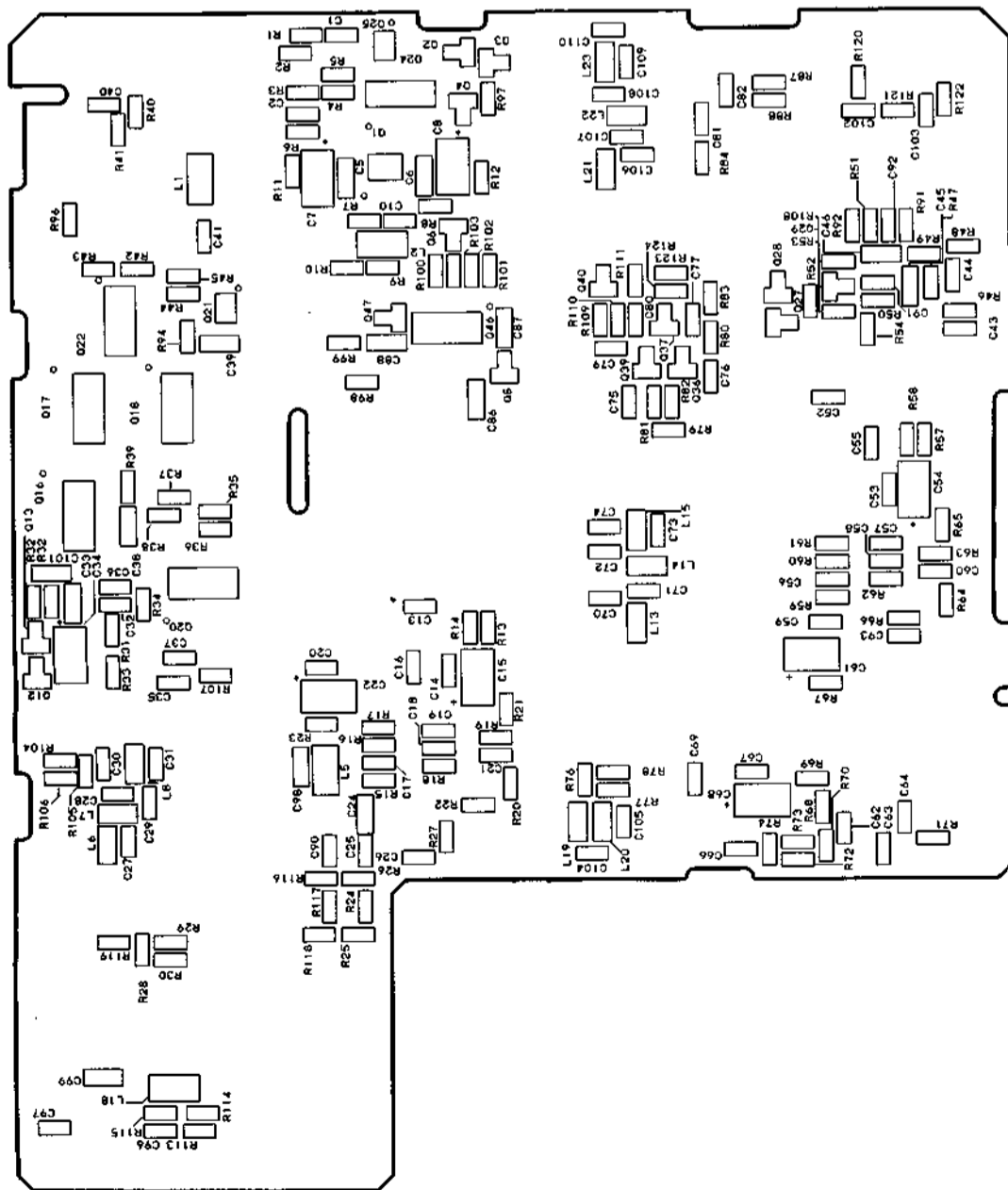


Fig. 3-50 (2/2)
 A3-A1-A2 1 MHz STEP SYNTHSE
 PC-Board Parts Layout
 (Pattern Side) **21**



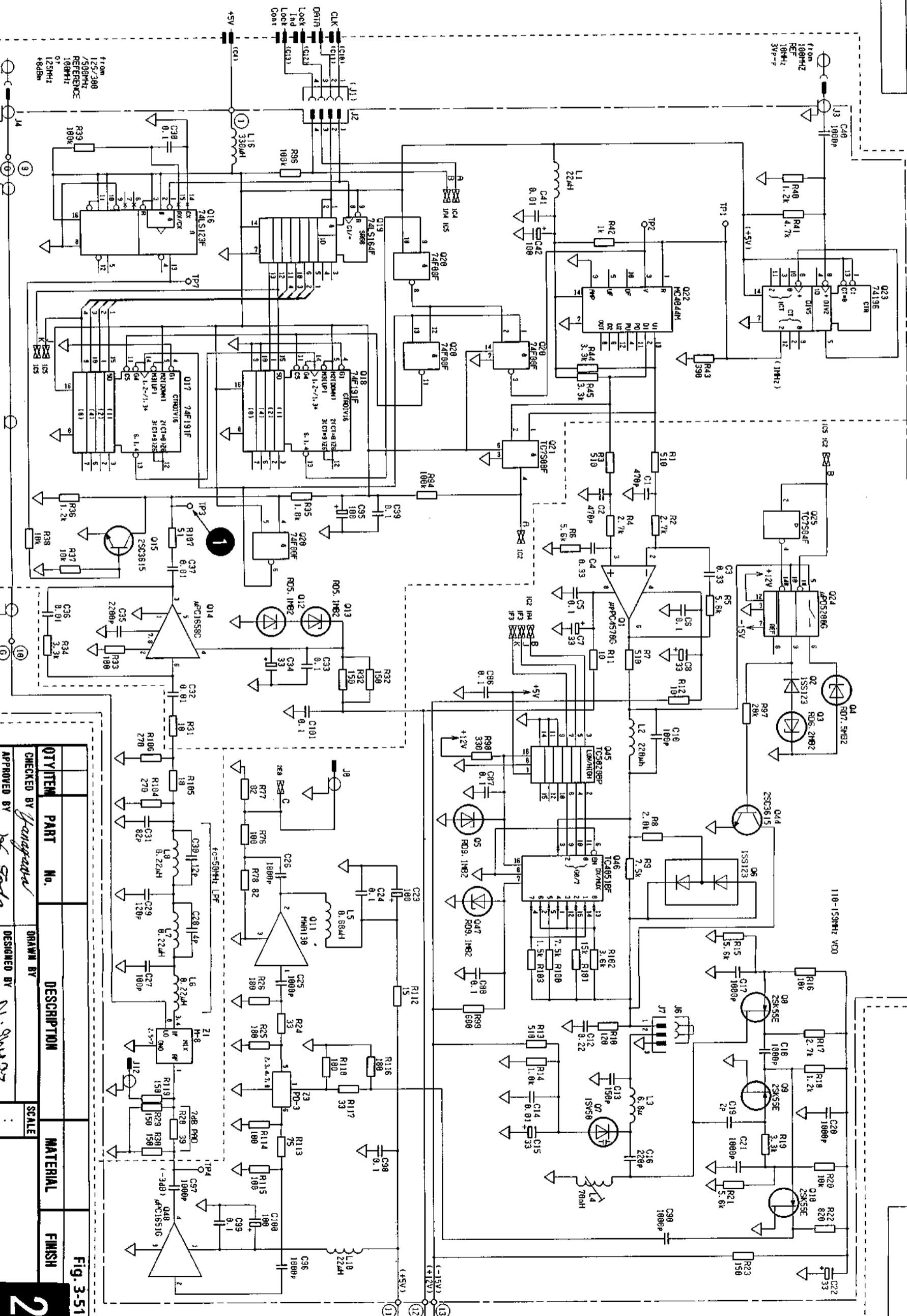


Fig. 3-51 (1/2)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *Wang*

DESIGNED BY *N. S. ...*

SCALE

DRAWING No.

21

TITLE
A3-A1-A2 1 MHz STEP SYNTH
(1 MHz step synthe)

33W31276

ANRITSU CORP. 3-173/3-174

121.4-173.399999MHz VCO

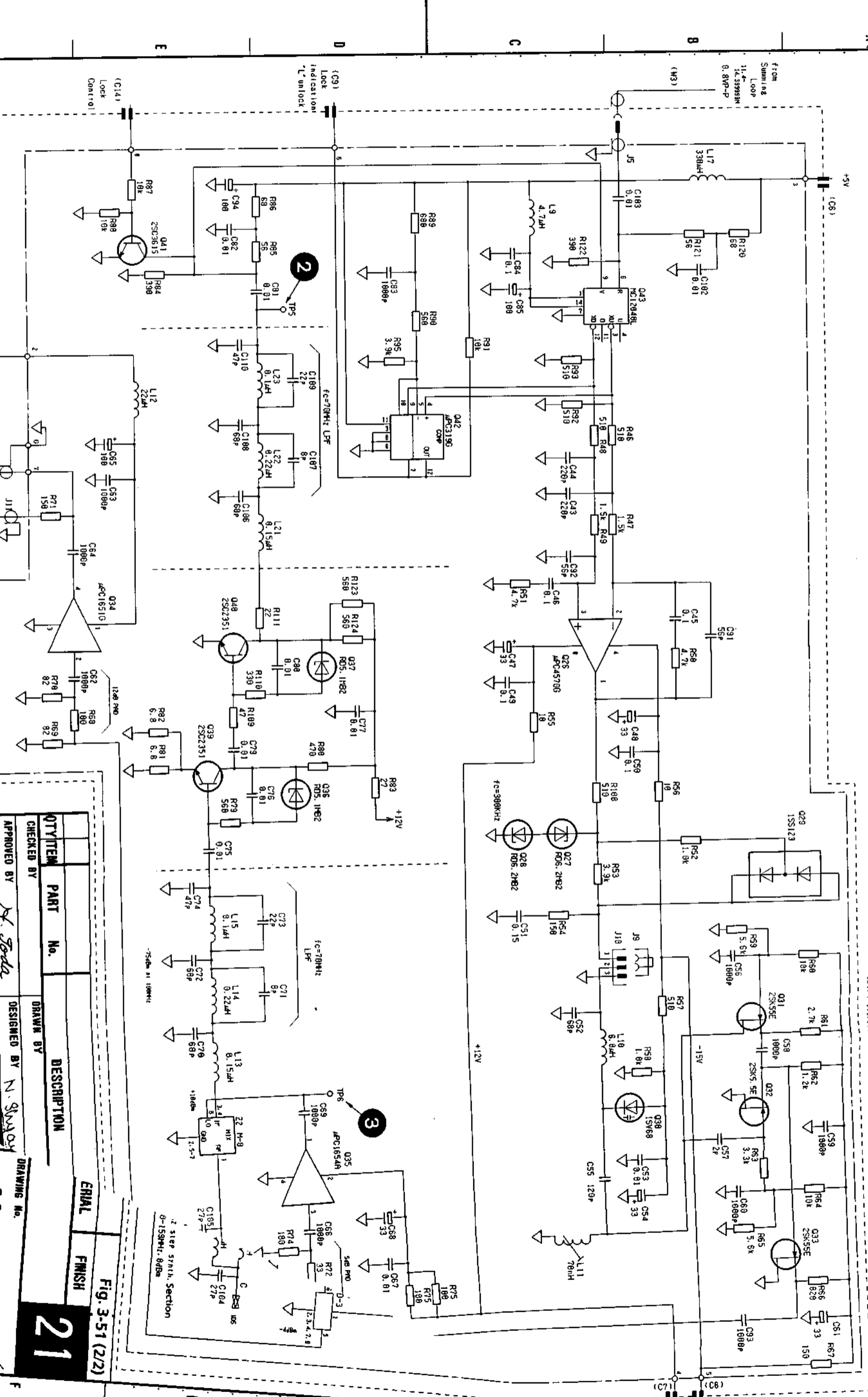


Fig. 3-51 (22)

21

QTY	ITEM	PART No.	DESCRIPTION
			ERIAL
			FINISH

APPROVED BY *N. S. Sudo* DESIGNED BY *N. S. Sudo*
 CHECKED BY *N. S. Sudo* DRAWN BY *N. S. Sudo*
 TITLE **A3-A1-A2 1 MHz STEP SYNTH (Summing Loop (1))**
 DRAWING No. **33W31276**
U CORP. 3-175

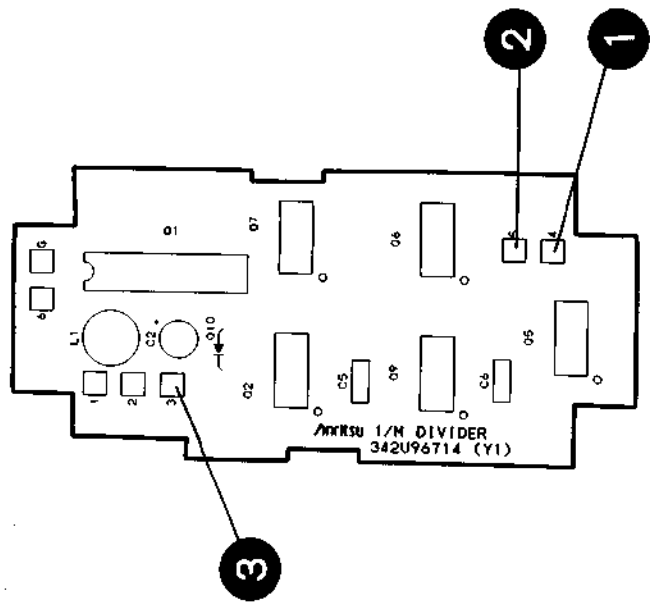


Fig 3-52(A3-A3) 1/M DIVIDER PC-Board Parts Layout (Component Side) 22

121-4-173, 399999MHz VCO

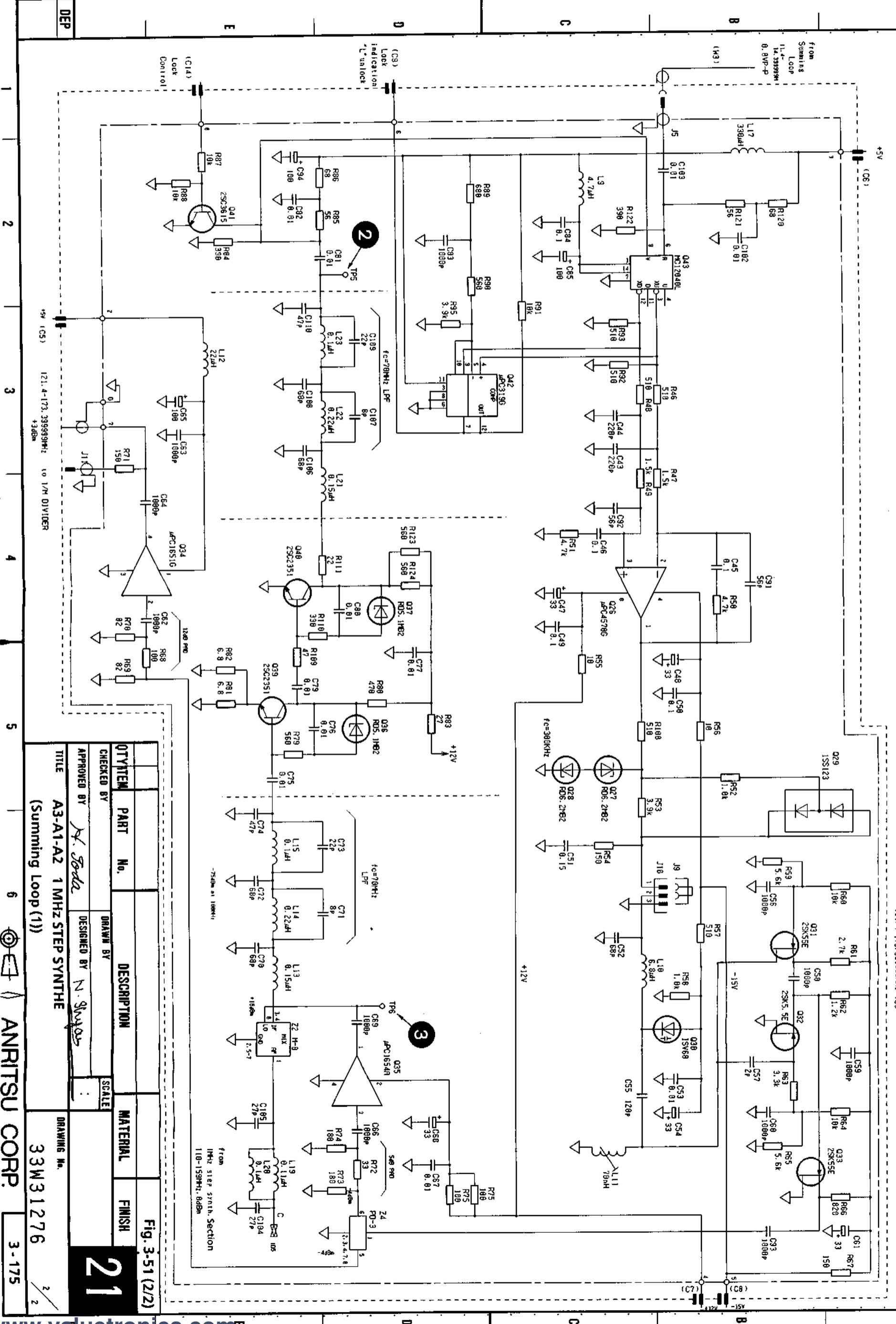


Fig. 3-51 (2/2)

QTY/TEN	PART No.	DESCRIPTION	MATERIAL	FINISH

APPROVED BY *N. Suda* DESIGNED BY *N. Suda*

TITLE **A3-A1-A2 1 MHz STEP SYNTH**
(Summing Loop (1))

DRAWING No. **33W31276**

ANRITSU CORP. 3-175

21

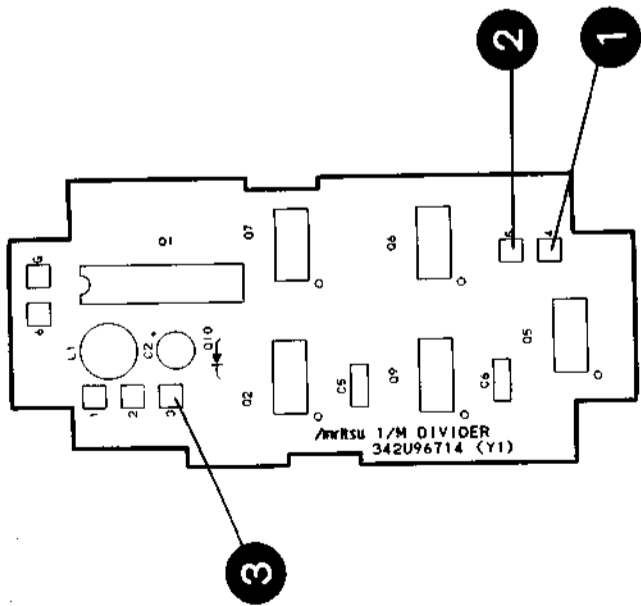


Fig 3-52(1/2)
 A3-A1-A3 1/M DIVIDER PC-Board Parts Layout (Component Side) 22

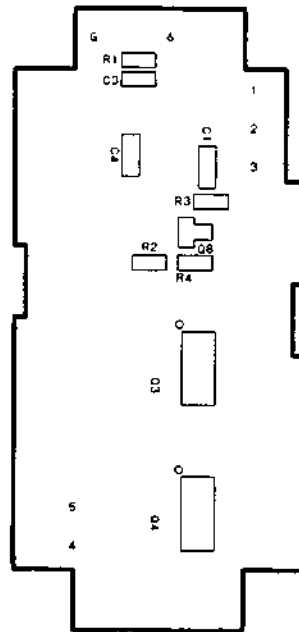


Fig 3-52(2/2)

A3-A1-A3 1/M DIVIDER PC-Board Parts Layout (Pattern Side) **22**



33W31277
APPLICATION

REVIEWS

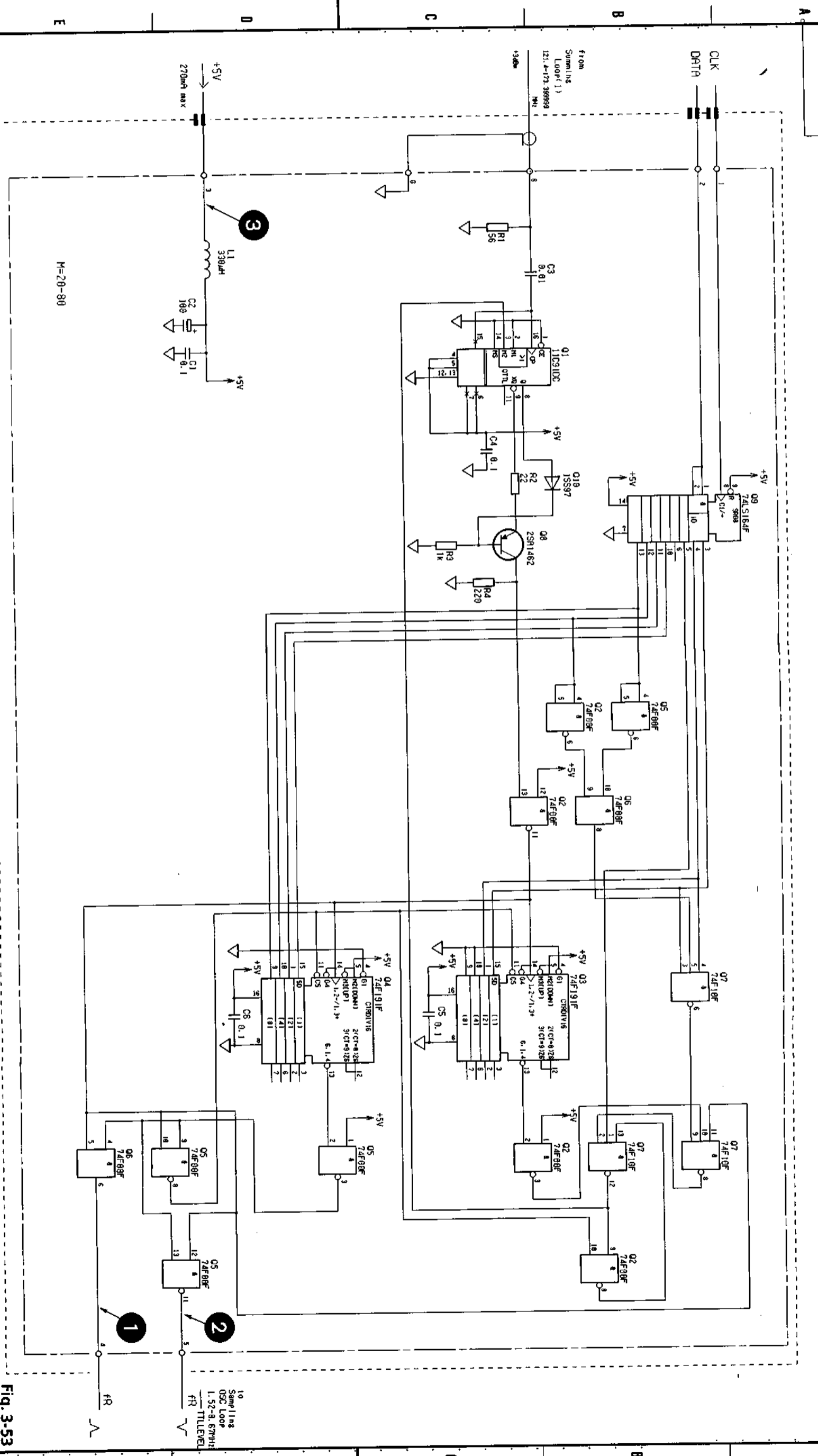


Fig. 3-53

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Haragawa</i>		DRAWN BY		
APPROVED BY <i>H. Toda</i>		DESIGNED BY <i>N. Sugiura</i>		
TITLE		SCALE		

A3-A1-A3 1/M DIVIDER

33W31277

3-179

22

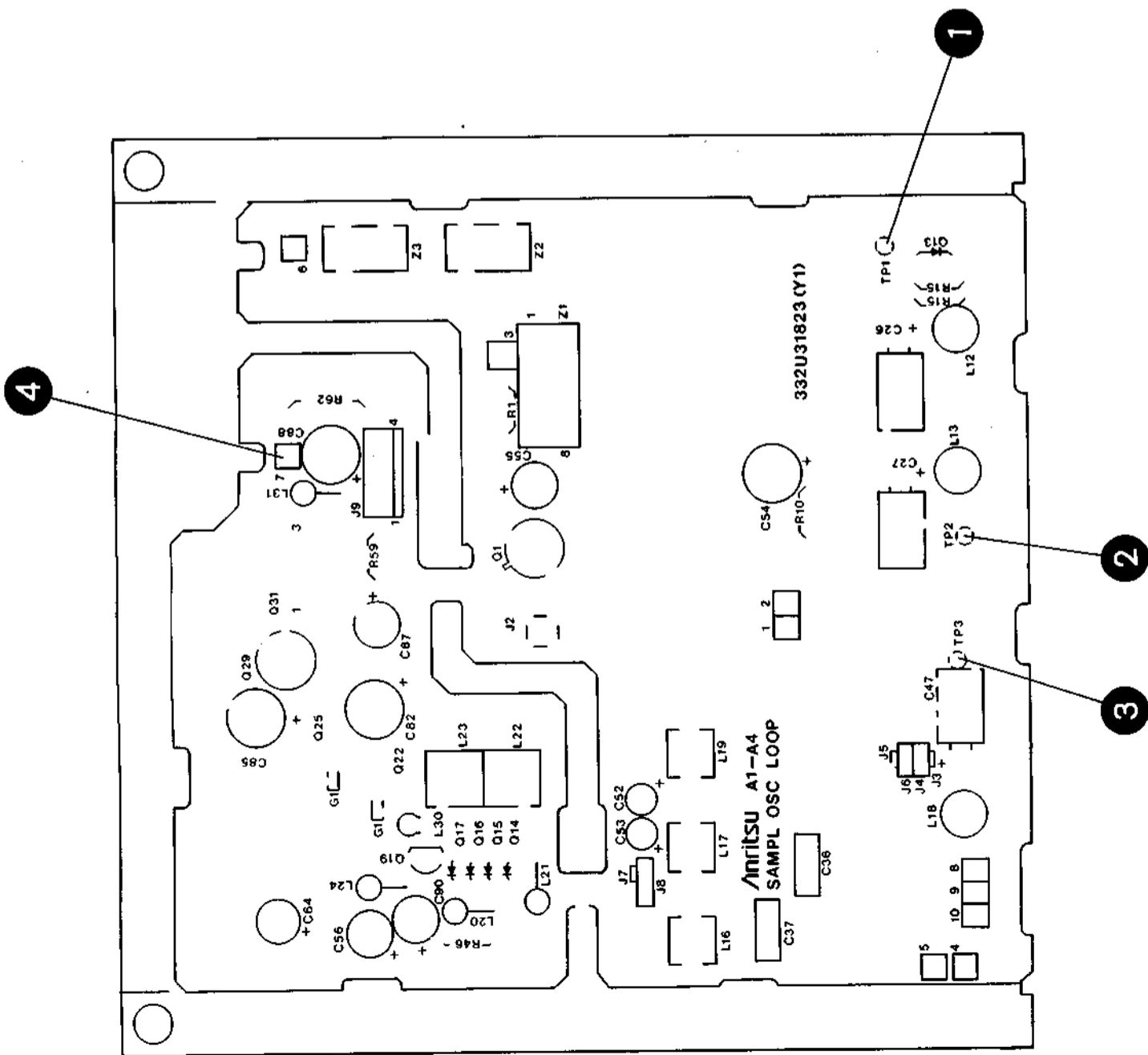


Fig. 3-54 (1/2)
 A3-A1-A4 SAMPLE OSC LOOP
 PC-Board Parts Layout
 (Component Side) **23**

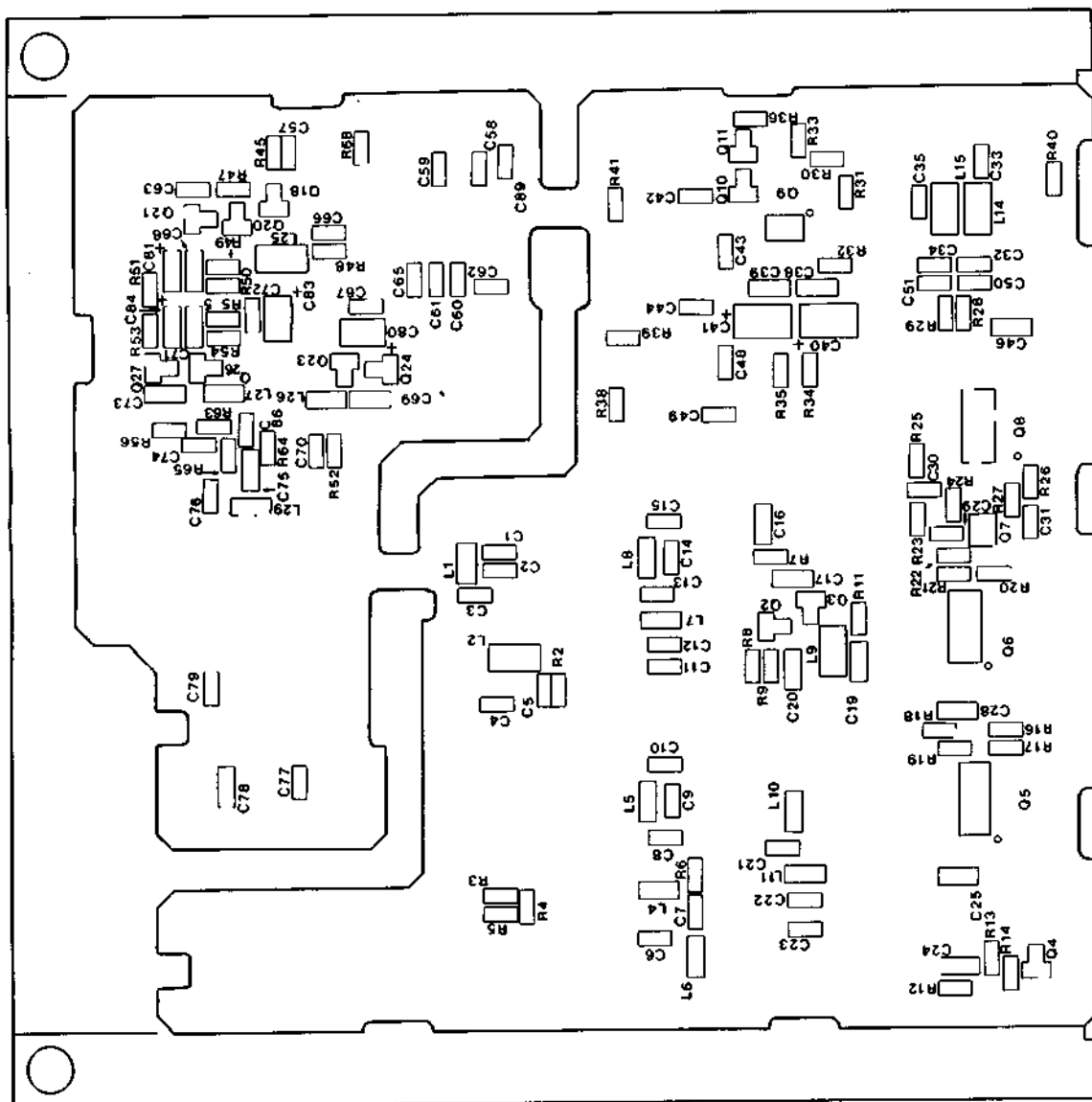
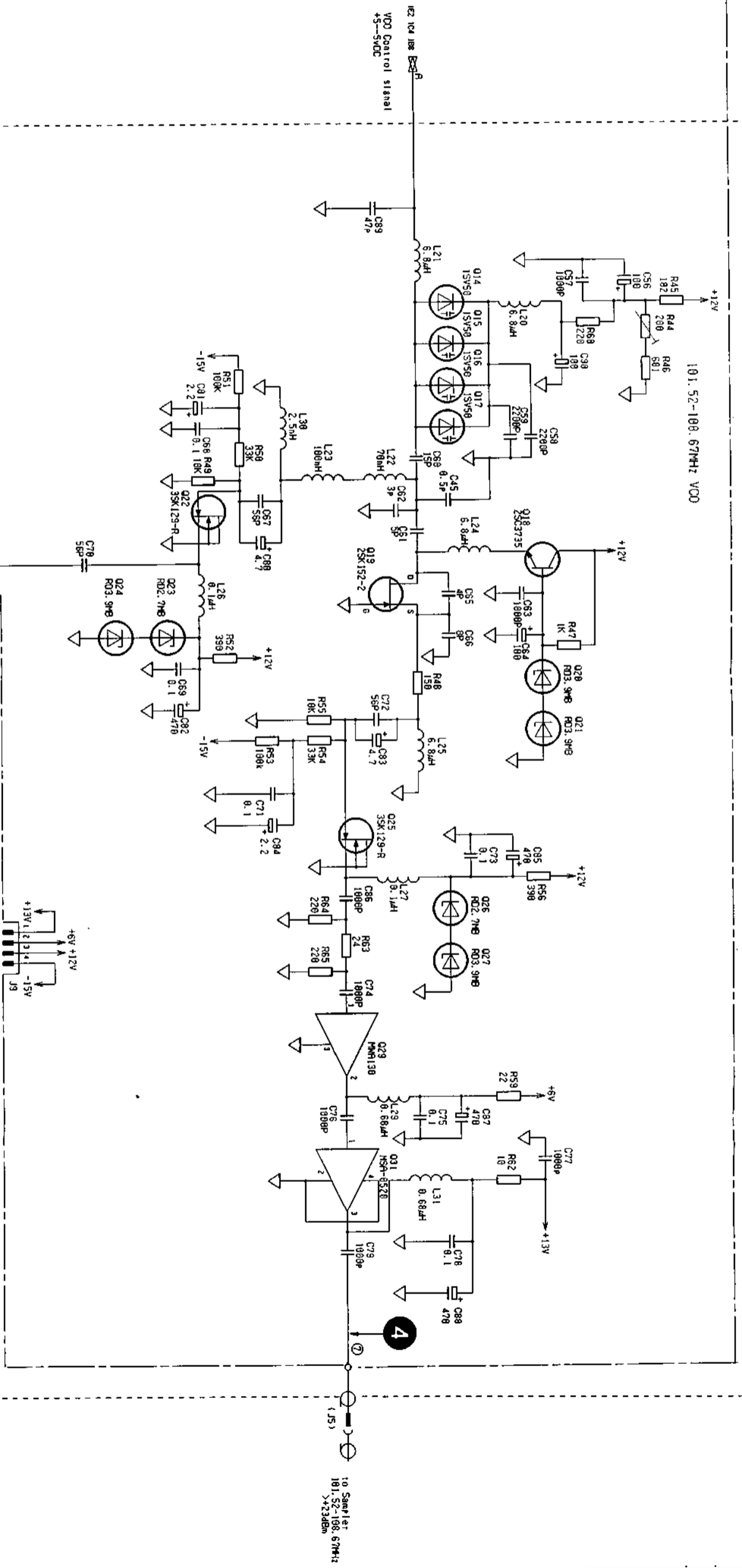


Fig. 3-54 (2/2)
 A3-A1-A4 SAMPLE OSC LOOP
 PC-Board Parts Layout
 (Pattern Side) **23**



ref 100 100 B-2-B
101.52-108.67MHz
+5dbm

ref 100 100 B-2-B
101.52-108.67MHz
+5dbm

Fig. 3-55 (2/2)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
	CHECKED BY		DRAWN BY		
	APPROVED BY		DESIGNED BY		
	TITLE	A3-A1-A4 SAMPL OSC LOOP			
	DRAWING No.	33W31279			

23

DEP

ANRITSU CORP.

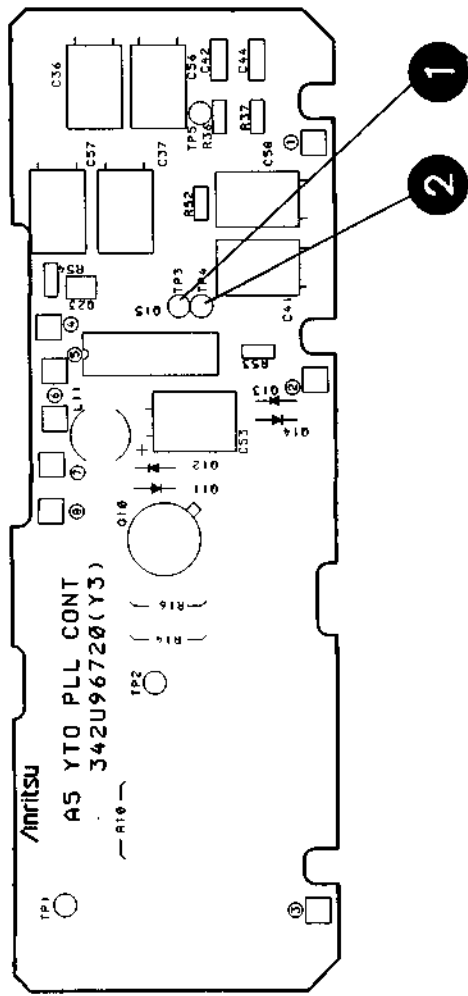


Fig 3-56(1/2)
 A3-A1-A5 YTO PLL CONT PC-Board Parts Layout (Component Side) 24

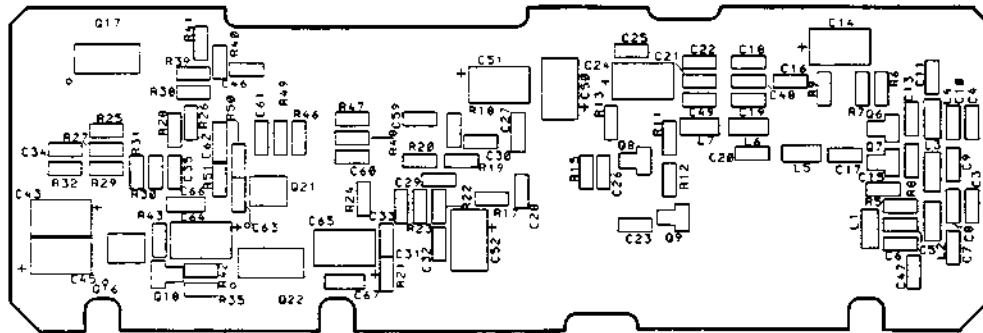


Fig 3-56(2/2) A3-A1-A5 YTO PLL CONT PC-Board Parts Layout (Pattern Side) **24**



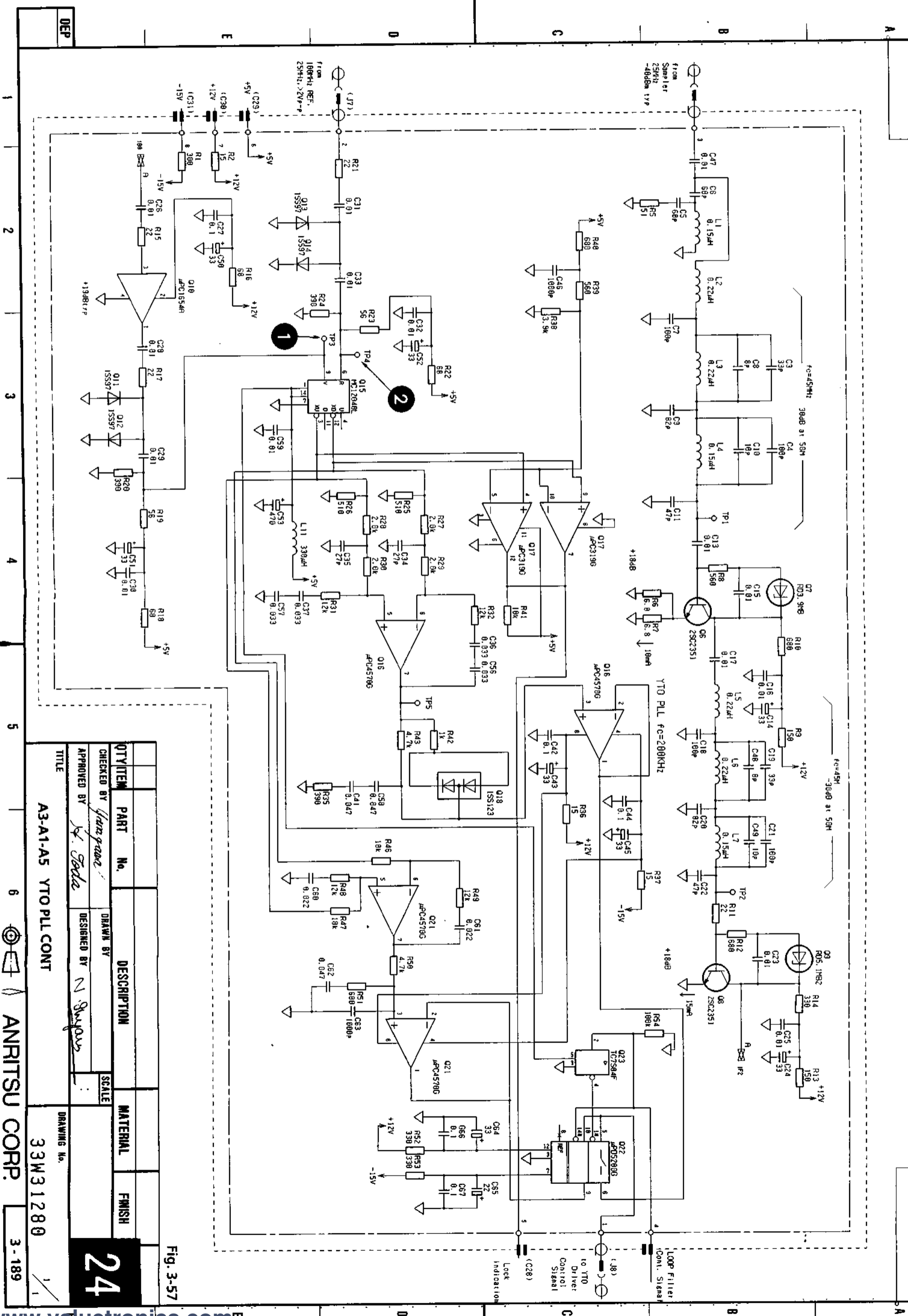


Fig. 3-57

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Haragane</i>				
DESIGNED BY <i>N. Sanyo</i>				
DRAWN BY				
SCALE				
TITLE				
A3-A1-A5 YTO PLL CONT				
DRAWING No.				
33W31280				
3-189				

24

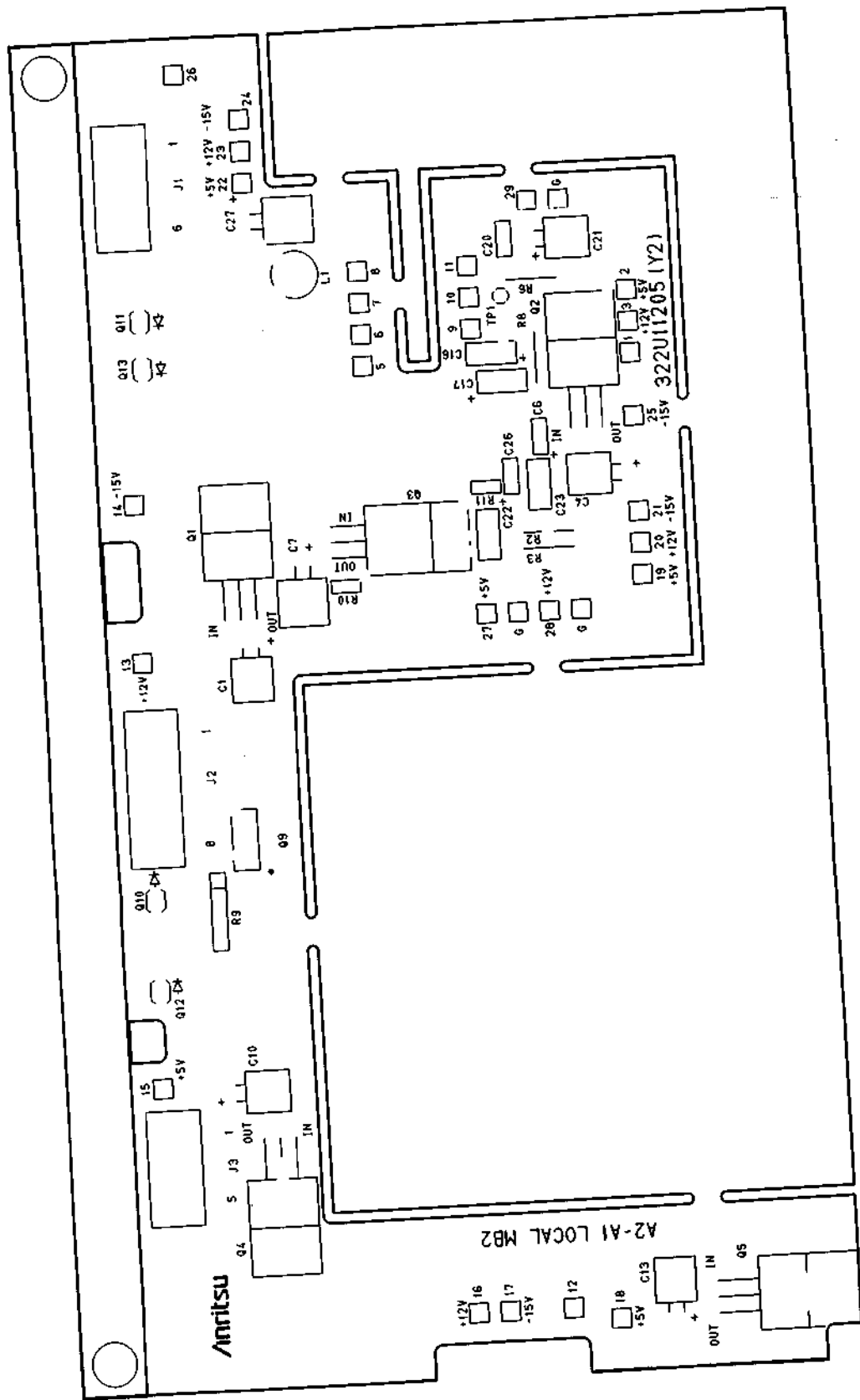


Fig. 3-58 (1/2)
 A3-A2-A1 LOCAL MB2 PC-Board
 Parts Layout (Component Side) 26

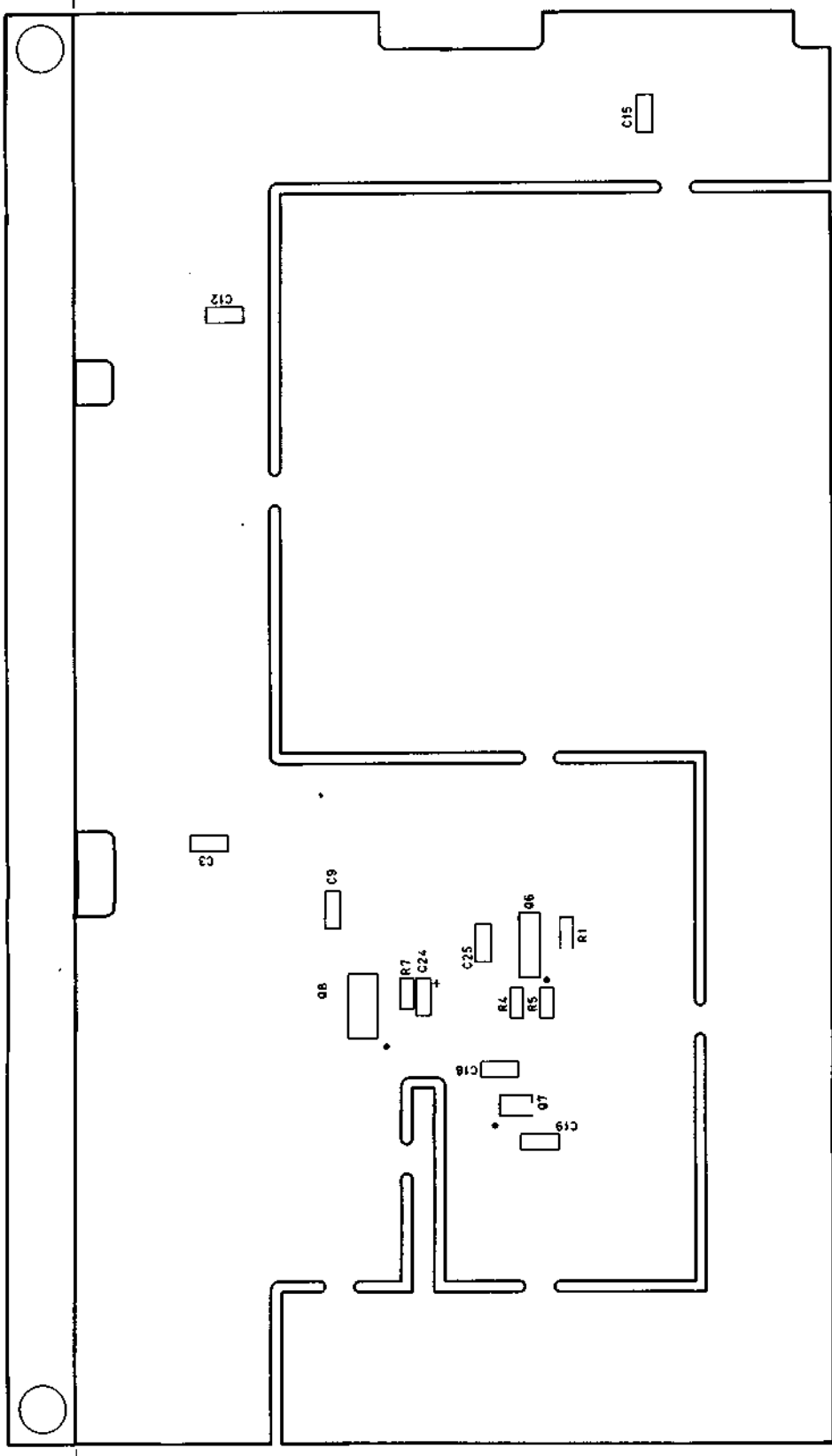


Fig. 3-58 (2/2)

A3-A2-A1 LOCAL MB2 PC-Board
 Parts Layout (Pattern Side) **26**

(3 - 191 blank)/3 - 192



33W31275
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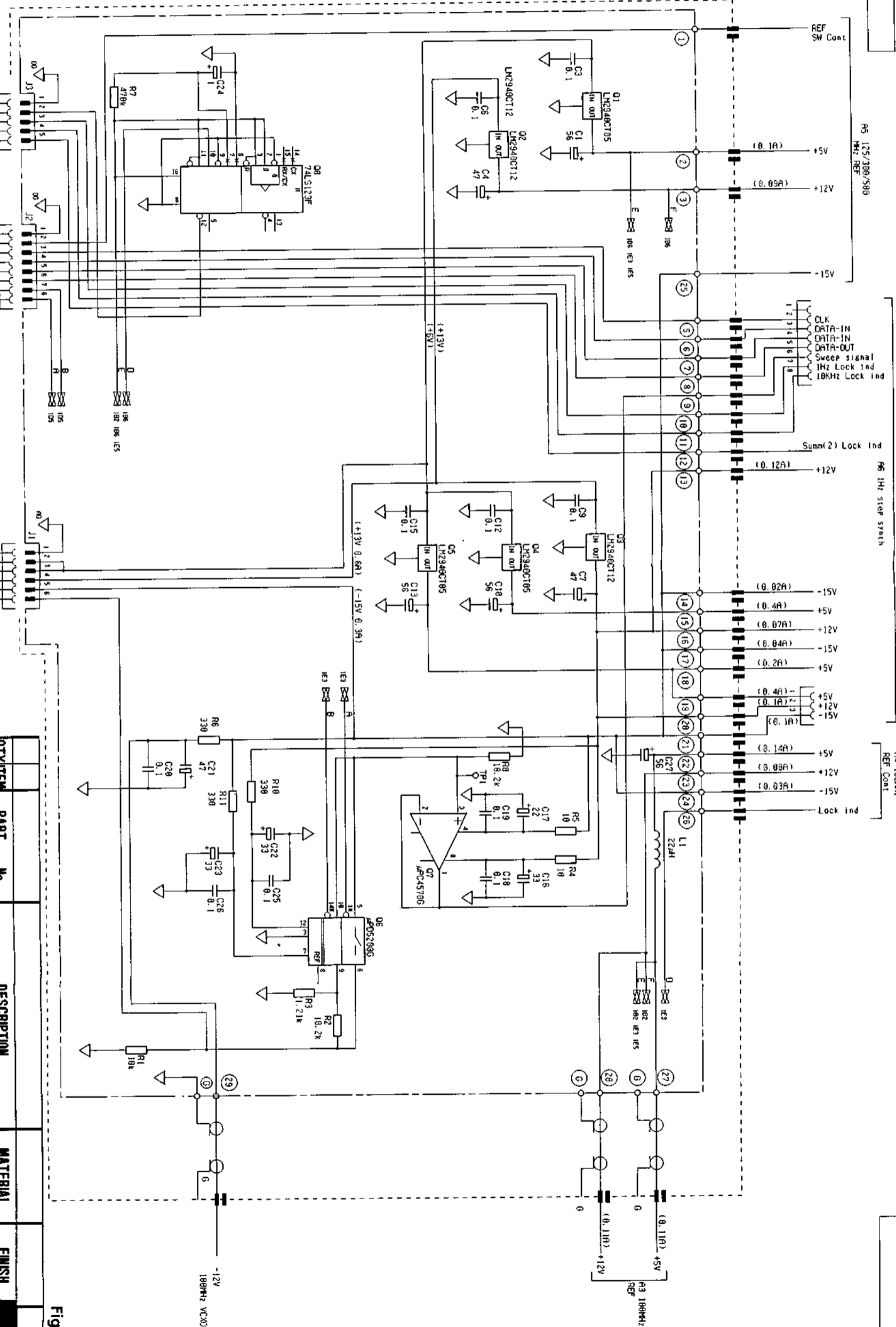


Fig. 3-59

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
	CHECKED BY	<i>J. S. Soda</i>	DRAWN BY		
	APPROVED BY	<i>H. Soda</i>	DESIGNED BY		
TITLE			SCALE		
A3-A2-A1 LOCAL MB2					
DRAWING No.					
33W31275					
3-193					

26

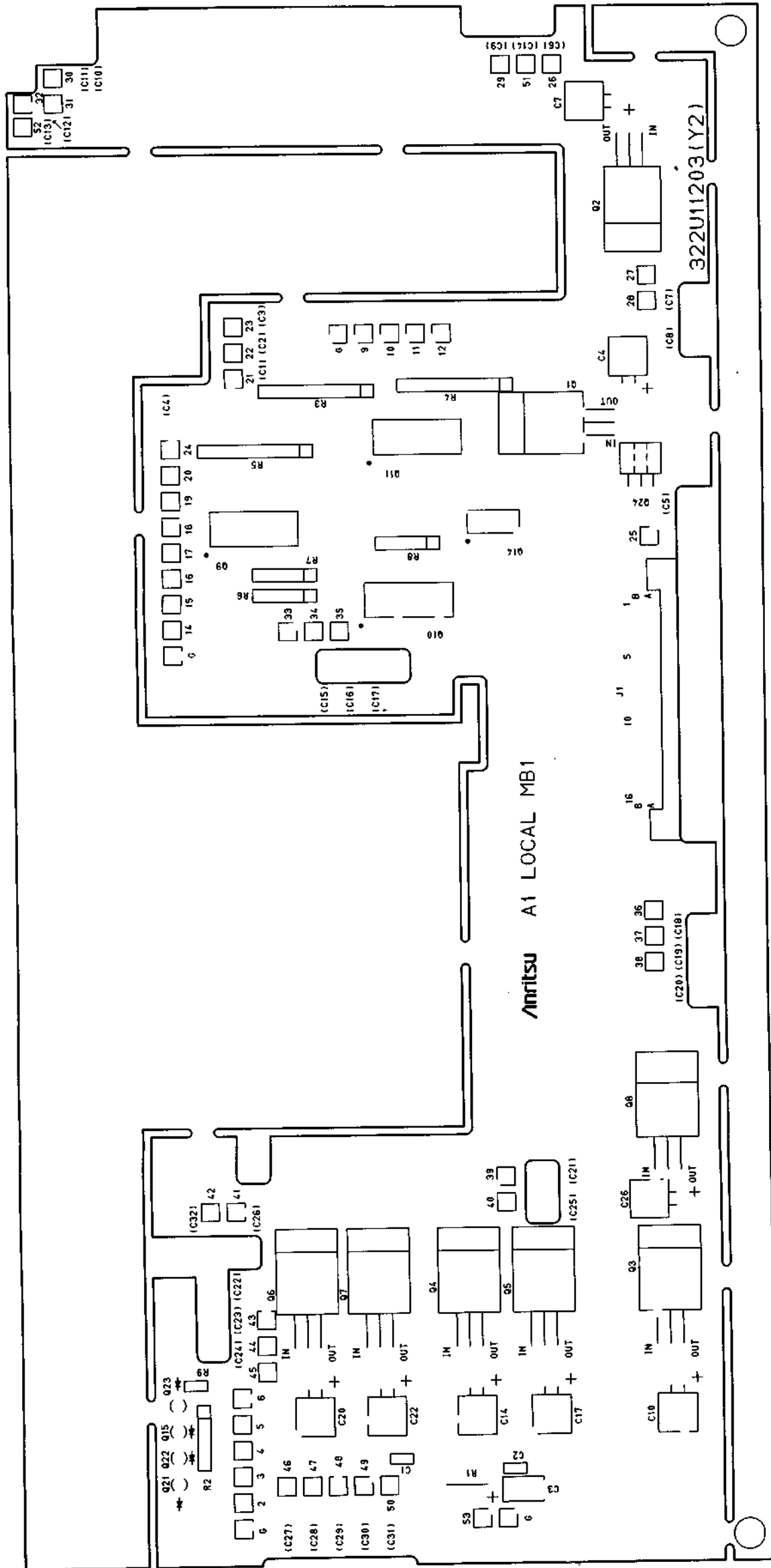


Fig. 3-60 (1/2)
A3-A1-A1 LOCAL MB1 PC-Board
 Parts Layout (Component Side) **20**



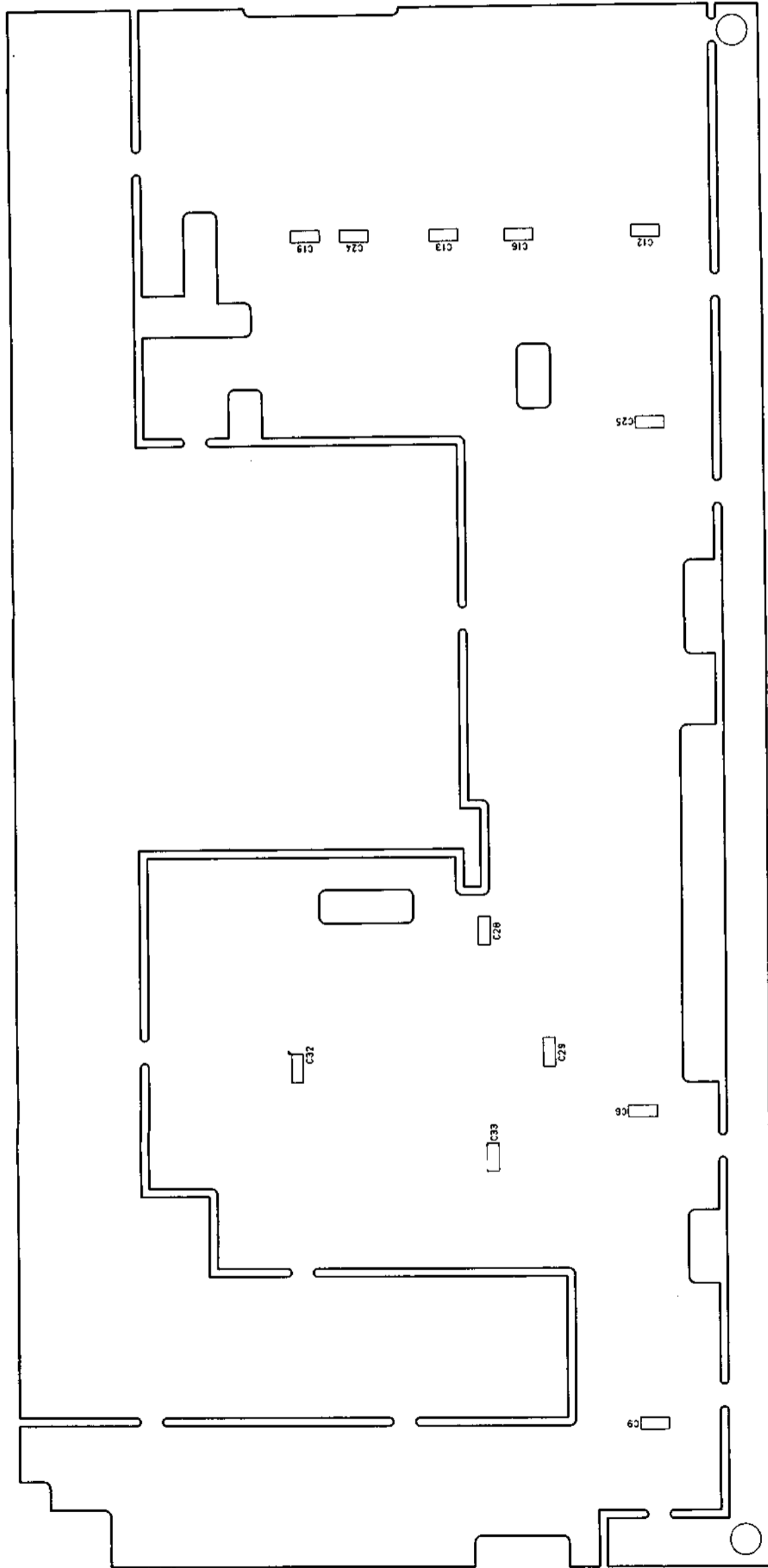


Fig. 3-60 (2/2)
 A3-A1-A1 LOCAL MB1 PC-Board
 Parts Layout (Pattern Side) **20**

(3 - 195 blank)/3 - 196

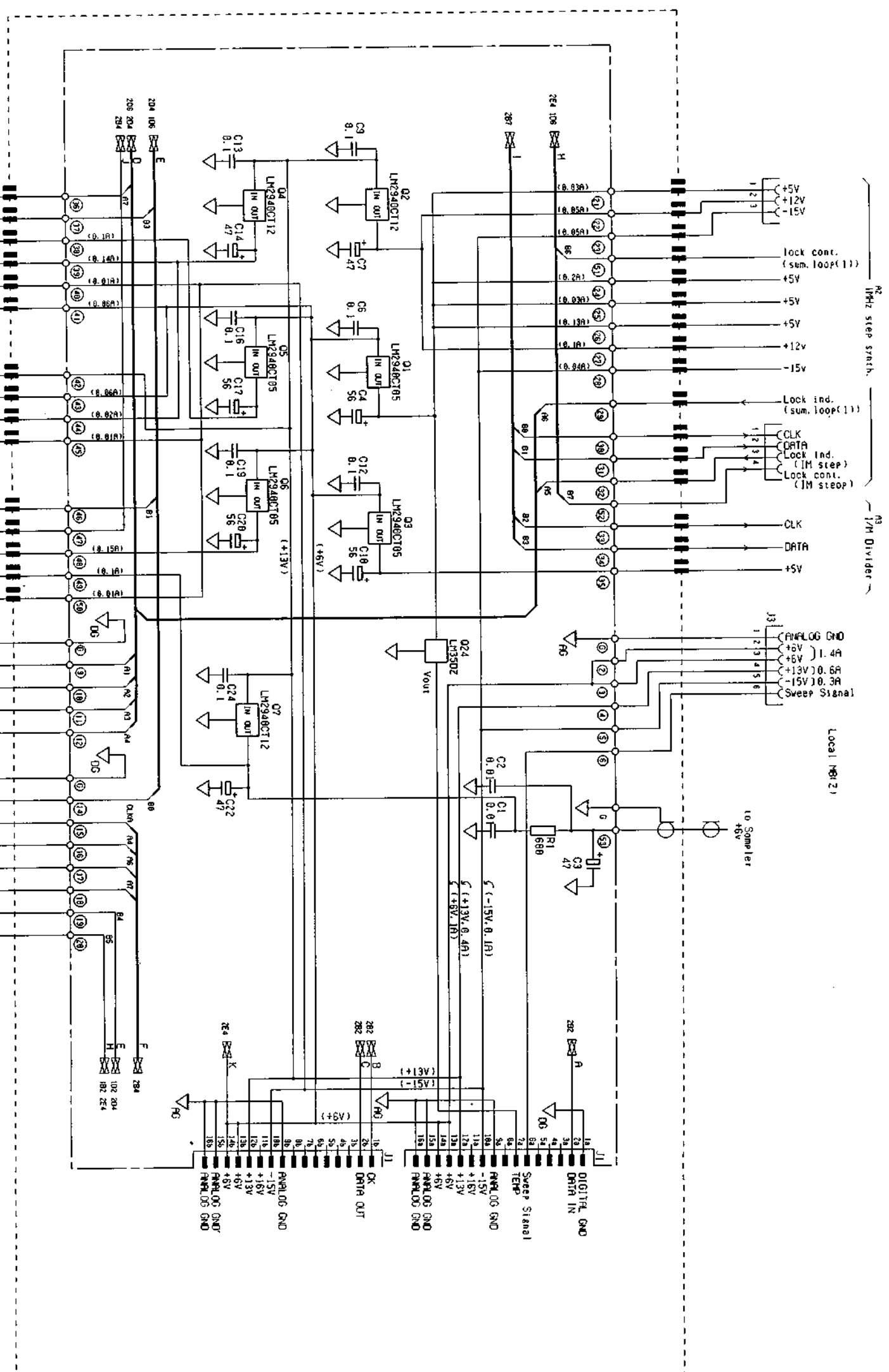


Fig. 3-61 (1/2)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *[Signature]*
 APPROVED BY *[Signature]*
 DRAWN BY *[Signature]*
 DESIGNED BY *[Signature]*

TITLE
 A3-A1-A1 LOCAL MB1
 DRAWING No.
 33W31281
 3-1973-198

20

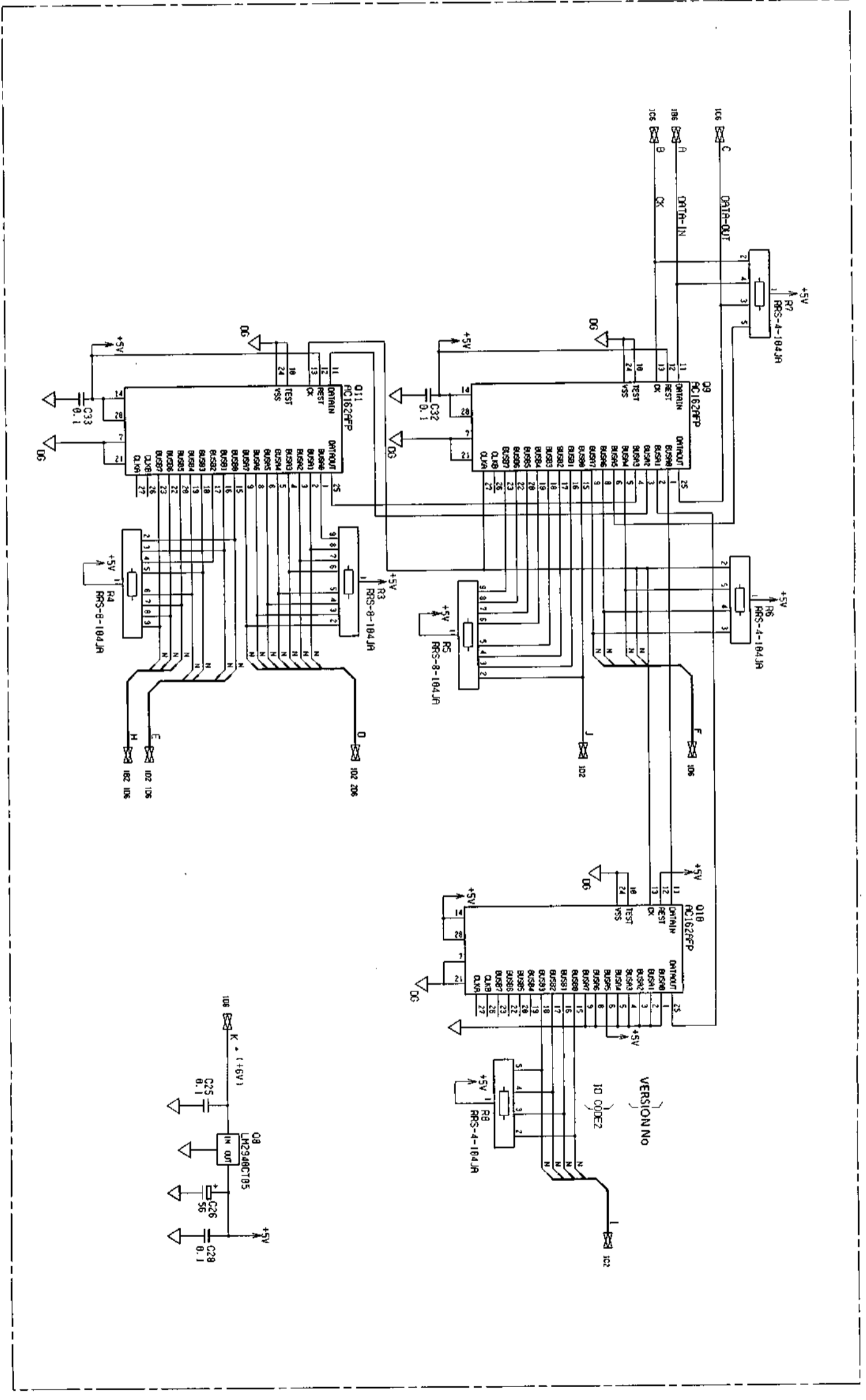


Fig. 3-61 (2/2)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY		SCALE	
APPROVED BY		DESIGNED BY			
TITLE					
A3-A1-A1 LOCAL MB1					
DRAWING No.					
33W31281					
3-199/3-200					

20



3.5 A4 IF BPF 31

3.5.1 Symptoms and causes

Symptom	Cause
1 The signal is not displayed on the screen.	STEP AMP&RBW (1), (2), Frequency Converter or BPF switching faulty
2 The RBW width does not meet the specifications.	RBW faulty
3 The level change (when RBW is switched) does not meet the specifications.	RBW faulty
4 The signal frequency accuracy does not meet the specifications.	RBW, Frequency Converter faulty
5 The signal level change (when INPUT ATT is switched) does not meet the specifications.	STEP AMP faulty
6 The signal level change (when reference level is switched) does not meet the specifications.	STEP AMP faulty

3.5.2 Troubleshooting

(1) Required equipment

Digital voltmeter
Oscilloscope
MS560J Network/Spectrum Analyzer

(2) Setup

Step	Procedure
1	Refer to SECTION 5 (MECHANICAL ASSEMBLY) and remove A4 IF BPF from the MS2702A/MS2802A.
2	Set-up as shown in Fig. 3-62.

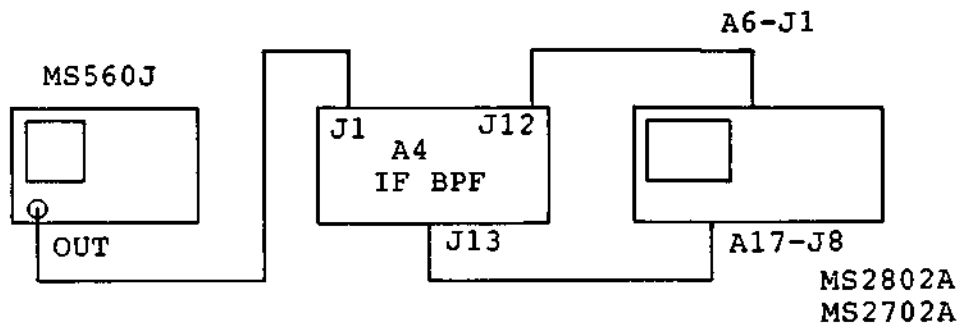


Fig. 3-62

Connect A4 IF BPF J13 and A17 MOTHER BOARD J8.
Connect A4 IF BPF J1 and MS560J OUTPUT.
Connect A4 IF BPF J12 and A6 IF LOG/DET J1.

- 3 Set the MS560J as follows:
- CF: 21.4 MHz
 - OUTPUT LEVEL: -10 dBm
 - RBW: 10 kHz
 - VBW: 10 kHz

(3) Troubleshooting

(a) Power supply voltage

Check that the power supply voltages for each section are as shown below.

Test point	Normal value
+ 15 V ①	+14.3 to +15.7 V
- 15 V ②	-14.3 to -15.7 V
+ 5 V ③	+4.75 to +5.25 V

(b) BPF switching section

Confirm that the RBW switching control is as shown in the following table.

RBW value	Test point	Normal value
$\cong 100$ kHz	Q169 pin No. 14	1
$\cong 30$ kHz		0

Note: 1 = Approx. 5V
0 = Approx. 0V

(c) Frequency converter

Step	Procedure
1	Set RBW to 30 kHz max.
2	Check that each of the test points is as follows:

Test point	Normal value
TP21 ④	21.4 MHz, 0.2 V _{pp}
TP22 ⑤	20.95 MHz, 3.2 V _{pp}
TP25 ⑥	450 kHz, 0.5 V _{pp}

(d) STEP AMP & BPF (1) section

Step	Procedure
1	Set the MS2702A/MS2802A RBW to 3 kHz and ATT to 0 dB.
2	(STEP AMP check) Decrease the MS560J output and the MS2702A/MS2802A ref. level in 10 dB steps down to -80 dBm. STEP AMP is normal if the MS2702A/MS2802A level change at this time is $\leq \pm 2$ dB.
3	(RBW check) Switch RBW from 10 Hz to 30 kHz, and when each the switched 3 dB bandwidth and level deviations are $\leq \pm 2$ dB, it is normal.
4	Check that the STEP AMP and BPF switching control is normal with the tables below.

Table 3-79 STEP AMP & RBW (1)

REF. LEVEL (dBm)	TP								Z7 Pin No.						
	1	2	3	4	5	6	7	8	10	5	8	14	22	17	20
-10	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1
-20	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1
-30	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1
-40	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1
-50	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
-60	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1
-70	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1
-71	1	1	0	1	1	0	1	1	1	1	0	1	1	1	1
-72	1	1	0	1	1	0	1	1	1	1	1	0	1	1	1
-73	1	1	0	1	1	0	1	1	1	1	1	1	0	1	1
-74	1	1	0	1	1	0	1	1	1	1	1	1	1	0	1
-75	1	1	0	1	1	0	1	1	1	1	0	1	1	0	1
-76	1	1	0	1	1	0	1	1	1	1	1	0	1	0	1
-77	1	1	0	1	1	0	1	1	1	1	1	1	0	0	1
-78	1	1	0	1	1	0	1	1	1	1	1	1	1	1	0
-79	1	1	0	1	1	0	1	1	1	1	0	1	1	1	0
-80	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1

(a) STEP AMP Control

Step	Procedure
------	-----------

Table 3-79 STEP AMP & RBW (1) (Continued)

(b) RBW Control

RBW (Hz)	Z9 Pin No.																			TP			TP		Z11	
	1	2	3	4	5	6	8	9	13	14	15	16	17	18	19	20	20	19	18	Z6	16	17	Z11	8	9	
10	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1	1	0	1	0	0	1		
30	1	0	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	0	1	0	0	1			
100	1	1	0	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	0	1	0	1	0			
300	1	1	1	0	1	1	1	1	1	1	0	1	0	0	0	1	1	1	0	1	0	1	0			
1K	0	1	1	1	0	1	1	1	1	1	1	0	1	0	0	1	1	1	0	1	0	1	1			
3K	0	1	1	1	1	0	1	1	1	1	1	0	1	0	0	1	1	1	0	1	0	1	1			
10K	0	1	1	1	1	1	0	1	1	1	1	0	1	0	0	1	1	1	0	1	0	1	1			
30K	0	1	1	1	1	1	1	0	1	1	1	0	1	0	0	1	1	1	0	1	0	1	1			

(e) STEP AMP & BPF (2) section

Step	Procedure
1	Set the MS2702A/MS2802A RBW to 100 kHz and ATT to 0 dB.
2	(STEP AMP check) Decrease the MS560J output and the MS2702A/MS2802A ref. level from -10 to -70 dBm in 10 dB steps and from -71 to -80 dBm in 1 dB steps. STEP AMP is normal if the MS2702A/MS2802A level change at this time is $\leq \pm 2$ dB.
3	(RBW check) Switch RBW from 100 kHz to 3 MHz, and when each the switched 3 dB bandwidth and level are $\leq \pm 2$ dB, it is normal.

(Continued)

Step	Procedure
------	-----------

4 Check that the STEP AMP and BPF switching control is normal with the tables below.

Table 3-80 STEP AMP & RBW (2)

REF. LEVEL (dBm)	TP								Z7 Pin No.			
	5	6	7	8	10	5	8	14	22	17	20	
-10	1	1	1	1	1	1	1	1	1	1	1	
-20	0	1	1	1	1	1	1	1	1	1	1	
-30	1	0	1	1	1	1	1	1	1	1	1	
-40	1	0	0	1	1	1	1	1	1	1	1	
-50	1	0	1	0	1	1	1	1	1	1	1	
-60	1	0	1	0	0	1	1	1	1	1	1	
-70	1	0	1	0	1	0	1	1	1	1	1	
-71	1	0	1	0	1	0	0	1	1	1	1	
-72	1	0	1	0	1	0	1	0	1	1	1	
-73	1	0	1	0	1	0	1	1	0	1	1	
-74	1	0	1	0	1	0	1	1	1	0	1	
-75	1	0	1	0	1	0	0	1	1	0	1	
-76	1	0	1	0	1	0	1	0	1	0	1	
-77	1	0	1	0	1	0	1	1	0	0	1	
-78	1	0	1	0	1	0	1	1	1	1	0	
-79	1	0	1	0	1	0	0	1	1	1	0	
-80	1	0	1	0	1	0	1	0	1	1	0	

(a) STEP AMP Control

(b) RBW Control

RBW (Hz)	Z9		TP			Z6		TP	
	Pin No.	20	19	18	14	16	17		
100K	18	19	1	1	1	1	1	0	1
300K	1	1	1	1	1	1	1	1	0
1M	1	1	1	1	0	1	1	1	1
3M	1	1	1	0	1	1	1	1	1

3.5.3 Adjustment

(1) Setup

Step	Procedure
1	Refer to SECTION 5 and remove A4 IF BPF from the MS2702A/MS2802A.
2	Set-up as shown in Fig. 3-63.

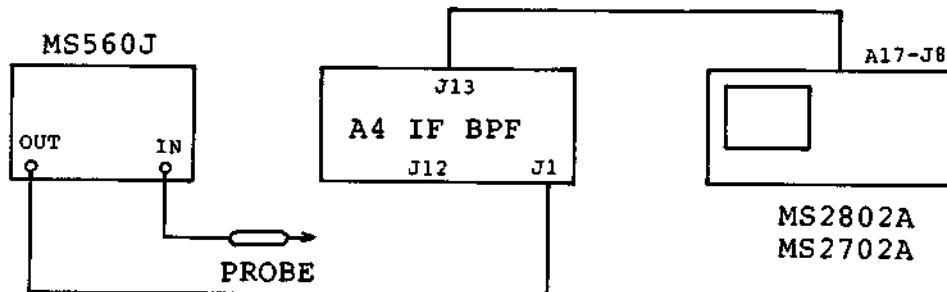


Fig 3-63

Connect A4 IF BPF J13 and A17 MOTHER BOARD J8.
Connect A4 IF BPF J1 and MS560J OUTPUT.

- 3 Set the MS560J as follows:
 - CF: 21.4 MHz
 - OUTPUT LEVEL: -10 dBm
 - RBW: 10 kHz
 - VBW: 10 kHz

(2) Adjustment

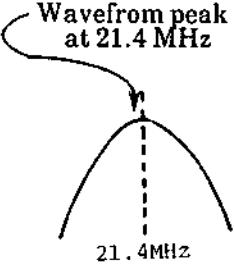
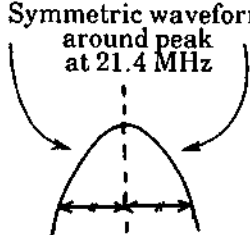
Adjust in the following sequence when making the A4 overall adjustment.

- (a) Frequency converter
- (b) STEP AMP & BPF (2)
- (c) SETP AMP & BPF (1)

(a) Frequency converter

Step	Procedure
1	With a probe at TP1, set the MS560J CF to 20.95 MHz, the SPAN to 1 kHz and FREQ COUNT to ON.
2	Turn on to the MS2702A/MS2802A power while pressing the [INITIAL] key. Adjust R57 ⑦ so that the MS560J COUNT value becomes 20.95 MHz ± 2 Hz.

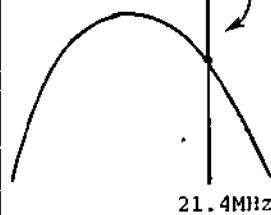
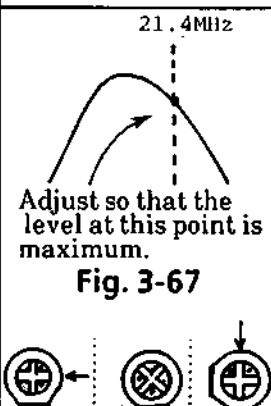
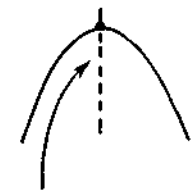
(b) STEP AMP & BPF (2)

Step	MS2702A/ MS2802A RBW	MS560J			Adjustment	Diagram
		SCALE	IRG	SPAN		
1	300 kHz	10 dB	-30 dBm	5 MHz	<p>With a probe at TP7 ⑧, adjust the variable capacitor of C199 ⑨ so that the waveform appears as shown in Fig. 3-64.</p> <p>Adjust TP 8 ⑩ - C226 ⑪ ↓ TP11 ⑫ - C290 ⑬ ↓ TP12 ⑭ - C316 ⑮</p>	 <p>Waveform peak at 21.4 MHz</p> <p>21.4 MHz</p> <p>Fig. 3-64</p>
2	300 kHz	1 dB	-30 dBm	1 MHz	<p>(1) With a probe at TP7 ⑧, adjust C199 ⑨.</p> <p>(2) With a probe at TP8 ⑩, adjust C226 ⑪.</p> <p>Repeat steps (1) and (2) alternately until the waveform appears as shown in Fig. 3-65</p>	 <p>Symmetric waveform around peak at 21.4 MHz</p> <p>Fig. 3-65</p>
3	300 kHz	1 dB	-30 dBm	1 MHz	<p>(3) With a probe at TP11 ⑫, adjust C290 ⑬.</p> <p>(4) With a probe at TP12 ⑭, adjust C316 ⑮.</p> <p>Repeat steps (3) and (4) alternately until the waveform appears as shown in Fig. 3-65.</p>	

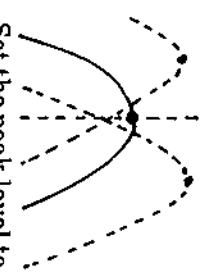
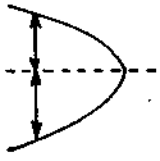
(Continued)

Step	MS2702A/ MS2802A RBW	MS560J			Ajustment
		SCALE	IRG	SPAN	
4	100 kHz	1 dB	- 30 dBm	300 kHz 500 kHz	(5) With a probe at TP 7 ⑧, adjust C191 ⑯. (6) With a probe at TP 8 ⑩, adjust C218 ⑰. Repeat step (5) and (6) alternately until the waveform appears as shown in Fig. 3-65.
5	100 kHz	1 dB	- 30 dBm	500 kHz	(7) With a probe at TP11 ⑫, adjust C284 ⑱. (8) With a probe at TP12 ⑭, adjust C310 ⑲. Repeat steps (7) and (8) alternately until the waveform appears as shown in Fig. 3-65.
6	3 MHz	1 dB	- 30 dBm	6 MHz	Adjust R12 ⑳ so that output at J12 becomes - 4.0 dBm.

(c) STEP AMP&BPF (1)

Step	MS2702A/ MS2802A RBW	MS560			Adjustment	
		SCALE	IRG	SPAN		
1	3 kHz	10 dB	-30 dBm	50 kHz	<p>With a probe at TP12 ④, adjust the variable capacitor of C54 ⑩ so that the waveform appears as shown in Fig. 3-66.</p> <p>With the probe left at TP12; adjust C68 ①, C93 ②, C113 ③, and C173 ④ in this sequence in the same way.</p>	<p>Adjust so that this point becomes maximum.</p>  <p>21.4MHz</p> <p>Fig. 3-66</p>
2	1 kHz	10 dB	0 dBm	2 kHz	<p>Connect MS560J INPUT and A4-J12 (A4 output).</p> <p>Adjust C54 ⑩ so that the waveform appears as shown in Fig. 3-67.</p> <p>Then adjust C68 ①, C93 ②, C113 ③, and C173 ④ in this sequence in the same way.</p> <p>Repeat this adjustment twice.</p> <p>Adjust each variable capacitor to match the position shown in Fig. 3-68.</p> <p>Adjust 20.95 MHz OSC at TP1 by R57 ⑦, as described in paragraph (a) before.</p>	<p>21.4MHz</p>  <p>Adjust so that the level at this point is maximum.</p> <p>Fig. 3-67</p> <p>C52 ⑫ C48 ⑬ C50 ⑭ C70 ⑮ C66 ⑯ C67 ⑰ C97 ⑱ C91 ⑲ C92 ⑳ C111 ㉑ C108 ㉒ C109 ㉓ C146 ㉔ C144 ㉕ C143 ㉖</p> <p>Fig. 3-68</p>
3	10 Hz	10 dB	0 dBm	50 Hz (ST:5 s)	<p>Set the short pins between 1 and 2 pins (opened condition between 2 and 3 pins) of J3 ④ and between 2 and 3 pins of J5 ① /J7 ② /J9 ③ /J11 ④.</p> <p>And adjust C52 ⑫ to make the waveform as shown in Fig. 3-69.</p> <p>Similarly, adjust C70 ⑮ /C97 ⑱ /C111 ㉑ /C146 ㉔ with only the opened condition between 2 and 3 pins of J5 ① /J7 ② /J9 ③ /J11 ④, respectively.</p>	<p>21.4MHz</p>  <p>Set the peak (21.4 MHz) at the display center.</p> <p>Fig. 3-69</p>

(Continued)

Step	MMS2702A/ MS2802A RBW	SCALE	MMS560J IRG	SPAN	Adjustment	
4	300 Hz	10 dB	0 dBm	2 kHz (ST:2 s)	Open pins 2-3 of J11 (4) only and short all other pins 2-3. Adjust C143 (5) so that the waveform appears as shown in Fig. 3-70. Adjust C144 (6) so that the waveform appears as shown in Fig. 3-71.	 <p>Set the peak level to minimum Fig. 3-70</p>
5	300 Hz	5 dB	0 dBm	10 kHz (ST:2 s)	Perform the same adjustment as step 4.	
6	300 Hz	1 dB	0 dBm	1 kHz (ST:2 s)	Perform the same adjustment as step 4. Match the following conditions and adjust in the same way as step 4 to 6.	
7	300 Hz	5 dB	0 dBm	10 kHz (ST:2 s)	Open pins C109 (7), C108 (8), 2-3 J9 (9) only Open pins C92 (10), C91 (11), 2-3 J7 (12) only Open pins C67 (13), C66 (14), 2-3 J5 (15) only Open pins C50 (16), C48 (17), 2-3 J3 (18) only	 <p>Left and right symmetric waveform Fig. 3-71</p>
8	30 kHz	1 dB	-30 dBm	6 MHz	Adjust R333 (19) so that the output level at J12 is -4.0 dBm.	

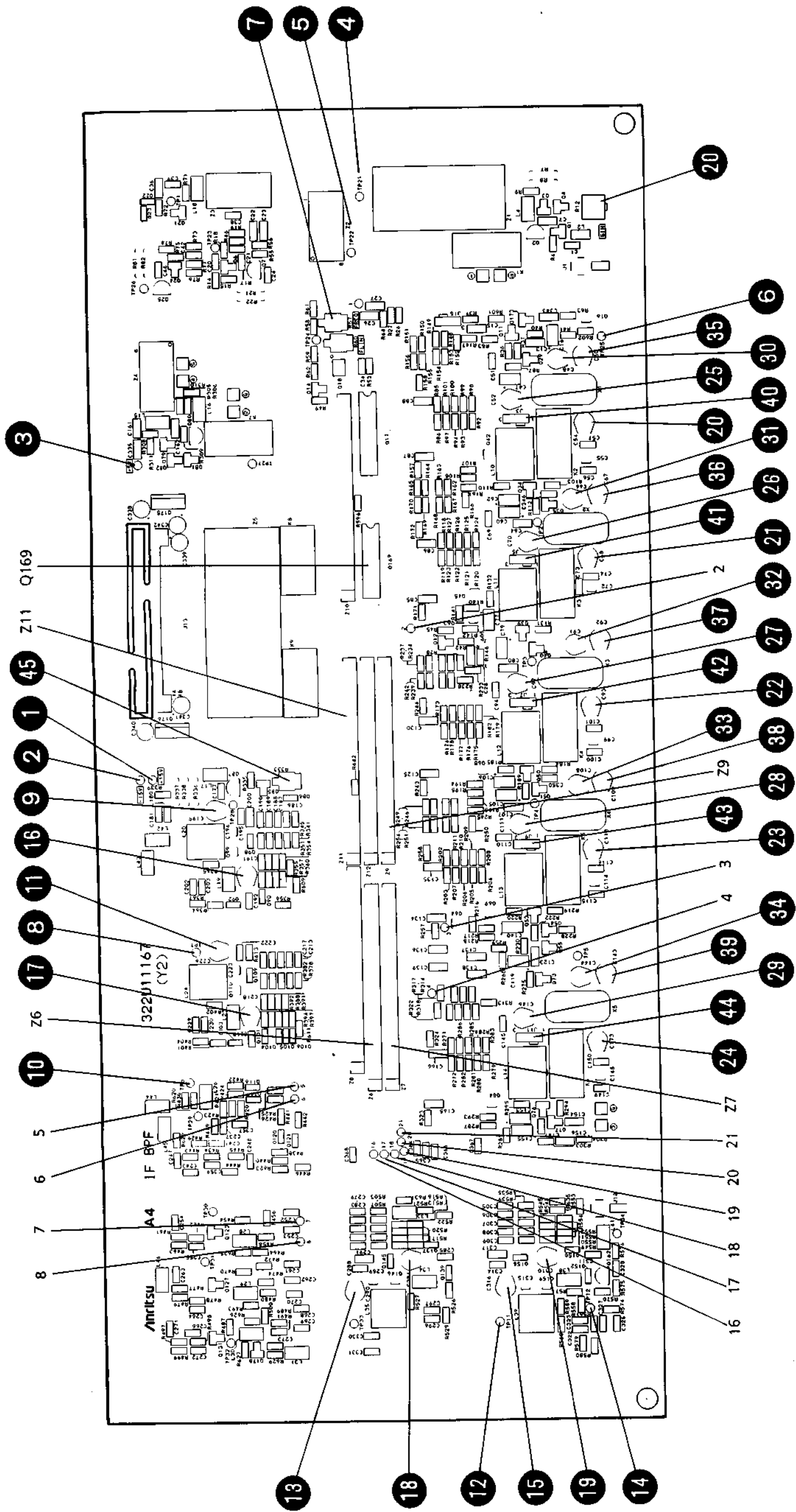


Fig. 3-72 (1/2)
 A4 IF BPF PC-Board Parts
 Layout (Component Side) **31**



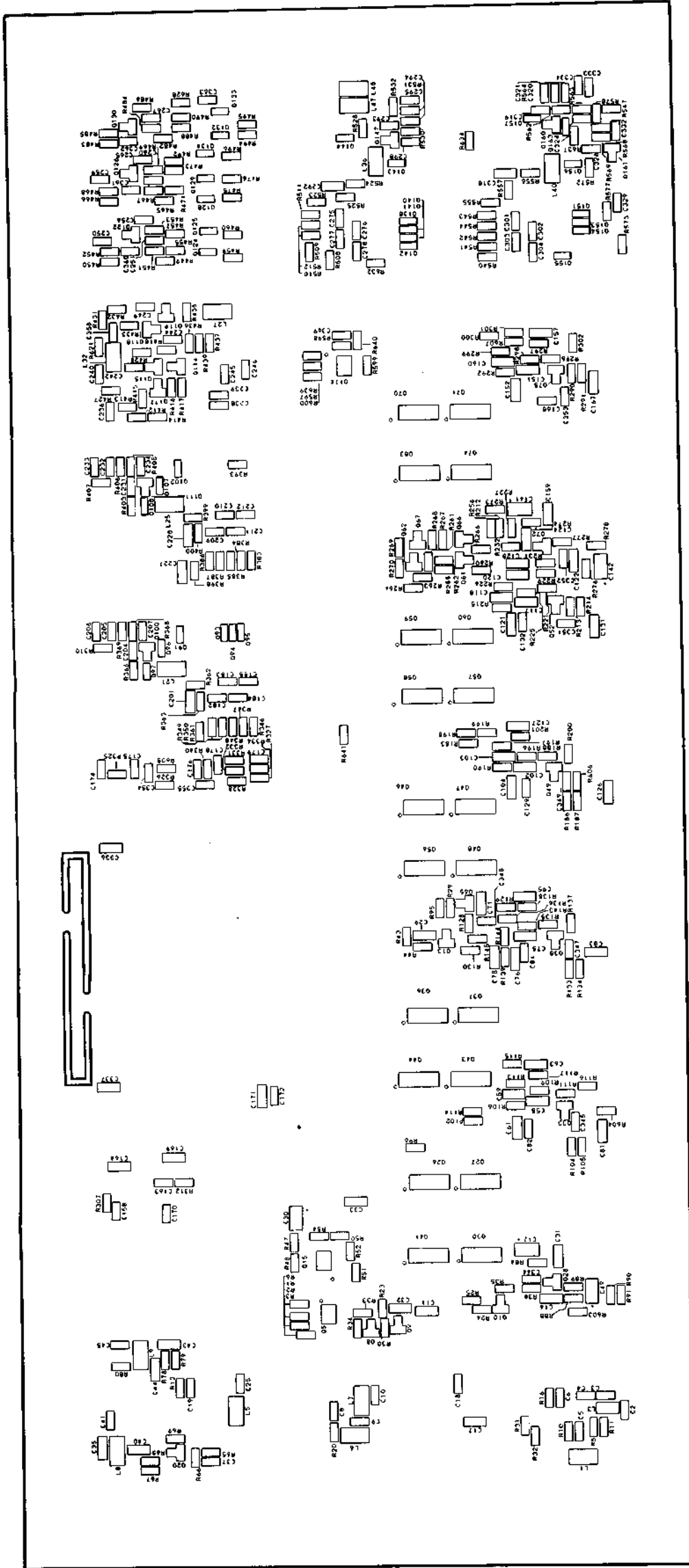
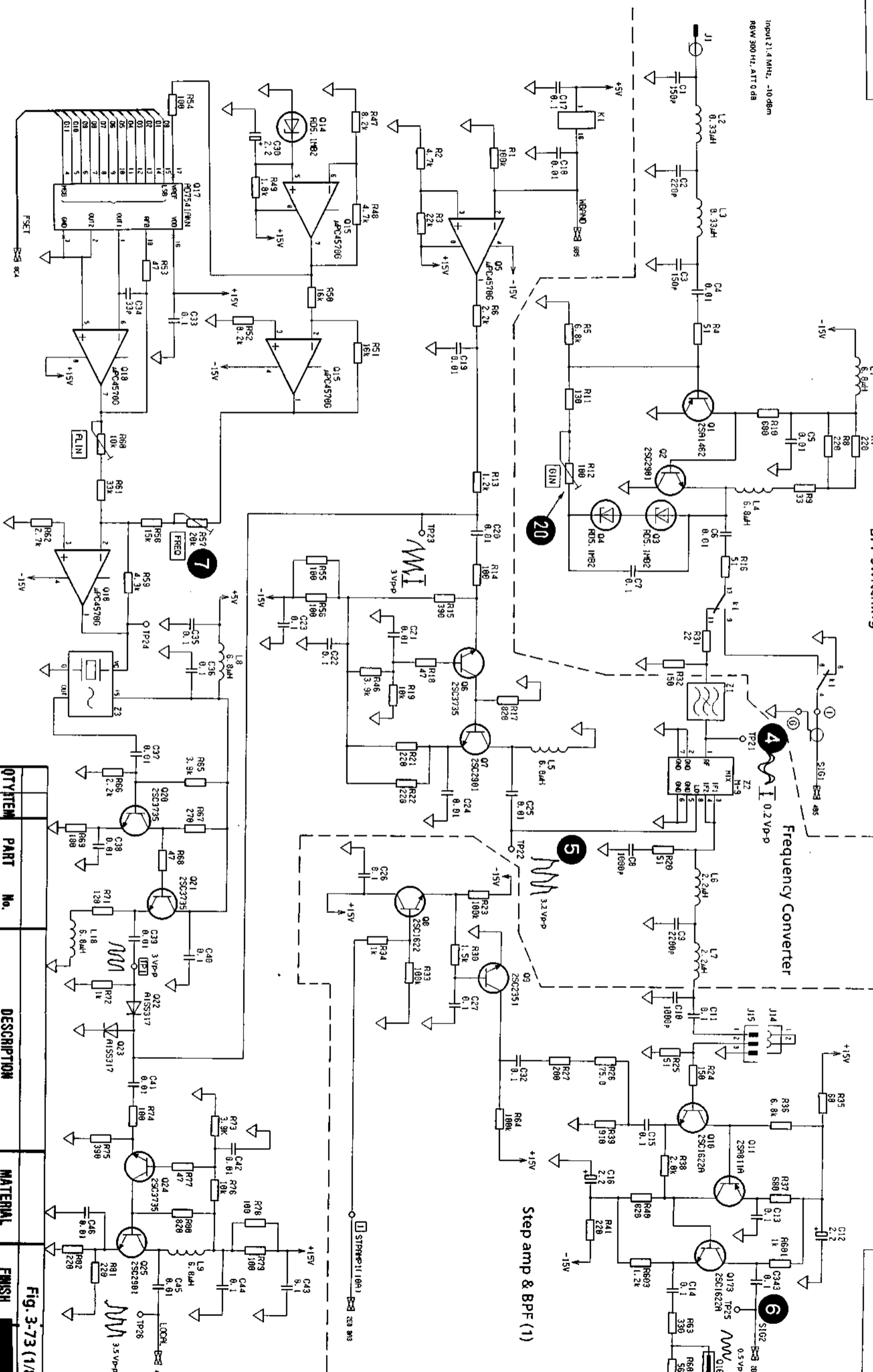


Fig. 3-72 (2/2)
 A4 IF BPF PC-Board Parts
 Layout (Pattern Side) **31**

BPF Switching

Input 21.4 MHz, -10 dBm
RBW 300 Hz ATT 0 dB



DEP

QTY/ITEM

PART No.

DESCRIPTION

MATERIAL

FINISH

CHECKED BY

DRAWN BY

SCALE

DRAWING No.

1/8

APPROVED BY

DESIGNED BY

TITLE

A4 IF BPF

31

Fig. 3-73 (1/8)

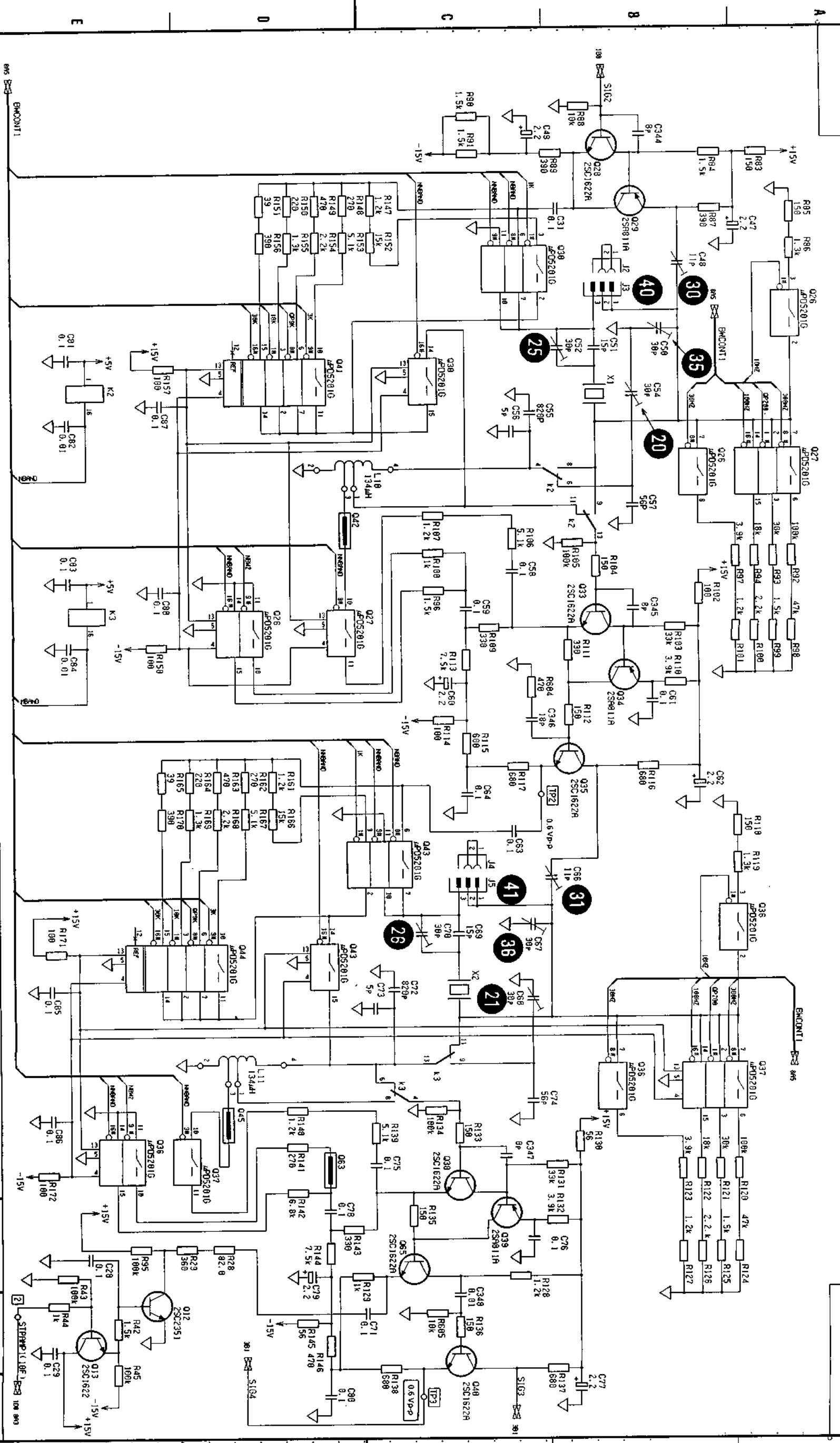
ANRITSU CORP.

3-215/3-216

www.valuetronics.com

33W31110
APPLICATION

REVISIONS



QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

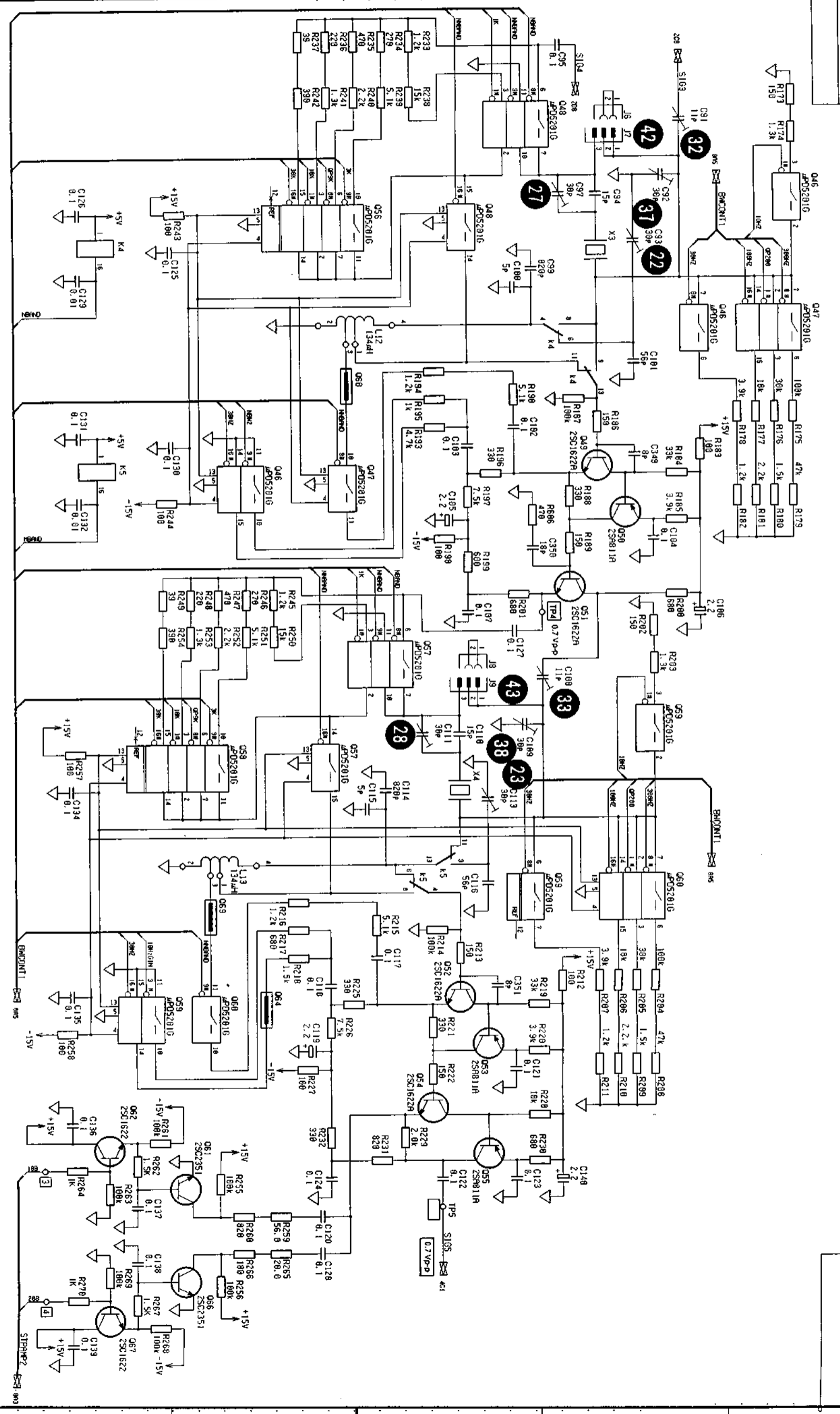
CHECKED BY *L. P. Kra*
APPROVED BY *J. A. Sada*
DRAWN BY
DESIGNED BY *K. Amann*
SCALE
TITLE **A4 IF BPF**
DRAWING No. **33W31110**
Fig. 3-73 (2/8)

31

DEP
1 2 3 4 5 6 7 8
ANRITSU CORP. 3-2173-218

33W31110
APPLICATION

REVISIONS



QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>L. Oka</i>				
APPROVED BY <i>R. Sada</i>				
DRAWN BY		DESIGNED BY <i>R. Amamoto</i>		
TITLE A4 IF BPF				
DRAWING No. 33W31110				

31

Fig. 3-73 (3/8)

DEP

1 2 3 4 5 6 7 8

ANRITSU CORP. 3-219/3-220

STEP AMP & BPF (1)

STEP AMP & BPF (2)

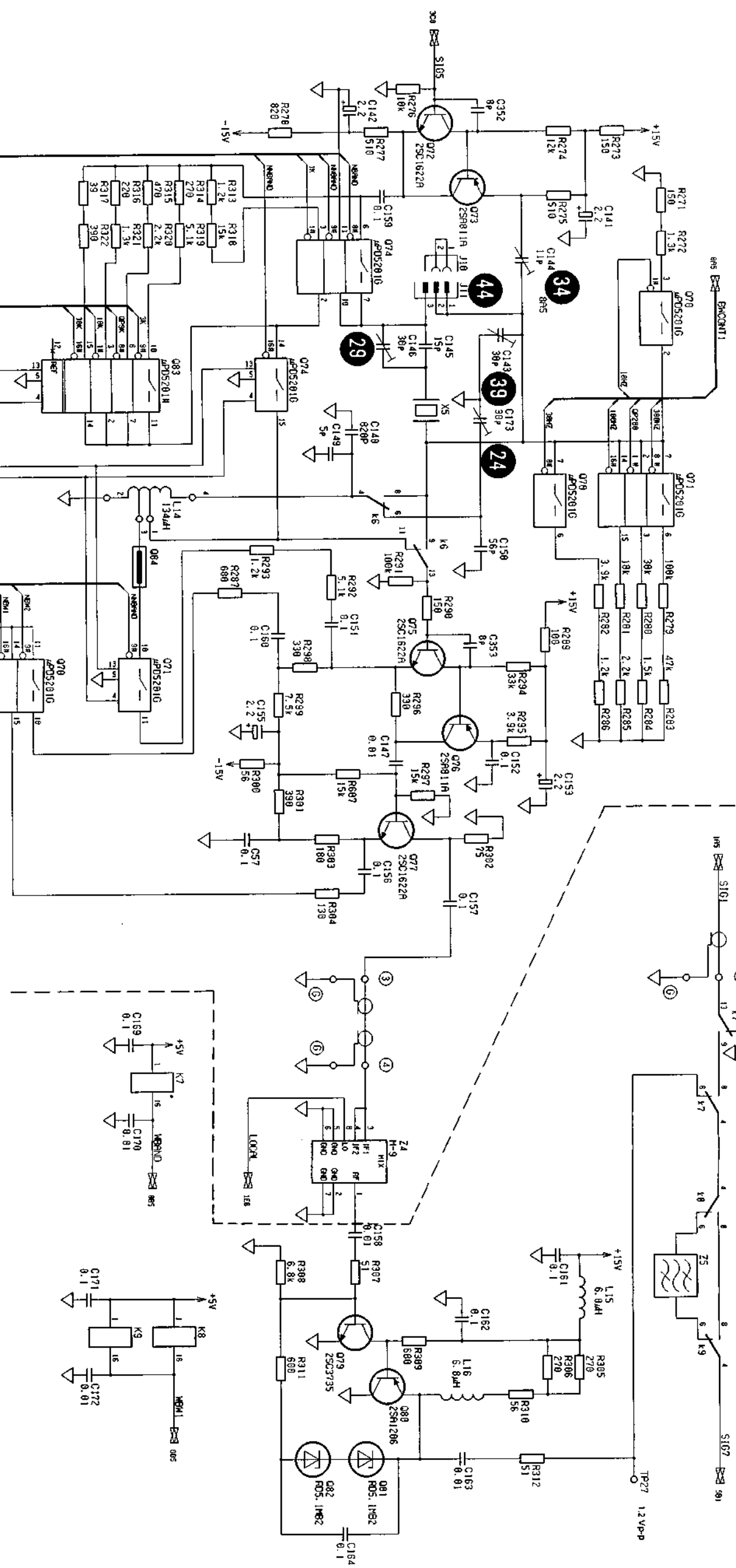


Fig. 3-73 (4/8)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>H. Oka</i>				
APPROVED BY <i>J. T. Gada</i>				
DRAWN BY		DESIGNED BY <i>H. Amatsu</i>		
SCALE				
TITLE A4 IF BPF				
DRAWING No. 33W31110				
3 - 22/13 - 222				

31

33W31110
APPLICATION

REVISIONS

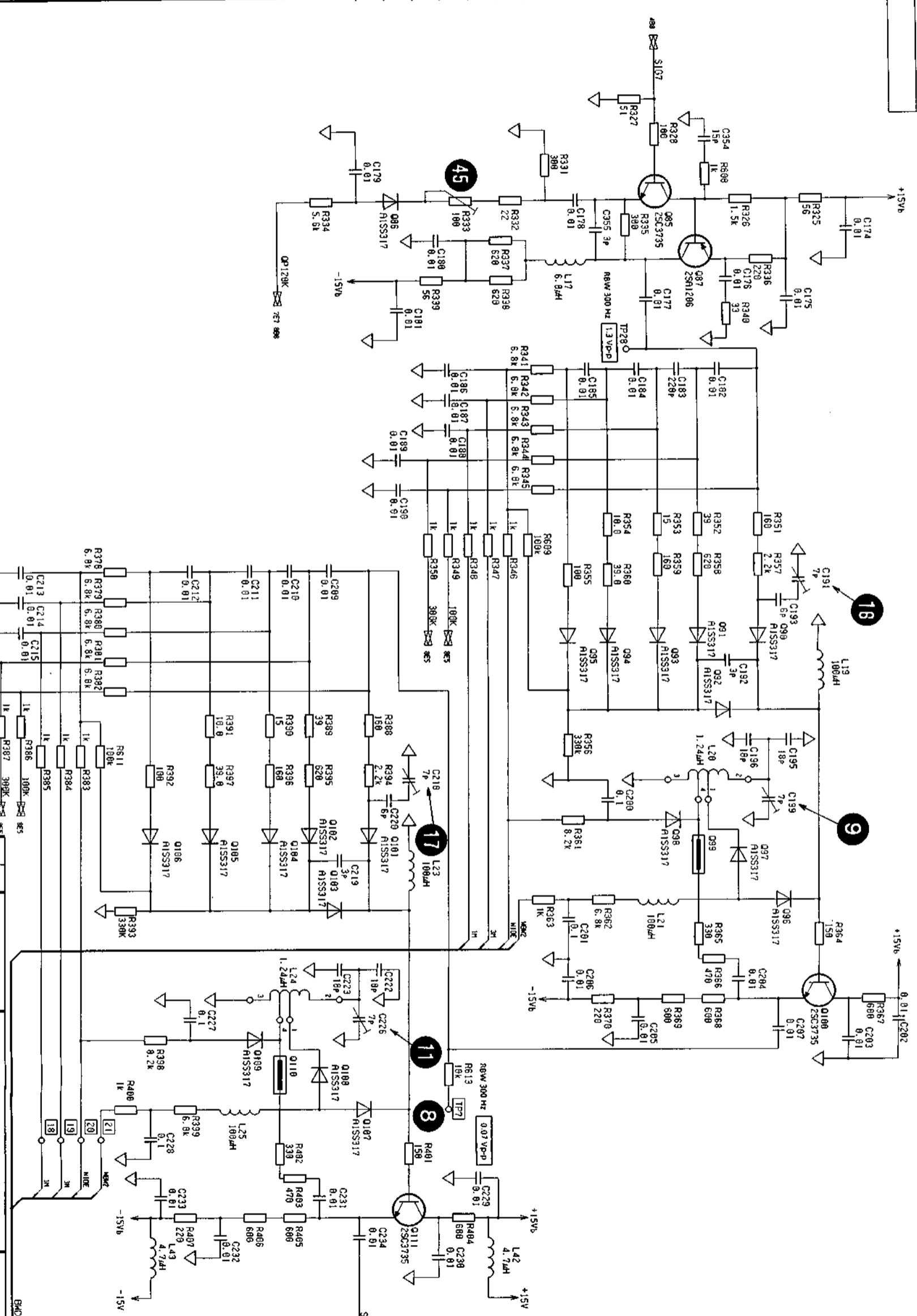


Fig. 3-73 (5/8)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *H. Oka*

DESIGNED BY *T. Yamamoto*

SCALE

DRAWING No.

31

TITLE
A4 IF BPF
33W31110
3-2233-224

DEP

1 2 3 4 5 6 7 8

33W31110
APPLICATION

REVISIONS

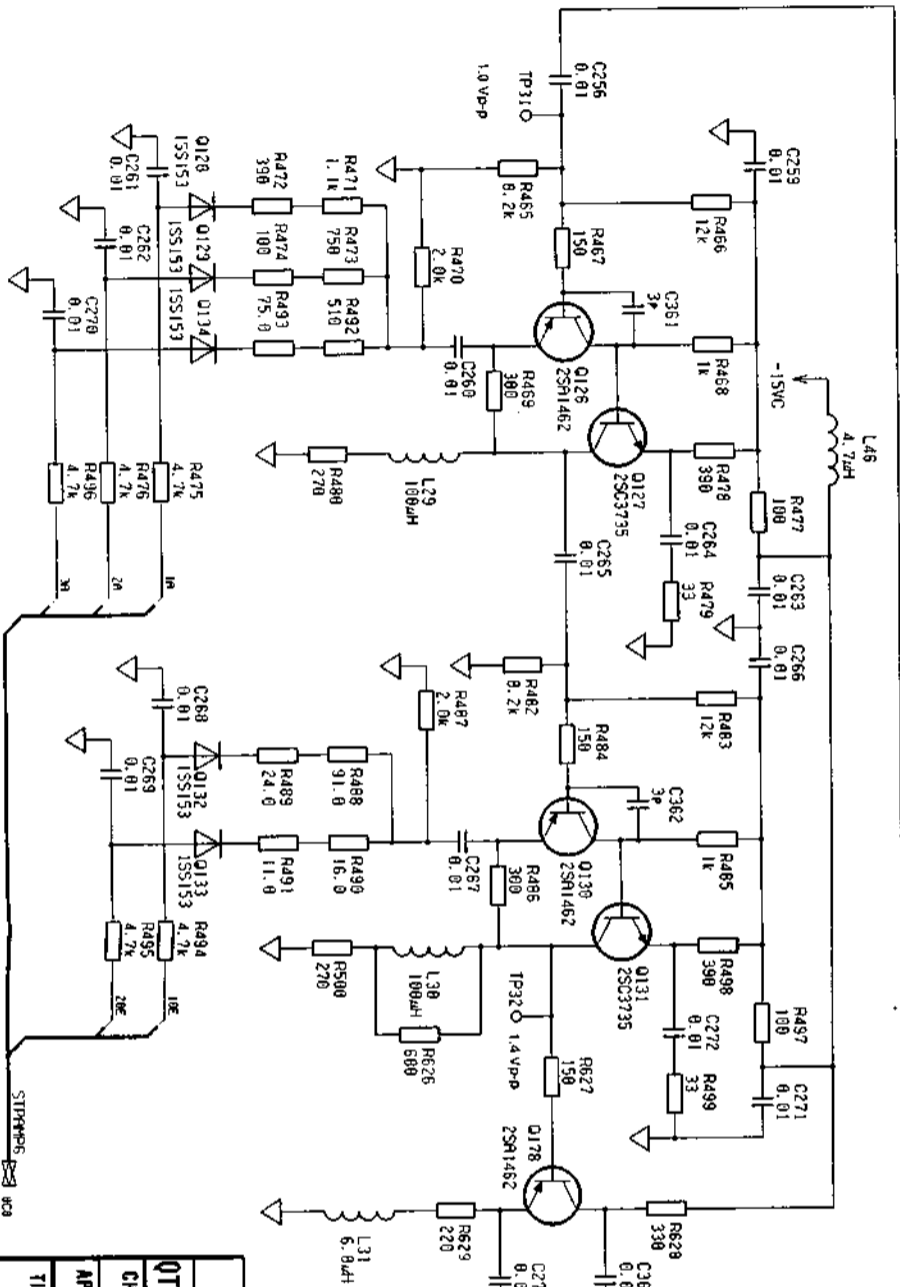
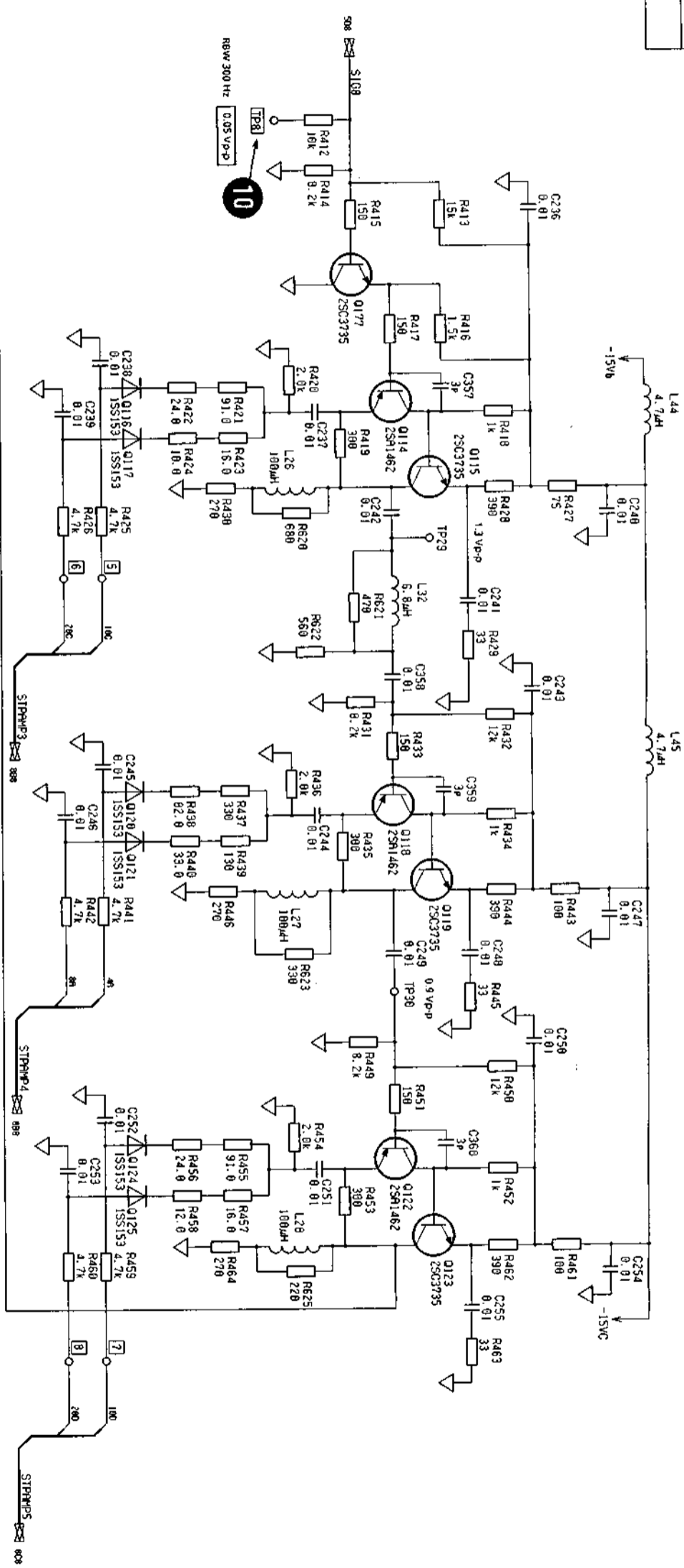


Fig. 3-73 (6/8)

QTY	ITEM	PART NO.	DESCRIPTION	MATERIAL	FINISH
	CHECKED BY	<i>U. Oka</i>	DRAWN BY		
	APPROVED BY	<i>N. Toda</i>	DESIGNED BY	<i>A. Ganssler</i>	
TITLE					DRAWING No.
A4IF BPF					33W31110

ANRITSU CORP.

3-225/3-226

31



33W31110
APPLICATION

REVISIONS

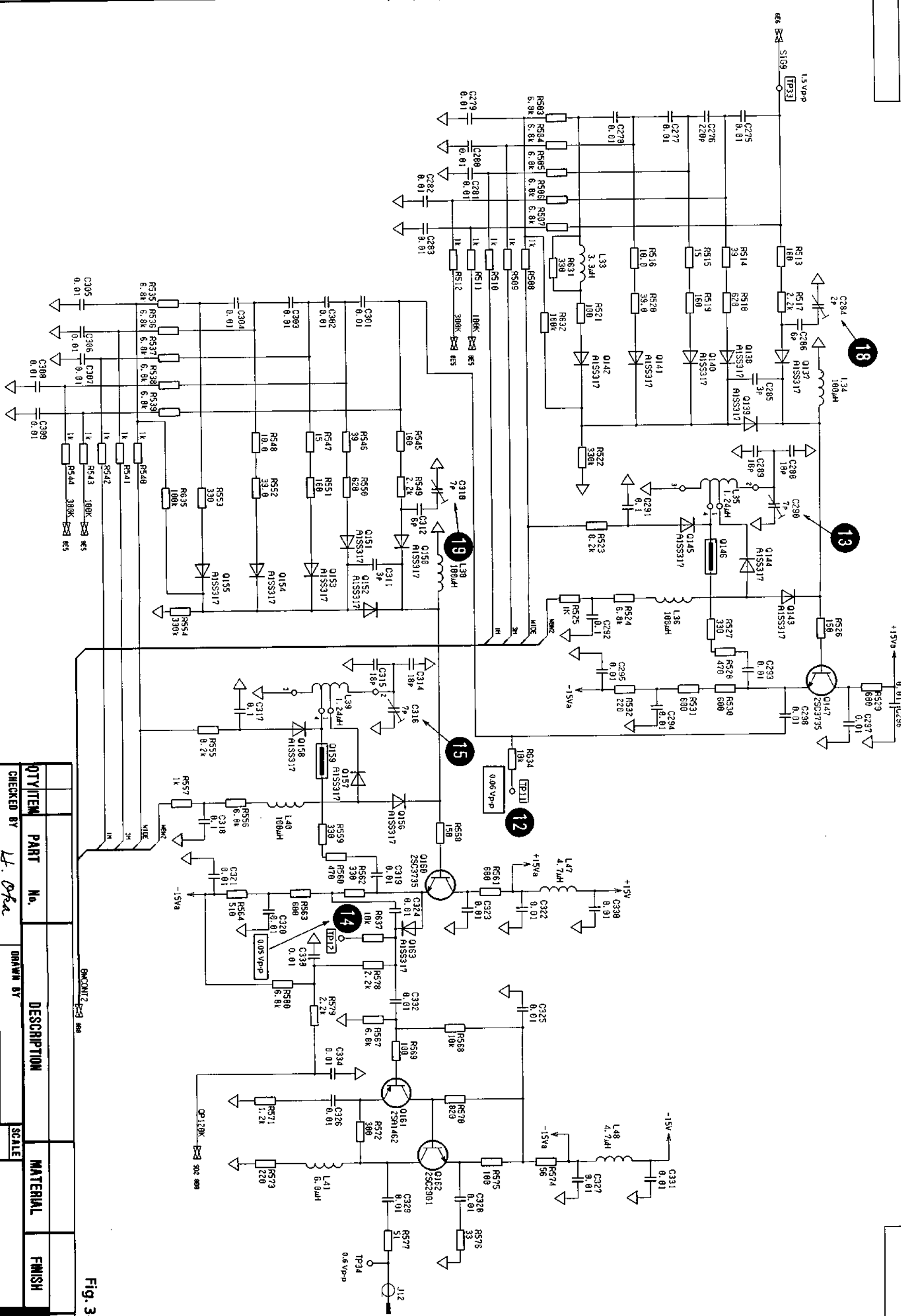


Fig. 3-73 (7/8)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

31

CHECKED BY *L. Oka*
APPROVED BY *A. Toda*
DRAWN BY
DESIGNED BY *H. Kawano*
TITLE
A4 IF BPF
DRAWING No.
33W31110
3-227/3-228



33W31110 APPLICATION

REVISIONS

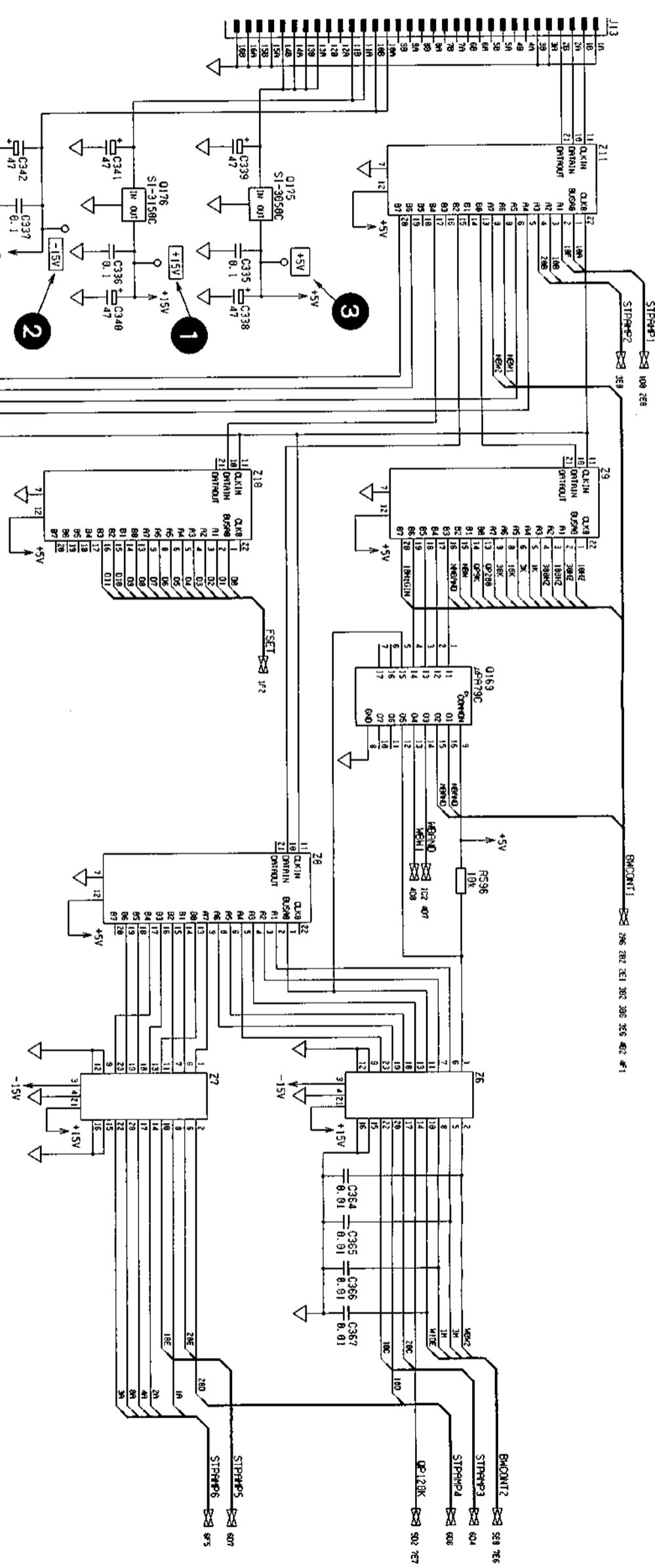


Fig. 3-73 (8/8)

QTY/TEN	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>H. Oka</i>		DRAWN BY	SCALE	
APPROVED BY <i>H. Oka</i>		DESIGNED BY <i>H. Oka</i>		
TITLE A4 IF BPF			DRAWING No.	
			33W31110	
			3-229/3-230	

31



3.6 A6 IF LOG/DET **33**

3.6.1 Symptoms and causes

Symptom	Cause
1. The signal is not displayed on the screen.	LOG/LIN amplifier, detector, video filter, A/D converter faulty
2. The linearity does not meet the specifications.	LOG/LIN amplifier, detector faulty
3. The LOG/LIN scale does not switch.	LOG/LIN amplifier faulty
4. The RBW bandwidth does not meet the specifications when RBW is switched.	LOG/LIN amplifier faulty
5. The level change does not meet the specifications when RBW is switched.	LOG/LIN amplifier faulty
6. Frequency counting is not possible.	LOG/LIN amplifier, AM/FM demodulator faulty
7. VBW can't be changed.	VBW faulty
8. There is no sound from the speaker.	AM/FM demodulator faulty

3.6.2 Troubleshooting

(1) Required equipment

Digital voltmeter
Oscilloscope
50 Ω terminator
MS420 Network/Spectrum Analyzer
Signal generator

(2) Setup

Step	Procedure
1	Refer to SECTION 5 (MECHANICAL ASSEMBLY) and remove A6 IF LOG/DET and A5 SCAN from the MS2702A/MS2802A.

(Continued)

Step Procedure

2 Set-up as shown in Fig. 3-74.

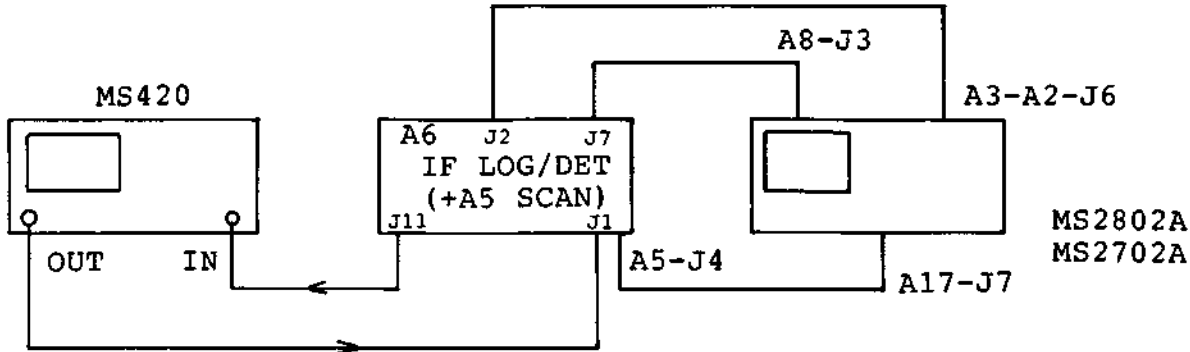


Fig. 3-74

Connect A5 SCAN J4 and A17 MOTHER BOARD J7.
Connect A6 IF LOG/DET J2 and A3 LOCAL A2-J6.
Connect A6 IF LOG/DET J7 and A8 MEAS CPU J3.
Connect A6 IF LOG/DET J1 and MS420 OUTPUT.
Connect A6 IF LOG/DET J11 and MS420 INPUT.

3 Set the MS420 as follows:
CF: 21.4 MHz
OUTPUT LEVEL: +4.6 dBm

(3) Troubleshooting

(a) Power supply voltages

Check that the voltage at each test point is as shown below.

Test point	Normal value
+ 15 V ①	+14.3 to +15.7 V
- 15 V ②	-14.3 to -15.7 V
+ 5 VA ③	+4.75 to +5.25 V
+ 5 VD ④	+4.75 to +5.25 V
- 5 VA ⑤	-4.75 to -5.25 V
+4.5 V ⑥	+4.5V

(b) LOG/LIN amplifier section

Step	Procedure
1	Set the MS420 SPAN to 2 MHz. Set the MS2702A/MS2802A RBW to 3 kHz. With the A6 IF LOG/DET cover closed, the condition is normal if the waveform peak display is at 21.4 MHz.
2	Set the MS420 SPAN to 0 Hz. The condition is normal if the display level linearity is less than ± 2 dB when the output level is decreased in 1 dB steps down to 70 dB.
3	The condition is normal if the level change (when RBW is switched to 300 kHz, 100 kHz and 3 kHz) is within ± 1 dB based on the level at 3 MHz.
4	Check the following control signals.

Table 3-81 LOG/LIN Control Signal

Scale	Test point	Normal value
LOG	LOG	1
LIN		0

Table 3-82 RBW Control Signal

RBW	Test point		
	NTHR	NWID	NMID
3 MHz	0	1	1
300 kHz to 1 MHz	1	0	1
10 kHz to 100 kHz	1	1	0
10 Hz to 3 kHz	1	1	1

Note: 1 = Approx. 5V
0 = Approx. 0V

(c) Detector

Set the MS420 SPAN to 0 Hz and confirm that a voltage of +2 Vdc is output at TP13 ⑦.

(d) Video filter

Confirm that the control signals are as follows:

Table 3-83 VBW Control Signal

VBW [Hz]	Check point			
	D3	D2	D1	D0
1	0	0	0	0
3	0	0	0	1
10	0	0	1	0
30	0	0	1	1
100	0	1	0	0
300	0	1	0	1
1 K	1	0	0	0
3 K	1	0	0	1
10 K	1	0	1	0
30 K	1	0	1	1
100 K	1	1	0	0
300 K	1	1	0	1
1 M	1	1	1	0
3 M	1	1	1	1

(e) A/D section

Step	Procedure
------	-----------

- 1 Set the MS420 SPAN to 0 Hz. If the following voltages are present at A6 IF LOG/DET TP28 and TP29, the PEAK and DIP detectors are normal.

Table 3-84

DET MODE	Test point	Normal value
PEAK	TP28 ③	4 V
DIP	TP29 ④	4 V

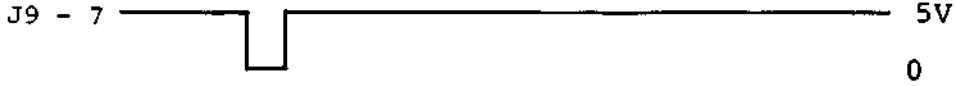

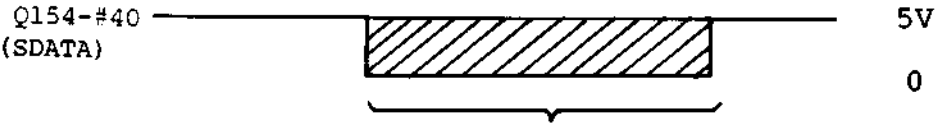
Step	Procedure
2	Check the timing at each of the following points. I A/D operation
10	J9 - 7  5V 0
11	Q154-#39 (SCLK)  5V 0 Check that 14 pulses are output. ($f = 1\text{MHz}$)
12	Q154-#40 (SDATA)  5V 0 Some pulses are output corresponding to the output from Q154-39

Fig. 3-75 A/D Operation

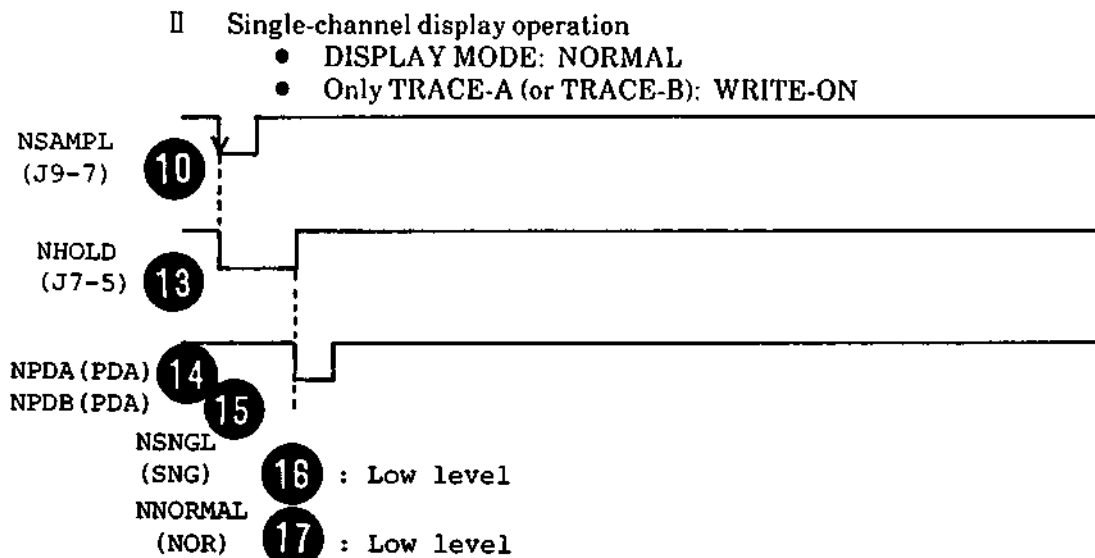


Fig. 3-76 Single-Channel Display Operation

Step	Procedure
2 III (Cont'd)	Dual-channel display operation <ul style="list-style-type: none">• DISPLAY MODE: NORMAL• Both TRACE-A and TRACE-B: WRITE-ON• Different DET-MODE for TRACE-A and TRACE-B

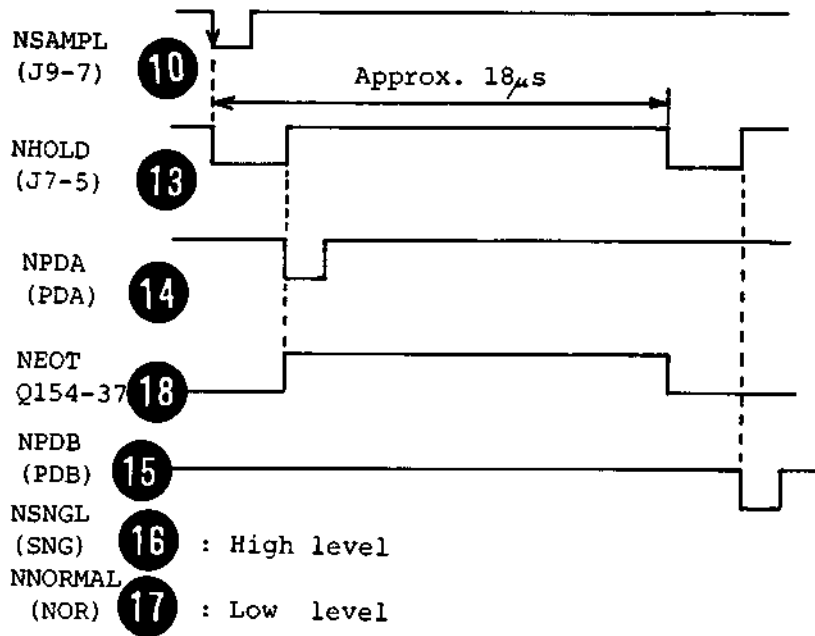


Fig. 3-77 Dual-Channel Display Operation

- IV Equivalent sampling
- DISPLAY MODE: TIME
 - SAMPLING: EQU

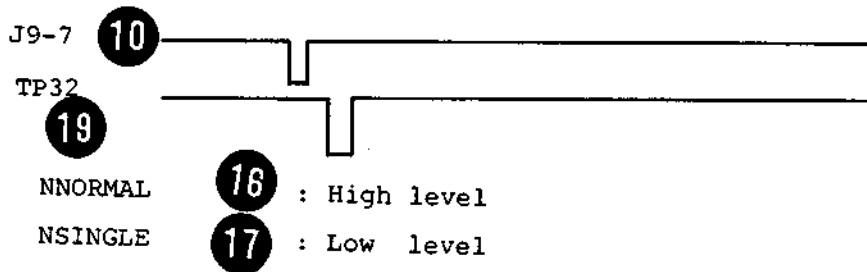


Fig. 3-78 Equivalent Sampling

(Continued)

Step	Procedure
------	-----------

- 3 Confirm that the control signals are as follows:

Table 3-85

Mode		Test point			
		CH. B		CH. A	
		D1	D0	D1	D0
DETECTOR	PEAK	0	0	0	0
	SAMPLE	0	0	0	1
	DIP	0	0	1	0
DISPLAY MODE: TIME		0	0	1	1

Note: 1 = Approx. 5V
0 = Approx. 0V

(f) AM/FM Demodulator

Step	Procedure
------	-----------

- 1 In the AM mode, input a 21.4 MHz signal (with $f_m = 1$ kHz and 30% amplitude modulation) to A6 IF LOG/DET J1. In the FM mode, input a 21.4 MHz signal (with $f_m = 1$ kHz and 3.5 kHz deviation frequency modulation) to A6 IF LOG/DET J1. Confirm that the following voltages are present at TP27 $\text{\textcircled{2}}$ when the scale is LIN.

Table 3-86

MONITOR	Voltage
AM	1.6 Vpp
FM	0.8 Vpp

- 2 Confirm that the following control signals are output.

Table 3-87

MONITOR	Test point	
	MPX	
	D1	D0
AM	0	0
FM	0	1
OFF	1	1

Note: 1 = Approx. 5V
0 = Approx. 0V

3.6.3 Adjustment

(1) Setup

Step	Procedure
1	Refer to SECTION 5 (MECHANICAL ASSEMBLY) and remove A5 IF LOG/DET and A6 SCAN from the MS2702A/MS2802A.
2	Set-up as shown in Fig. 3-74. Connect A5 SCAN J4 and A17 MOTHER BOARD J7 Connect A6 IF LOG/DET J2 and A3 LOCAL A2-J6. Connect A6 IF LOG/DET J7 and A8 MEAS CPU J3. Connect A6 IF LOG/DET J1 and MS420 OUTPUT. Connect A6 IF LOG/DET J11 and MS420 INPUT.
3	Set the MS420 as follows: CF: 21.4 MHz OUTPUT LEVEL: +4.6 dBm SPAN: 2 MHz

(2) Adjustment

(a) LOG/LIN AMP

Step	Procedure
1	Adjust L 18 (20) so that the center becomes 21.4 MHz (RBW = 3 kHz).
2	Set the MS420 SPAN to 0 Hz.
3	At RBW = 3 MHz, check the Y1 (21) output (J8-4 pin) with a digital voltmeter and confirm the BW switching.
4	At RBW = 3 kHz, adjust R89 (22) so that the Y1 (21) output is the same as in step 3.
5	At RBW = 3 MHz, set the scale to LIN.
6	Adjust R375 (23) so that the Y1 (21) output (J8-4 pin) is 0 V with the input terminated.
7	Set the scale to LOG and adjust R372 (24) so that the Y1 (21) output is 4.00 V \pm 5 mV.
8	Set the scale to LIN and adjust R131 (25) so that the Y1 (21) output is 4.00 V \pm 10 mV.
9	Return the scale to LOG and confirm step 7 again.

Note: When the scale is changed, wait until it stabilizes.

(b) Detector

Step	Procedure
1	Set the MS420 SPAN to 0 Hz.
2	At RBW = 3 MHz, set the scale to LIN.
3	Adjust R375 $\text{\textcircled{23}}$ so that the Y1 $\text{\textcircled{2}}$ output (J8-4 pin) is 0 V with the input terminated.
4	Set the scale to LOG and adjust R372 $\text{\textcircled{24}}$ so that the Y1 $\text{\textcircled{2}}$ output (J8-4 pin) is 4.00 V \pm 5 mV.

Note: When the scale is changed, wait until it stabilizes.

(c) AM/FM demodulator

(i) AM demodulator

Step	Procedure
1	Confirm that signal at TP16 $\text{\textcircled{25}}$ is 20 MHz and \geq 2 V _{p-p} .
2	Set the scale to LIN and adjust R430 $\text{\textcircled{26}}$ so that the voltage at TP20 $\text{\textcircled{27}}$ is 0 V with the input terminated.
3	Adjust R240 $\text{\textcircled{28}}$ so that the voltage at TP20 $\text{\textcircled{27}}$ is 4.00 V \pm 10 mV.

(ii) FM demodulator

Step	Procedure
1	Set the MS420 frequency to 21.3 MHz and adjust L46 $\text{\textcircled{29}}$ so that the voltage at Y2 $\text{\textcircled{30}}$ (J8-5 pin) is the lowest possible.
2	Set the MS420 frequency to 21.5 MHz and adjust L45 $\text{\textcircled{31}}$ so that the voltage at Y2 $\text{\textcircled{30}}$ is the largest possible.
3	Adjust R314 $\text{\textcircled{32}}$ so that the voltage difference between step 1 and 2 is 4.00 V \pm 50 mV.
4	Adjust R316 $\text{\textcircled{33}}$ so that the voltage at step 1 becomes a value between 0 to 50 mV.

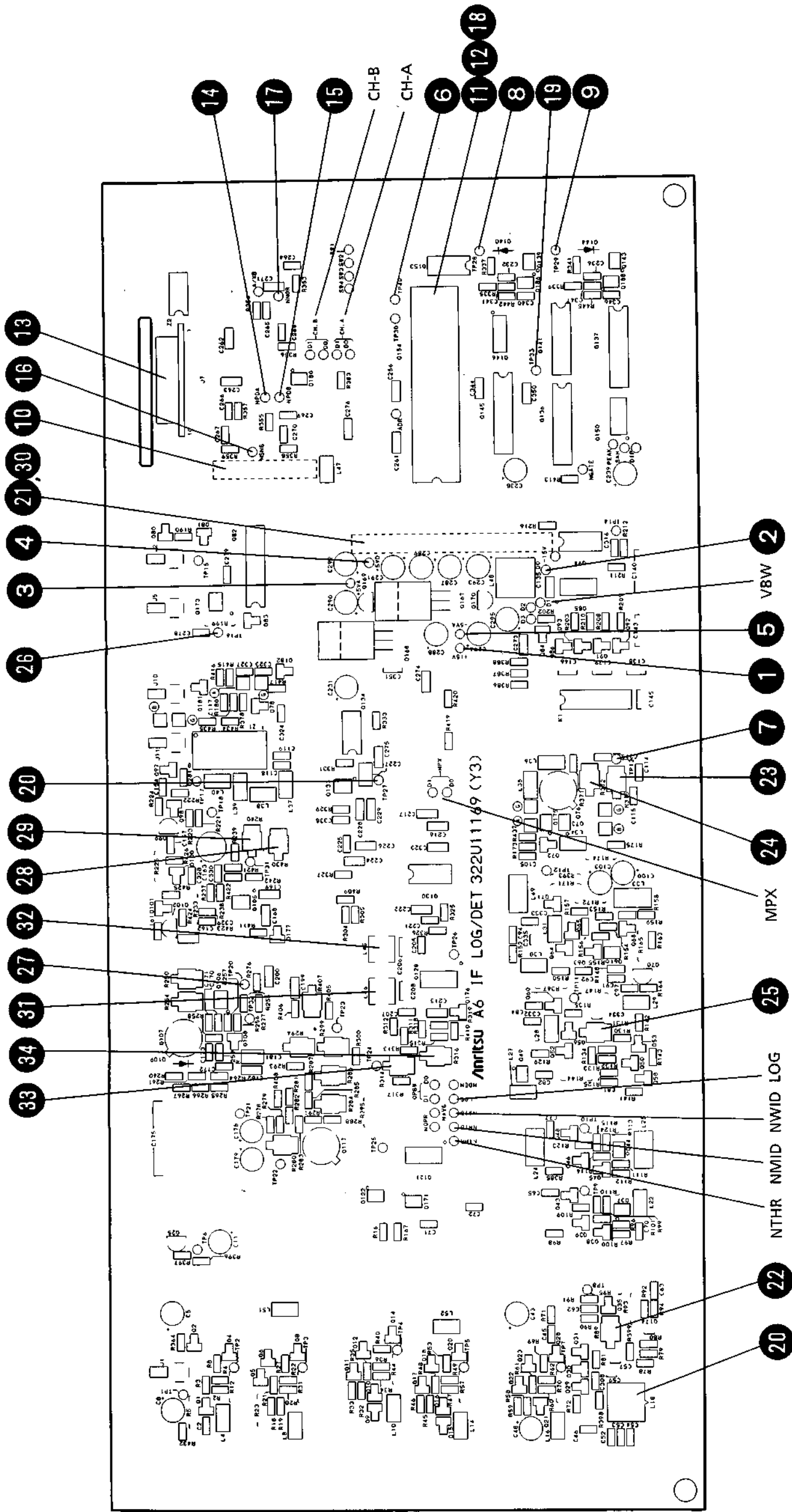


Fig. 3-79 (1/2)
 A6 IF LOG/DET PC-Board Parts
 Layout (Component Side) **33**

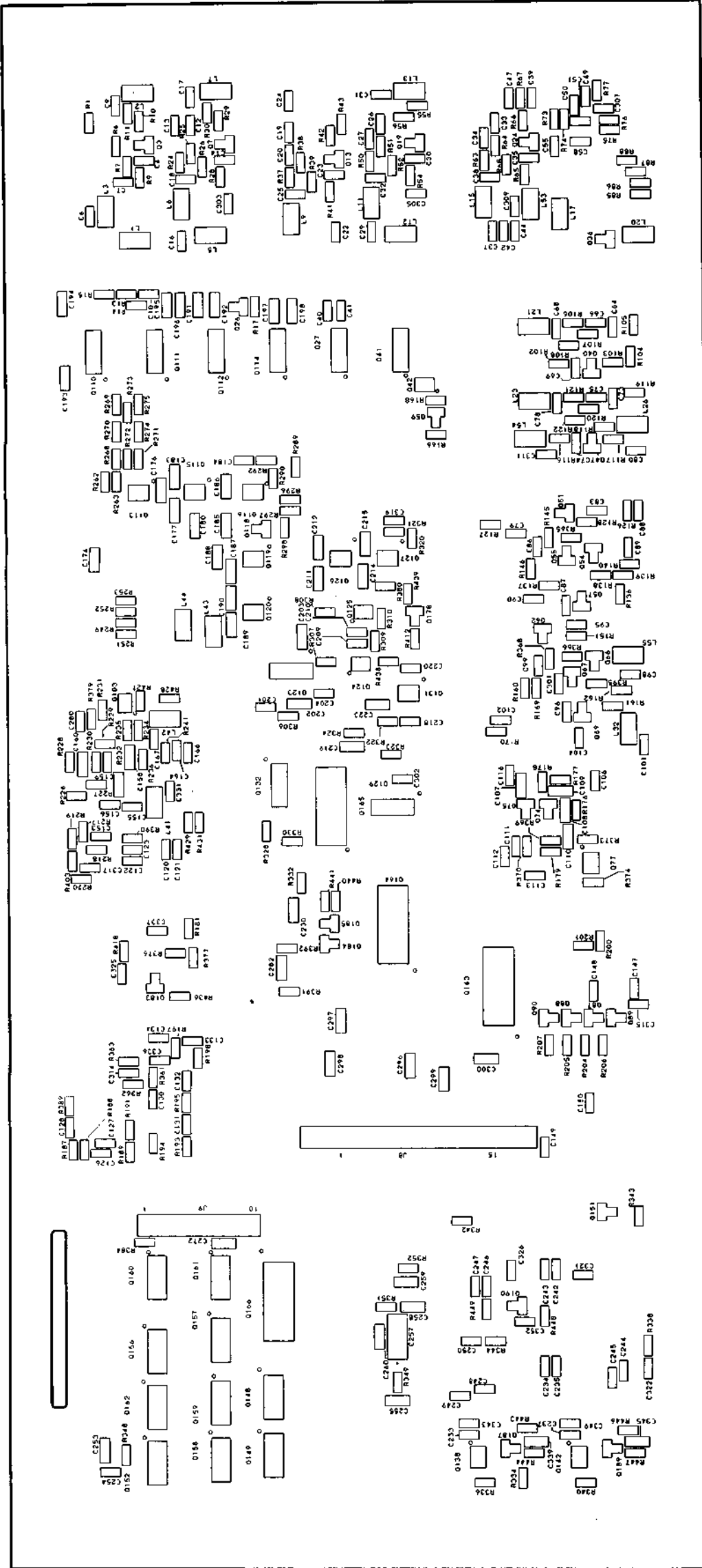


Fig. 3-79 (2/2)
 A6 IF LOG/DET PC-Board Parts
 Layout (Pattern Side) **33**

33W31175
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LOG/LIN AMP

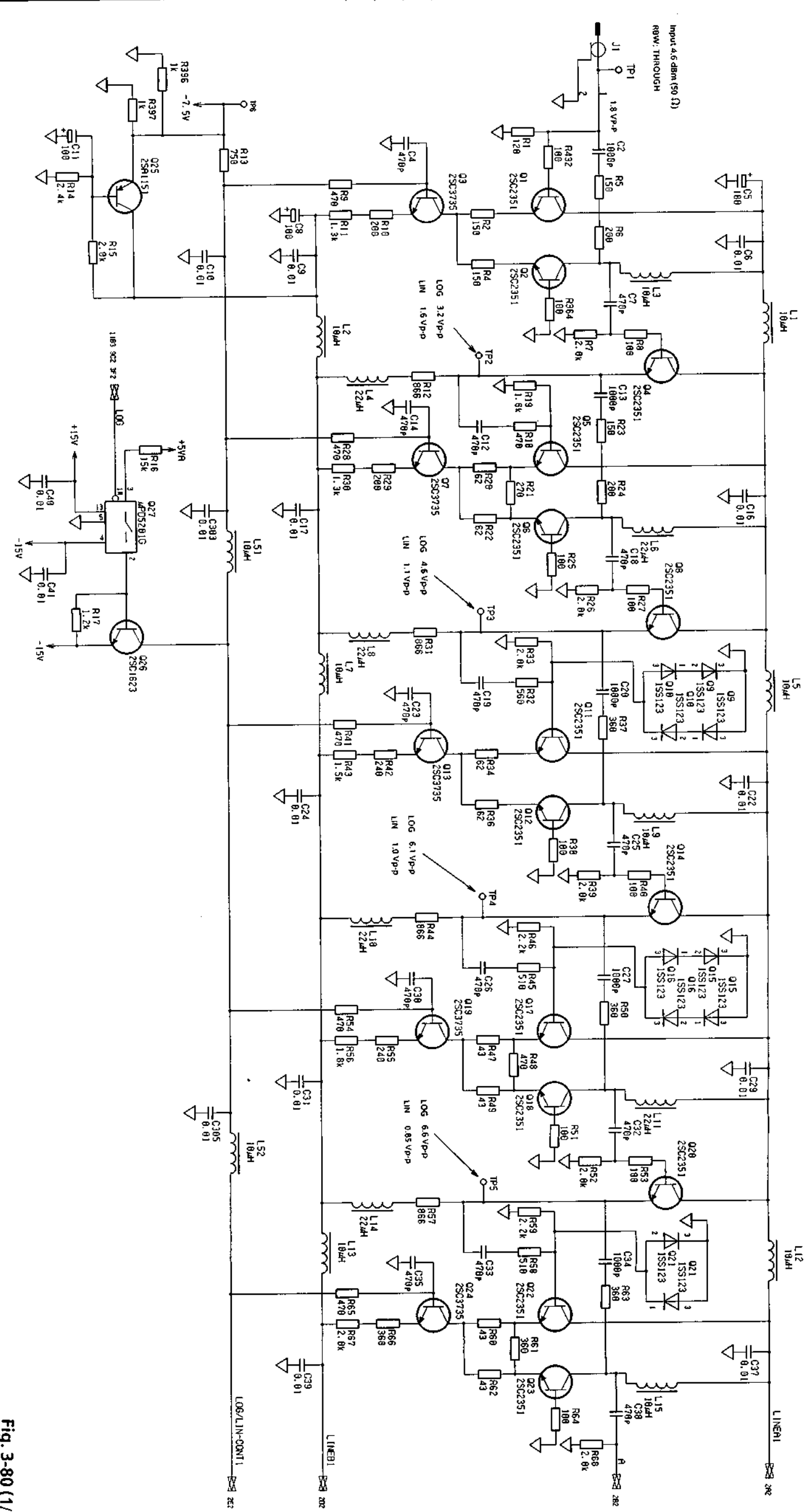


Fig. 3-80 (1/11)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>H. Shea</i>				
APPROVED BY <i>R. Sada</i>				
DRAWN BY		DESIGNED BY <i>R. Sada</i>		
SCALE				
TITLE A6IF LOG/DET				
DRAWING No. 33W31175				
3-243/3-244				

33



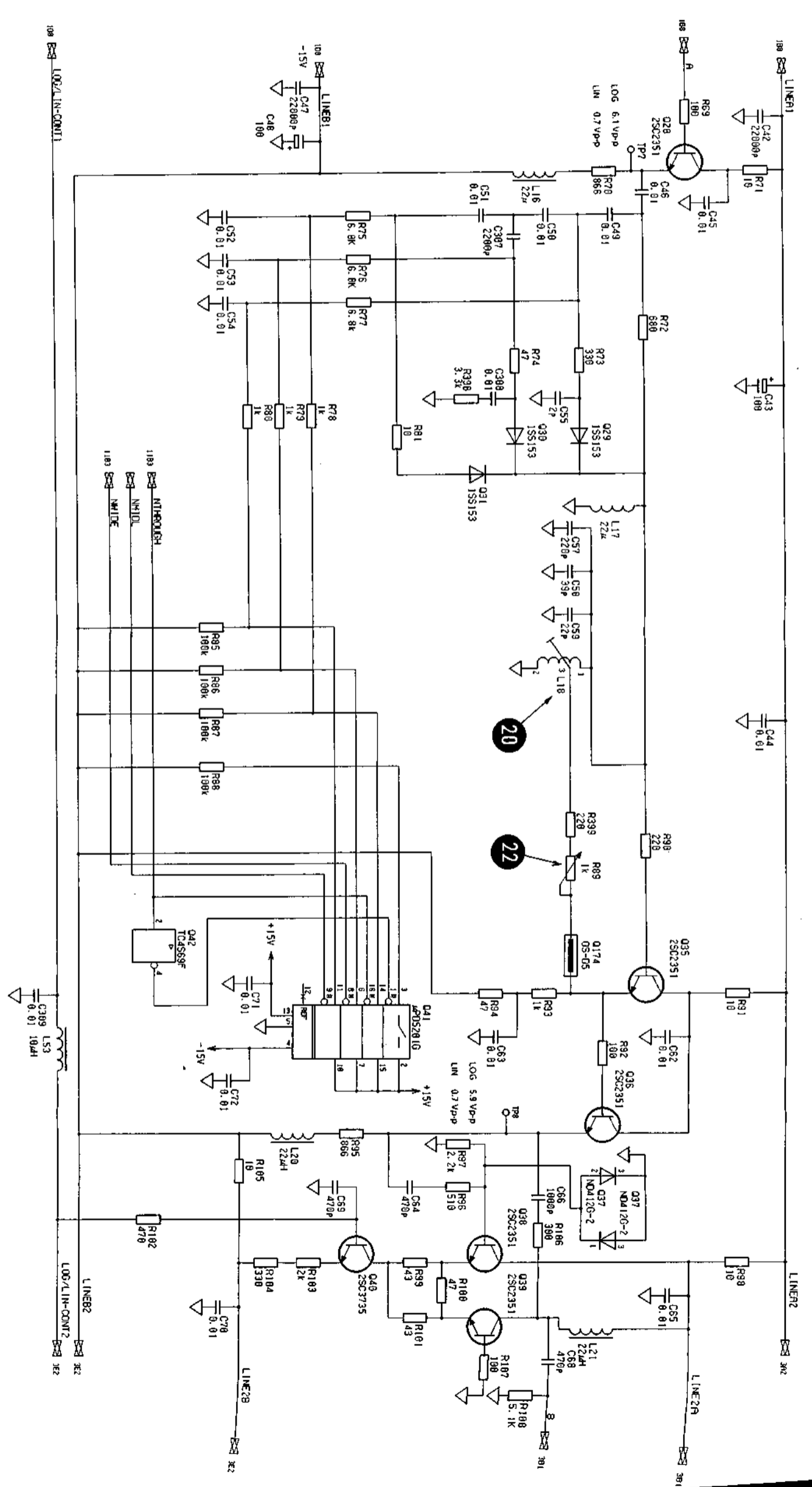


Fig. 3-80 (2/1)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY <i>U. Oku</i>	DRAWN BY <i>H. Kawasaka</i>
APPROVED BY <i>K. Sada</i>	DESIGNED BY <i>H. Kawasaka</i>
TITLE A6IF LOG/DET	
DRAWING No. 33W31175	

DEP

REVISIONS

A

B

C

D

E

F

33W31175
APPLICATION

REVISIONS

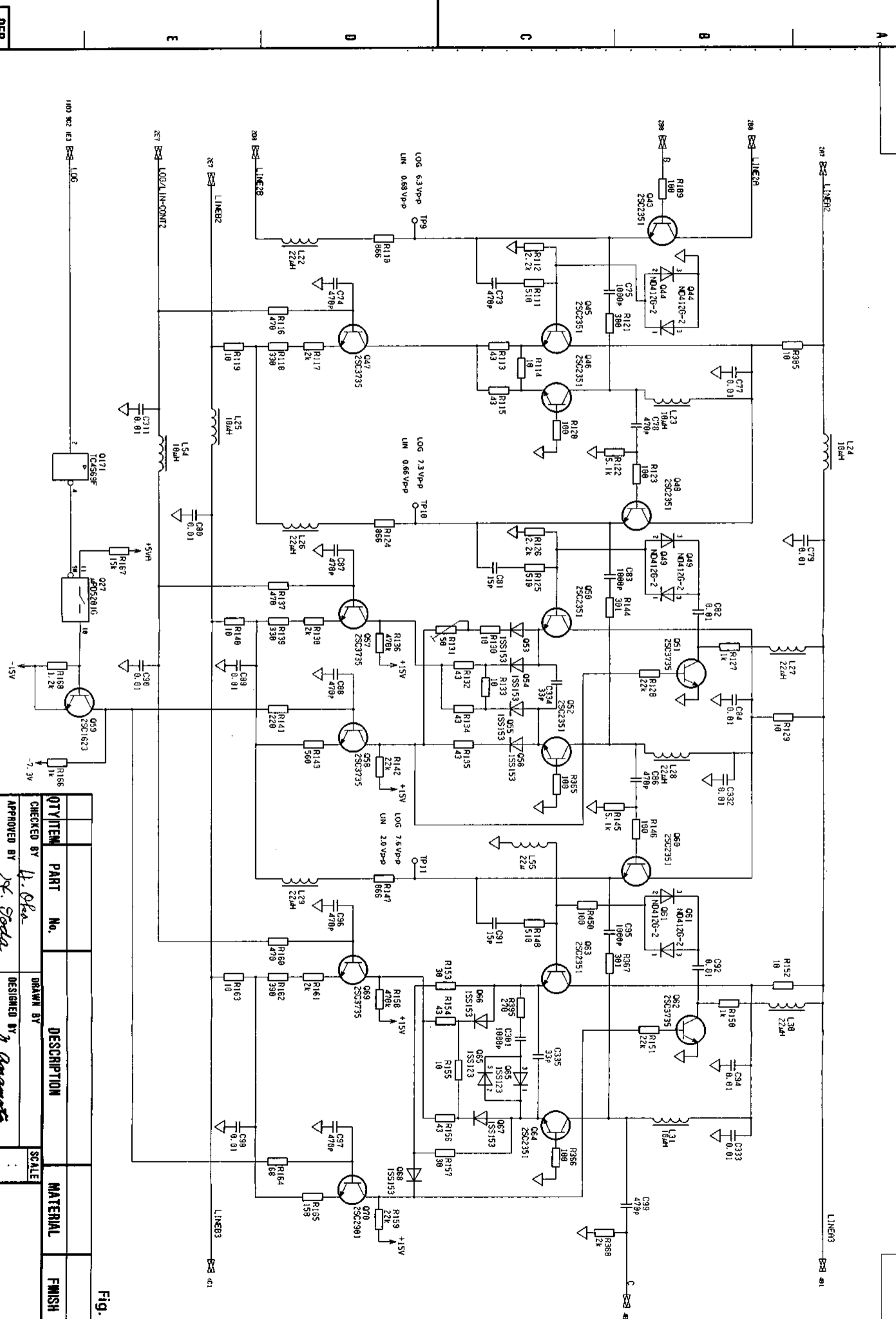


Fig. 3-80 (3/11)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *P. Opa*
APPROVED BY *R. Soda*

DRAWN BY
DESIGNED BY *R. Opa*

SCALE
DRAWING No.

33

TITLE
A6 IF LOG/DET
33W31175
3-247/3-248

DEP

1 2 3 4 5 6 7 8

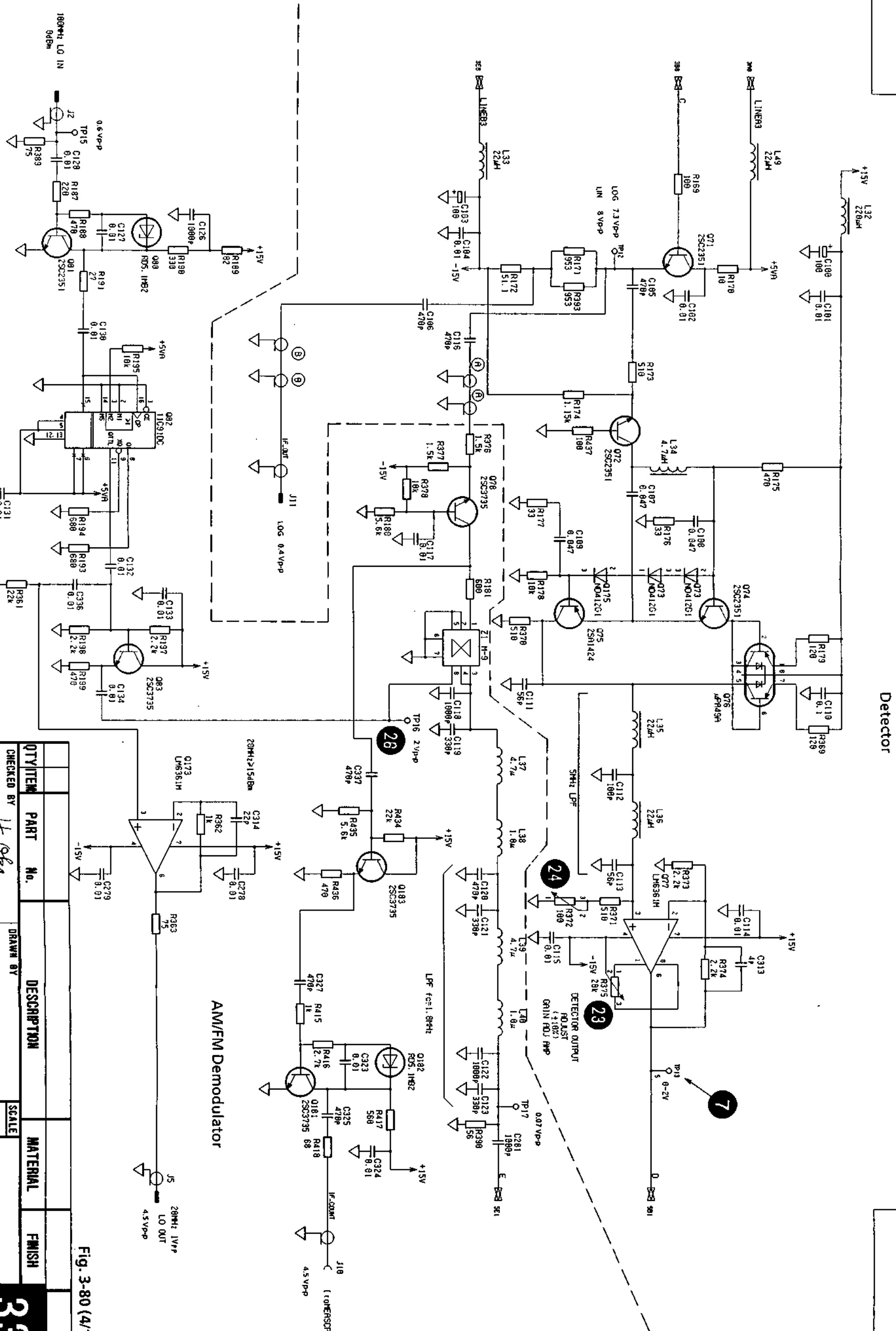


Fig. 3-80 (4/11)

QTY	PART No.	DESCRIPTION	MATERIAL	FINISH
1	33W31175	AM/FM LOG/DET		

CHECKED BY: *H. Oka*
 APPROVED BY: *M. Sada*
 DRAWN BY: *H. Oka*
 DESIGNED BY: *H. Oka*

TITLE: AM/FM LOG/DET
 DRAWING No.: 33W31175
 3-24/3-250

33



33W31175
APPLICATION

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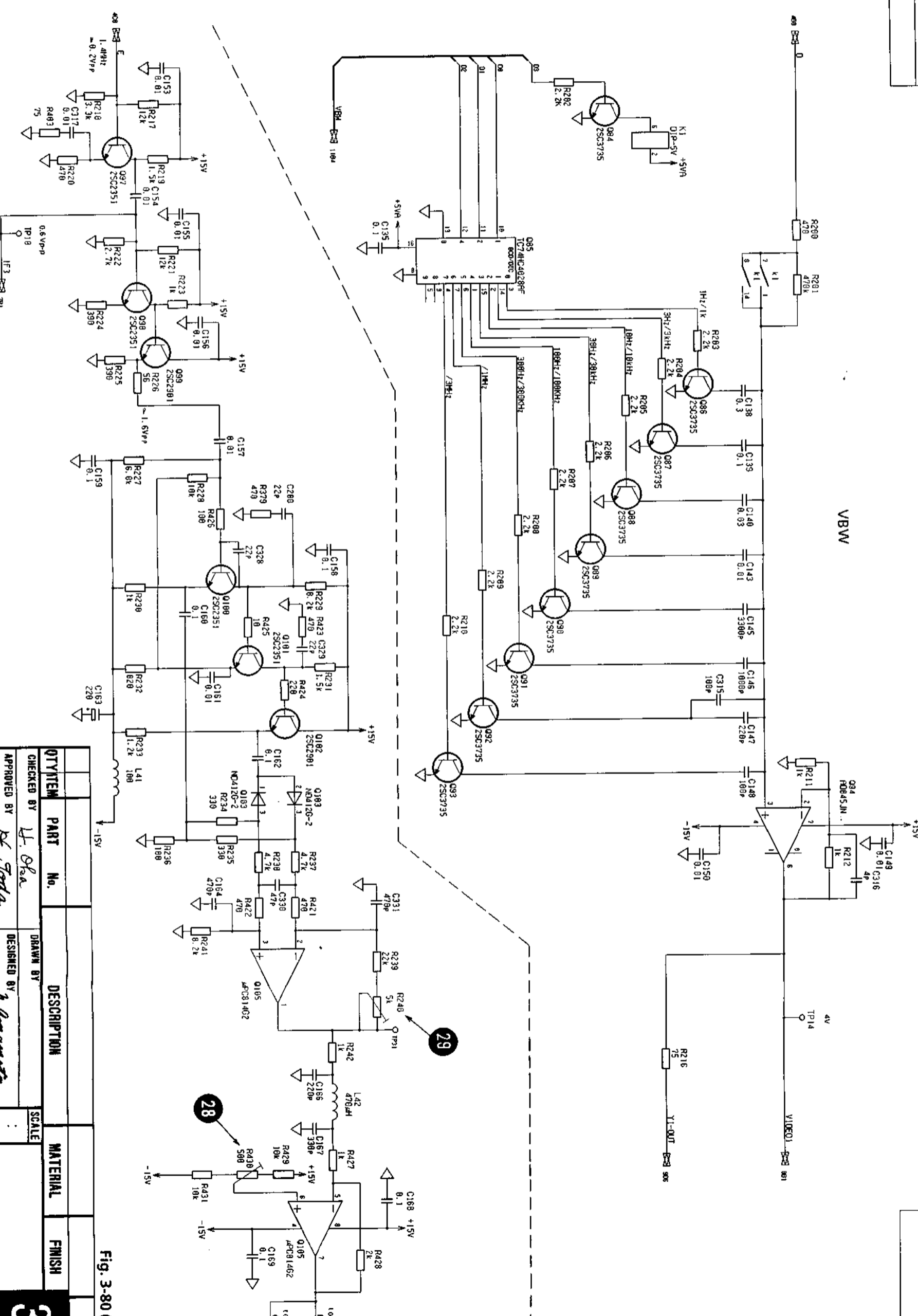


Fig. 3-80 (5/11)

AM/FM Demodulator

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				

33

TITLE: A6IF LOG/DET
 DRAWING No. 33W31175
 3-25/13-252

ANRITSU CORP.



;

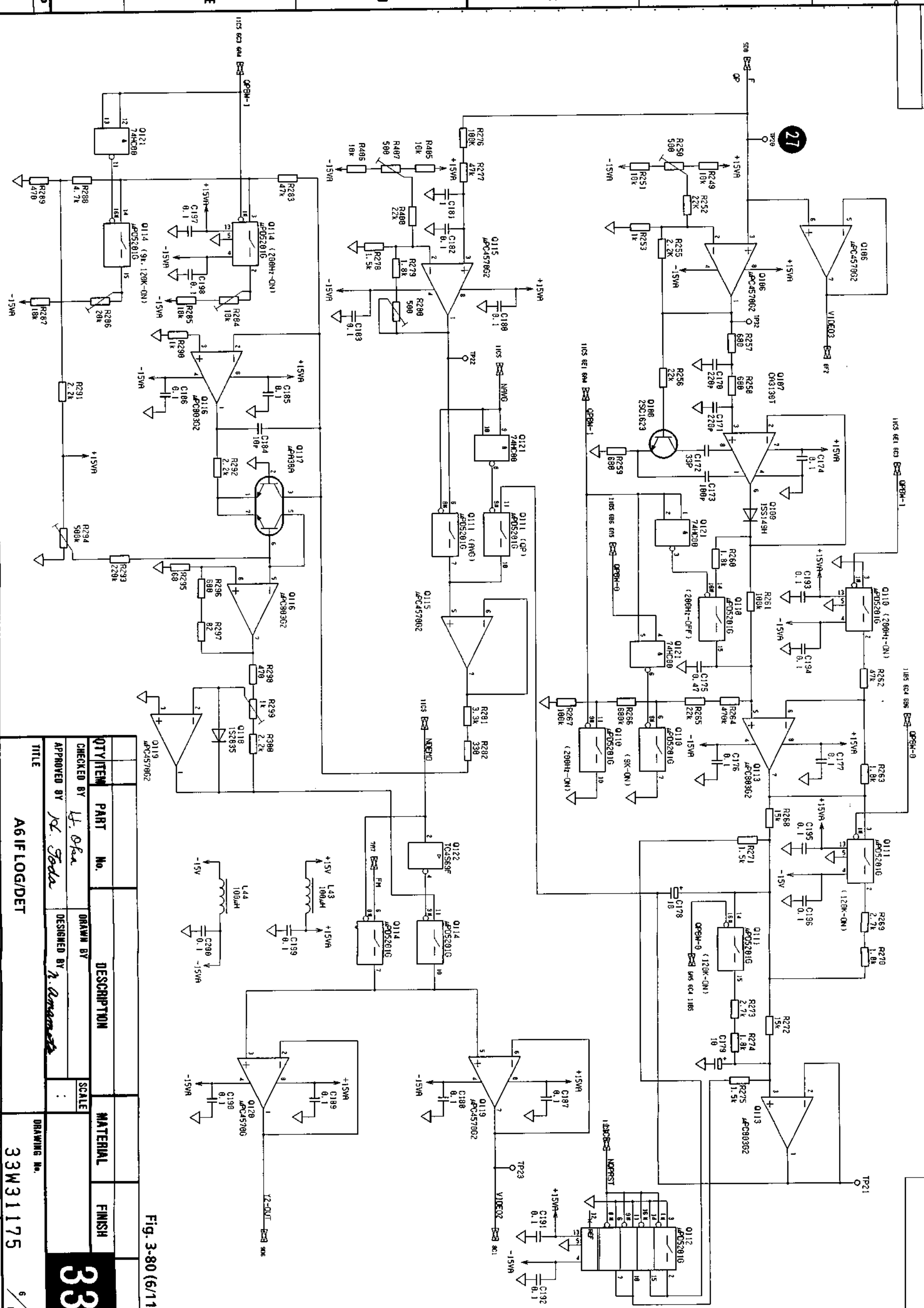
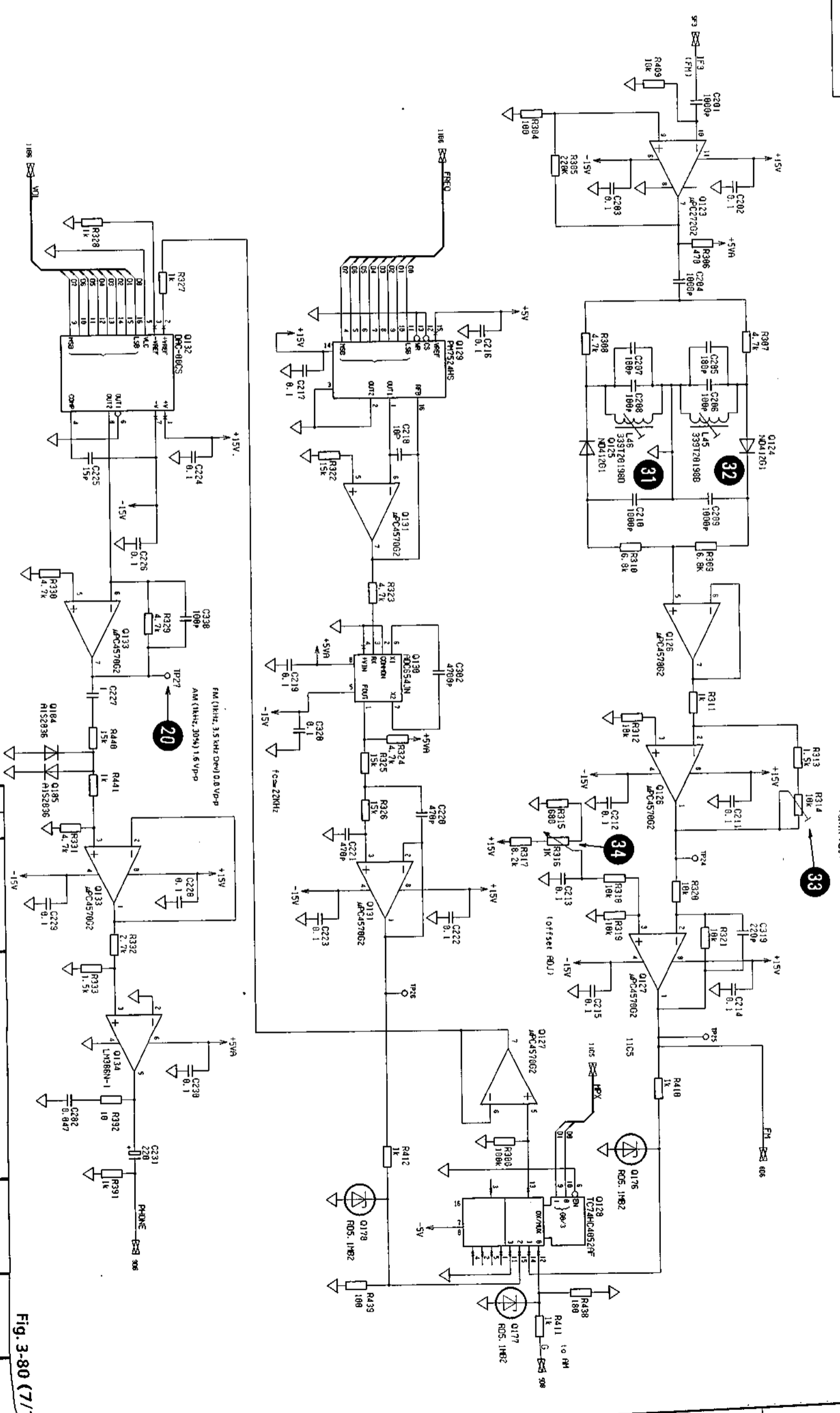


Fig. 3-80 (6/11)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *L. Olan*
 APPROVED BY *R. Soda*
 DRAWN BY
 DESIGNED BY *N. Amara*
 TITLE: AGIF LOG/DET
 DRAWING No. 33W31175
 3-253/3-254

33



AM/FM Demodulator

Fig. 3-80 (7/11)

QTY/ITEM	PART No.	DESCRIPTION	SCALE	MATERIAL	FINISH
CHECKED BY	<i>L. Oke</i>				
APPROVED BY	<i>R. Seda</i>				
DESIGNED BY	<i>R. Oakes</i>				

TITLE: A6 IF LOG/DET

33

DRAWING No. 33W31175

ANRITSU CORP. 3-2553-256

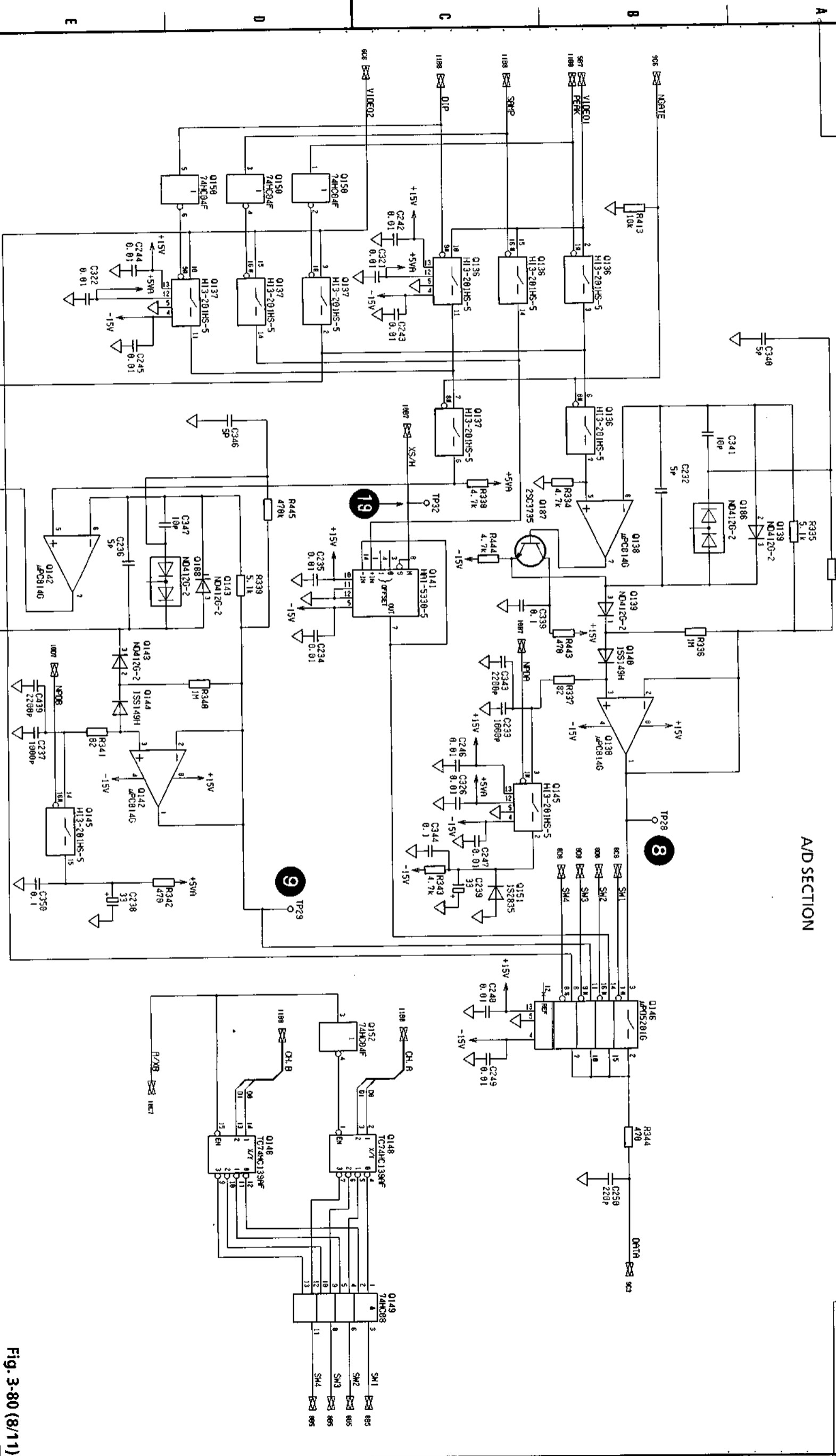
DEP



33W31175
APPLICATION

2 3 4 5 6 7 8

REVISIONS



A/D SECTION

8

9

19

Fig. 3-80 (8/11)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY	<i>H. Oka</i>	DRAWN BY		
APPROVED BY	<i>K. Soda</i>	DESIGNED BY	<i>K. Sawamura</i>	
TITLE A6 IF LOG/DET				

DRAWING No. 33W31175

33

DEP

ANRITSU CORP. 3-257/3-258





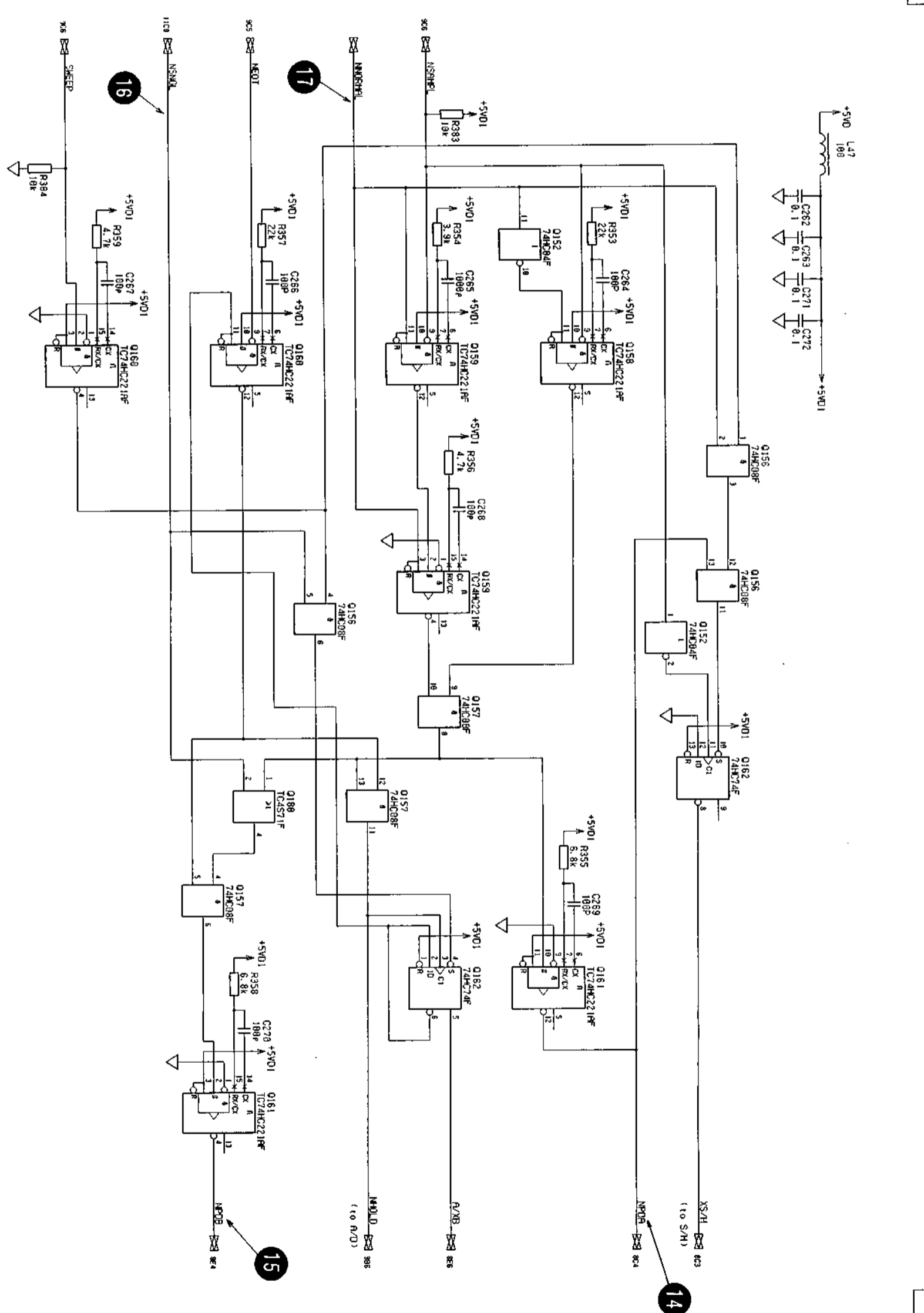


Fig. 3-80 (10/11)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *L. Oka* DRAWN BY *R. Oka* SCALE: *1:1*

APPROVED BY *R. Oka* DESIGNED BY *R. Oka*

TITLE: **AGIF LOG/DET**

DRAWING No. **33W31175**

33

DEP

ANRITSU CORP. 3-261/3-262

33W31175
APPLICATION

REVISIONS

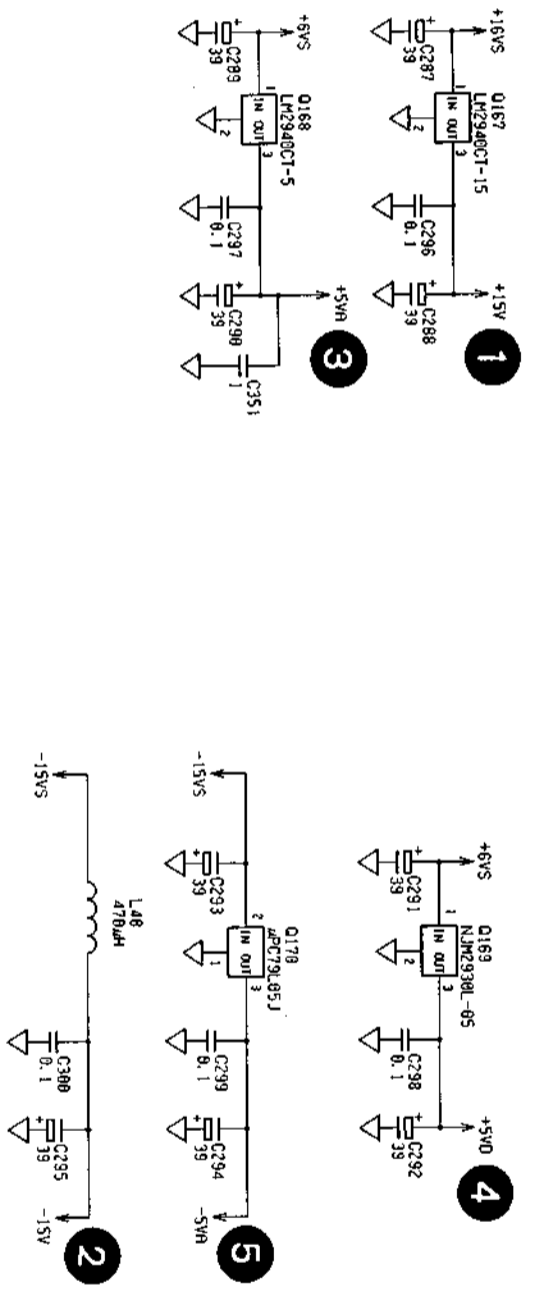
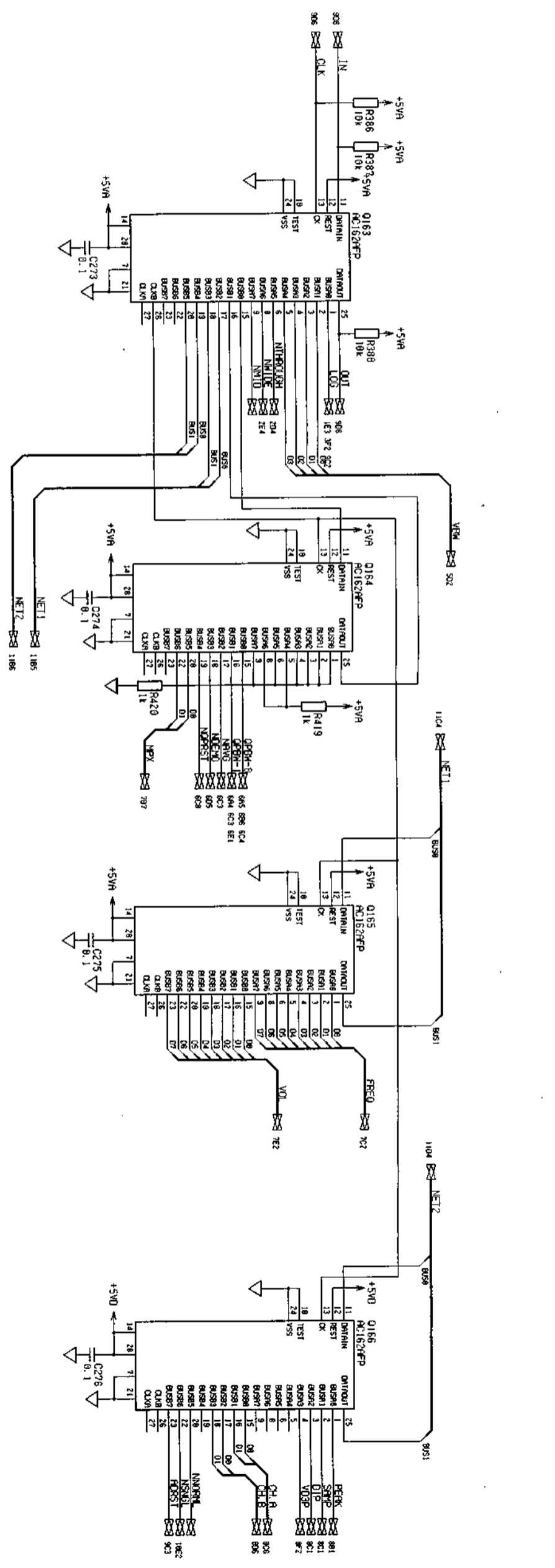


Fig. 3-80 (11/11)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>H. Oka</i>			DRAWN BY	SCALE	
APPROVED BY <i>J. Soda</i>			DESIGNED BY <i>H. Kawasumi</i>		
TITLE A6 I/F LOG/DET					
DRAWING No. 33W31175					
33					

DEP

1 2 3 4 5 6 7 8

ANRITSU CORP. 3-263/3-264



3.7 A5 SCAN 32

3.7.1 Symptoms and causes

Symptom	Cause
1. The waveform does not appear on the screen.	Sweep signal generator, clock generator, counter, sampling clock generator, controller faulty
2. The frequency waveform display is faulty.	Sweep signal generator faulty
3. SWEEP TIME is faulty.	Sweep signal generator faulty
4. TIME SPAN is faulty.	Clock generator faulty
5. The trigger operation is not executed.	Trigger section faulty

3.7.2 Troubleshooting

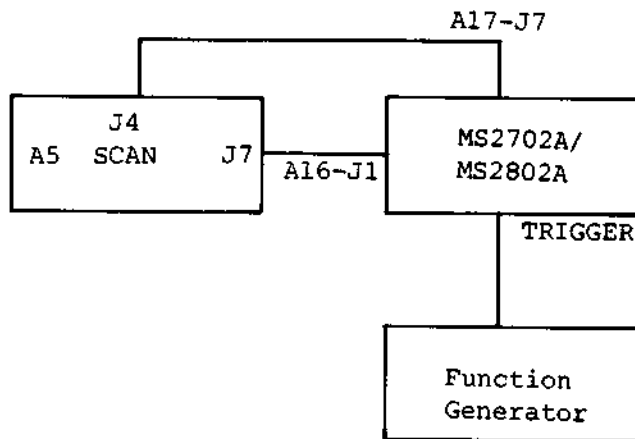
(1) Required equipment

Digital voltmeter
Function generator
Oscilloscope

(2) Setup

Refer to SECTION 5 (MECHANICAL ASSEMBLY) and remove A5 SCAN from the MS2702A/MS2802A.

Set-up as shown in Fig. 3-81.



Connect A5 SCAN J4 to A17 MOTHER BOARD J7.

Connect A5 SCAN J7 to A16 REAR PANEL J1.

Connect the Function Generator to TRIGGER on the rear panel of the MS2702A/MS2802A.

Fig. 3-81

(3) Troubleshooting

(a) DC power supplies

Confirm that the voltages output at the following test points meet the specifications.

Test point	Normal value
+ 15 V ①	+14.3 V to +15.7 V
- 15 V ②	-14.3 V to -15.7 V
+ 5 V ③	+4.75 V to +5.25 V
+ 8 V ④	+8.192 V ± 16 mV

(b) Sweep signal generator

Step	Procedure
------	-----------

- 1 Confirm that the signal timing at each test point is as follows:

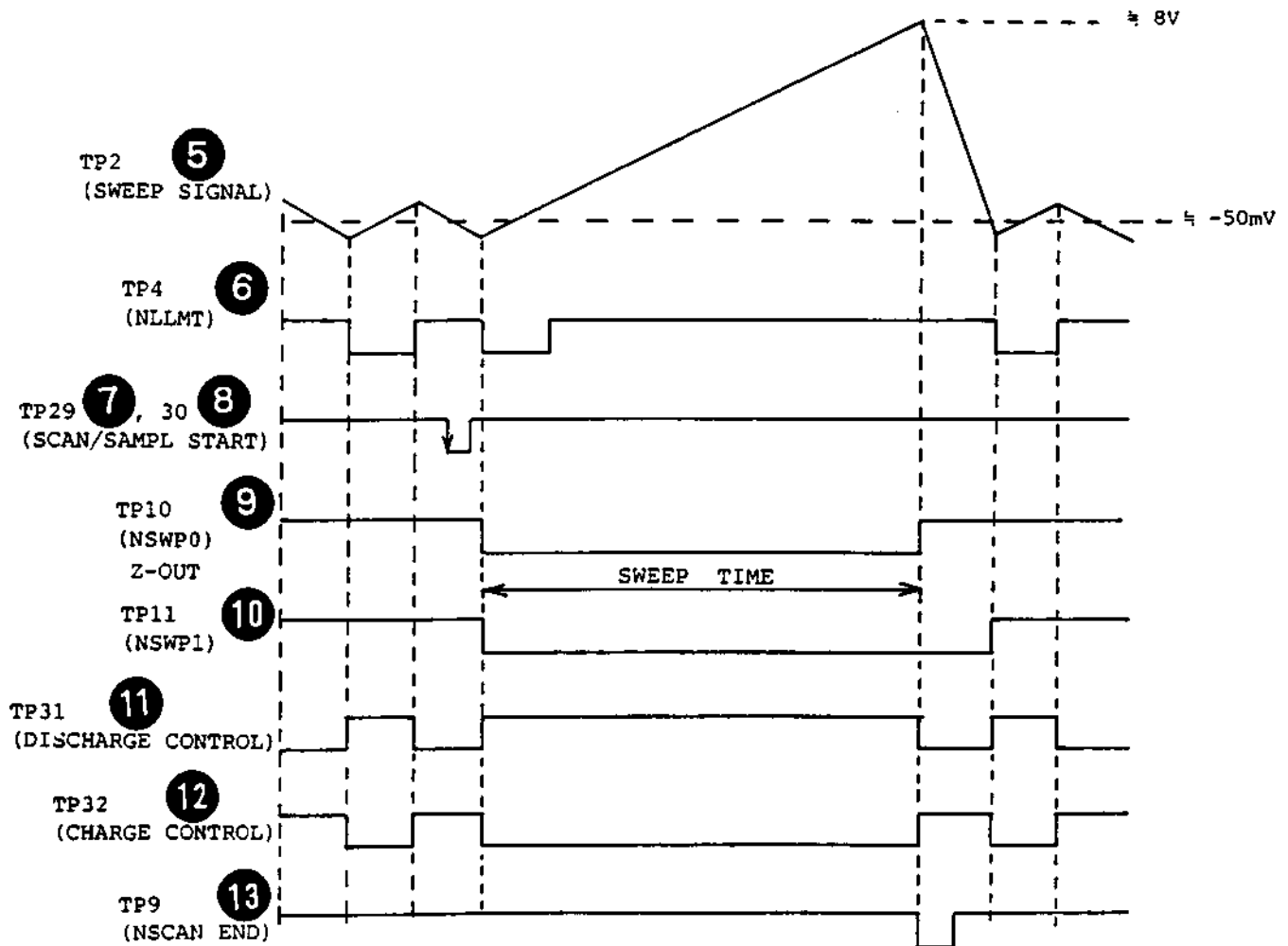


Fig. 3-82 Timing Chart
(Except in TIME Mode)

(Continued)

Step	Procedure
------	-----------

- 2 Confirm that the following voltage is output at TP1 15. If it is output, the sweep reference voltage is normal.

$$\text{TP1 } \ominus \text{ voltage} = -(\text{Q2 D/A set value})/4096 \times 8.192 \text{ V}$$

D/A set value = 40000/SWEEP TIME (integer in ms units) upper two digits
(for 50 ms to 990s)
three digits
(for 1000s to 2000s)

Table 3-88

STEP RANGE	SWEEP TIME	Q2				Q43			
		23	22	20	19	20	19	18	17
×10 ms	50 to 990 ms	1	0	0	0	1	0	1	0
×100 ms	1.0 to 9.9 s	1	0	0	1	0	1	0	1
×1 s	10 to 99 s	1	0	0	1	1	0	1	0
×10 s	100 to 2000 s	0	1	0	1	1	0	1	0

- 3 Confirm that the following voltage is present at TP25 15. If it is present, SPAN ATT is normal.

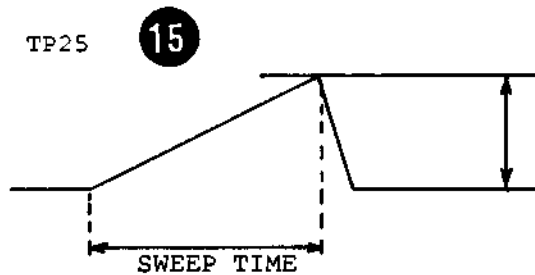


Fig. 3-83

$$\text{TP25 } \ominus \text{ voltage} = (\text{Q19 D/A set value})/4096 \times 8 \text{ V (SPAN} \leq 10 \text{ GHz)}$$

(Continued)

Step	Procedure
3 (Cont'd)	D/A set value = 0 (SPAN = 0 Hz)
	= SPAN × 2 (SPAN ≤ 2 Hz)
	= SPAN/5 (SPAN ≤ 20 Hz)
	= SPAN/50 (SPAN ≤ 200 Hz)
	= SPAN/500 (SPAN ≤ 2 MHz)
	= SPAN/2 500 (SPAN ≤ 10 MHz)
	= SPAN/25 000 (SPAN ≤ 100 MHz)
	= SPAN/250 000 (SPAN ≤ 1 GHz)
	= SPAN/2 500 000 (SPAN ≤ 10 GHz)
	= SPAN/10 000 000 (SPAN ≤ 24.5 GHz)
	(SPAN: Hz-units integer upper-three digits)

4 Confirm that the control signals are as follows:

Table 3-89

Q19		Remarks
Pin 23	Pin 1	
1	0	10 MHz < SPAN ≤ 100 MHz
0	1	10 GHz < SPAN ≤ 24.5 GHz
0	0	Other than above

(c) X-SCAN signal generator

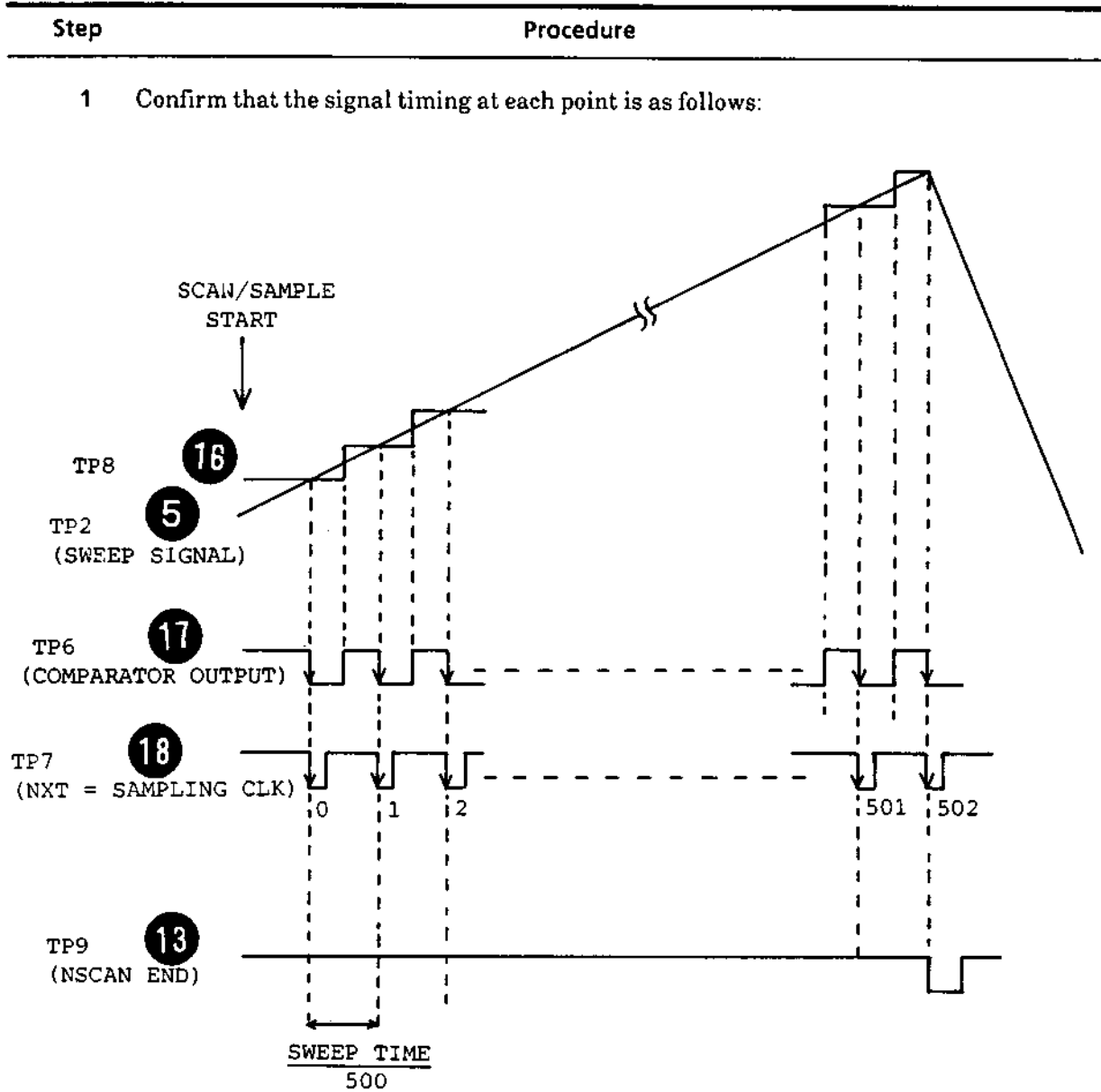


Fig. 3-84 Timing Chart

Step	Procedure
------	-----------

- 2 Confirm that the control signals are as follows:

Table 3-90

Control	Q22 Pin No.
	1 to 6, 8, 9, 15 to 20, 22, 23
	All 0
	Q31 Pin No.
	1, 2, 3, 4, 5, 6, 8, 9, 15, 16, 17, 18, 19, 20, 22, 23
Except TIME mode (SPAN \leq 10 GHz)	0 0 0 1 1 1 0 1 1 1 1 1 0 0 0 0
TIME mode (DELAY = 0)	0 0 0 0 1 1 0 1 1 1 1 1 0 0 0 0

(d) Clock generator

Step	Procedure
1	Confirm that the clock appears with an interval of TIME SPAN/500 at TP15 19. Confirm that a signal of approx. 25 kHz is output at TP17 22.
2	Confirm that the signal timing at each point is as follows:

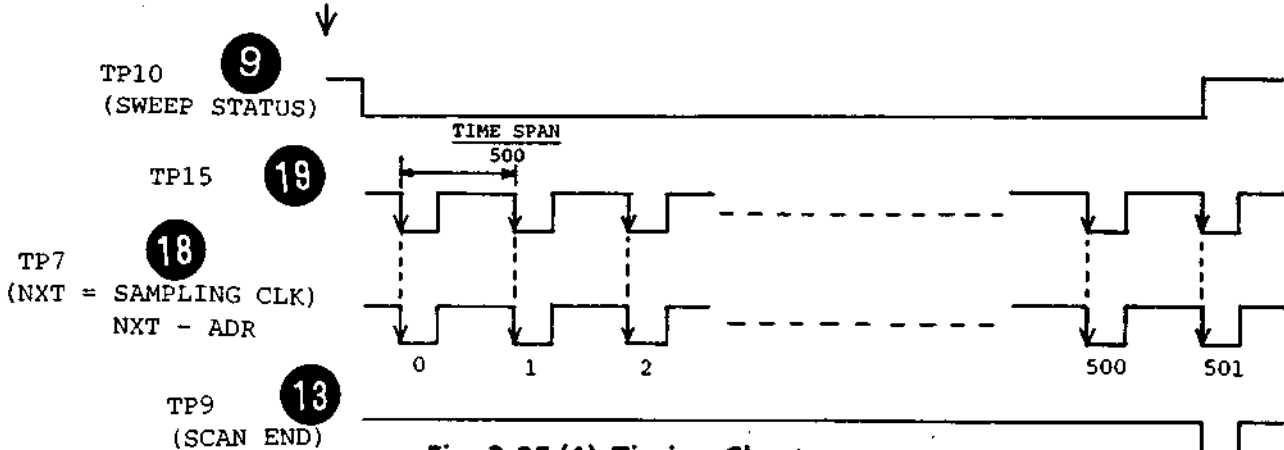


Fig. 3-85 (1) Timing Chart

(Time Span \geq 100 ms, INT, in TIME Mode)

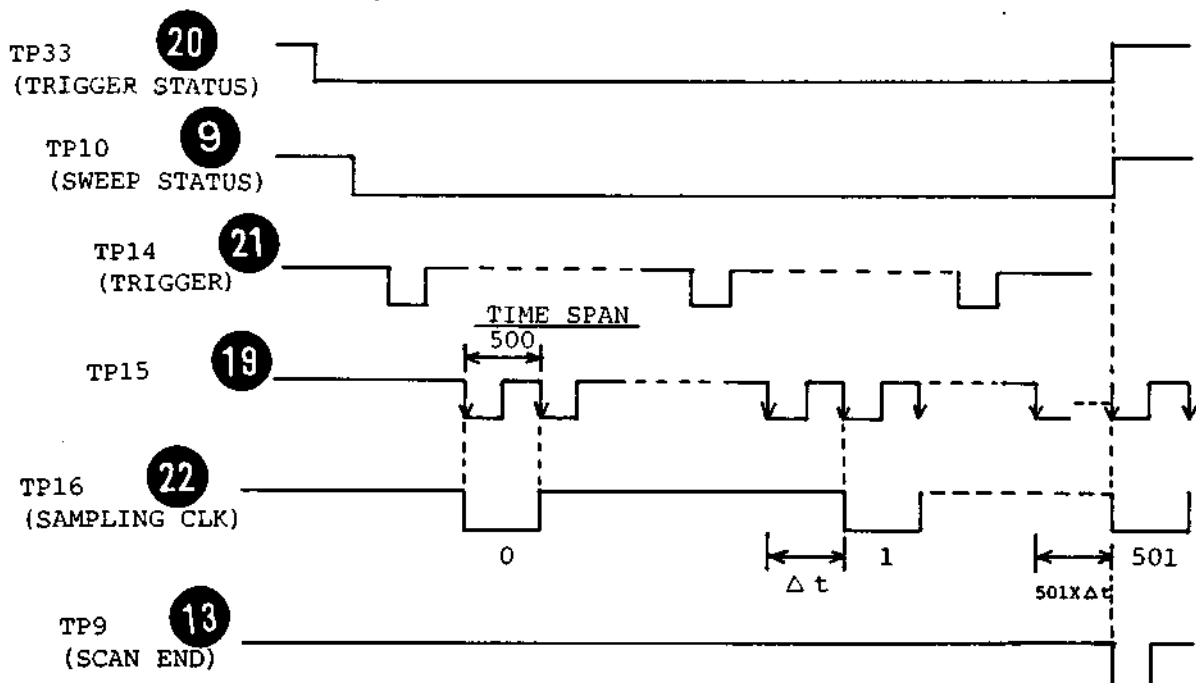


Fig. 3-85 (2) Timing Chart

(Time Span \leq 100 ms, EQUIV, in TIME Mode)

$$\Delta t = \frac{\text{TIME SPAN}}{500}$$

(Continued)

Step	Procedure
------	-----------

3 Confirm that the control signals are as follows:

Table 3-91

	TIME SPAN	Q69 Pin No.		
		23	22	20
EQIV	50 μ s	0	0	1
	100 μ s	0	1	0
	\geq 200 μ s	1	0	0
INT	ALL	1	0	1
		Q72 Pin No.		
		1 to 6, 8, 9, 15 to 18		
EQUIV	ALL	All 0		

(e) Sampling clock generator

Step	Procedure
------	-----------

- 1 Confirm that the signal timing at each point is as follows:

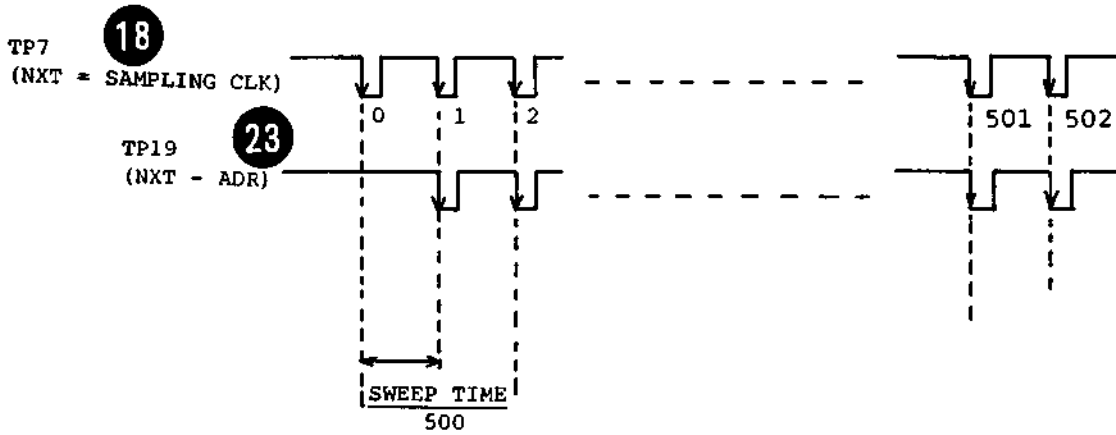


Fig. 3-86 (1) $SWT < 700$ ms

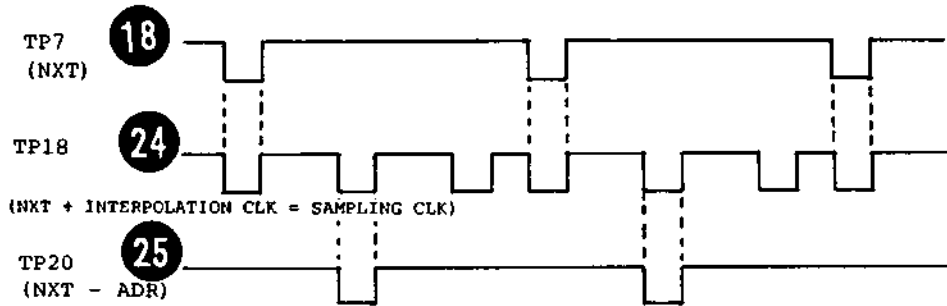


Fig. 3-86 (2) $SWT \geq 700$ ms

(Continued)

Step	Procedure
------	-----------

- 2 Confirm that the control signal for each section is as follows:

Table 3-92

Control	Q19	Pin No.
	20	19
Except TIME mode	0	0
INT	0	1
EQUIV	1	0
EXT	1	1

Table 3-93

Control	Q72	Pin No.
	20	19
SWEEP TIME < 700 ms	0	0
SWEEP TIME \geq 700 ms	0	1
Display mode TIME	1	0

(f) Trigger signal generator

Step	Procedure
1	Confirm that the voltage at TP12 26 is as follows: $TP12 = (D/A \text{ set value}) / 4096 \times 2 - 1 \times 15$ $D/A \text{ set value} = \text{Trigger level (V)} \times 10 / 2 \times 7 + 2048$
2	Confirm that the signal timing at each point is as shown in Fig. 3-87. Confirm that the pulse waveform at TP13 is reversed by selecting the rising or falling edge trigger. Set EQUIV (TIME mode) and confirm that the pulse is output at TP14.

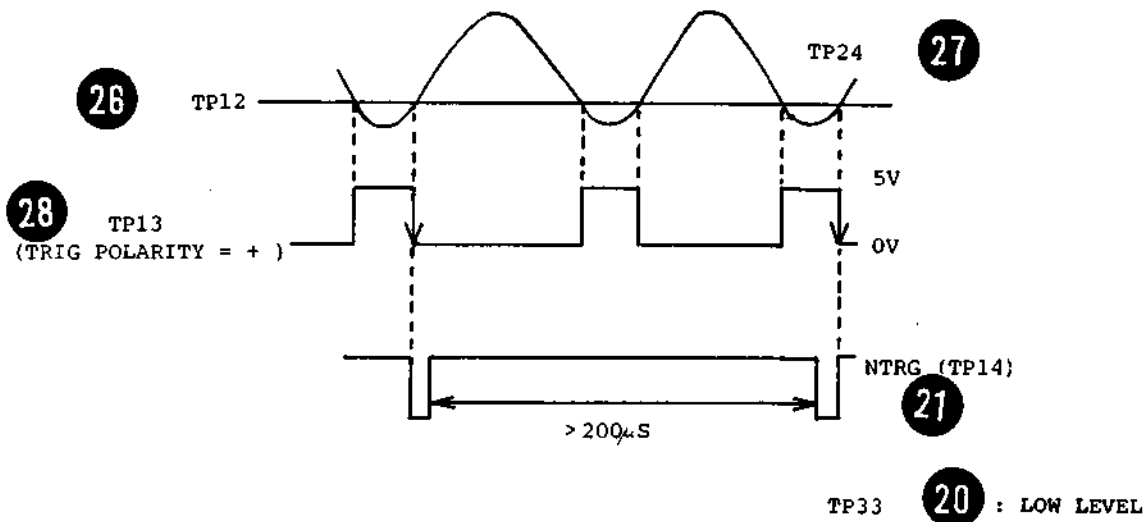


Fig. 3-87

(Continued)

Step	Procedure
------	-----------

3 Confirm that the control signals are as follows:

Table 3-94

	Q49 Pin No.				
	5	4	3	2	1
(1) TRIG source control					
FREE	1	1	1	1	1
TRACE-A, B	1	1	1	1	0
LINE	1	1	0	1	1
EXT (DC)	1	0	1	1	1
(AC)	0	1	1	1	1

	Q49 Pin No.		
	9	8	6
(2) Mode control			
TIME mode (INT)	1	0	1
(EQUIV)	0	1	1
Others	1	1	0

	Q65 Pin No.	
	19	
(3) TRIG control		
Rising-edge trigger	0	
Falling-edge trigger	1	

(g) Control circuit

The sweep START, and trigger enable/disable control is shown in Fig. 3-88

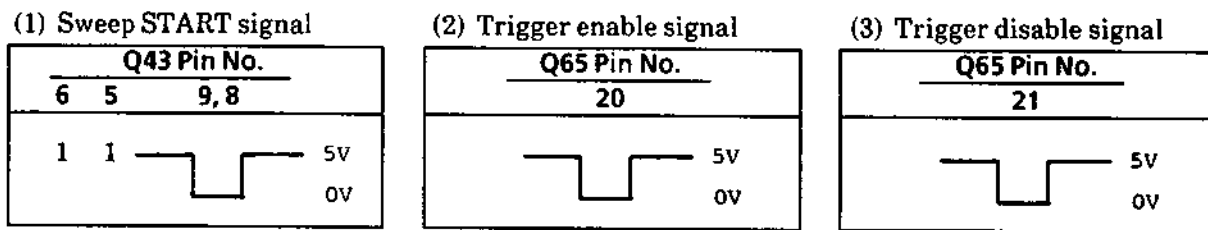


Fig. 3-88

(h) Gate signal generator

Step	Procedure
------	-----------

- 1 Confirm that the signal timing for each point is as follows:

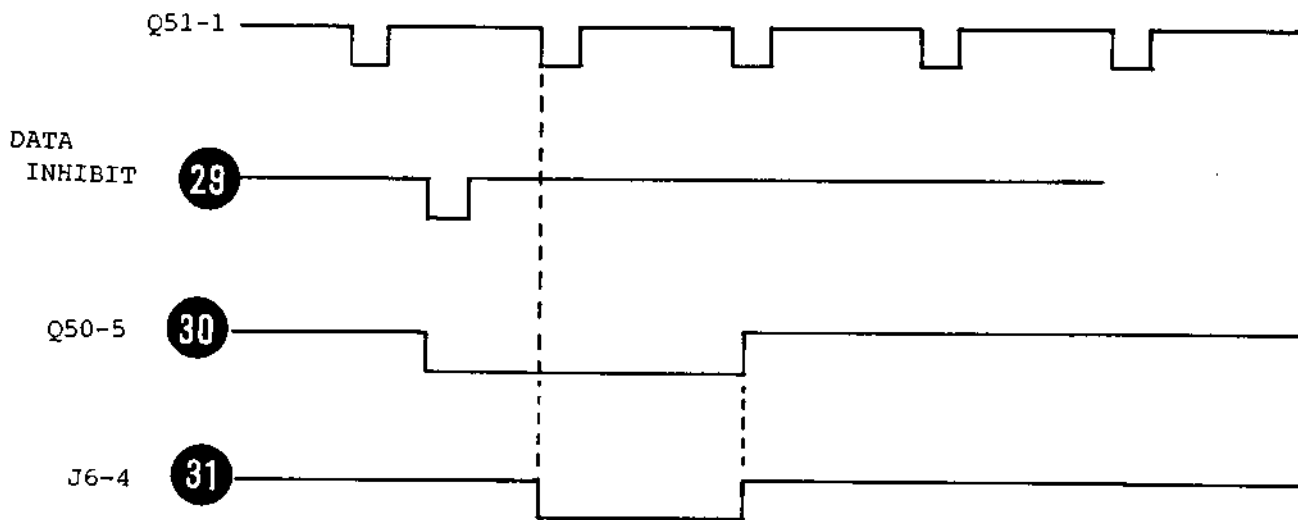


Fig. 3-89

- 2 Confirm that the control signals are as follows

Table 3-95

SCAN mode	Q49 Pin No.						
	23	22	20	18	17	16	15
MORMAL	1	0	1	1	0	0	0
BURST	1	1	0	0	1	0	1
EXT	1	1	0	0	1	1	1

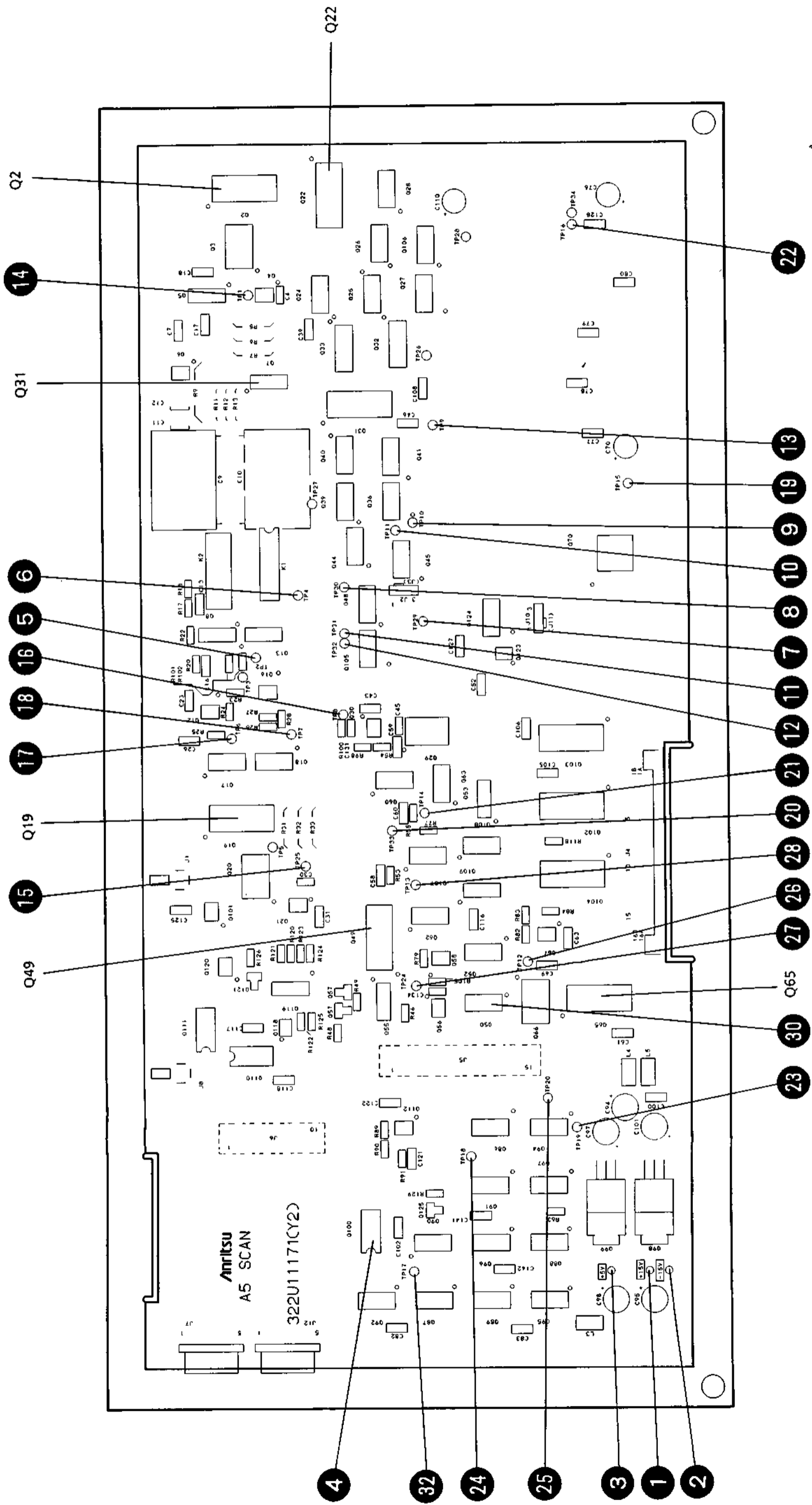


Fig. 3-90 (1/2)
 A5 SCAN PC-Board Parts Layout
 (Component Side) **32**

(3 - 279 blank)/3 - 280



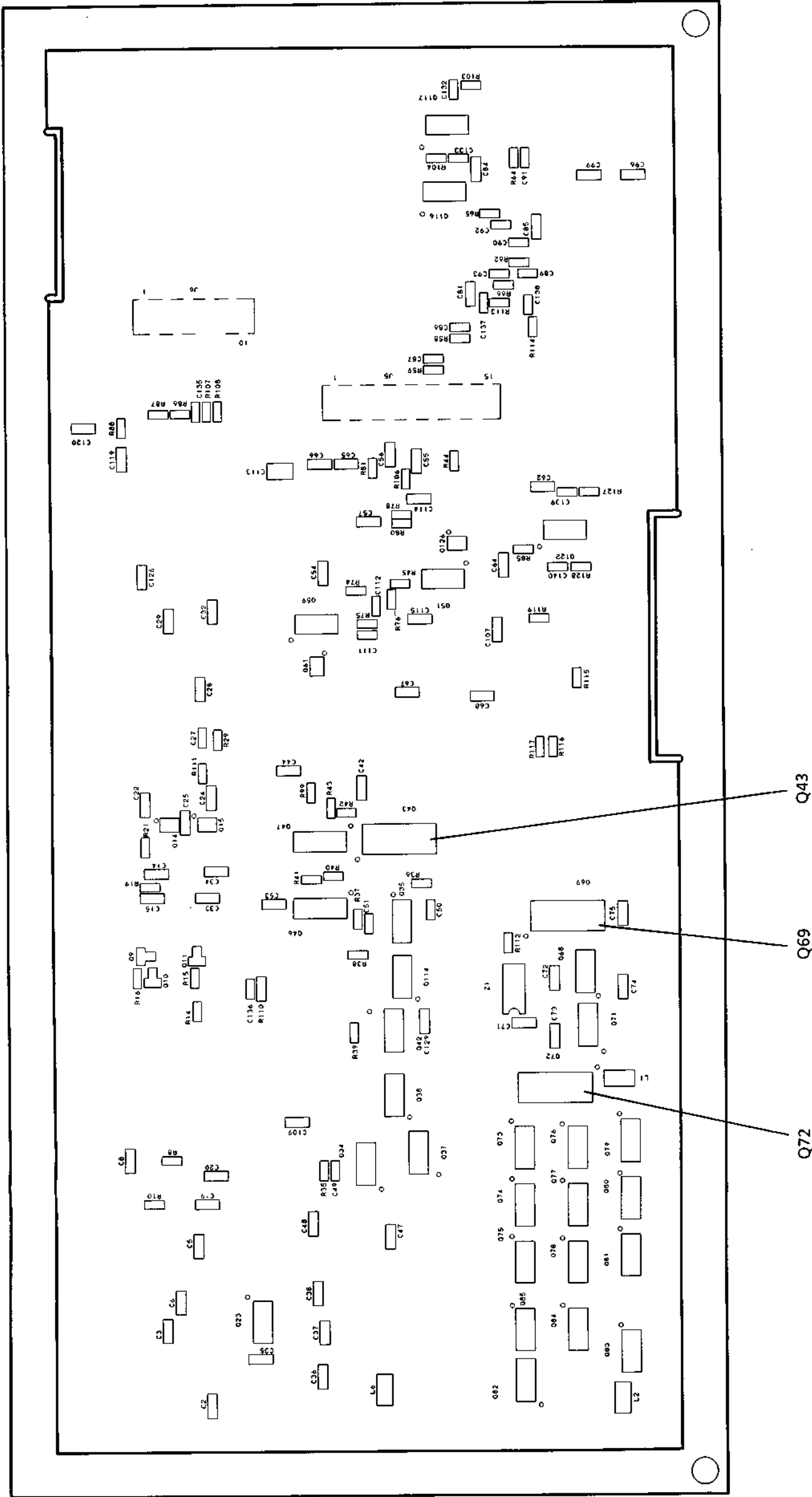


Fig. 3-90 (2/2)
 A5 SCAN PC-Board Parts Layout
 (Pattern Side) **32**

(3 - 281 blank)/3 - 282



Sweep Signal Generator

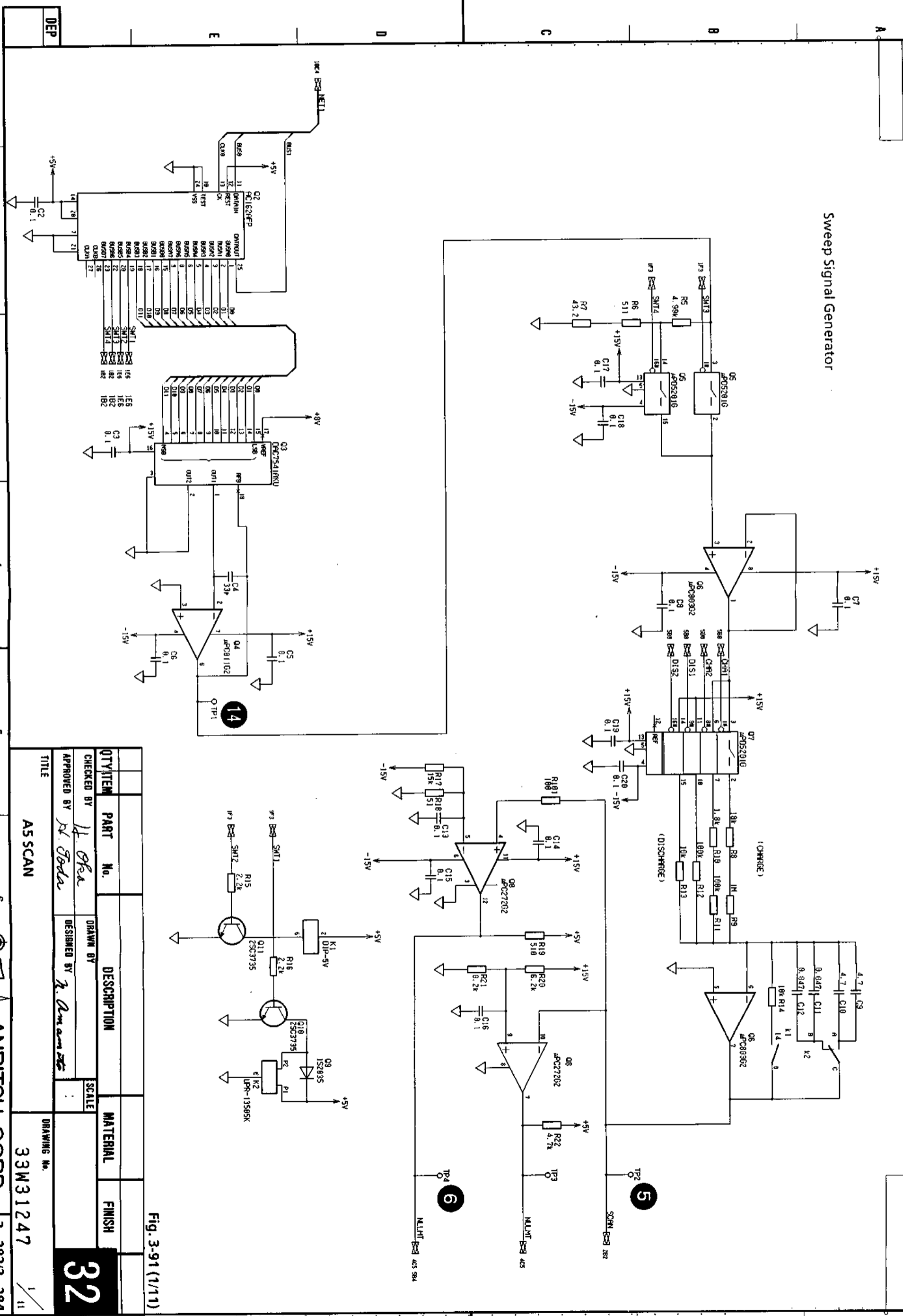
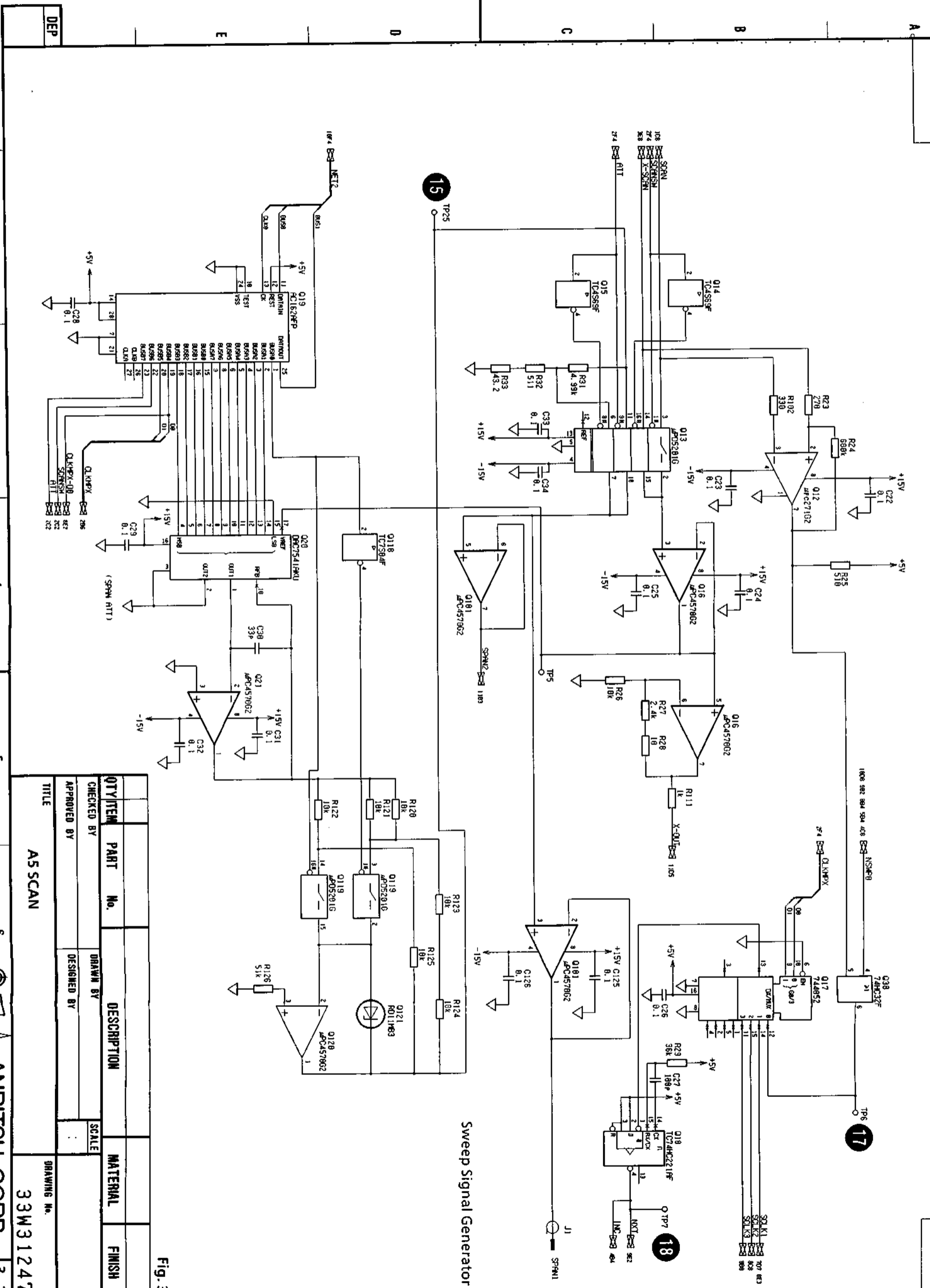


Fig. 3-91 (1/11)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY	SCALE	
APPROVED BY		DESIGNED BY		
TITLE				
AS SCAN				
DRAWING No.				
33W31247				
3-2833-284				
11				

32



Sweep Signal Generator

Fig. 3-91 (2/11)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY	SCALE	
APPROVED BY		DESIGNED BY		
TITLE		DRAWING No.		
AS SCAN		33W31247		

32

33W31247
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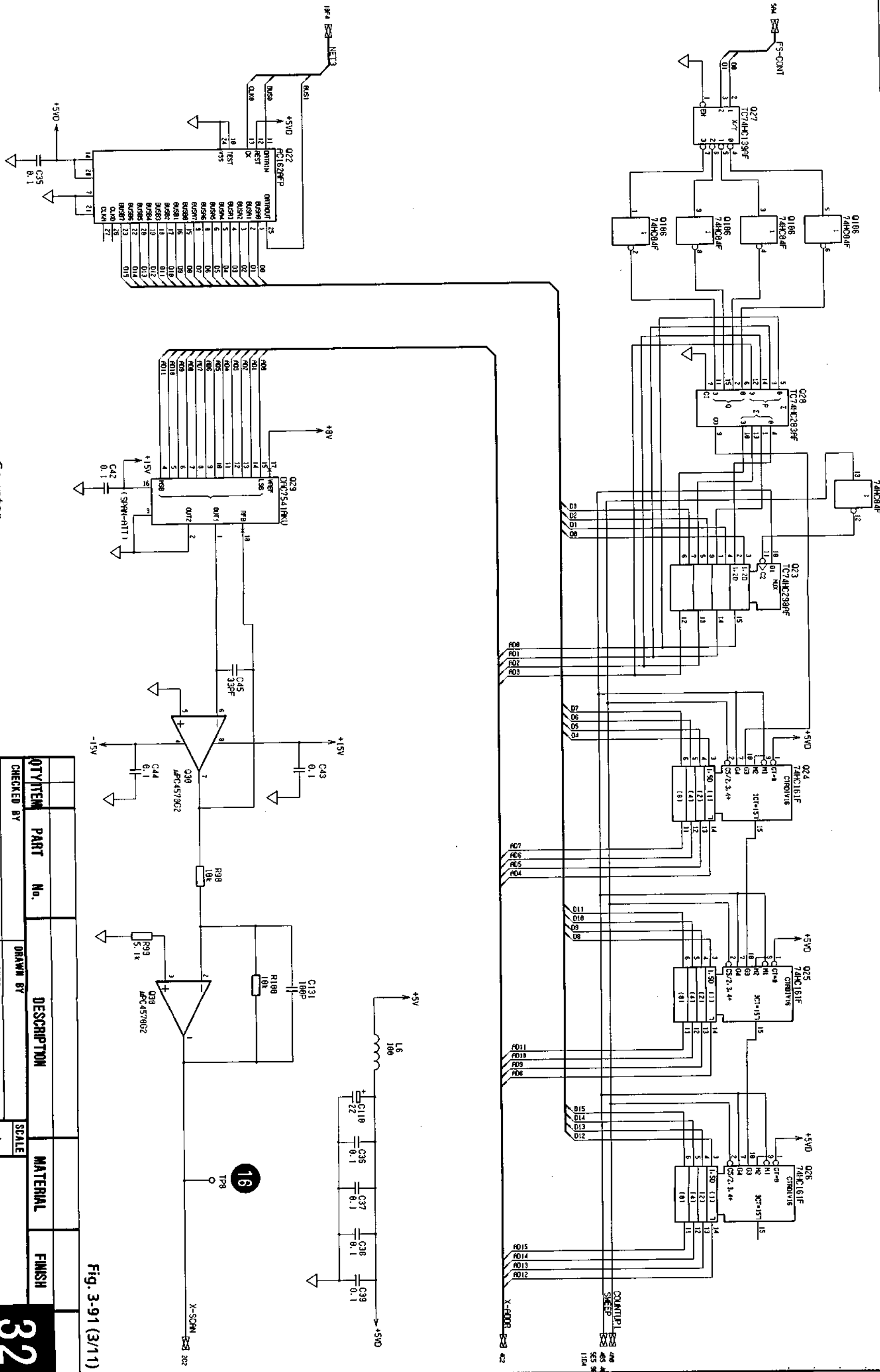


Fig. 3-91 (3/11)

Counter

QTY/TEN	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY	DRAWN BY	SCALE		
APPROVED BY	DESIGNED BY			
TITLE				
AS SCAN				
DRAWING No.				
33W31247				
3-287/3-288				

32

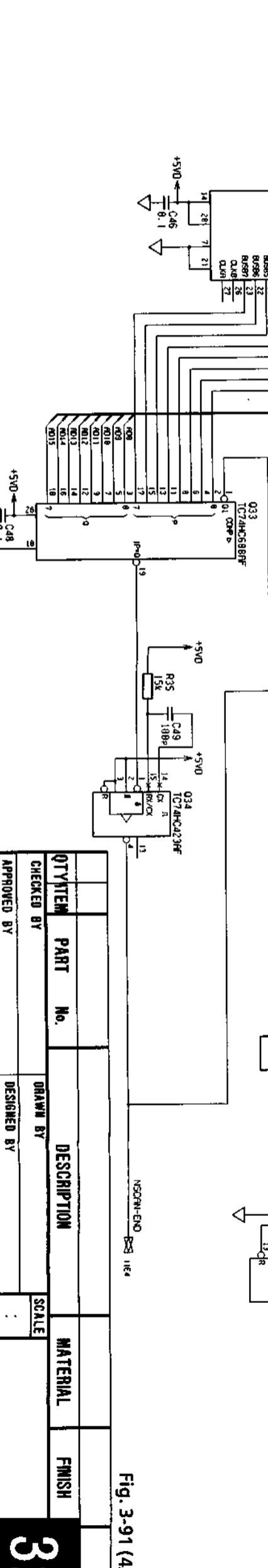
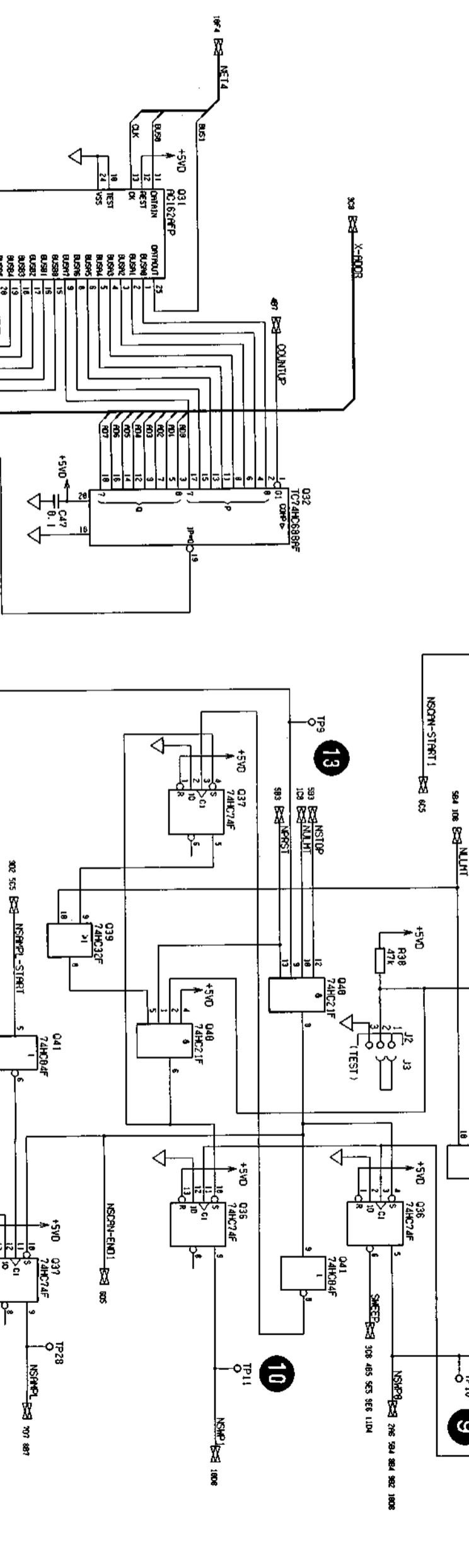
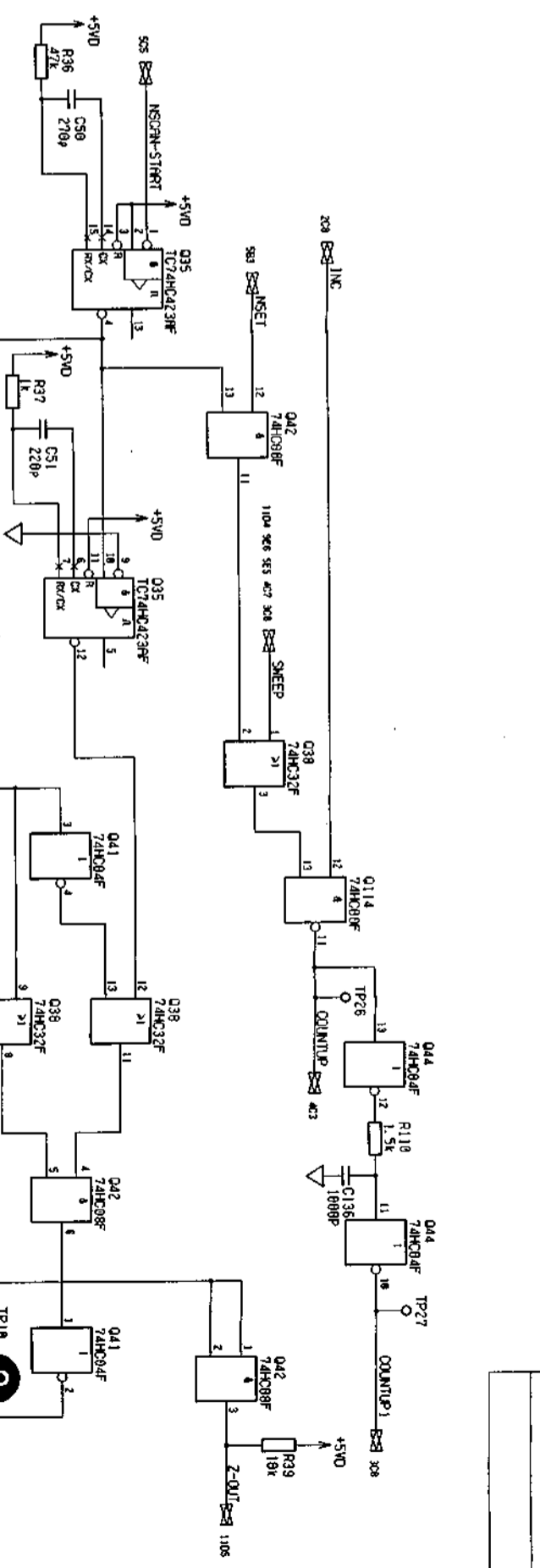
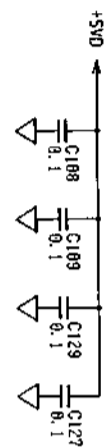


Fig. 3-91 (4/11)

DEP

Controller

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
	CHECKED BY				
	APPROVED BY				
	DRAWN BY				
	DESIGNED BY				
	SCALE				
	TITLE	A5SCAN			

DRAWING No.
33W31247
3-289/3-290

32

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Controller

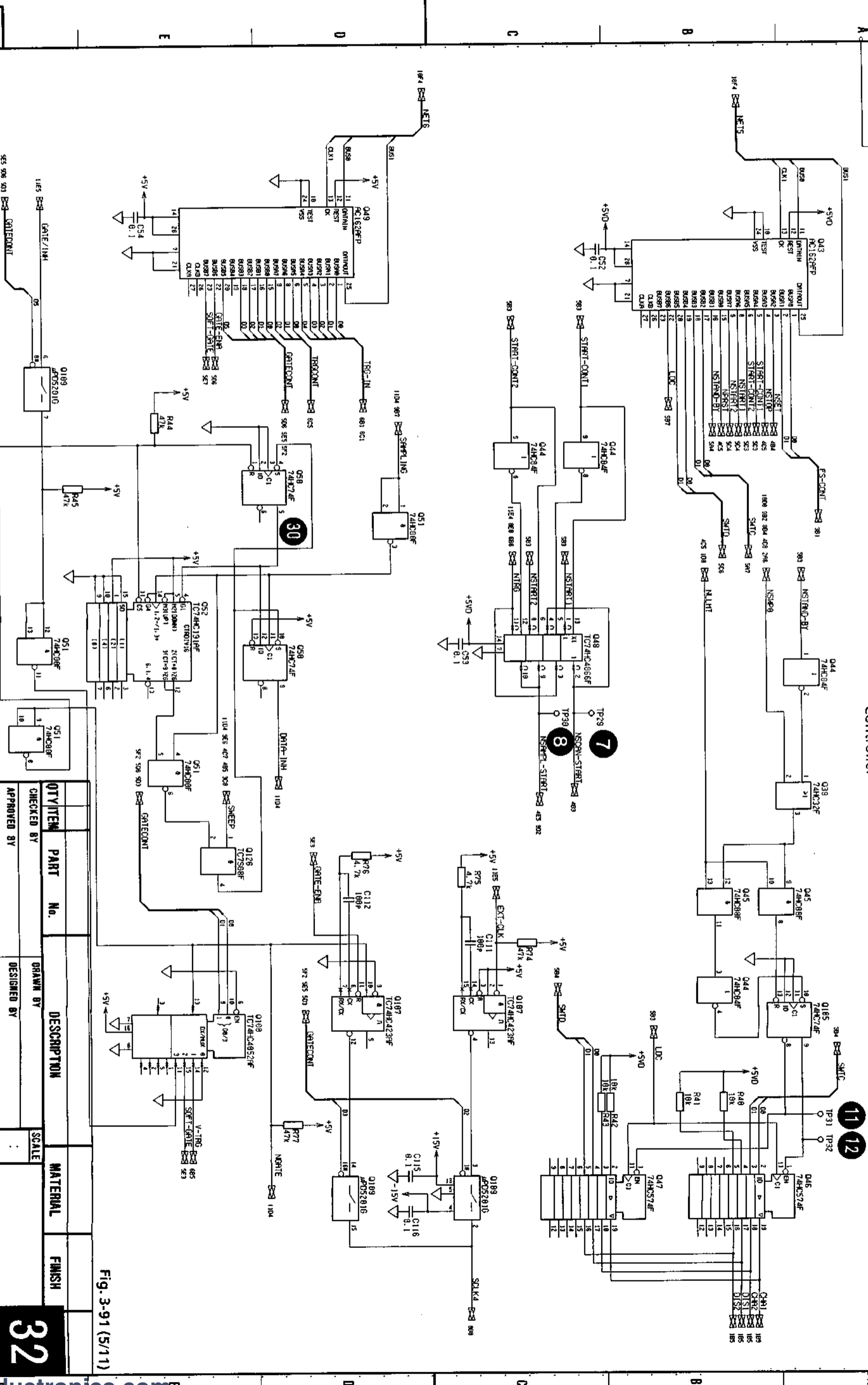


Fig. 3-91 (5/11)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

APPROVED BY _____
 CHECKED BY _____
 DRAWN BY _____
 DESIGNED BY _____

TITLE
AS SCAN

DRAWING No.
33W31247

3-291/3-292

32

Trigger Circuit

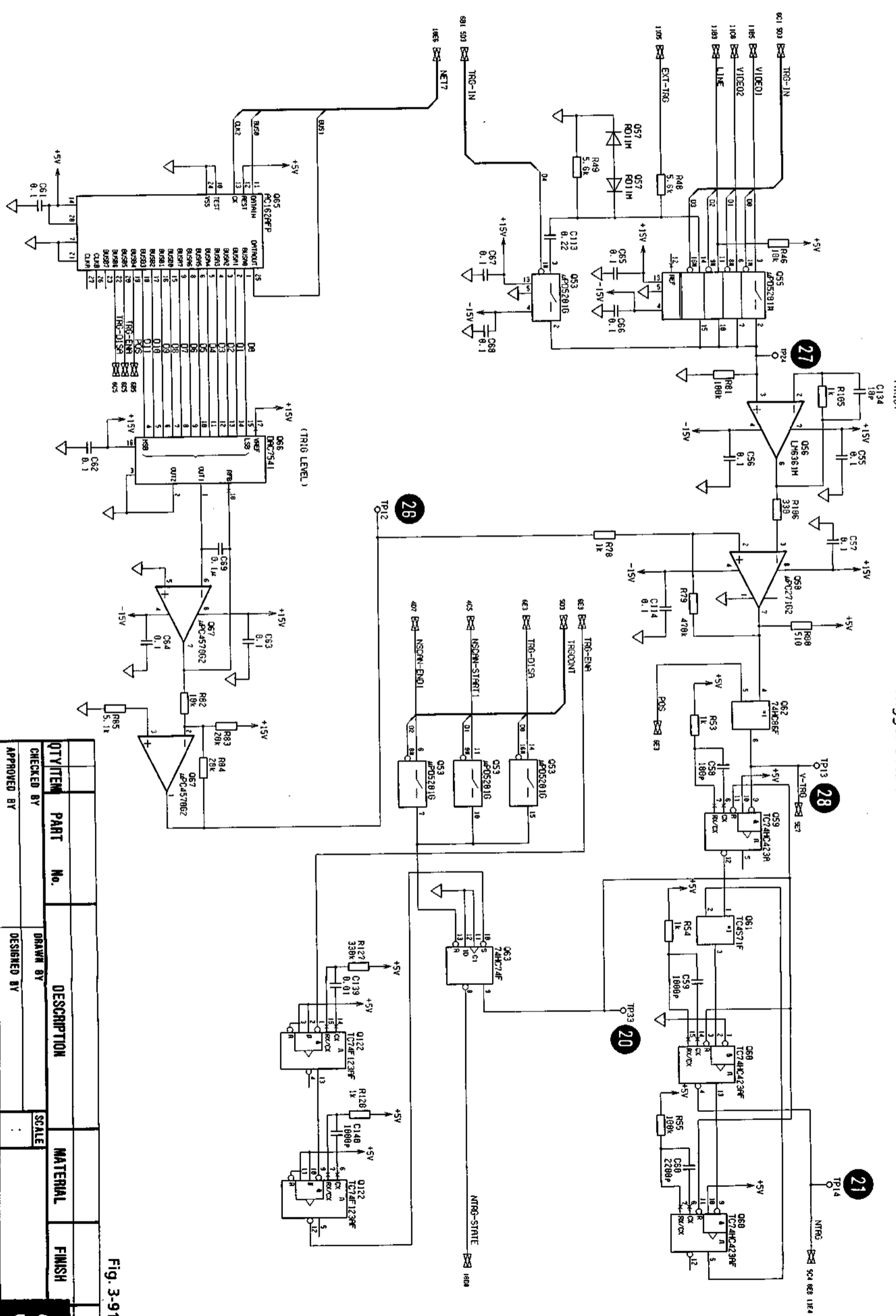


Fig. 3-91 (6/11)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
	CHECKED BY		DRAWN BY	SCALE	
	APPROVED BY		DESIGNED BY		
TITLE AS SCAN					
DRAWING No. 33W31247					
3 - 293/3 - 294					

32

33W31247
APPLICATION

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Clock Generator

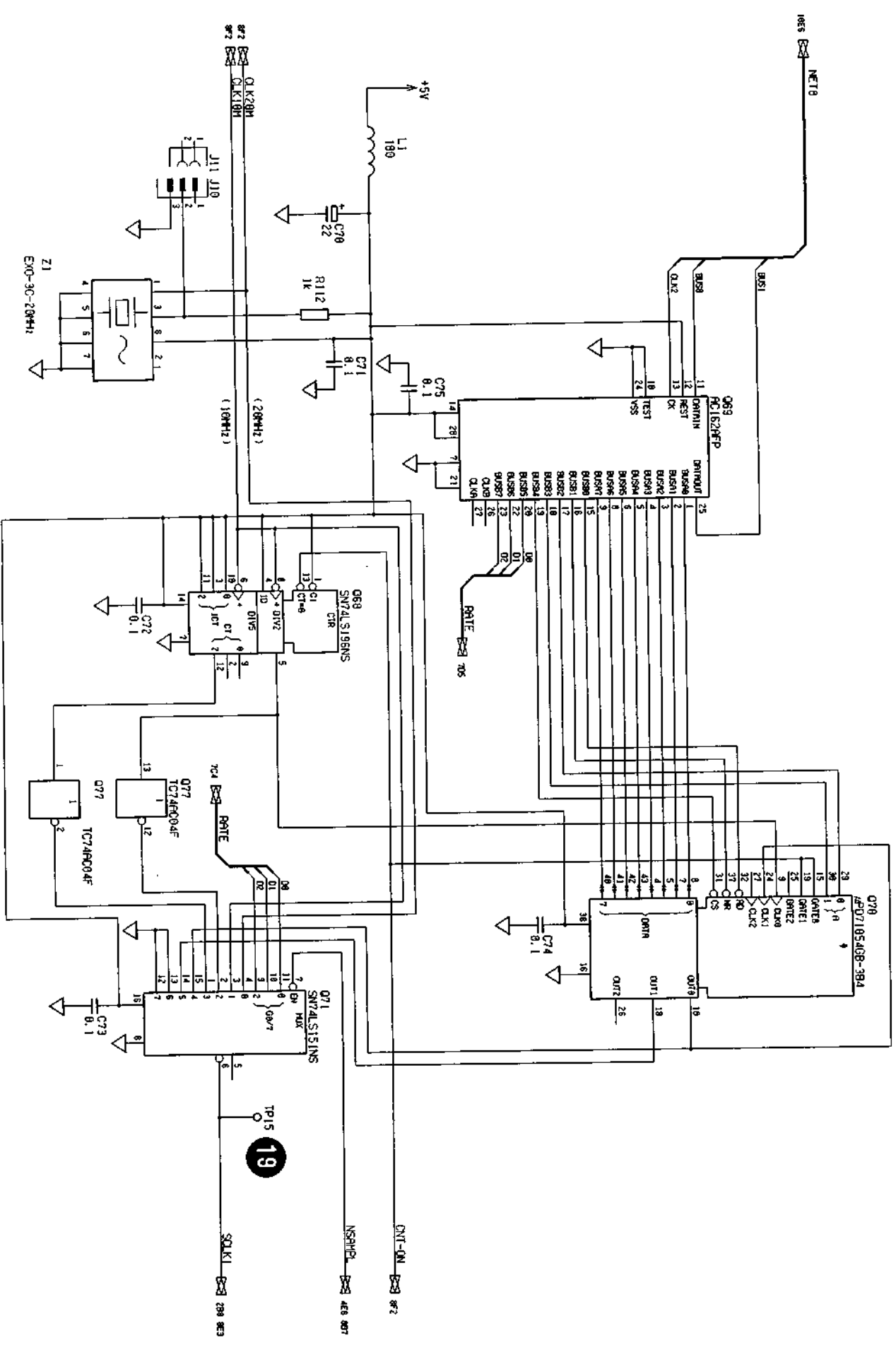


Fig. 3-91 (7/11)

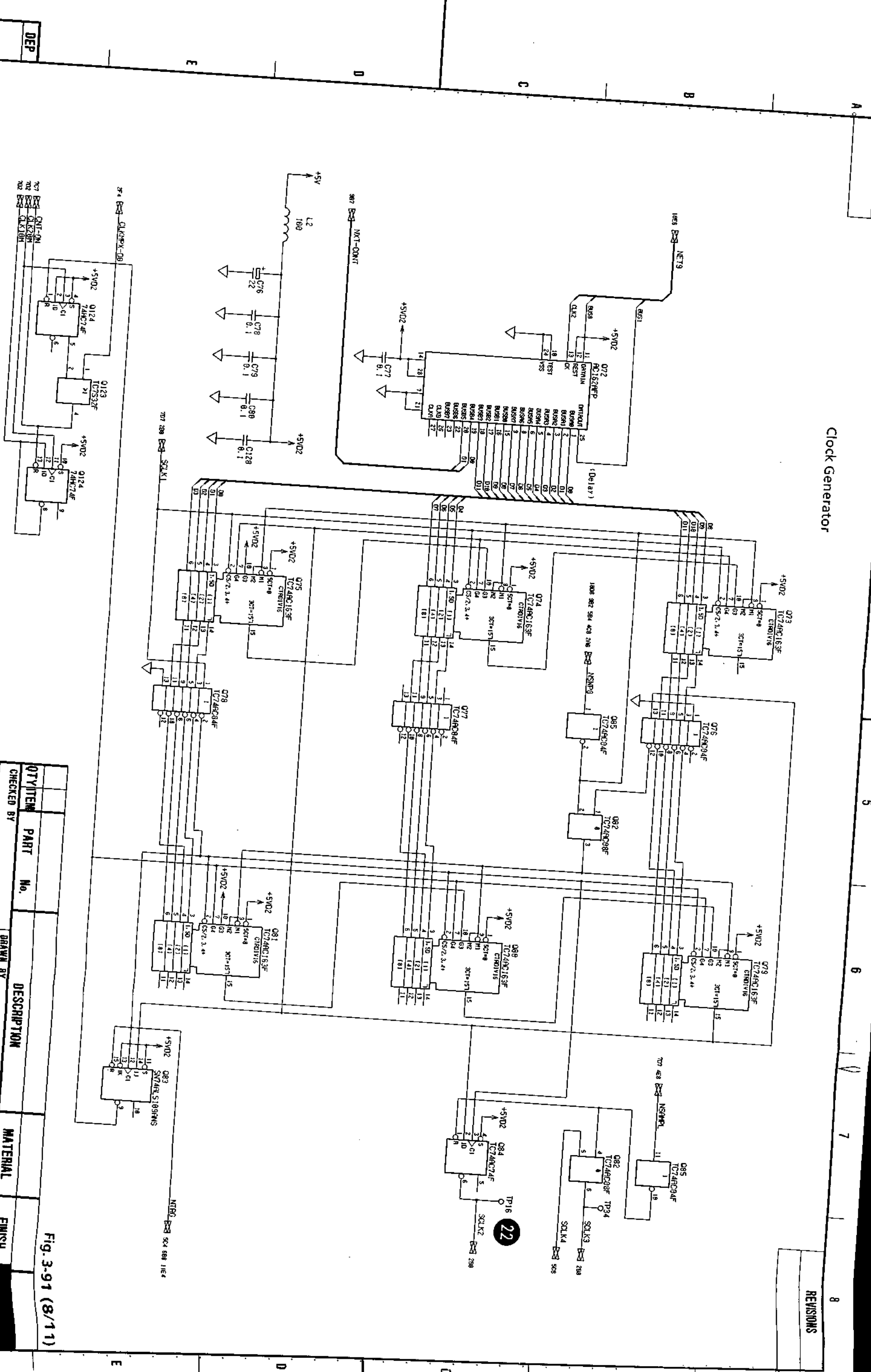
QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY	SCALE	
APPROVED BY		DESIGNED BY		
TITLE		DRAWING No.		
AS SCAN		33W31247		
		3-295/3-296		

32



33W31247
APPLICATION

Clock Generator



QTY	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY: _____
 APPROVED BY: _____
 DRAWN BY: _____
 DESIGNED BY: _____
 TITLE: AS SCAN
 SCALE: _____
 FIG. 3-91 (8/11)

REVISIONS

32

33W31247

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ANBITSI CORP

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ANBITSI CORP

ANBITSI CORP

Sampling Clock Generator

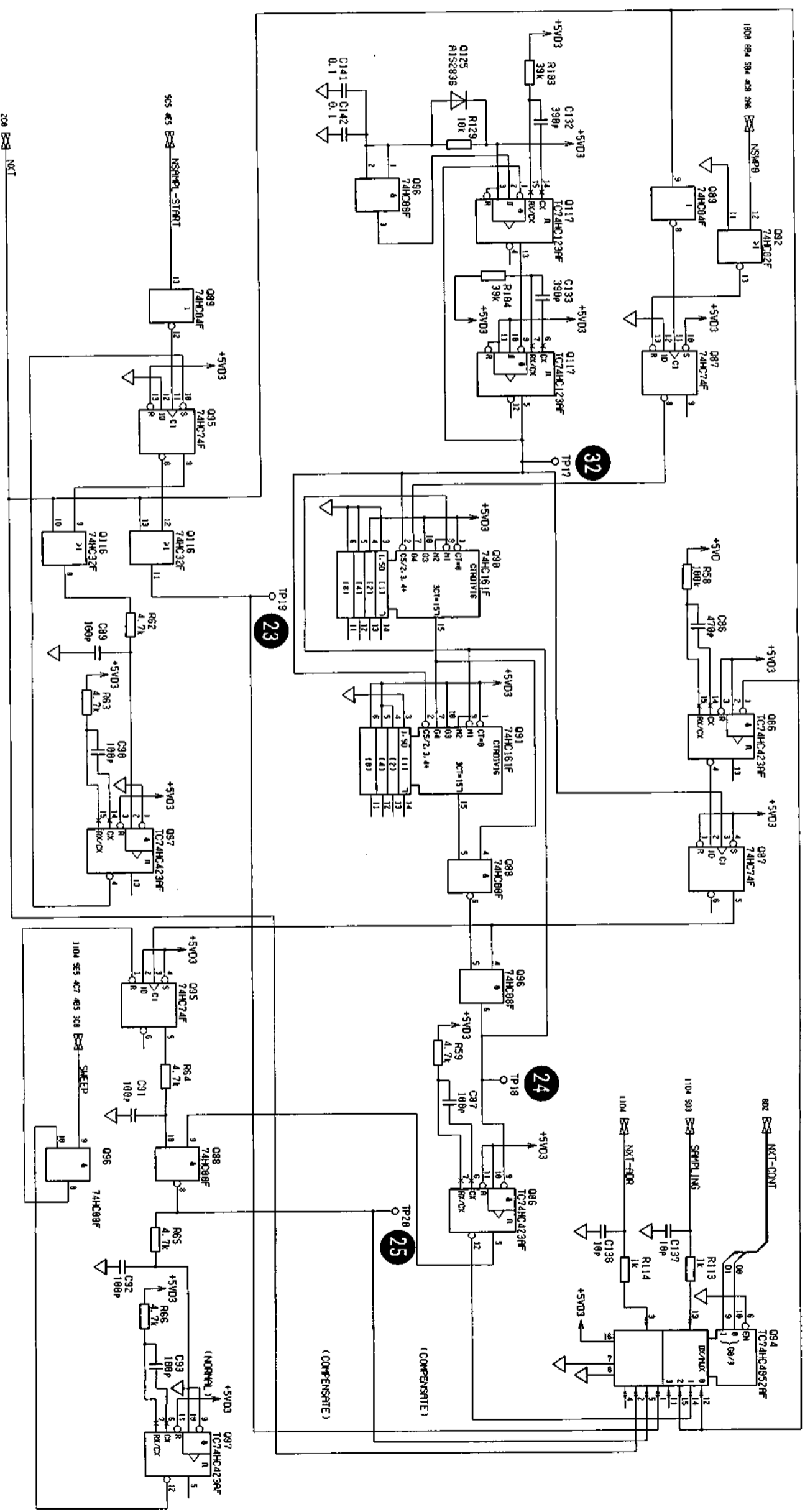


Fig. 3-91 (9/11)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
	CHECKED BY		DRAWN BY		
	APPROVED BY		DESIGNED BY		
TITLE			DRAWING No.		
AS SCAN			33W31247		
			3-299/3-300		

32

33W31247
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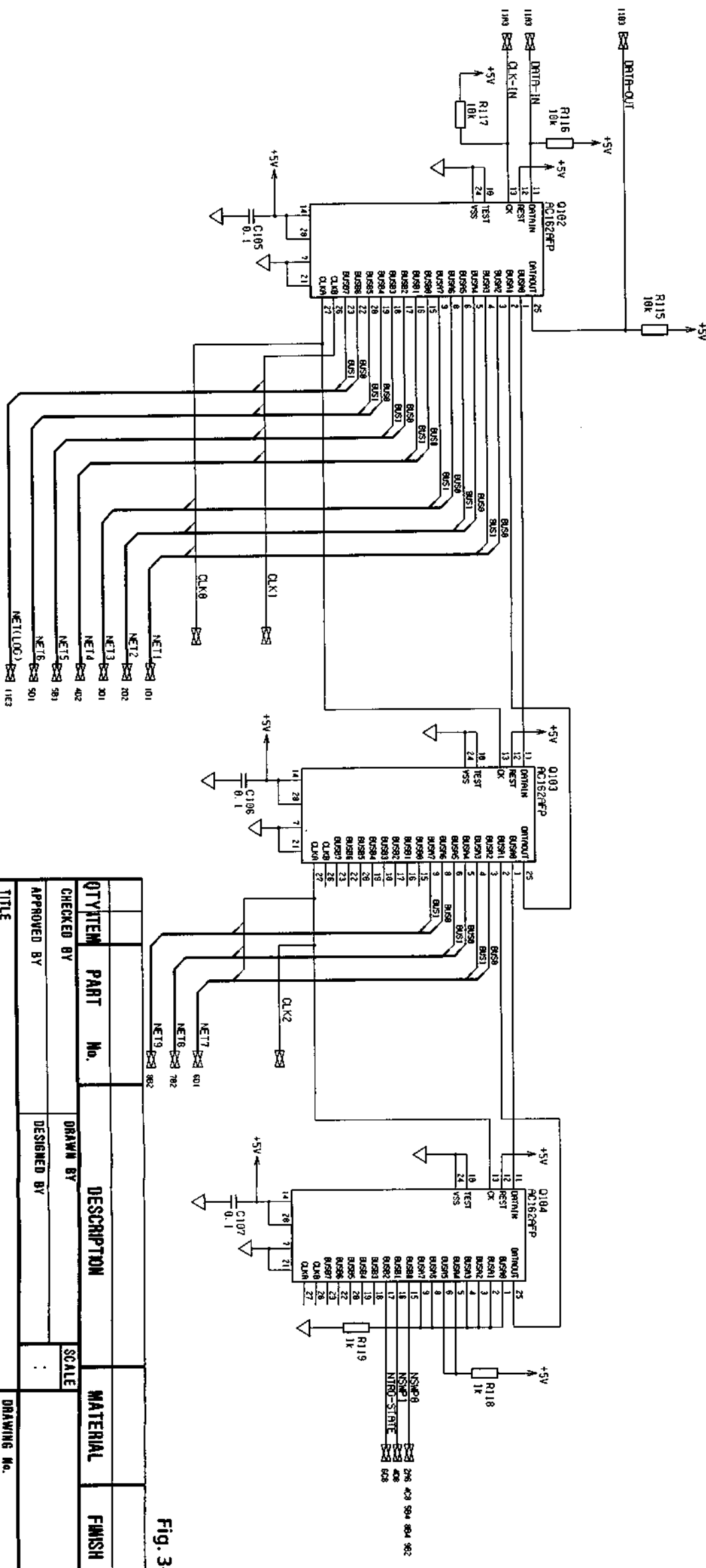
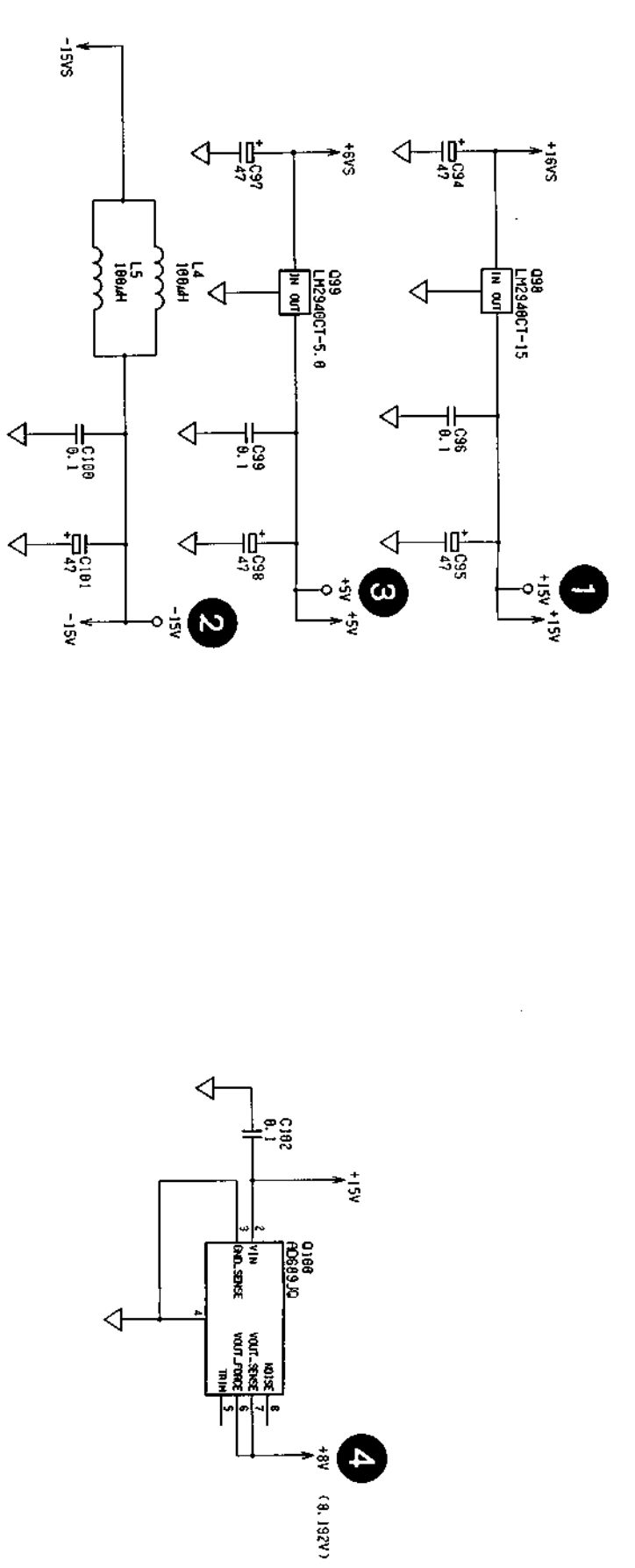


Fig. 3-91 (10/11)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
	CHECKED BY		DRAWN BY	SCALE	
	APPROVED BY		DESIGNED BY		
TITLE					
AS SCAN					
DRAWING No.					
33W31247					
3-301/3-302					

32



3.8 Digital Section

3.8.1 Symptoms and causes

When any of the following problems occur, suspect that the digital section is malfunctioning. Troubleshoot using the procedures described below to locate the faulty unit.

No.	Symptom
1	Nothing displayed on CRT even when power ON
2	Front-panel LEDs remain lit after power-ON
3	Keys and data knob do not operate
4	Command not received from GP-IB
5	Sweep does not start
6	PMC cannot be accessed
7	PTA program input and execution not possible
8	Sweep waveform and characters not displayed
9	Separate video or composite video signal not output
10	Direct plotting at printer not possible
11	Displayed spectrum waveform appears abnormal
12	Measurement parameters cannot be changed by keys or GP-IB command
13	Measurement system control abnormal
14	Frequency counter function inoperable
15	Clock data setting/read-out impossible
16	ON/STANBY, PMC BUSY lamps do not light at power-ON
17	CRT intensity does not change when INTENSITY volume turned

Faulty PC-board is suggested below for each symptom above.

Faulty PC-Board	Symptom No.
A7 INTERFACE (1)	- 4
A8 MEAS CPU	- 1, 2, 5, 11, 12, 13, 14
A9 DISP CPU	- 1, 2, 8, 9, 10
A10 MAIN CPU	- 1, 2, 3, 4, 5, 6, 7
A11 COMMON BOARD	- All
A12 INTERFACE (2) (opt. 03)	- 4
A13 INTERFACE (3) (opt. 02)	- 4
A14 PMC BOARD	- 1, 2, 3, 4, 5, 6, 7, 12, 15
A15 PANEL BOARD	- 2, 3, 7
A20 LED BOARD	- 16, 17

3.8.2 A8 MEAS CPU 35

(1) Setup

1. Remove A8 MEAS CPU as described in paragraph 5.5.6.
2. Reattach it using an extender board.

(2) Troubleshooting

Check each test point by referring to the following table.

Table 3-96

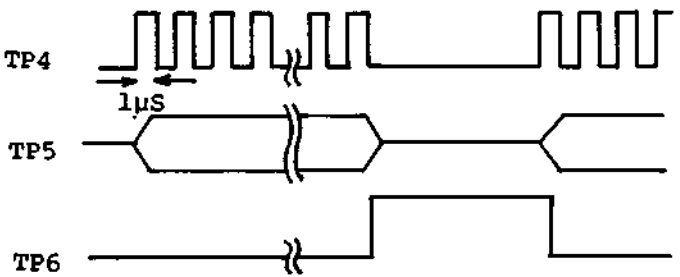
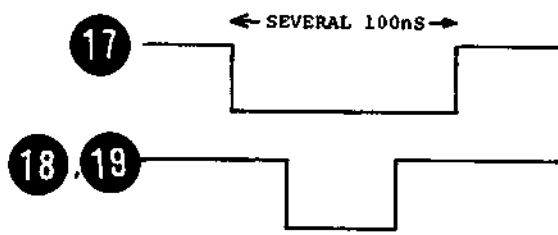
Signal name	Test point	Normal state
+5	①	+5 ± 0.25 V
CPUCLK	② (Z1-1)	12 MHz pulse wave
TIMCLK	③ (Z1-2)	6 MHz pulse wave
NPWRFAIL	④ (TP9)	Normally HIGH
NRESET	⑤ (TP1)	Normally HIGH
(Interrupt signal)	⑥ (Q33-87, 88, 89, 115, 116, 118)	Repeated at HIGH or HIGH/LOW (normally, continuous LOW not output)
NDTACK	⑦ (Q33-80)	LOW and HIGH repeated at random
CMACK	⑧ (CMACK)	LOW and HIGH repeated at random
CMREQ	⑨ (CMREQ)	⑧ CMACK overshoot and undershoot must be small.
(Data from A/D converter)	⑩ (TP4) ⑪ (TP5) ⑫ (TP3)	As follows in REPEAT sweeping condition 

Table 3-96 (Continued)

Signal name	Test point	Normal state
(Frequency count)	13 (20 MT) 14 (21.4 MT) 15 (Q2-18) 16 (Q2-9)	Each frequency clock signal at frequency count ON condition, shown below. 13 20 MHz 14 Approx. 21.4 MHz 15 5 MHz 16 Approx. 2.14 MHz
(DANET control)	17 (Q1-16) 18 (Q1-14,15) 19 (Q1-13)	Following signal output when measurement parameters set 

NPWRFAIL : Power fail signal, output from the Z2 POWER SUPPLY
(Power supply Z2 faulty when abnormal)

NRESET : Reset signal, generated by Q19 when it receives the NPWRFAIL signal.
(Power supply Z2 or Q19 faulty when abnormal)

CMACK : Common-bus usage acknowledged signal from common-bus arbiter
(A14 PMC BOARD faulty when abnormal)

CMREQ : Common-bus usage request signal for bus arbiter
(Q19 faulty when abnormal)

NCHSYNC : Horizontal sync signal

NCVSYNC : Vertical sync signal

Note:

HIGH : Approx. 5 V

LOW : Approx. 0 V

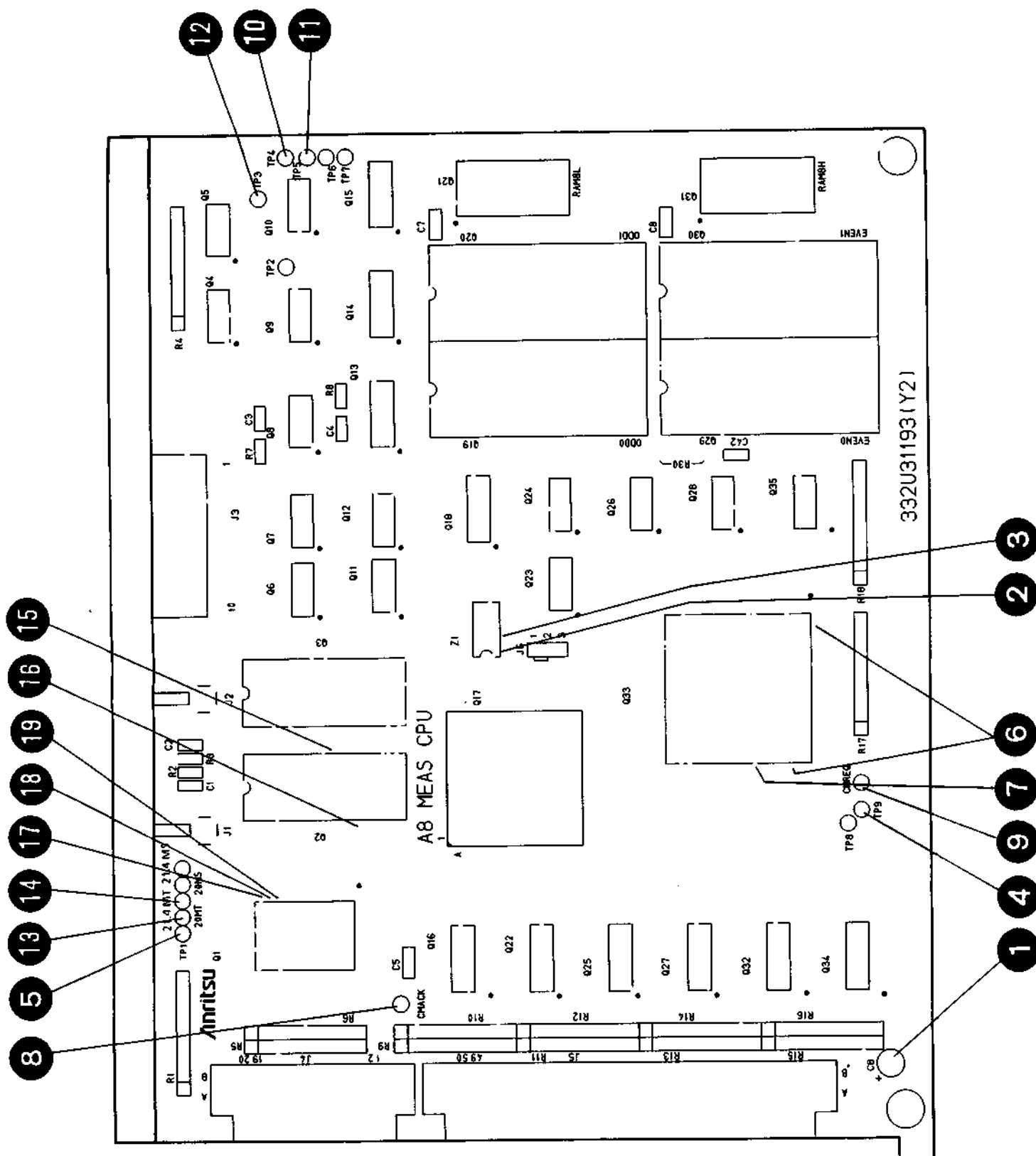


Fig. 3-92 (1/2)
 A8 MEAS CPU PC-Board Parts
 Layout (Component Side) **35**

(3 - 309 blank)/3 - 310



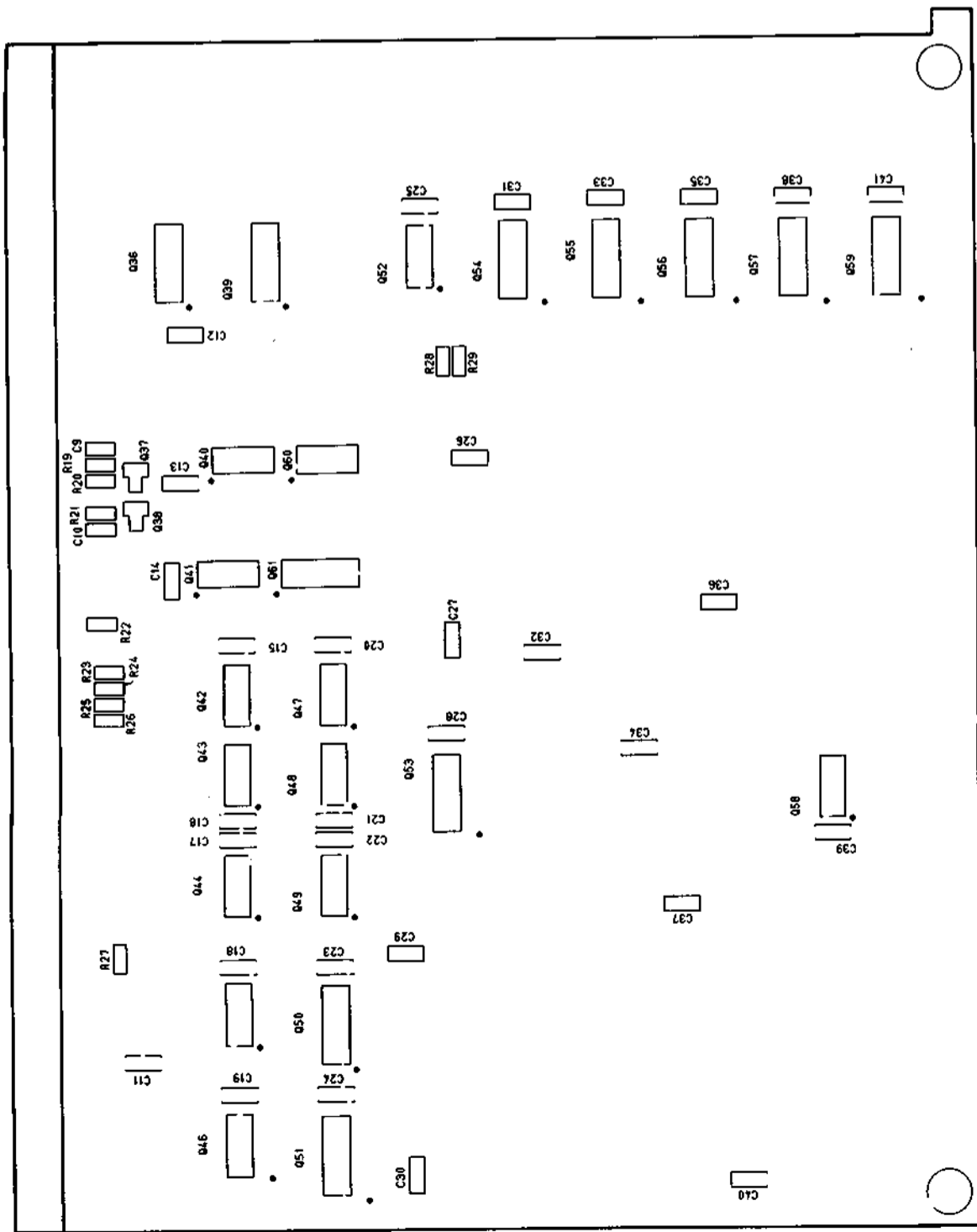


Fig. 3-92 (2/2)
 A8 MEAS CPU PC-Board Parts
 Layout (Pattern Side) **35**



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NO.	DESCRIPTION

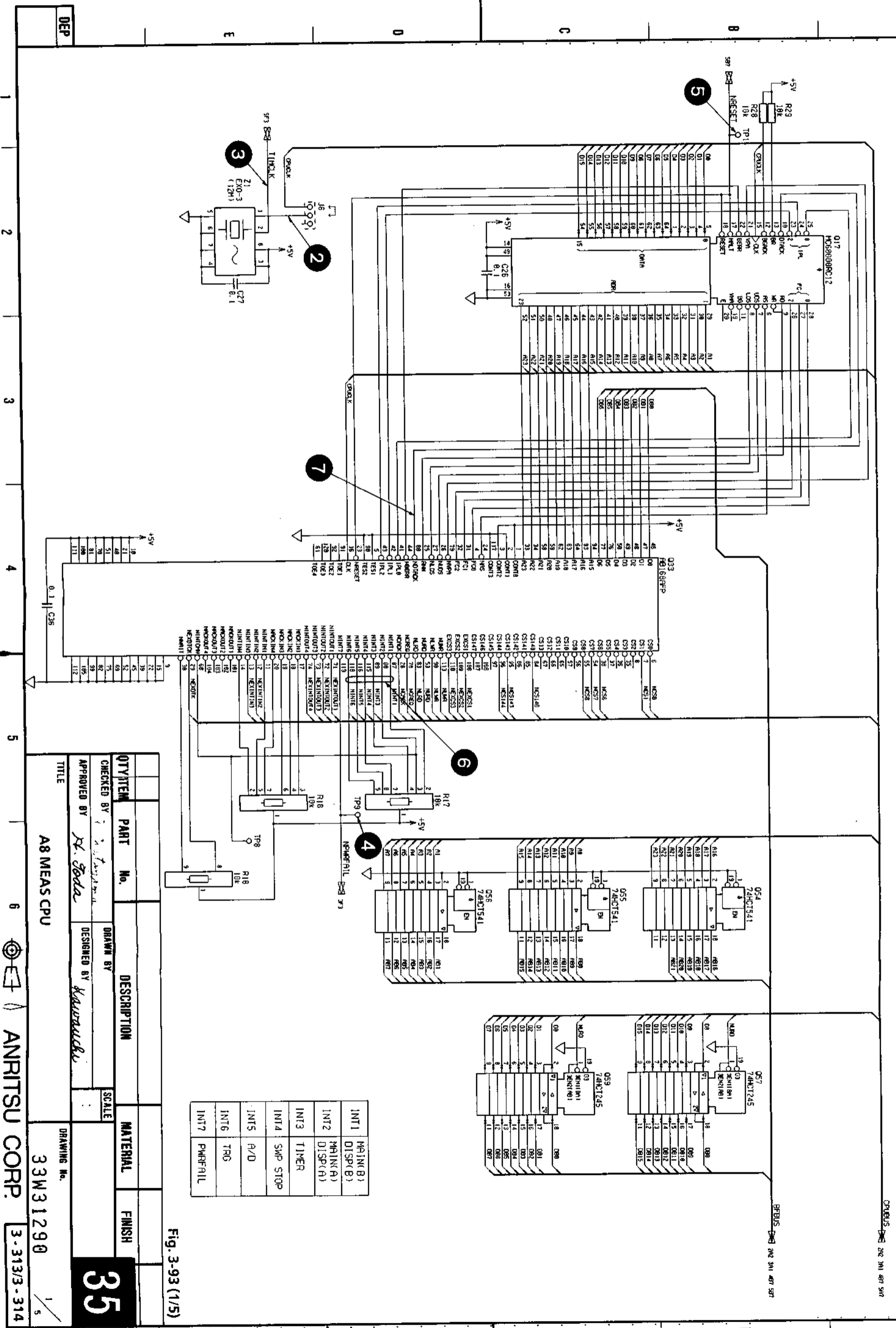


Fig. 3-93 (1/5)

INT1	MAIN(B)
INT2	MAIN(A)
INT3	TIMER
INT4	SMP STOP
INT5	A/D
INT6	TRG
INT7	POWER-FAIL

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY: *[Signature]*
 DESIGNED BY: *Katsumichi*
 DRAWN BY: *[Signature]*
 APPROVED BY: *R. Soda*
 TITLE: **A8 MEAS CPU**
 DRAWING No. **33W31290**
 SCALE: **1/5**

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33W31290
APPLICATION

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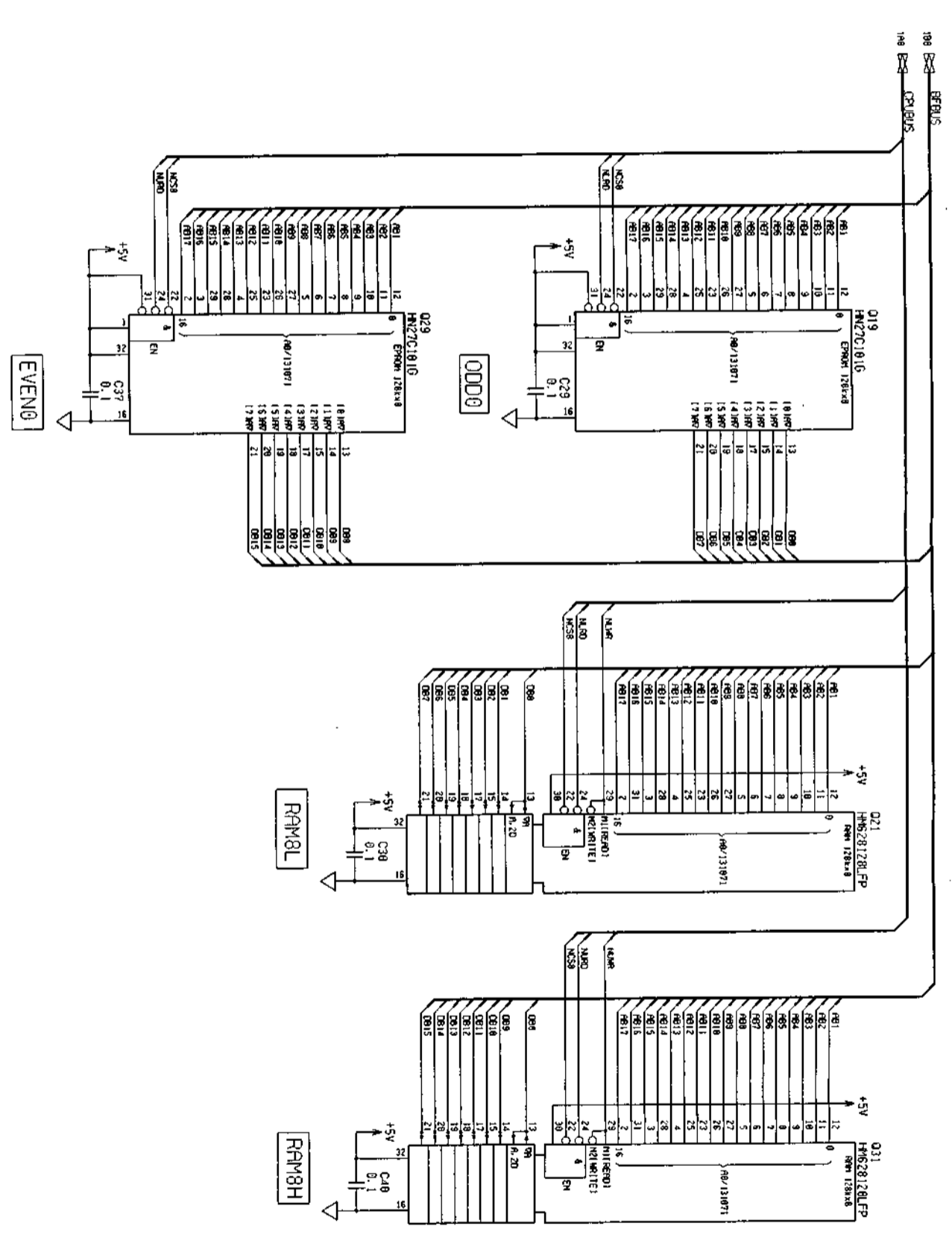


Fig. 3-93 (2/5)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>W. J. Hayward</i>				
APPROVED BY <i>R. Sola</i>				
DRAWN BY <i>Kawmuck</i>			DESIGNED BY <i>Kawmuck</i>	
TITLE 8MEAS CPU				
DRAWING No. 33W31290				

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33W31290
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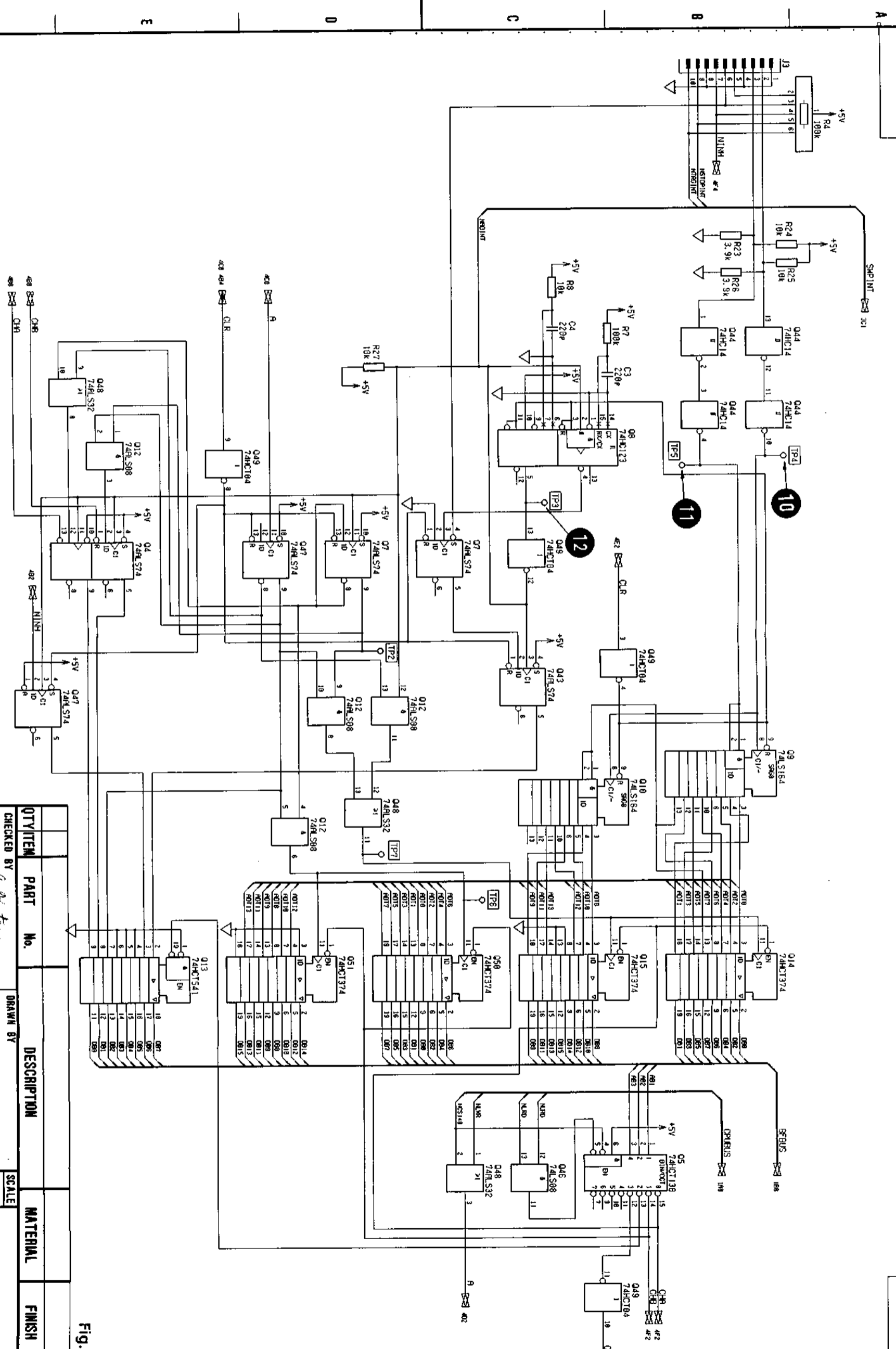


Fig. 3-93 (A/S)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
1	Q01	74ALS164		
1	Q02	74ALS164		
1	Q03	74ALS164		
1	Q04	74ALS164		
1	Q05	74HC138		
1	Q06	74HC374		
1	Q07	74HC374		
1	Q08	74HC123		
1	Q09	74HC104		
1	Q10	74ALS164		
1	Q11	74ALS164		
1	Q12	74ALS164		
1	Q13	74HC374		

CHECKED BY *[Signature]*
 APPROVED BY *X. Soda*
 DRAWN BY *[Signature]*
 DESIGNED BY *Kawachi*

TITLE: **AB MEAS CPU**

DRAWING No. **33W31290**

SCALE: **35**

ANRITSU CORP. 3-319/3-320



3.8.3 A9 DISP CPU 36

(1) Setup

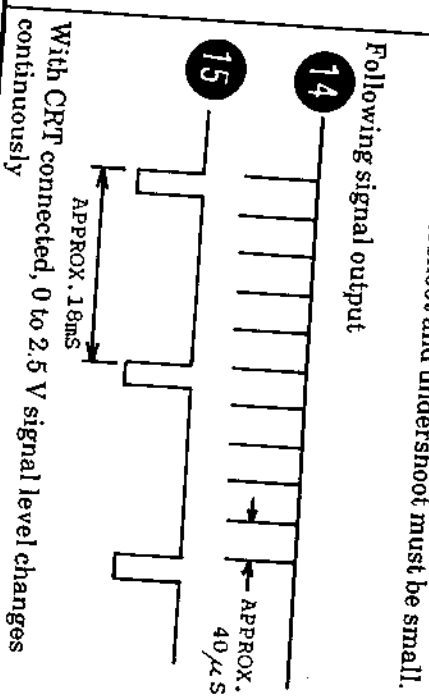
1. Remove A9 DISP CPU as described in paragraph 5.5.5.
2. Reattach it using an extender board.

(2) Troubleshooting

Check each test point by referring to the following table.

Table 3-97

Signal name	Test point	Normal state
+5	1	+5 ± 0.25 V
CPUCLK	2 (Z1-1)	12 MHz pulse wave
DOTCLK	3 (TP2)	Approx. 21 MHz pulse wave
4 CLK	4 (TP4)	Approx. 10 MHz pulse wave
2 CLK	5 (TP3)	Approx. 5 MHz pulse wave
NPWRFAIL	6 (Q26-119)	Normally HIGH
NRESET	7 (Q26-23)	Normally HIGH
(Interrupt signal)	8 (Q26-89, 115, 116)	Repeated at HIGH or HIGH/LOW (normally, continuous LOW not output)
NDTACK	9 (Q26-80)	LOW and HIGH repeated at random
NEXDTK1	10 (Q93-1)	LOW and HIGH repeated at random
NEXDTK2	11 (Q93-2)	(NEXDTK1 when display switched)
CMACK	12 (CMACK)	LOW and HIGH repeated at random
CMREQ	13 (CMREQ)	CMACK overshoot and undershoot must be small.
NCHSYNC	14 (Q40-4)	Following signal output
NCVSYNC	15 (Q40-8)	Following signal output
(Video signal)	16 (CRT)	With CRT connected, 0 to 2.5 V signal level changes continuously



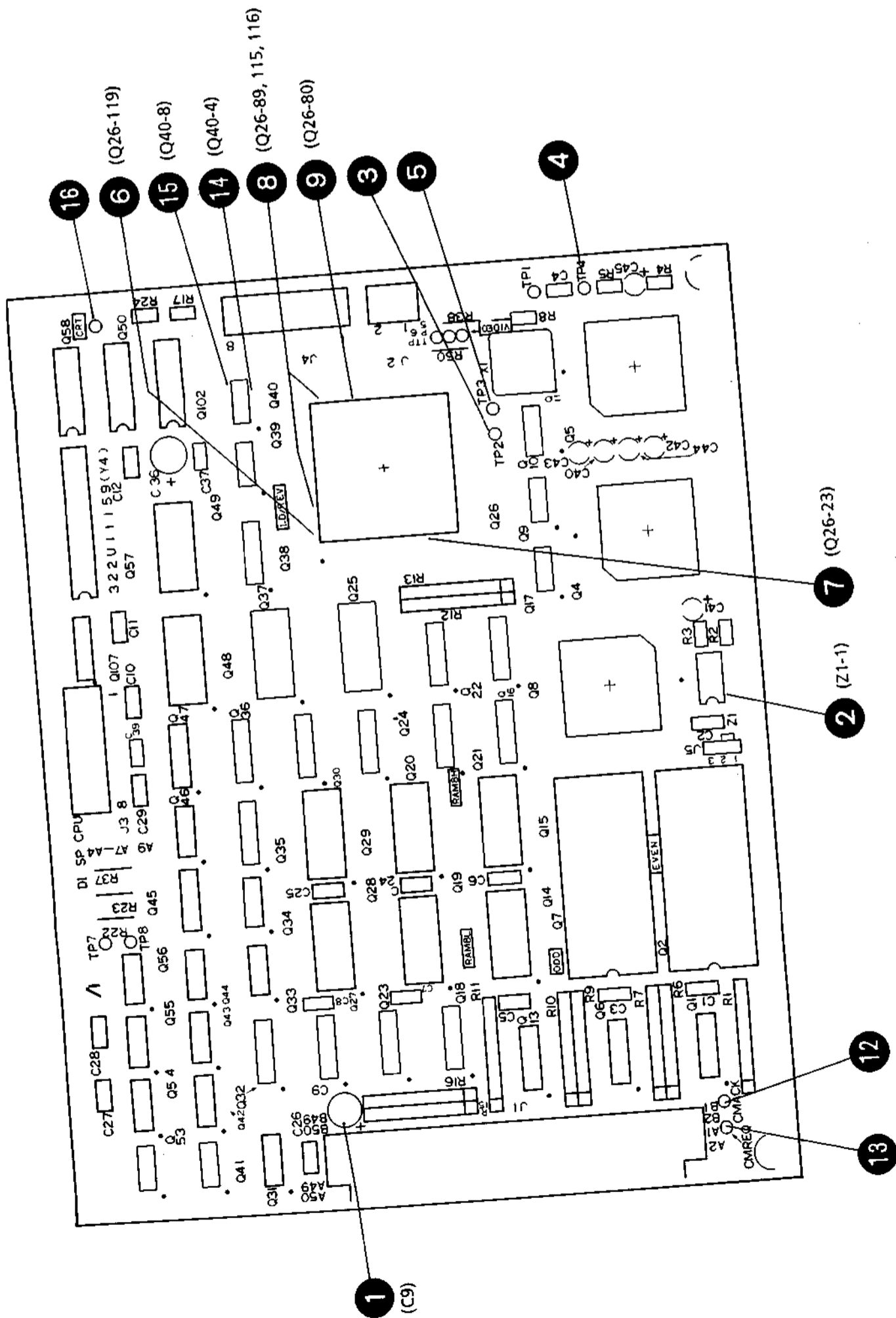


Fig. 3-94 (1/2)
 A9 DISP CPU PC-Board Parts
 Layout (Component Side) 36

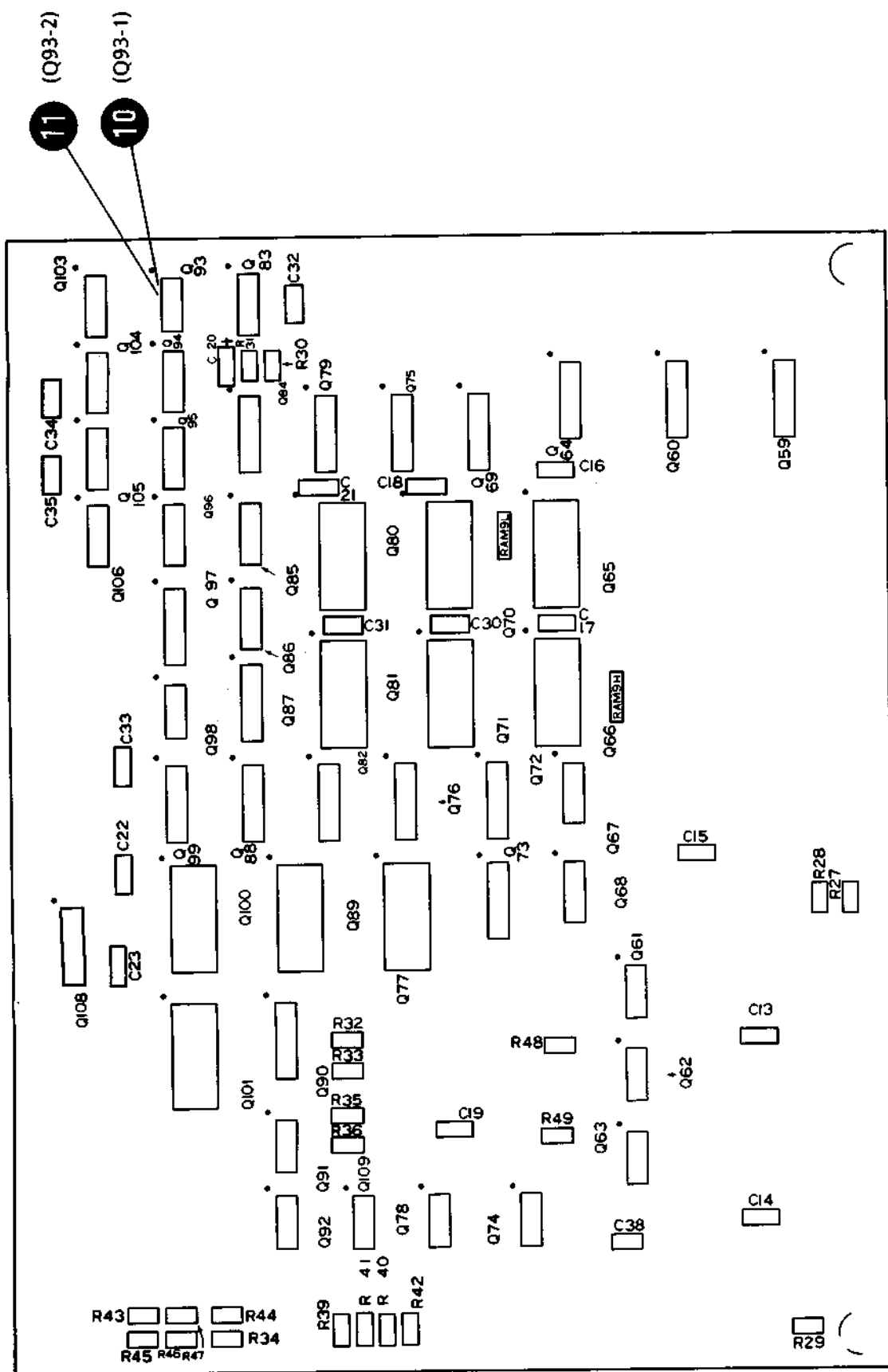


Fig. 3-94 (2/2)
 A9 DISP CPU PC-Board Parts
 Layout (Pattern Side) **36**

(3 - 325 blank)/3 - 326



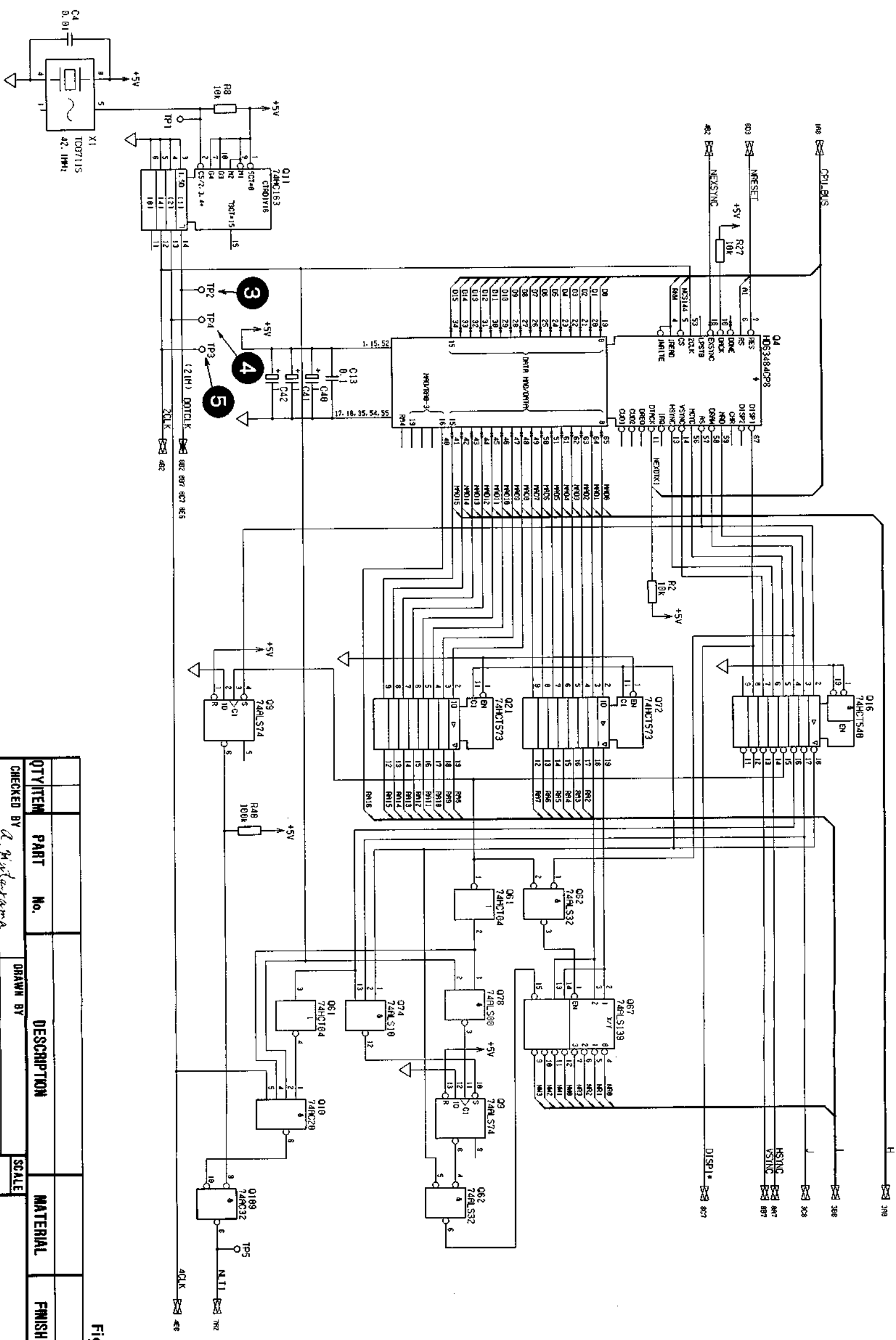


Fig. 3-95 (2/9)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. Nakagawa</i>		DRAWN BY		
APPROVED BY <i>M. Toda</i>		DESIGNED BY <i>Kawachi</i>		
TITLE				

A9 DISP CPU

33W31289

3-329/3-330

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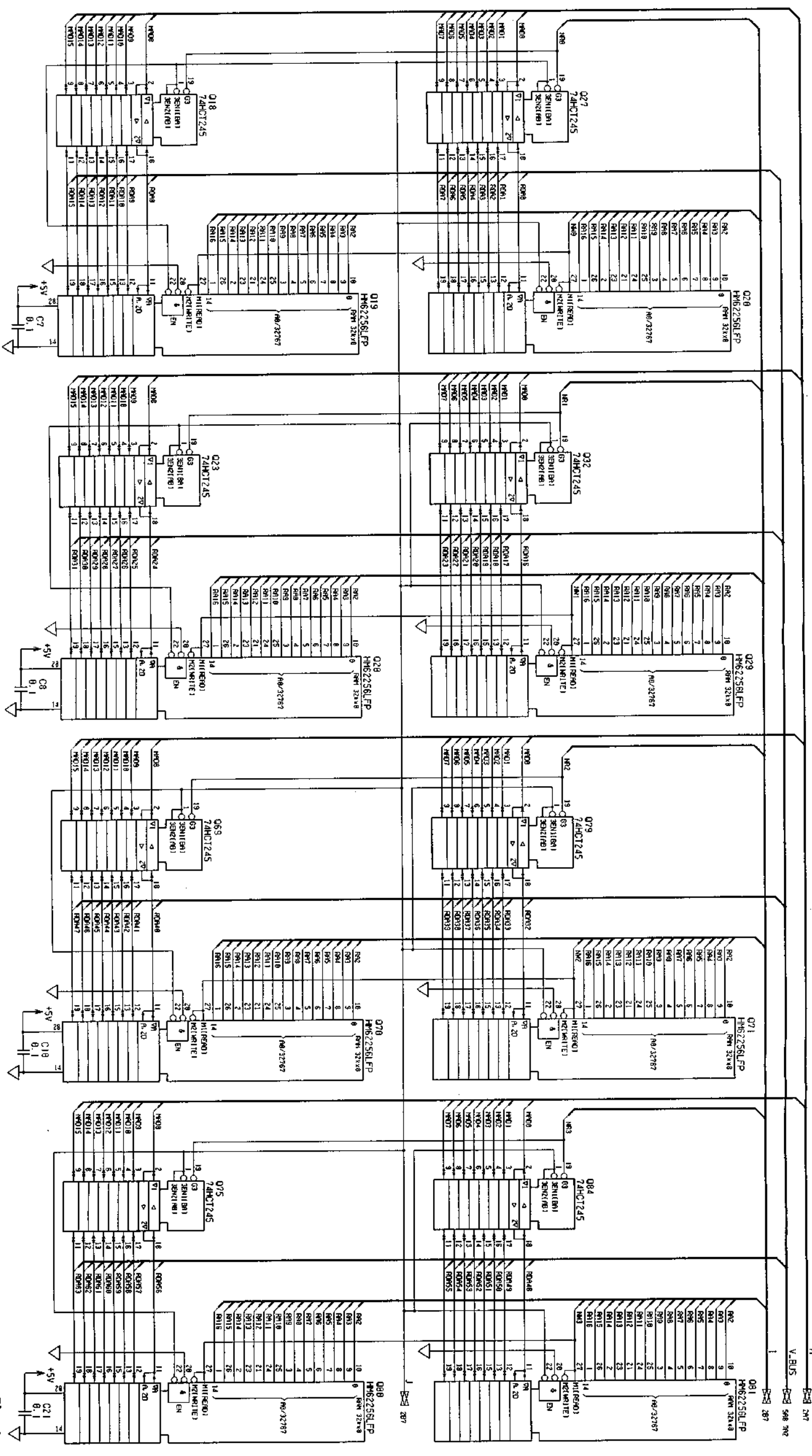


Fig. 3-95 (3/9)

QTY/TEN	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. Nakagawa</i>				
APPROVED BY <i>R. Sada</i>				
DRAWN BY		DESIGNED BY <i>Kawachi</i>		
TITLE				
A9 DISP CPU				
DRAWING No. 33W31289				
3-331/3-332				

36

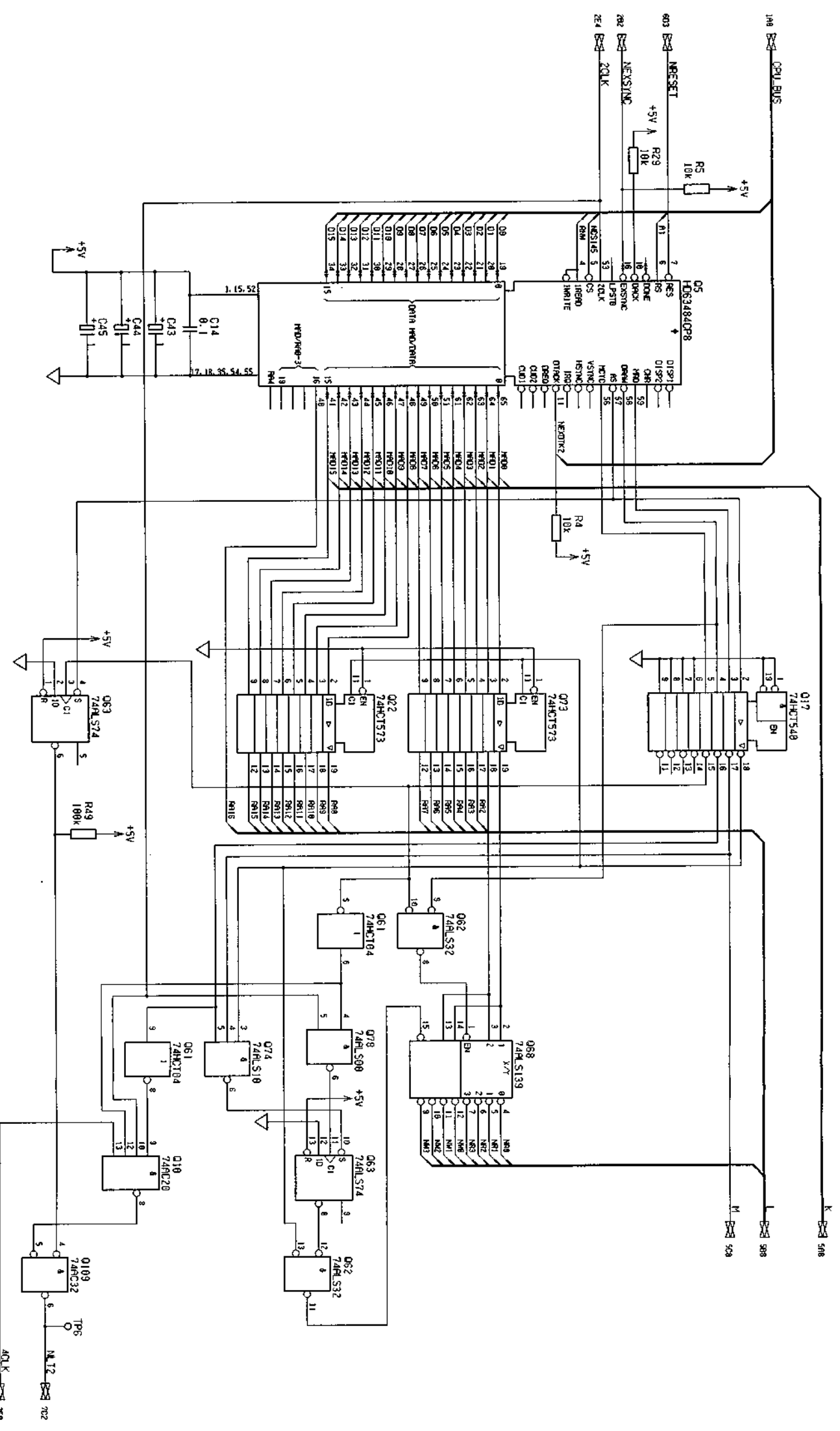


Fig. 3-95 (4/9)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>L. K. K. K.</i>				
APPROVED BY <i>N. Gada</i>				
DRAWN BY <i>Kawrucki</i>				
DESIGNED BY <i>Kawrucki</i>				
TITLE				
A9 DISP CPU				
DRAWING No. 33W31289				
3 - 333/3 - 334				

36



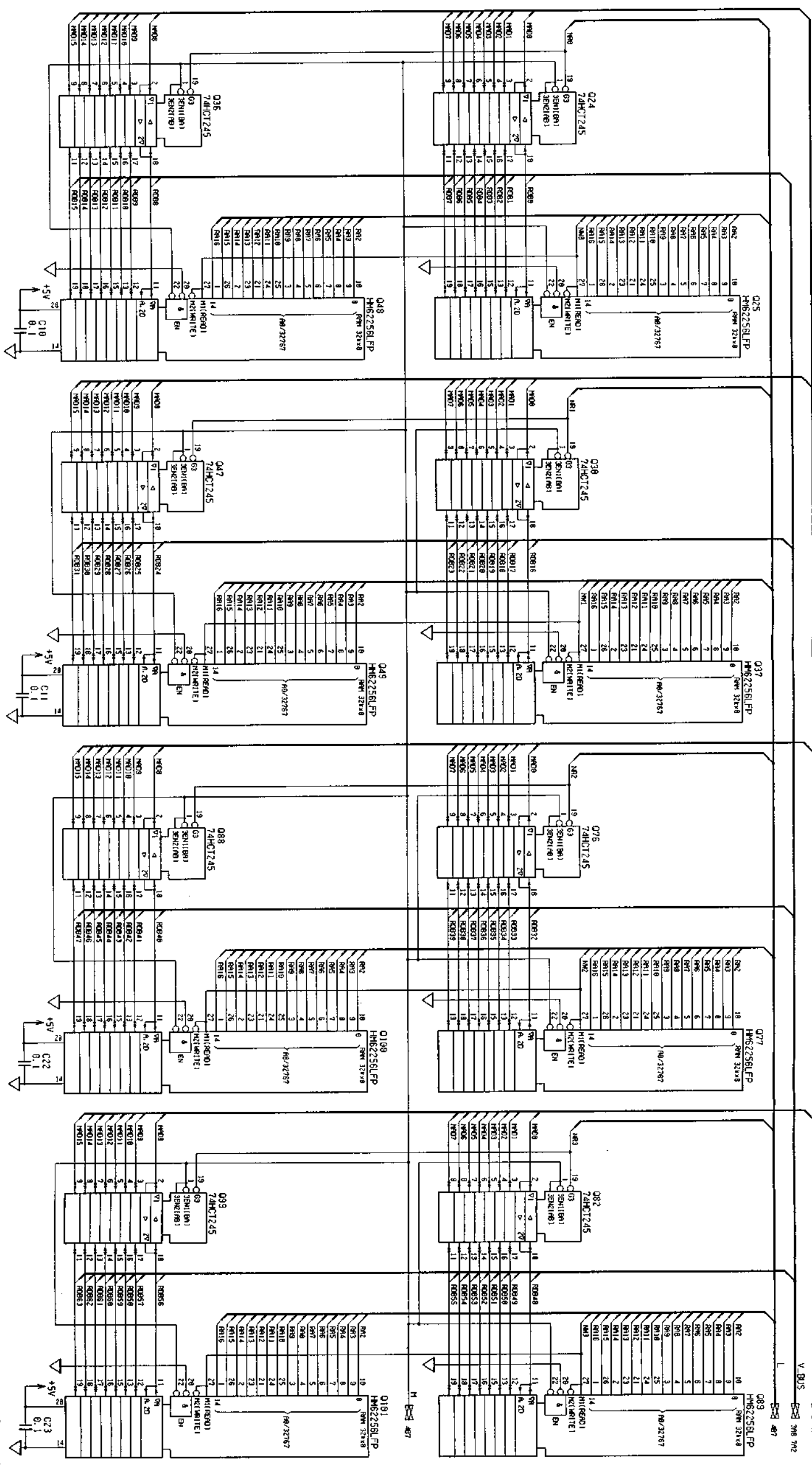


Fig. 3-95 (5/9)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. Nishiyama</i>				
DRAWN BY <i>Kawachi</i>				
APPROVED BY <i>A. Sada</i>				
DESIGNED BY <i>Kawachi</i>				
TITLE A9 DISP CPU				
DRAWING No. 33W31289				

36



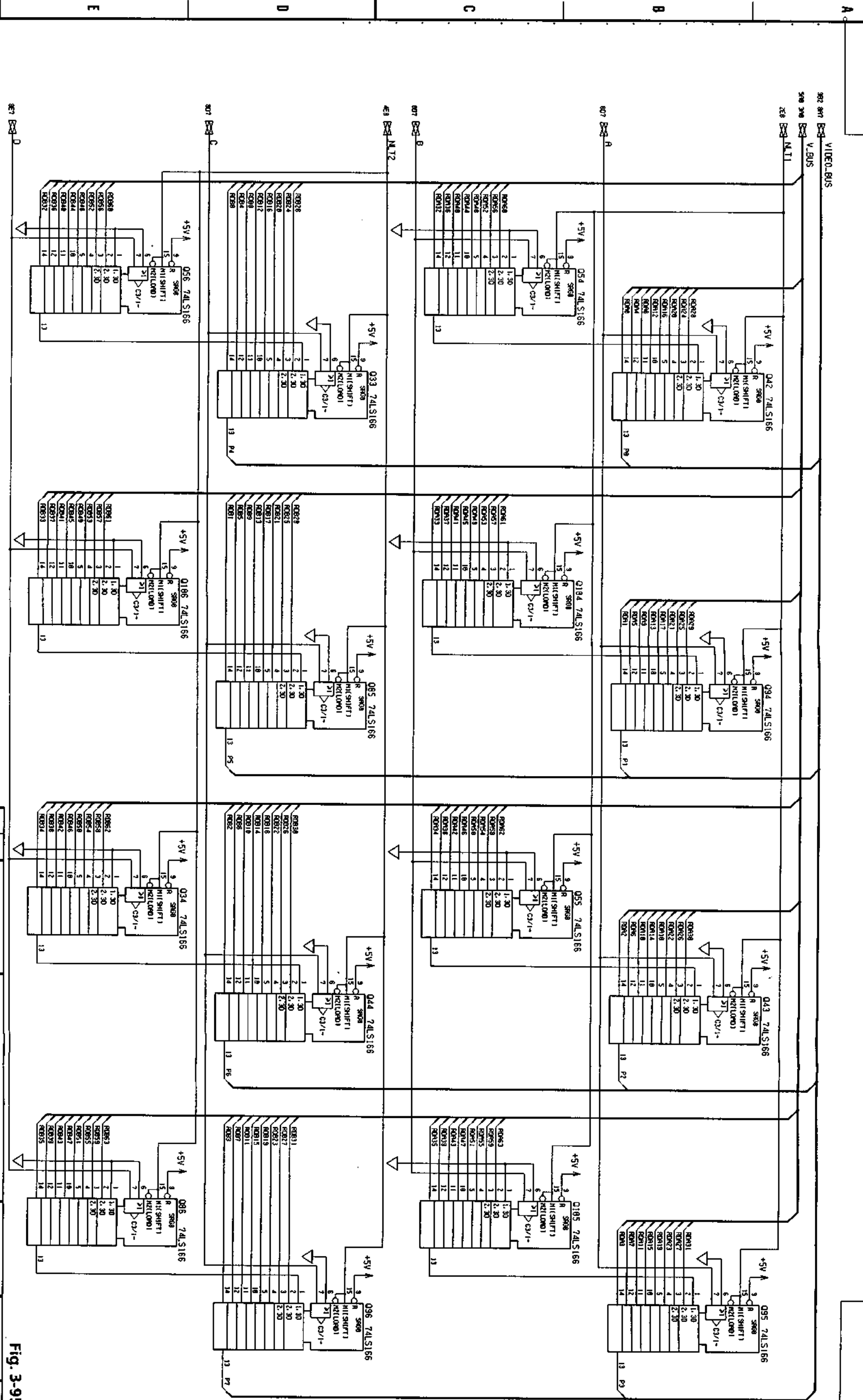


Fig. 3-95 (7/9)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. Hatakeyama</i>		DRAWN BY	SCALE	
APPROVED BY <i>H. Sada</i>		DESIGNED BY <i>Kawabuchi</i>		
TITLE A9 DISP CPU				
DRAWING No. 33W31289				
3-339/3-340				

36



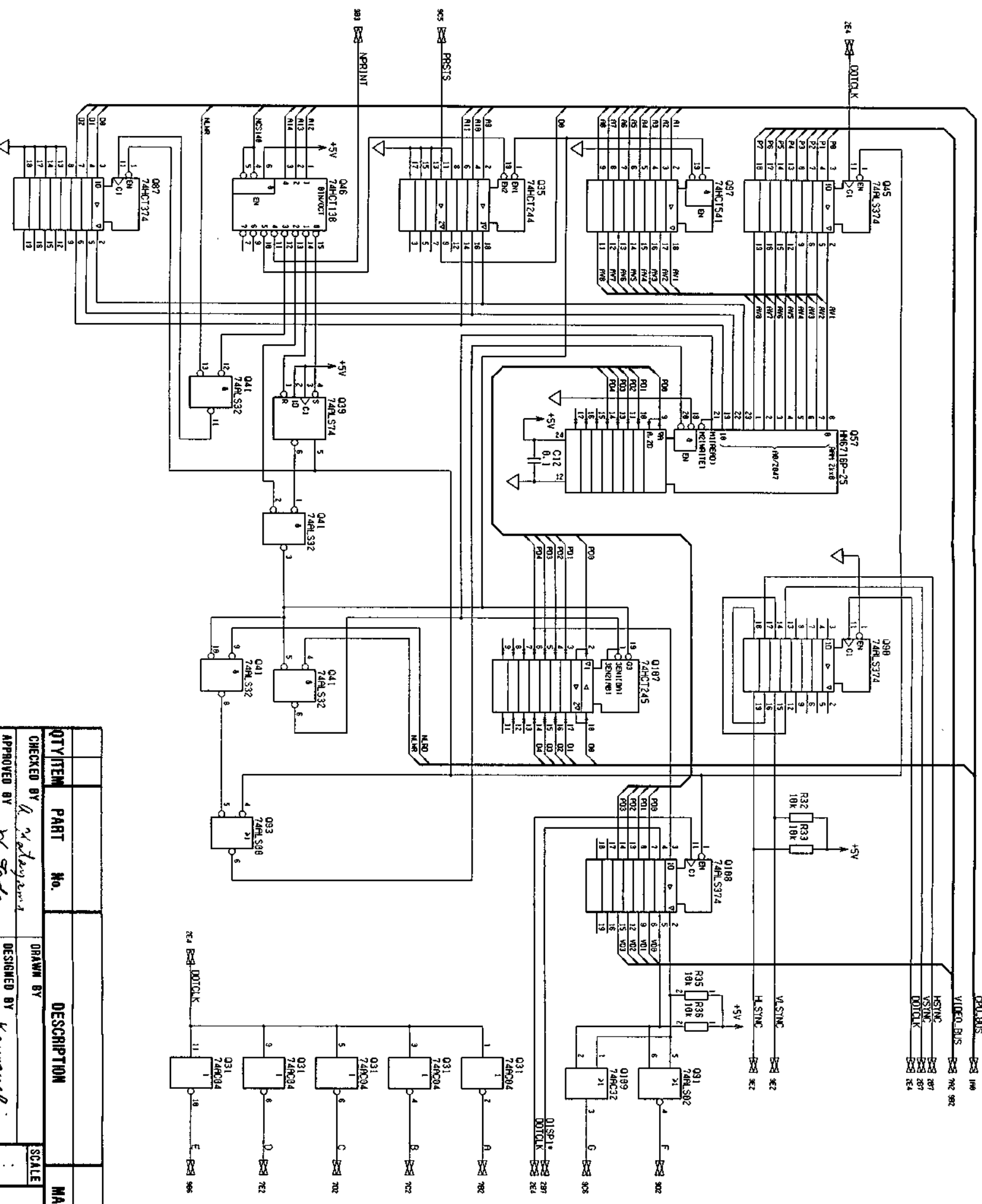


Fig. 3-95 (8/9)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
A9 DISP CPU				
CHECKED BY <i>A. Nakayama</i>				
DESIGNED BY <i>Kawachi</i>				
DRAWN BY				
SCALE				
APPROVED BY <i>N. Sada</i>				
TITLE				

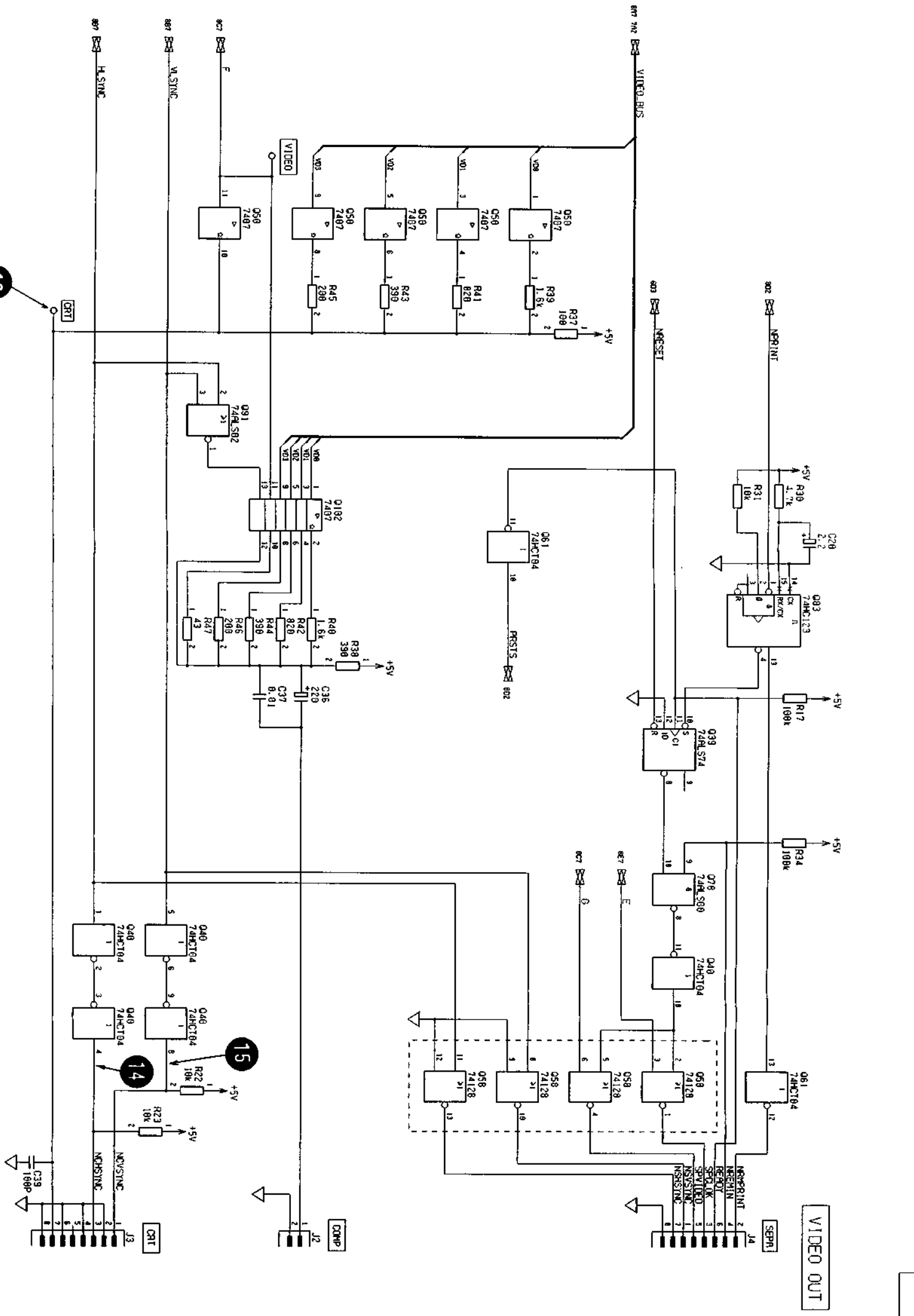


Fig. 3-95 (9/9)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *A. J. ...* DRAWN BY *Kawachi* SCALE *1:1*

APPROVED BY *H. Sada* DESIGNED BY *Kawachi*

TITLE **A9 DISP CPU** DRAWING No. **33W31289**

36



3.8.4 A10 MAIN CPU 37

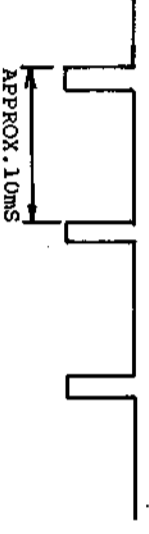
(1) Setup

1. Remove A10 MAIN CPU as described in paragraph 5.5.4.
2. Reattach it using an extender board.

(2) Troubleshooting

Check each test point by referring to the following table.

Table 3-98

Signal name	Test point	Normal state
+5	①	+5 ± 0.25 V
CPUCLK	② (Z2-1)	12 MHz pulse wave
IOCLK	③ (Z2-2)	6 MHz pulse wave
NPWRFALL	④ (TP6)	Normally HIGH
NRESET	⑤ (TP7)	
(Interrupt signal)	⑥ (Q19-87, 88, 89, 115, 116)	Repeated at HIGH or HIGH/LOW (normally, continuous LOW not output)
	⑦ (TP5)	TP5 as follows
		 <p style="text-align: center;">APPROX. 10ms</p>
NDTACK	⑧ (Q19-80)	LOW and HIGH repeated at random
CMACK	⑨ (TP3)	LOW and HIGH repeated at random
CMREQ	⑩ (TP1)	⑨ CMACK overshoot and undershoot must be small.
(I/O bus control)	⑪ (Q18-1)	LOW and HIGH repeated when setting from GP-1B
(PTA keyboard interface)	⑫ (Q10-3) ⑬ (TP11)	LOW and HIGH repeated at input from external keyboard when PTA ON (Baud rate: 9600 bps)

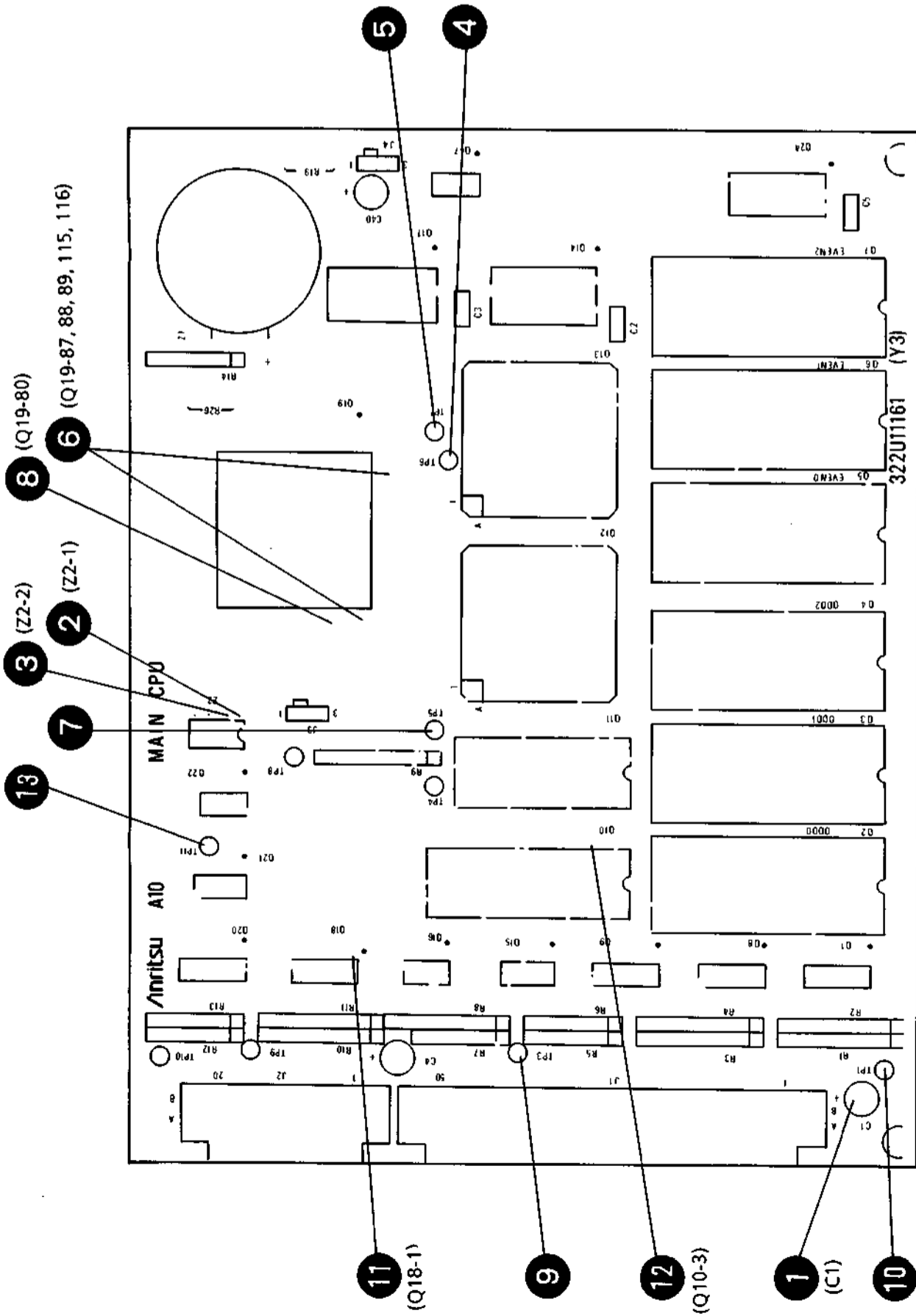


Fig. 3-96 (1/2)
 A10 MAIN CPU PC-Board Parts
 Layout (Component Side) **37**



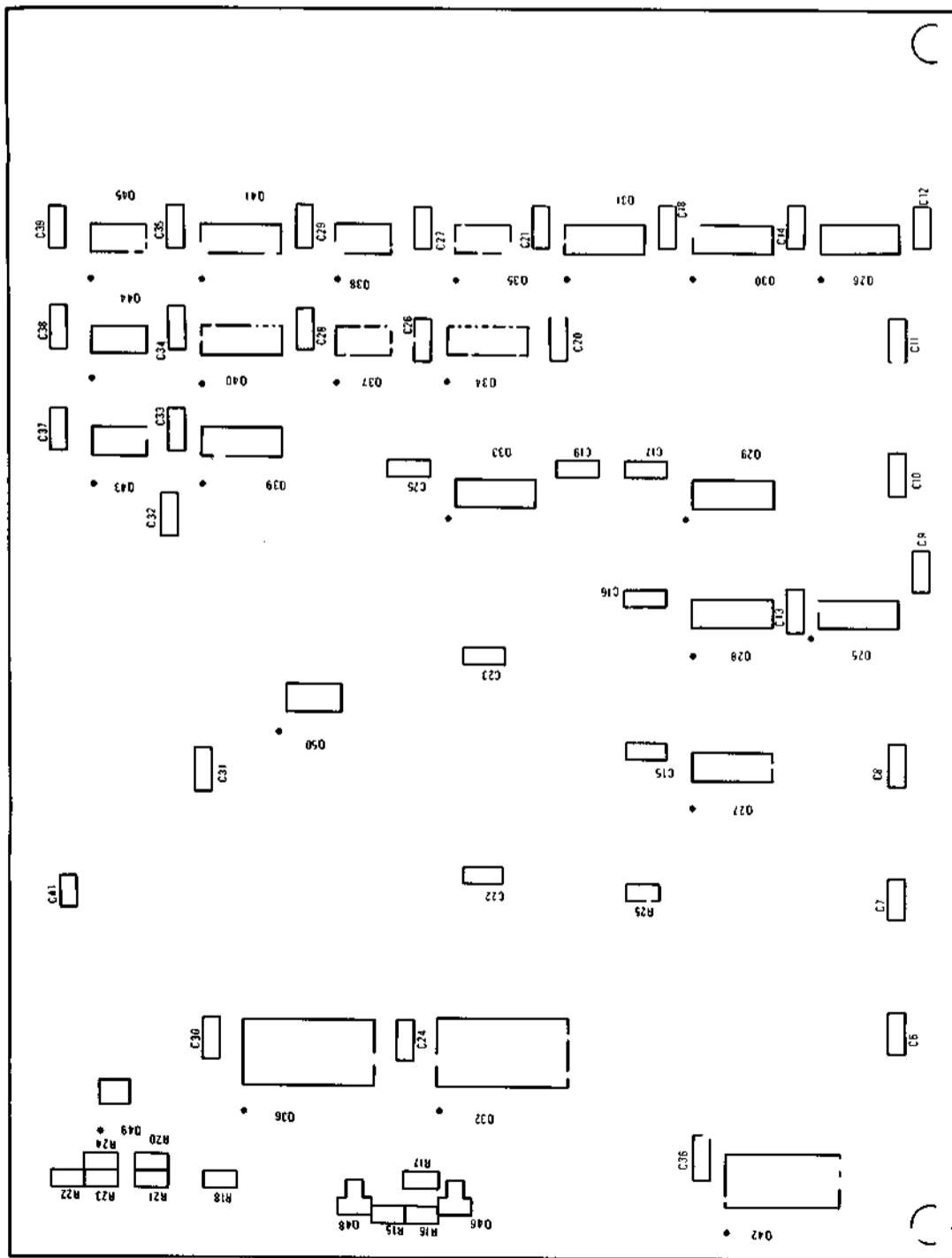
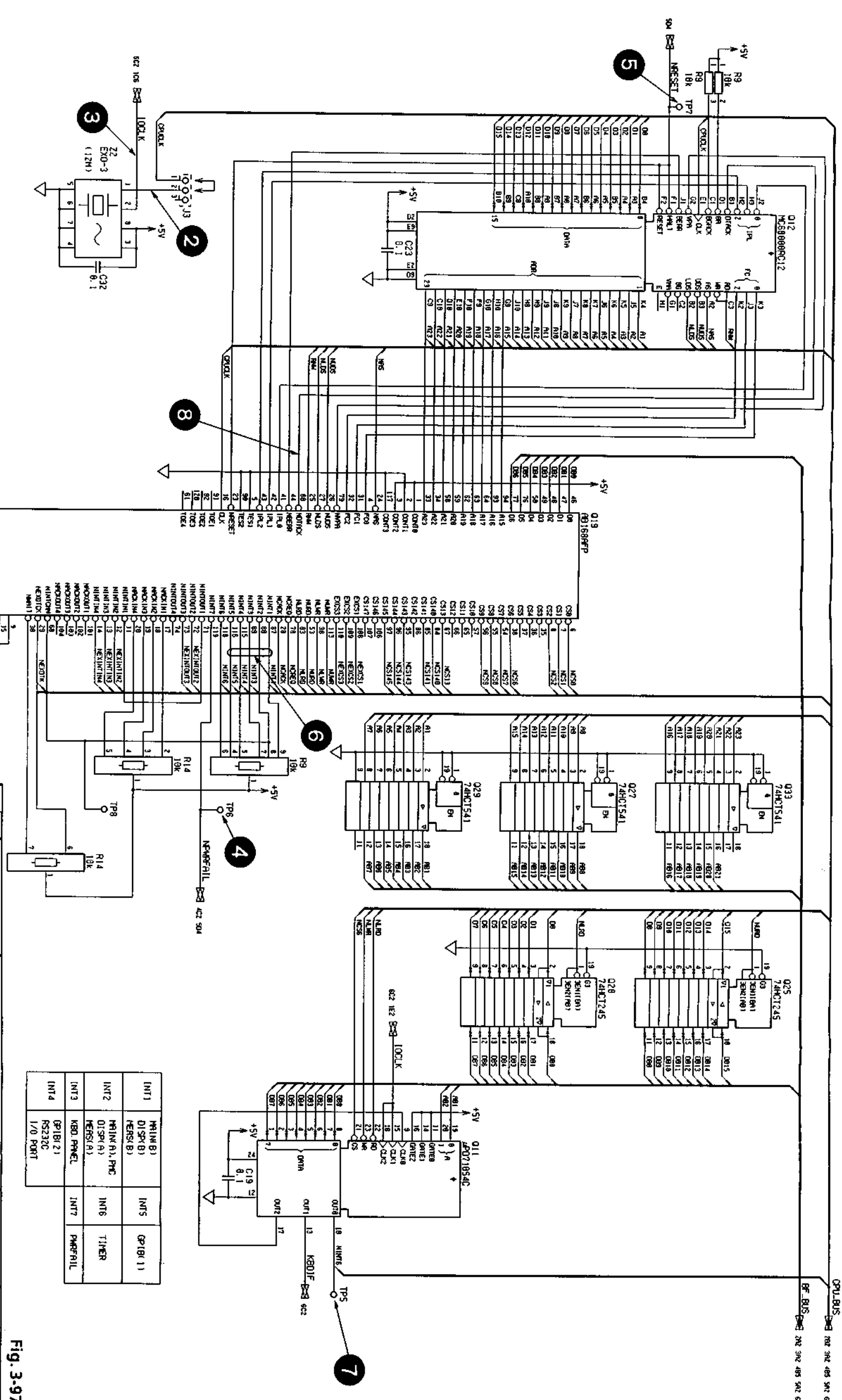


Fig. 3-96 (2/2)
 A10 MAIN CPU PC-Board Parts
 Layout (Pattern Side) **37**

(3 - 347 blank)/3 - 348



INT1	PH1W(B)	INT5	GP1(B)
INT2	DI(S)(B)	INT6	TIMER
INT3	HE(S)(B)	INT7	PARFAIL
INT4	PH1W(A), PNC		
	DI(S)(A)		
	HE(S)(A)		
	KBD PANEL		
	GP1(B)2		
	RS232C		
	I/O PORT		

Fig. 3-97 (1/6)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. Katsuyama</i>				
APPROVED BY <i>R. Sode</i>				
DRAWN BY <i>Kawazaki</i>				
DESIGNED BY <i>Kawazaki</i>				
TITLE				
A10 MAIN CPU				
DRAWING No. 33W31288				
3 - 349/3 - 350				
37				

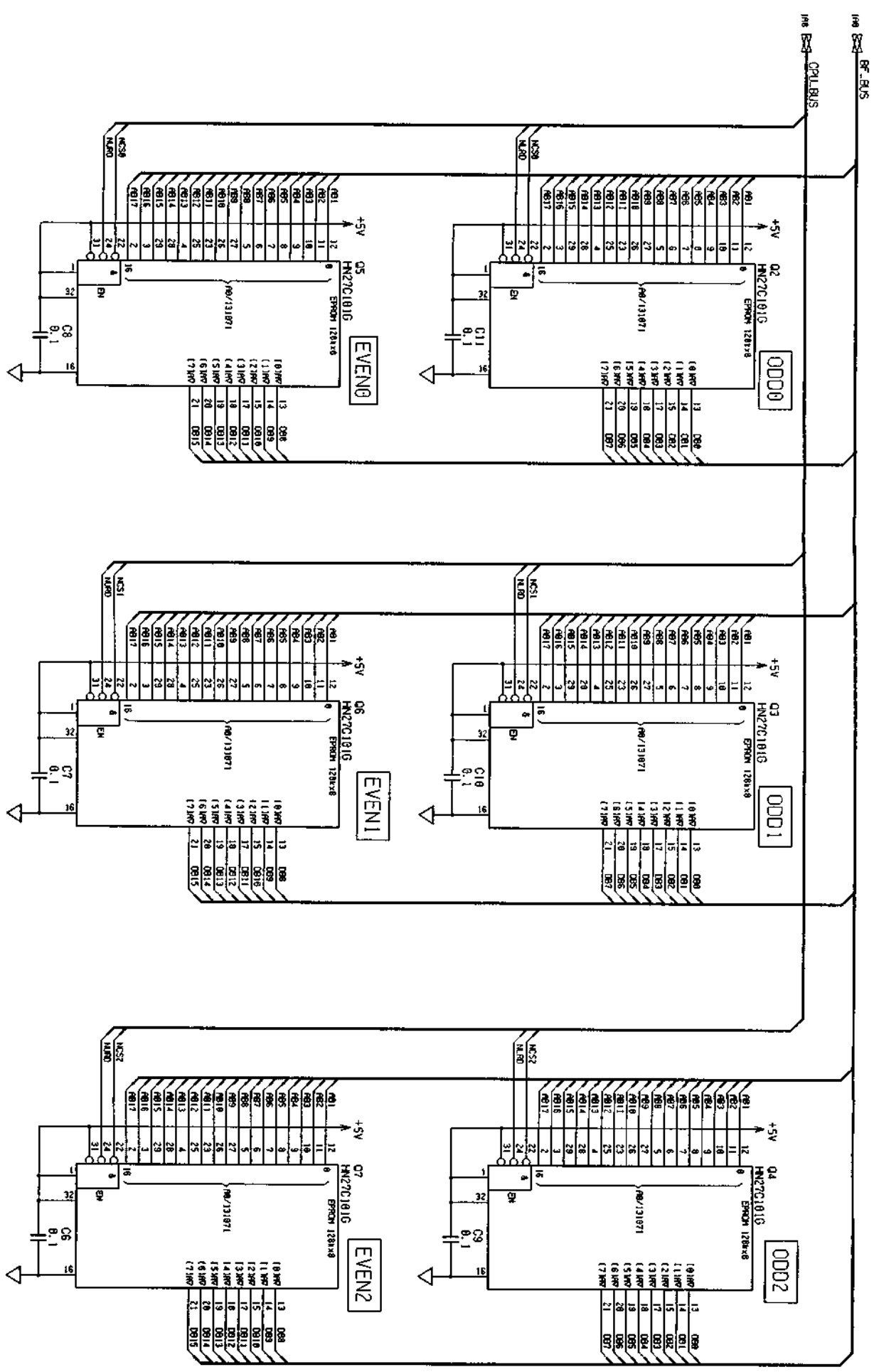
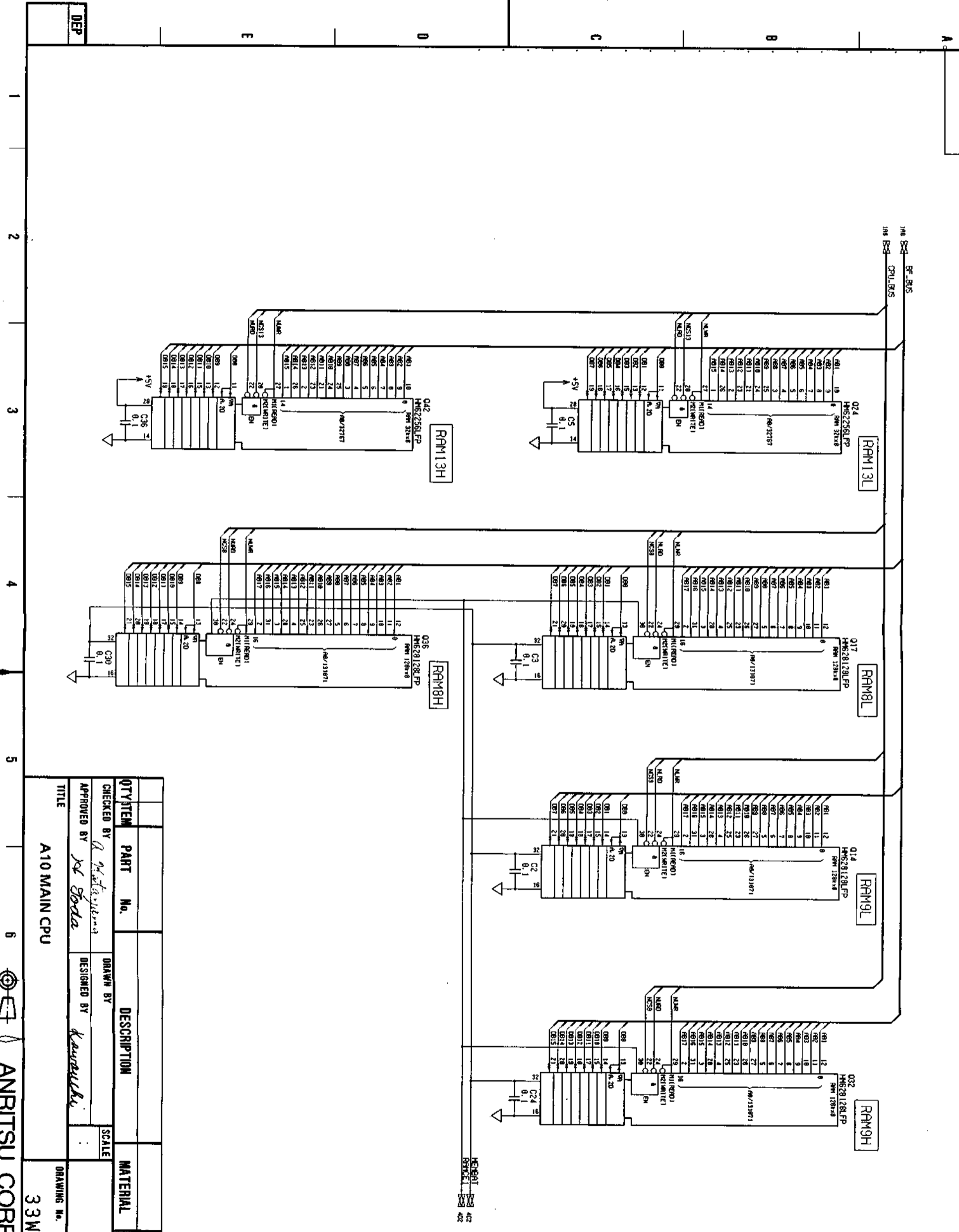


Fig. 3-97 (2/6)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY	DRAWN BY		SCALE	
APPROVED BY	DESIGNED BY			
TITLE		DRAWING No.		
A10 MAIN CPU		33W31288		
		3-351/3-352		

37





QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *A. Matsuyama*
 APPROVED BY *K. Sada*
 DRAWN BY
 DESIGNED BY *Kawachi*

SCALE

DRAWING No. **37**

TITLE
A10 MAIN CPU

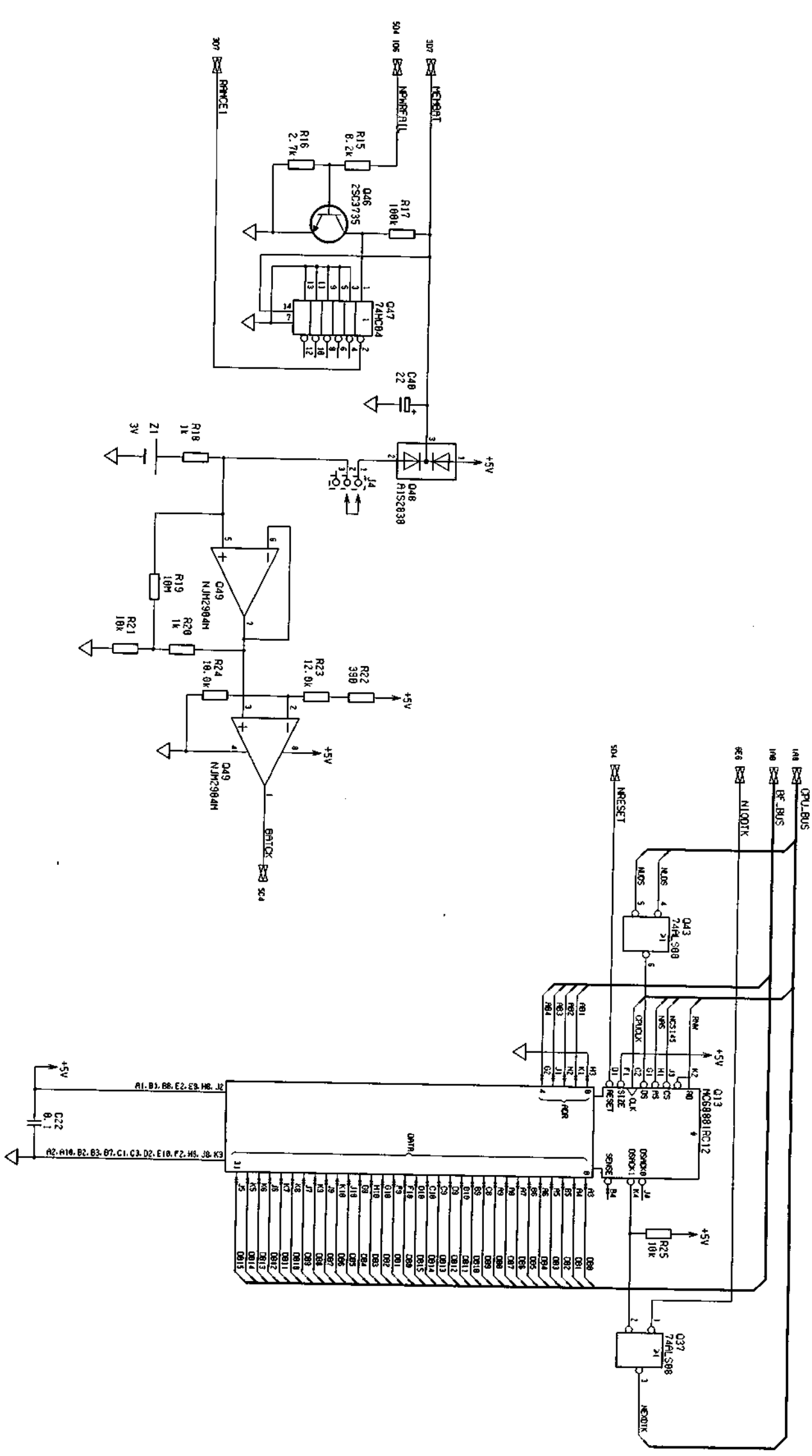


Fig. 3-97 (4/6)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. M. ...</i> APPROVED BY <i>H. Soda</i> DRAWN BY DESIGNED BY <i>Kawachi</i>				
TITLE				
A10 MAIN CPU				
DRAWING No. 33W31288				
37				

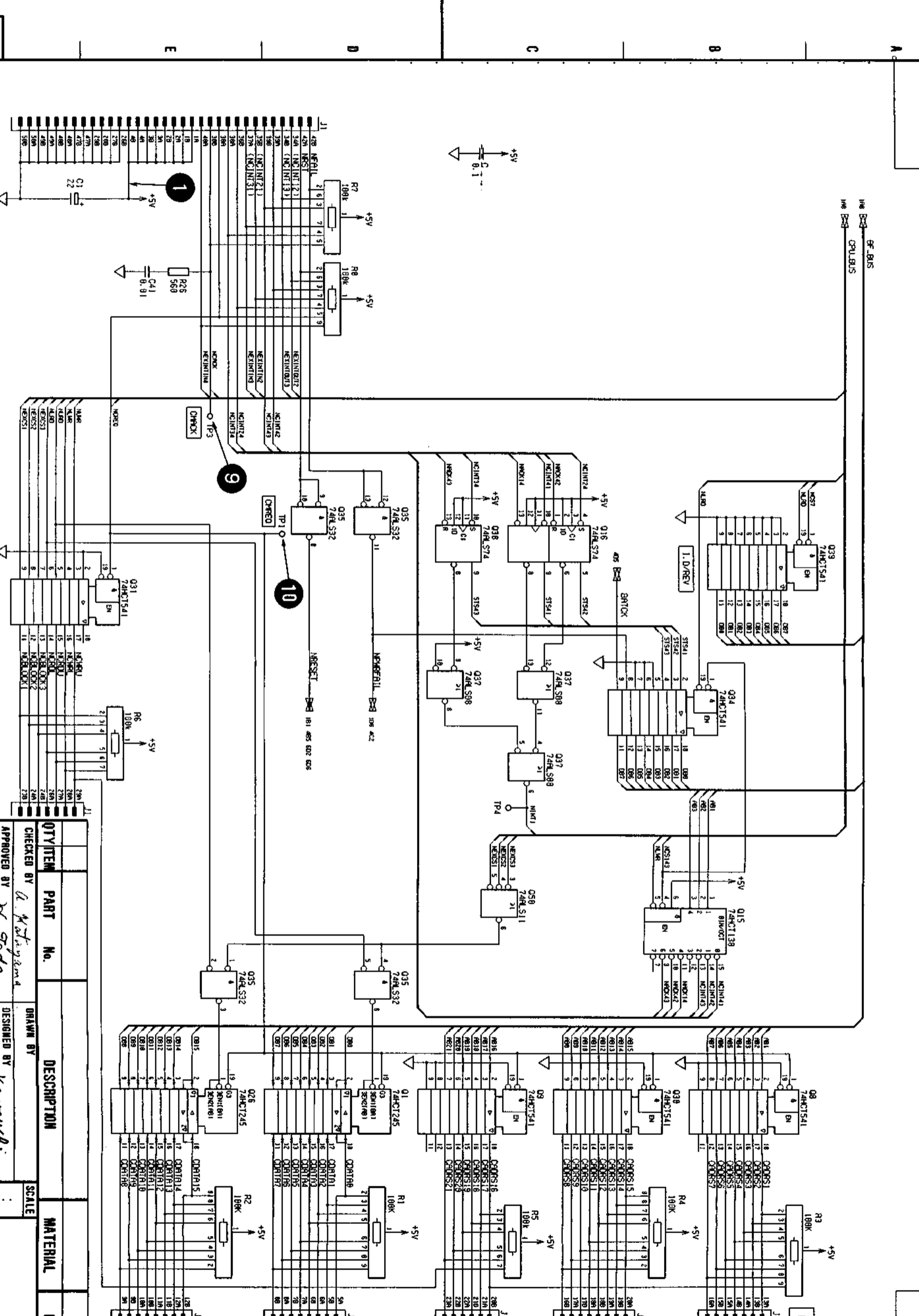


Fig. 3-97 (5/6)

NO.	NAME	QTY	UNIT
1	74ALS41	1	IC
2	74ALS138	1	IC
3	74ALS16	4	IC
4	74ALS08	2	IC
5	74ALS04	2	IC
6	74ALS00	2	IC
7	RES	1	RES
8	CAP	1	CAP
9	RES	1	RES
10	CAP	1	CAP
11	RES	1	RES
12	CAP	1	CAP
13	RES	1	RES
14	CAP	1	CAP
15	RES	1	RES
16	CAP	1	CAP
17	RES	1	RES
18	CAP	1	CAP
19	RES	1	RES
20	CAP	1	CAP
21	RES	1	RES
22	CAP	1	CAP

QTY/ITEM	PART No.	DESCRIPTION	SCALE	MATERIAL	FINISH
1	74ALS41	74ALS41			
1	74ALS138	74ALS138			
4	74ALS16	74ALS16			
2	74ALS08	74ALS08			
2	74ALS04	74ALS04			
2	74ALS00	74ALS00			
1	RES	RES			
1	CAP	CAP			
1	RES	RES			
1	CAP	CAP			
1	RES	RES			
1	CAP	CAP			
1	RES	RES			
1	CAP	CAP			
1	RES	RES			
1	CAP	CAP			
1	RES	RES			
1	CAP	CAP			

APPROVED BY *X. Soda*
 CHECKED BY *A. H. S. S. S.*
 DRAWN BY *Kawachi*
 DESIGNED BY *Kawachi*

TITLE
A10 MAIN CPU

DRAWING No.
33W31288

SCALE
37

3-357/3-358

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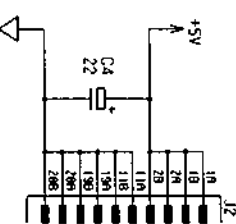
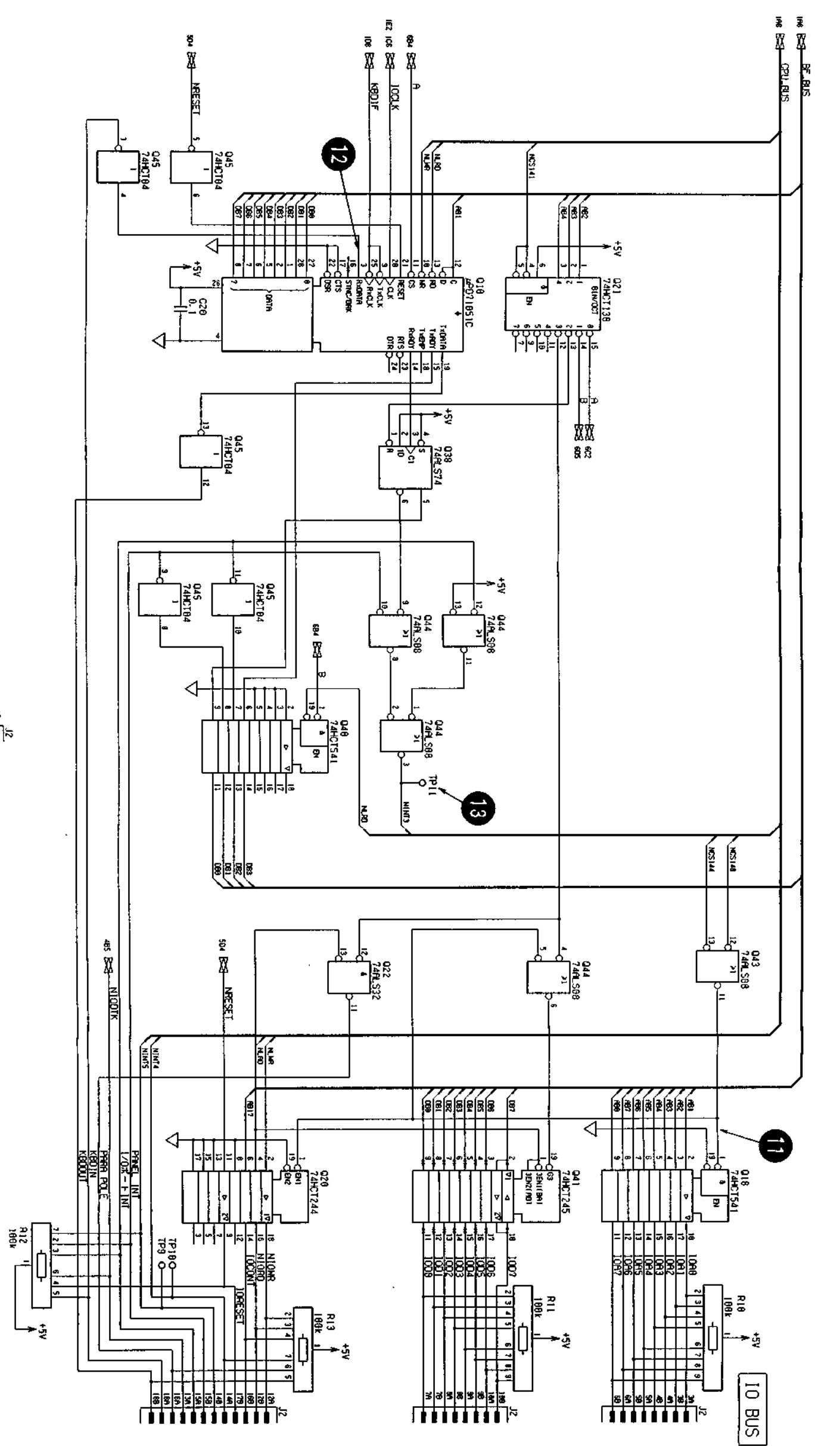


Fig. 3-97 (6/6)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY: <i>[Signature]</i>				
DRAWN BY: <i>[Signature]</i>				
APPROVED BY: <i>[Signature]</i>				
DESIGNED BY: <i>[Signature]</i>				
SCALE:				
TITLE: A10 MAIN CPU				
DRAWING No. 33W31288				

37



3.8.5 A11 COMMON BOARD **38**

(1) Setup

1. Remove the front panel and take out the CRT.
2. Remove the rear panel and take out A7, A8, A9, A10, and Z2.

(2) Troubleshooting

1. Check that the connector soldering is not faulty.
2. Check that the connector is not damaged.

3.8.6 A14 PMC BOARD 39

(1) Setup

1. Remove A14 PMC BOARD as described in paragraph 5.4.
2. Reattach it using an extender board.

(2) Troubleshooting

Check each test point by referring to the following table.

Table 3-99

Signal name	Test point	Normal state
+5	①	+5 ± 0.25 V
CLOCK	② (Z2-1)	12 MHz pulse wave
	③ (Z2-2)	6 MHz pulse wave
NPWRFAIL	④ (J1-42B)	Normally HIGH
NRESET	⑤ (J1-42A)	
(Common-bus arbiter)	⑥ (Q21-9, 10, 12, 13)	Low and HIGH repeated at random (However, (Q21-13) is normally HIGH.)
	⑦ (Q3-9, 10, 11, 12)	
	⑧ (Q3-15)	
	⑨ (Q2-13, 14)	
(PMC interface)	⑩ (Q19-12)	⑩ is HIGH. ⑪ and ⑫ are as follows when the PMC is accessed.
	⑪ (Q36-1)	
	⑫ (Q32-13)	

The diagram shows a digital signal pulse. The pulse is a rectangular wave that transitions from a high state to a low state and back to a high state. A horizontal double-headed arrow below the pulse indicates its duration, which is labeled as 'SEVERAL 100ns'.

3.8.7 A20 LED BOARD **48**

(1) Setup

Refer to paragraph 5.3 and remove the front panel.

(2) Troubleshooting

Check the test point by referring to the following table.

Table 3-100

Signal name	Test point	Normal state
Vcc	①	+5±0.25 V

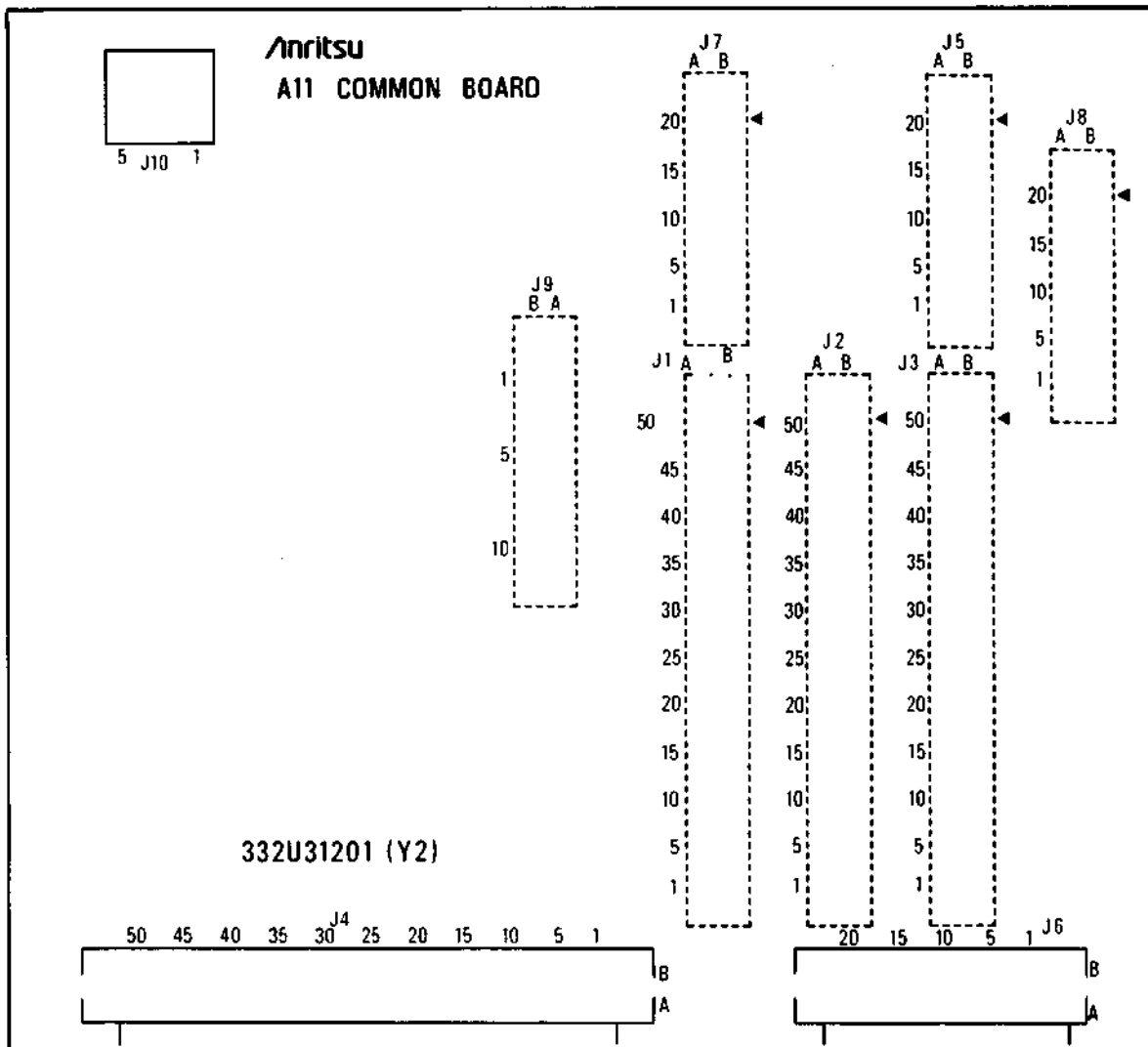


Fig. 3-98 (1/2) A11 COMMON BOARD PC-Board Parts Layout (Component Side) **38**



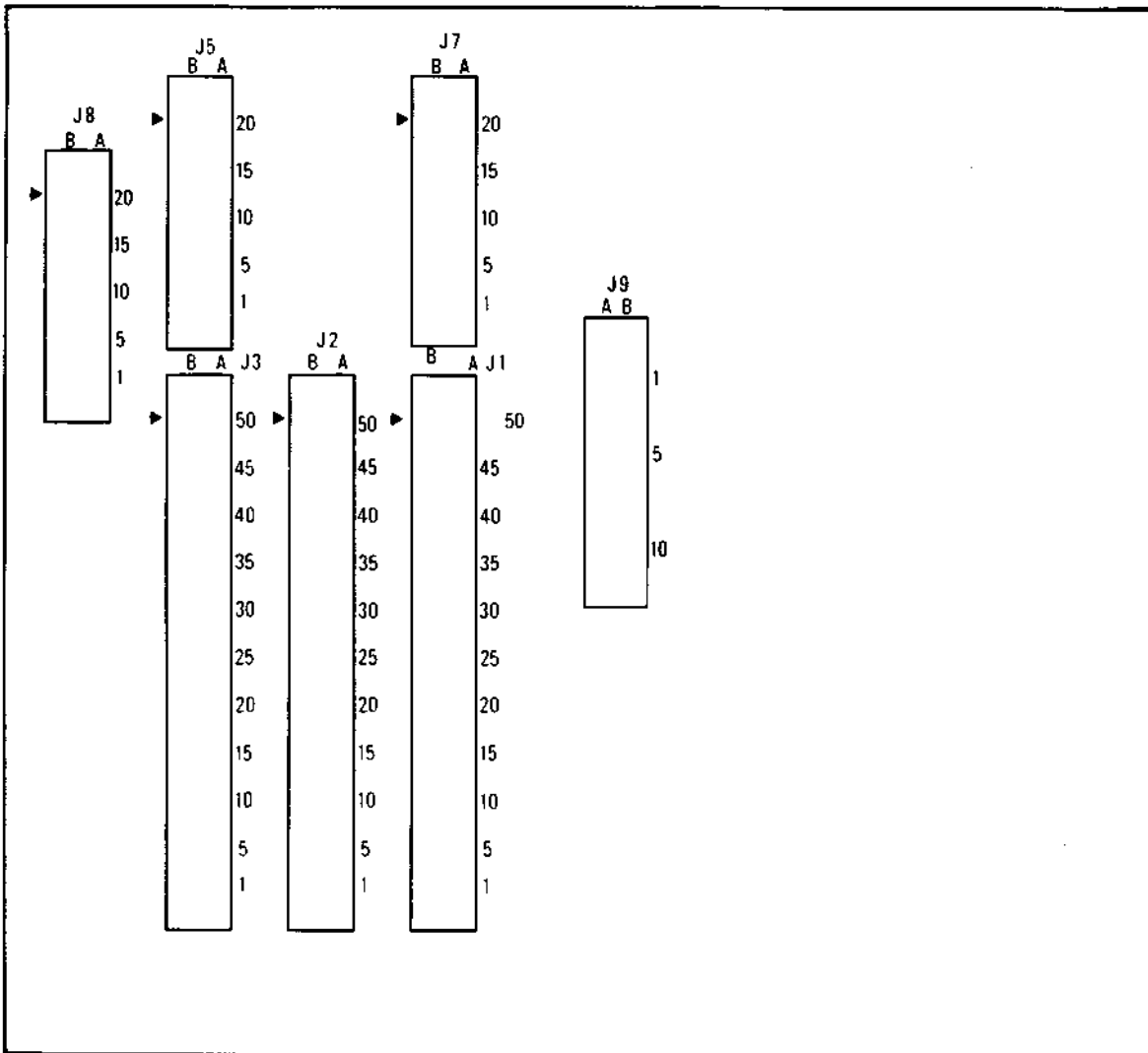


Fig. 3-98 (2/2) A11 COMMON BOARD PC-Board Parts Layout (Pattern Side) **38**

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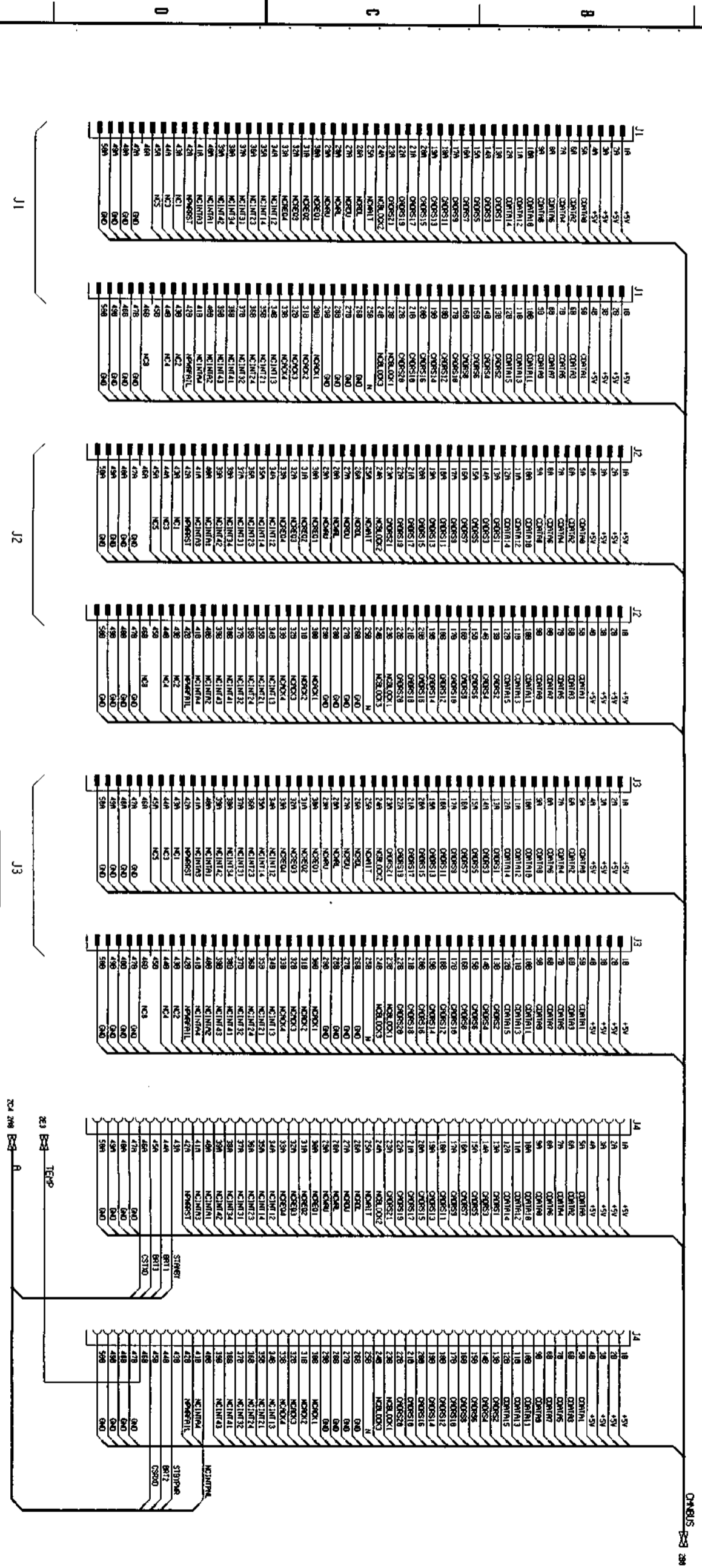


Fig. 3-99 (1/2)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. N. S. S. S. S. S.</i>				
APPROVED BY <i>J. S. S. S. S.</i>				
DRAWN BY <i>Kawzucki</i>			DESIGNED BY <i>Kawzucki</i>	
TITLE A11 COMMON BOARD				
DRAWING No. 33W31291				
38				

DEP

1 2 3 4 5 6 7 8



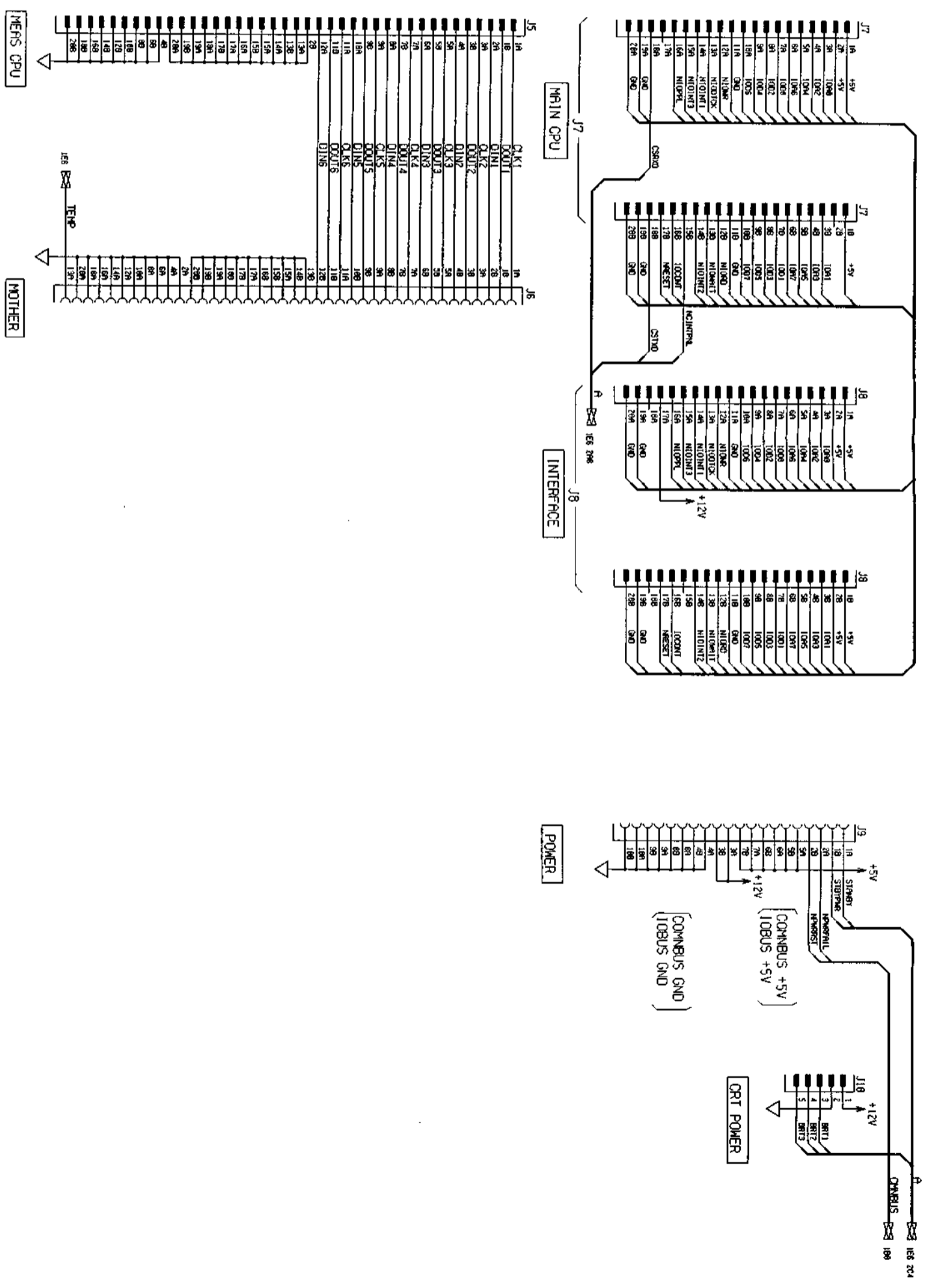


Fig. 3-99 (2/2)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. M. Anderson</i>				
DRAWN BY <i>Kawabuchi</i>				
APPROVED BY <i>J. C. Stoda</i>				
DESIGNED BY				
SCALE				
TITLE				
A11 COMMON BOARD				
DRAWING No. 33W31291				
38				

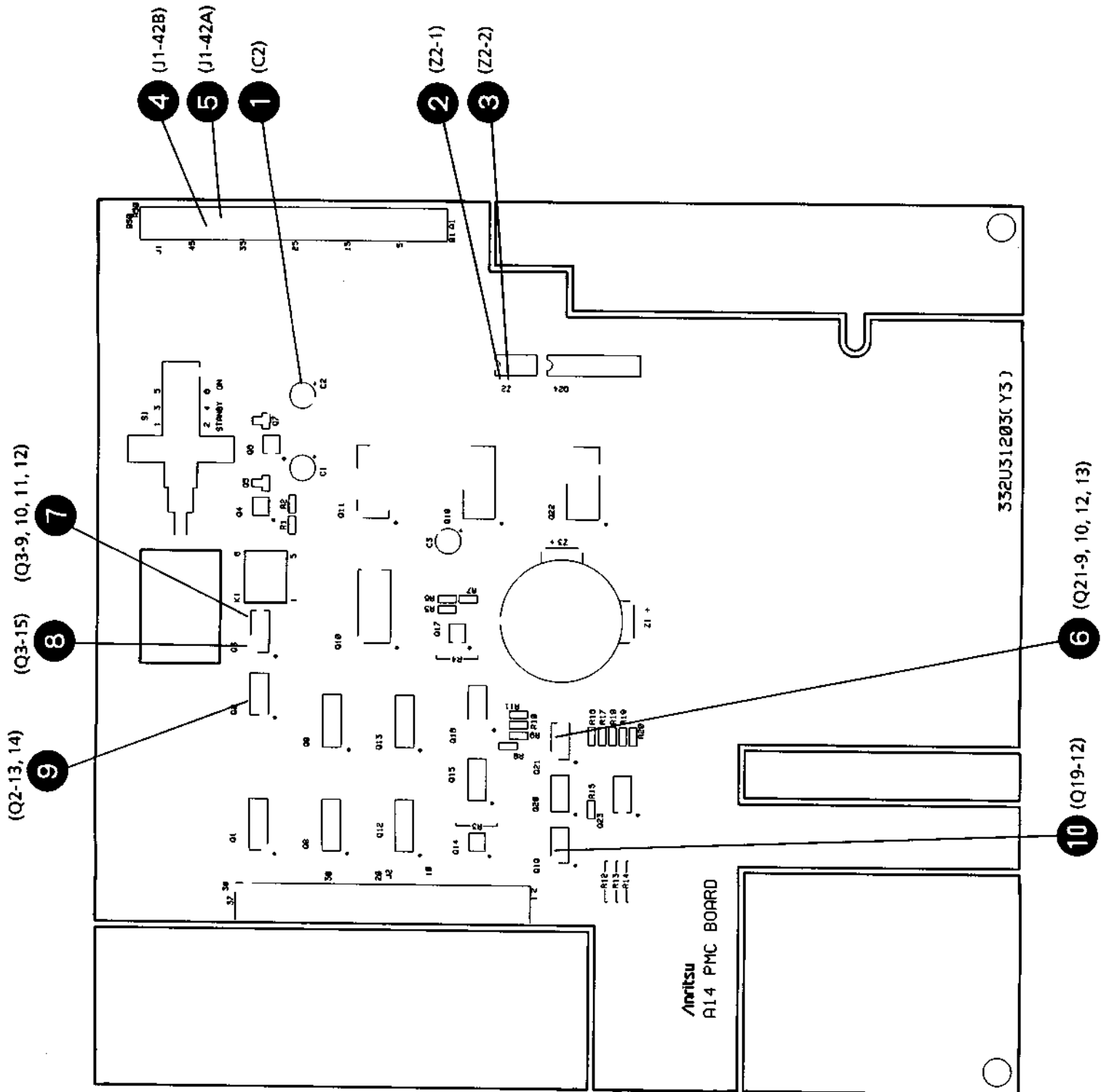


Fig. 3-100 (1/2)
 A14 PMC BOARD PC-Board Parts
 Layout (Component Side) **39**

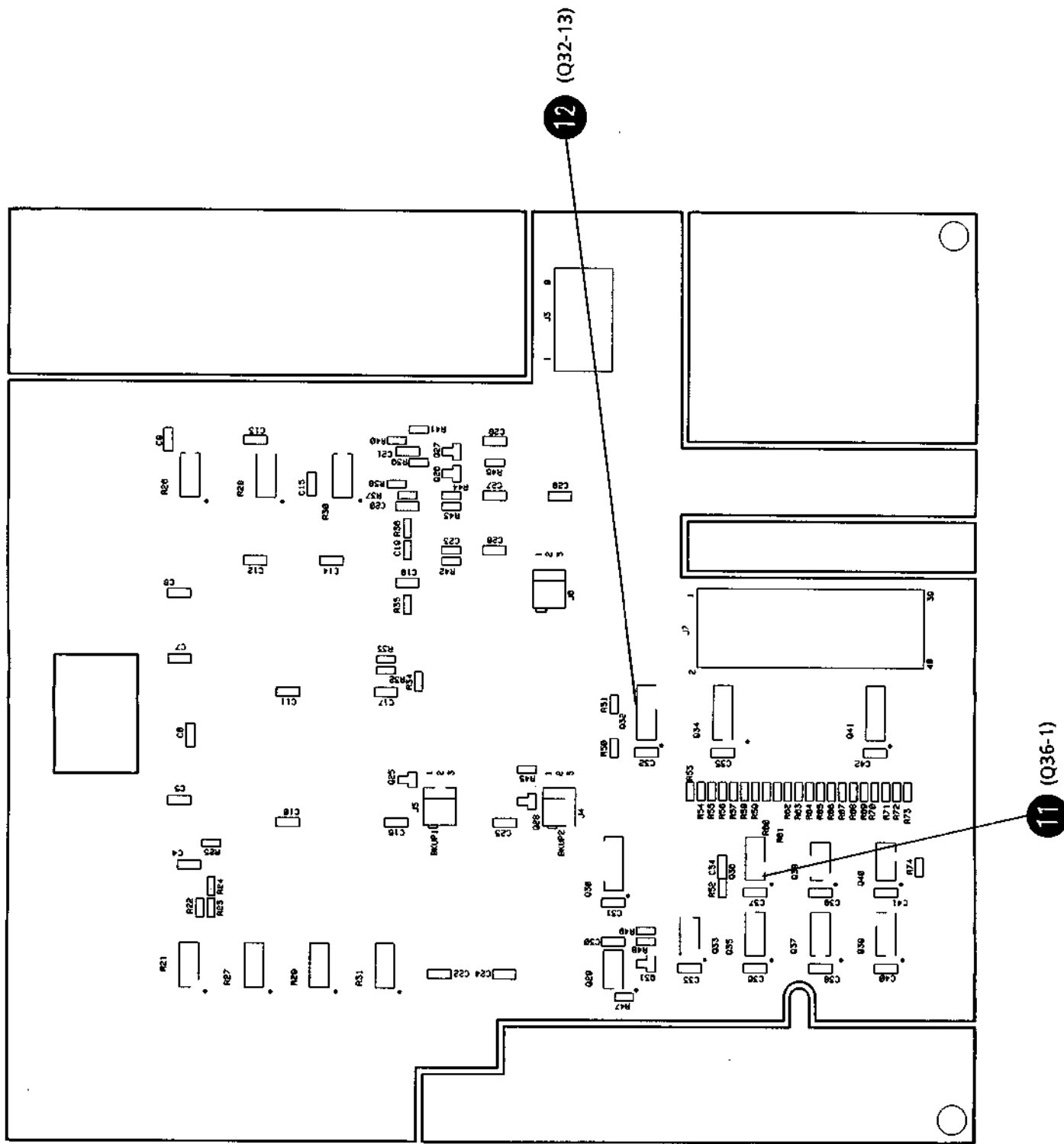
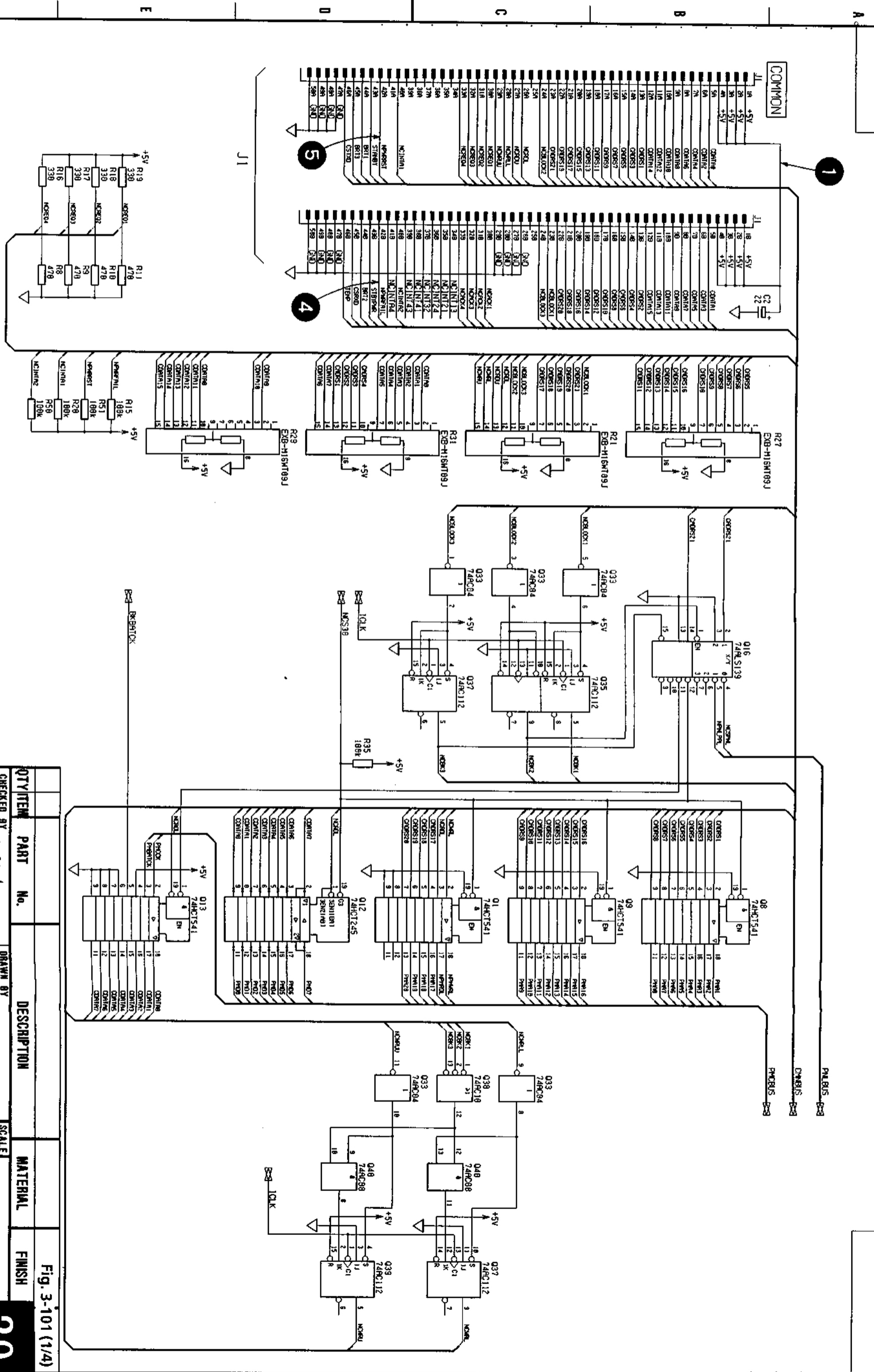


Fig. 3-100 (3/2)
 A14 PMC BOARD PC-Board Parts
 Layout (Pattern Side) **39**

(3 - 371 blank)/3 - 372



QTY	ITEM	PART No.	DESCRIPTION	SCALE	MATERIAL	FINISH

CHECKED BY *A. H. Kagan*
 APPROVED BY *R. Sada*
 DRAWN BY
 DESIGNED BY *Kawachi*

TITLE: **A14 PMC BOARD**
 Fig. 3-101 (1/4)
 DRAWING No. **39**





33W31292
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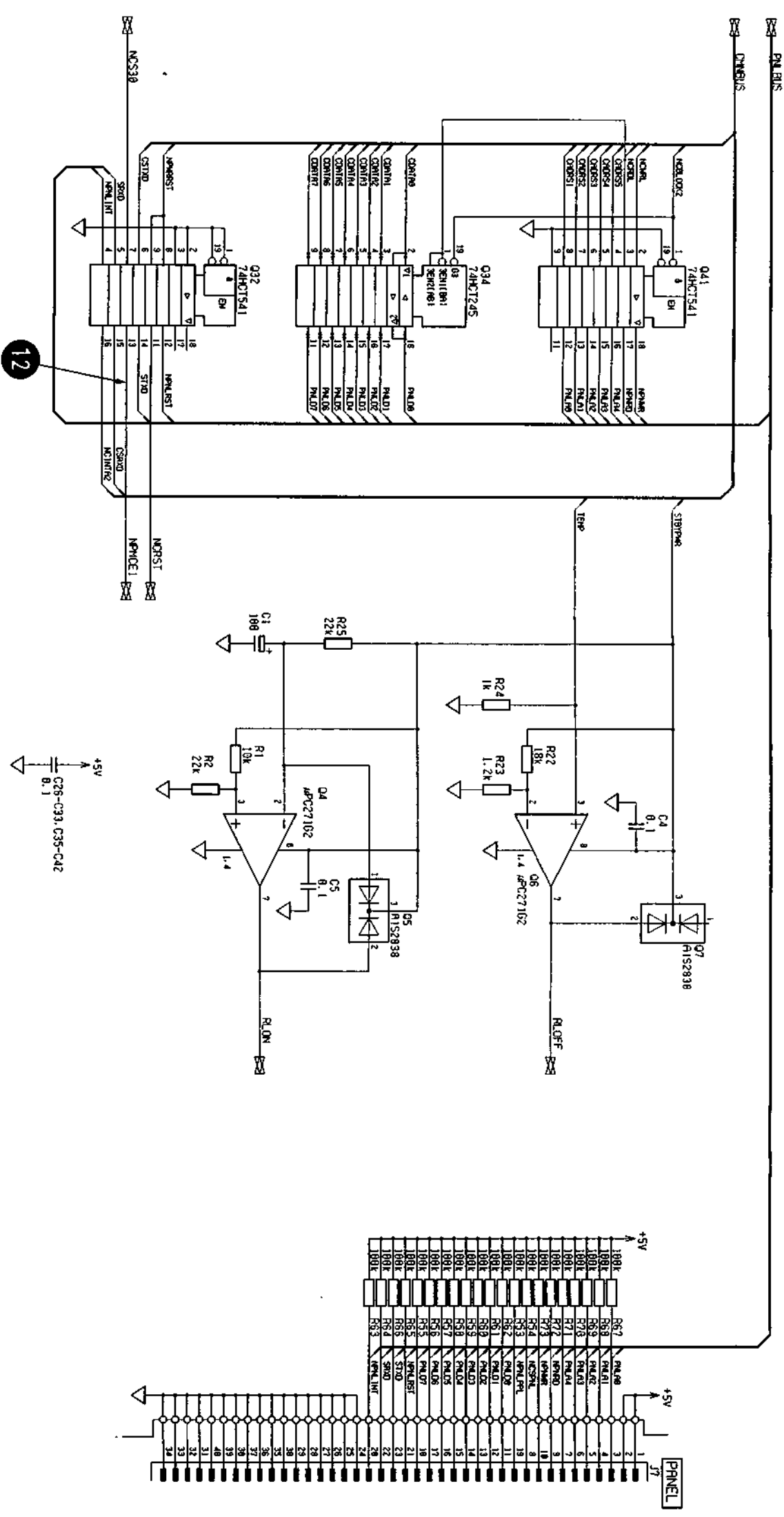


Fig. 3-101 (A/4)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. Anderson</i>				
DESIGNED BY <i>Kawakubo</i>				
DRAWN BY				
SCALE				
APPROVED BY <i>M. Sada</i>				
TITLE A14 PMC BOARD				
DRAWING No. 33W31292				

39

ANRITSU CORP. 3-379

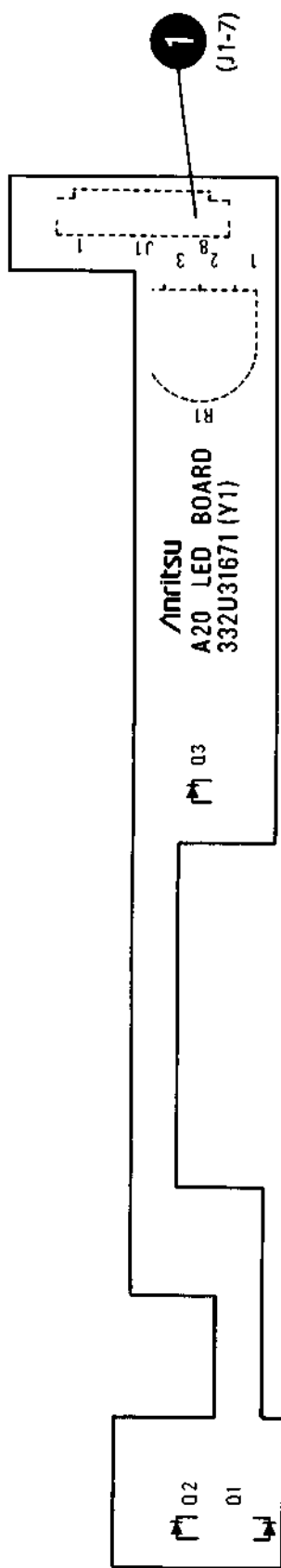


Fig. 3-102
 A20 LED BOARD PC-Board
 Parts Layout **48**

33W31294
APPLICATION

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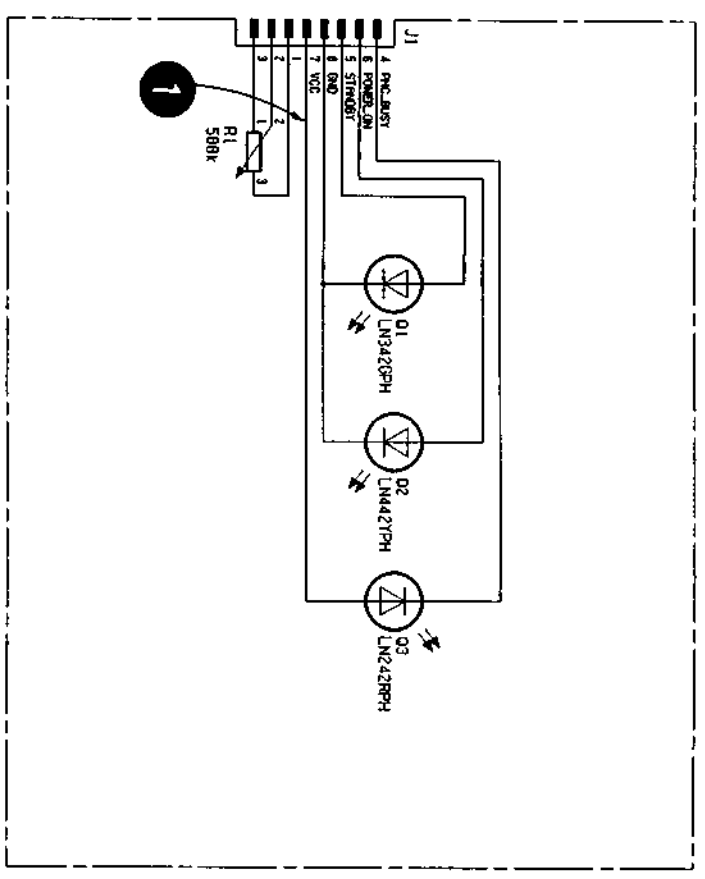


Fig. 3-103

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. Matsuyama</i> APPROVED BY <i>X. Soda</i> DRAWN BY DESIGNED BY <i>Kawachi</i>				
TITLE: A20 LED BOARD DRAWING No. 33W31294				

48

ANRITSU CORP. 3-381/3-382



3.8.8 A15 FRONT PANEL **40**

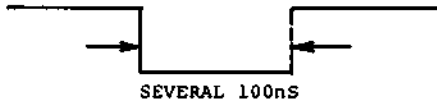

(1) Setup

Refer to paragraph 5.3 and remove the top cover and front panel.

(2) Troubleshooting

Check each test point by referring to the following table.

Table 3-101

Signal name	Test point	Normal state
+5V	① (J1-1, 2)	+5 ± 0.25 V
NPNLRST	② (J1-21)	Normally HIGH
NPNLINT	③ (J1-20)	Not continuous LOW
(PTA keyboard input)	④ (TP1)	LOW and HIGH signal output repeatedly at input from external keyboard with PTA ON
(Rotary encoder input)	⑤ (Q35-15)	Following signal repeated randomly 
(Key input)	⑥ (TP2) ⑦ (TP4)	Signal output as follows when key pressed 

3.8.9 A7 INTERFACE (1) 34

(1) Setup

1. Remove A7 INTERFACE (1) as described in paragraph 5.5.7.
2. Reattach it using an extender board.

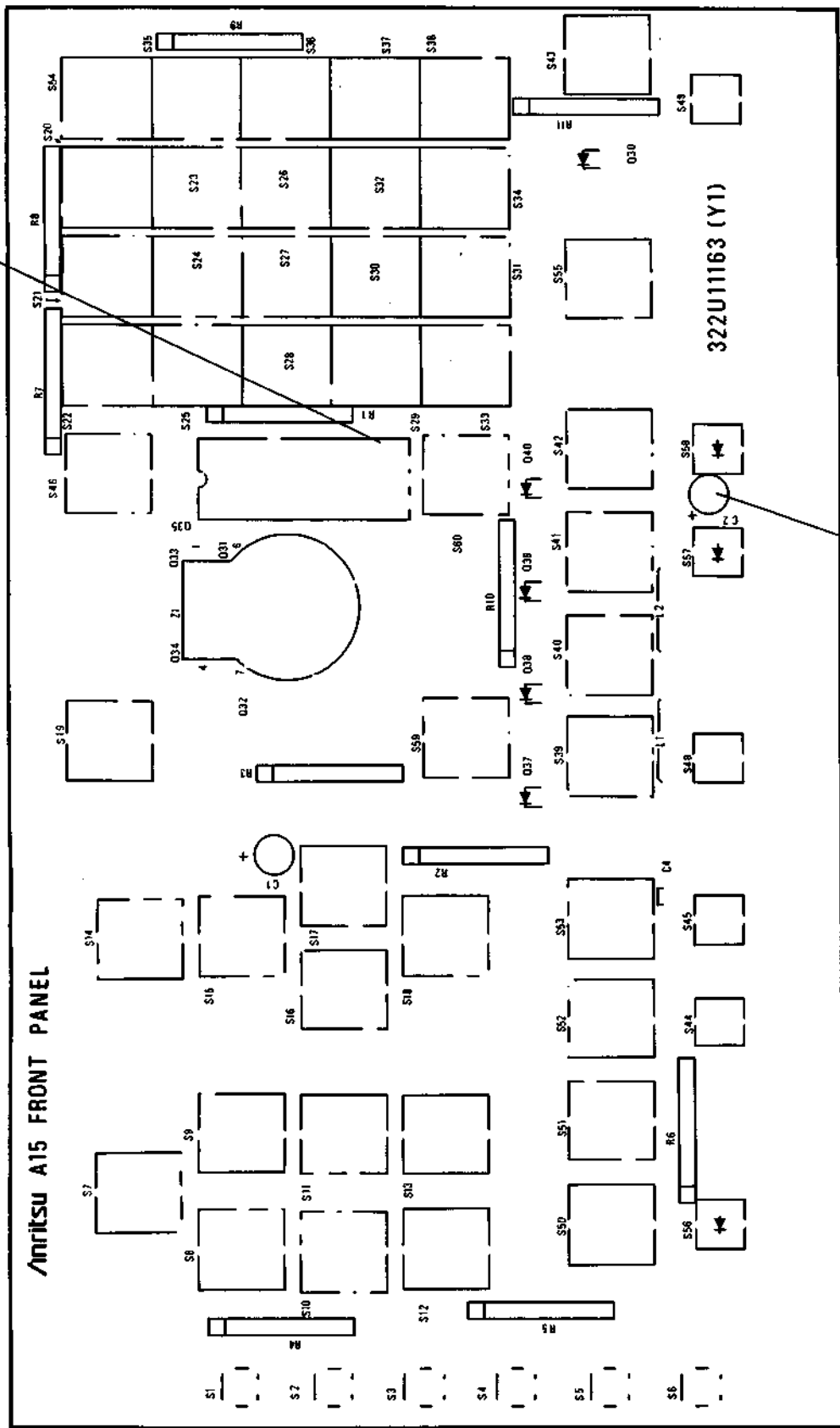
(2) Troubleshooting

Check each test point by referring to the following table.

Table 3-102

Signal name	Test point	Normal state
+5	①	+5 ± 0.25 V
CLOCK	② (TP1) ③ (TP2)	10 MHz pulse wave 5 MHz pulse wave
NRESET	④ (J1-17B)	Normally HIGH
NIOINT A NIOINT B	⑤ (J1-14B) ⑥ (J1-14A)	HIGH or HIGH/LOW repeated (Normally continuous LOW not output)

5 (Q35-15)



1 (C1)

Fig. 3-104 (1/2)
A15 FRONT PANEL PC-Board Parts
Layout (Component Side) 40

(3 - 385 blank)/3 - 386

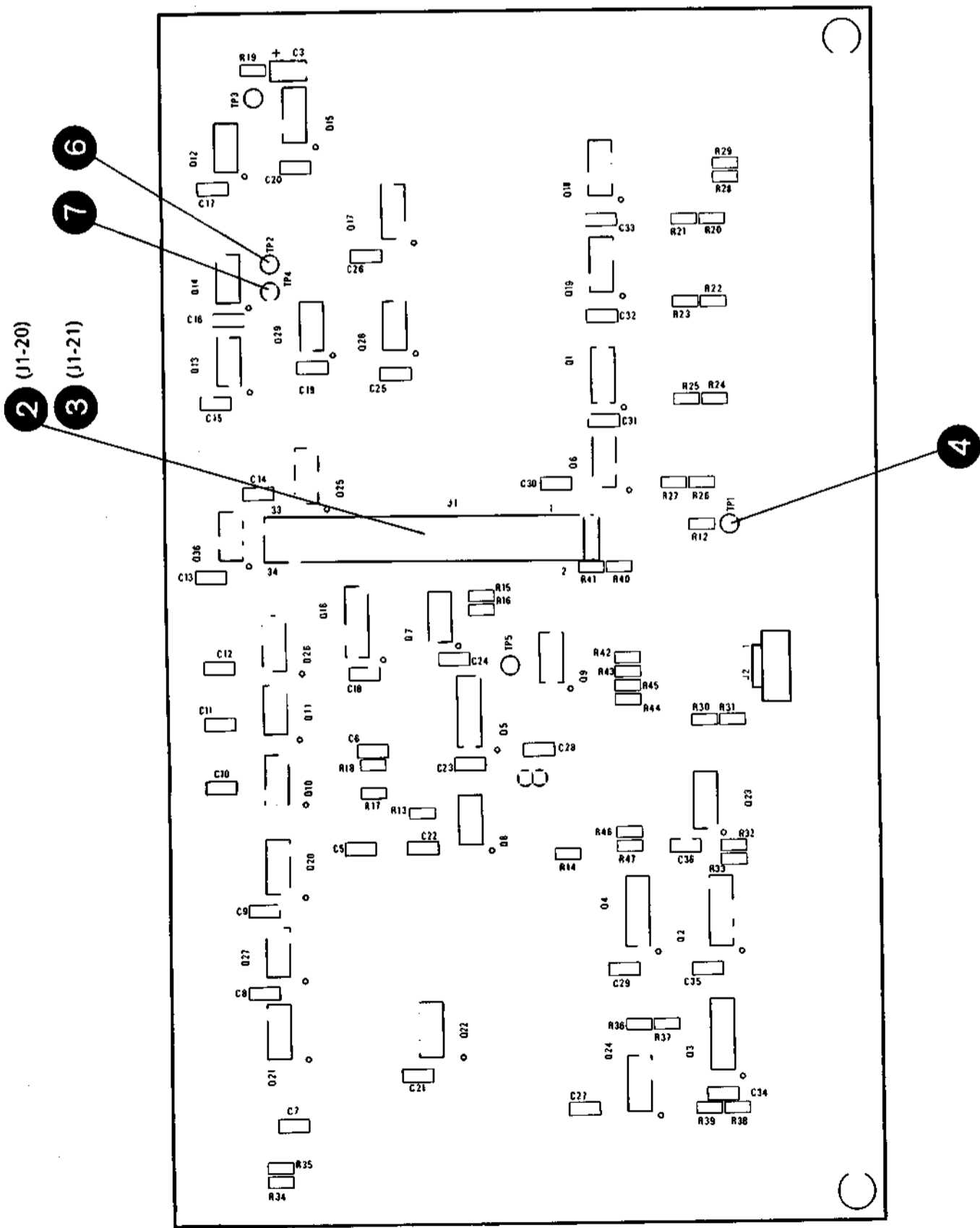


Fig. 3-104 (2/2)
 A15 FRONT PANEL PC-Board Parts
 Layout (Pattern Side) **40**

(3 - 387 blank)/3 - 388



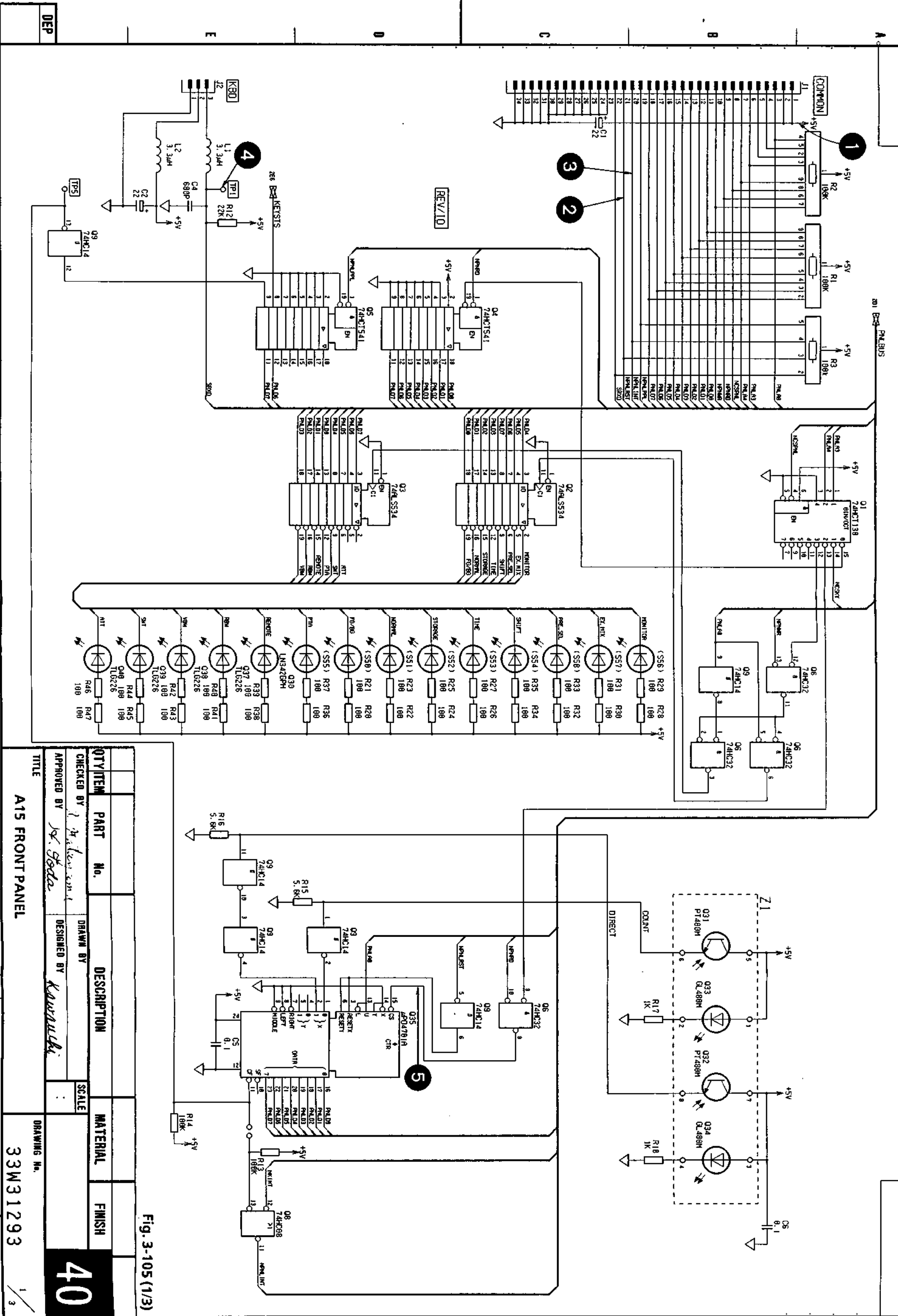


Fig. 3-105 (1/3)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY: *J. A. ...*
 DESIGNED BY: *Kawabuchi*
 TITLE: A15 FRONT PANEL
 DRAWING No. 33W31293
 3-389/3-390

40



33W31293 APPLICATION

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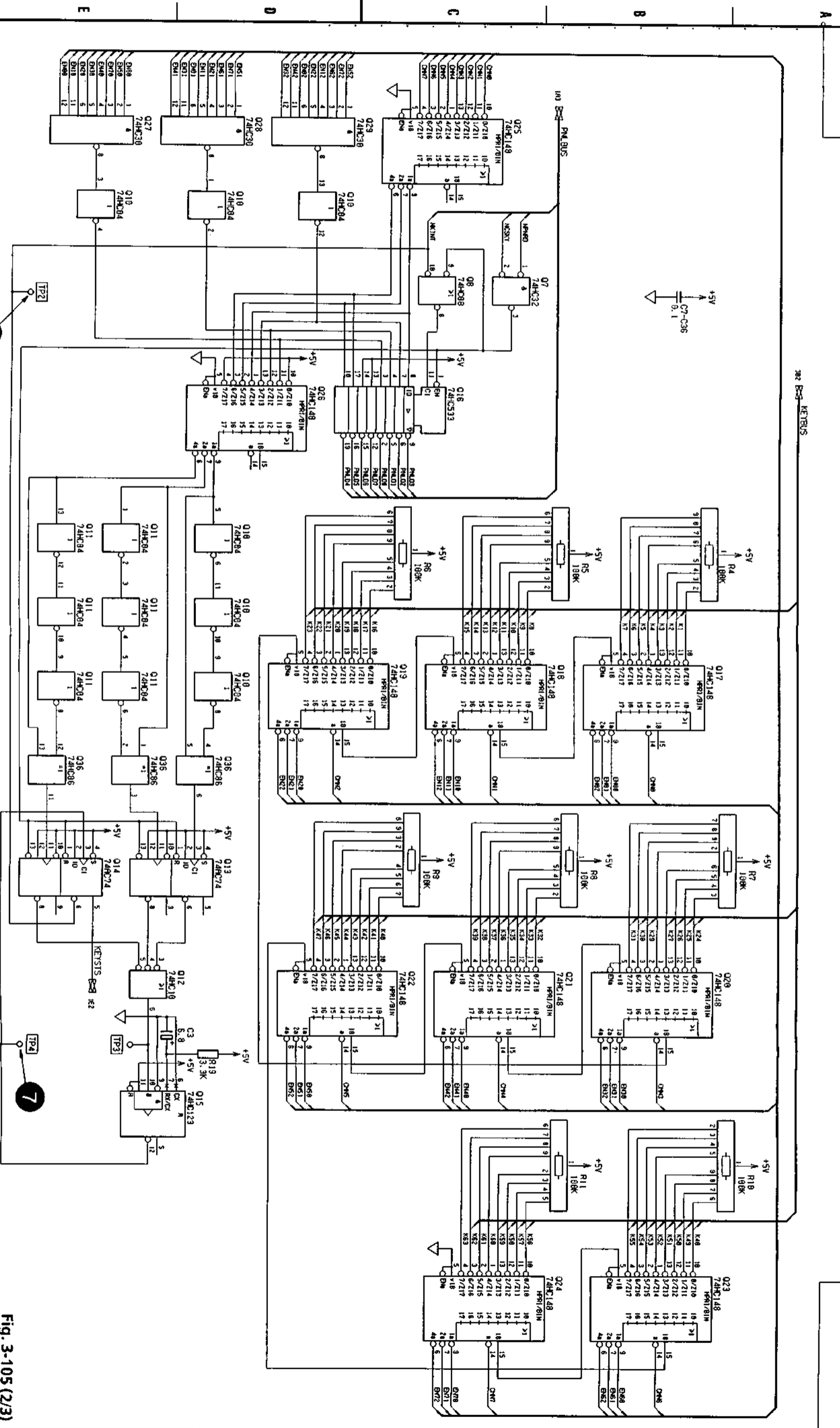


Fig. 3-105 (2/3)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *A. Katsayama* DRAWN BY *K. Sada* DESIGNED BY *K. Kuroki*

APPROVED BY *K. Sada*

SCALE

TITLE **A15 FRONT PANEL**

DRAWING No. **33W31293**

40

ANRITSU CORP. 3-391/3-392



33W31293
APPLICATION

REVISIONS

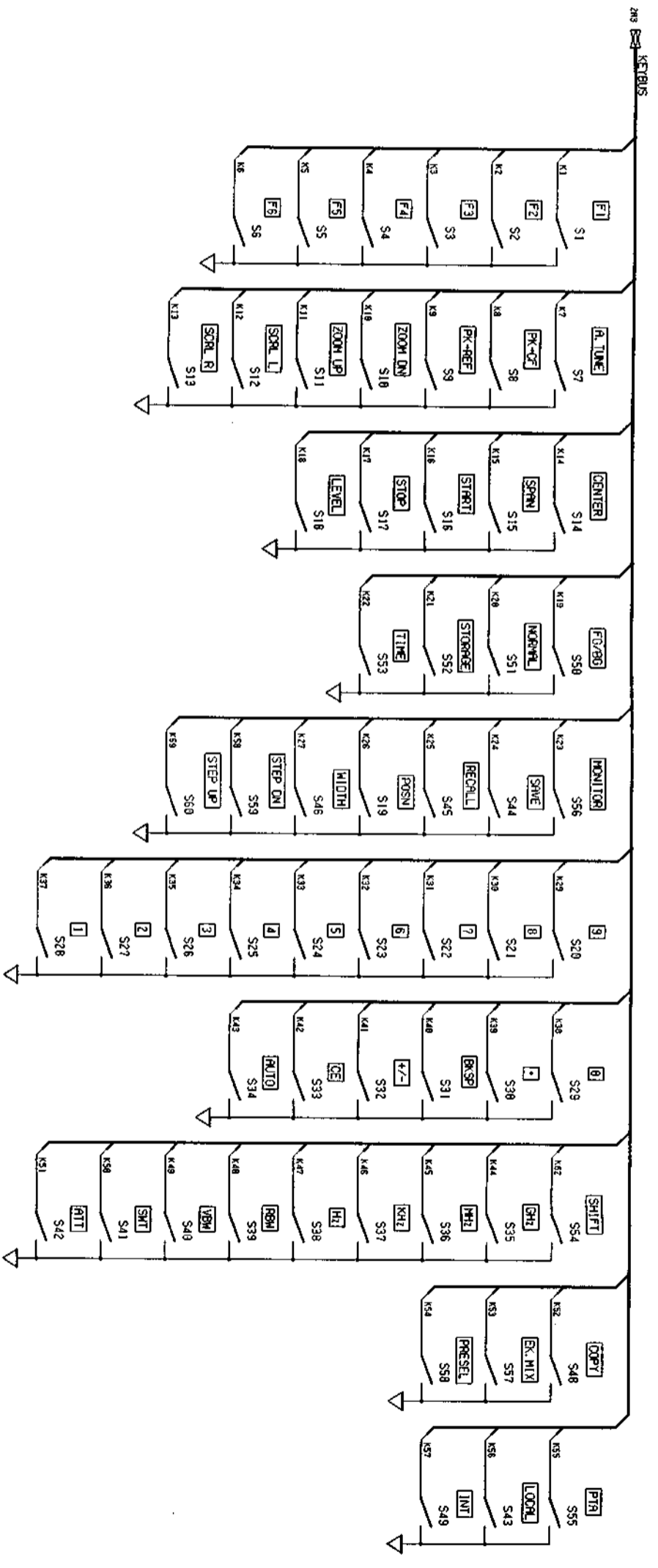


Fig. 3-105 (3/3)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. Katsuyama</i>		DRAWN BY		
APPROVED BY <i>X. Gotta</i>		DESIGNED BY <i>Kawabuchi</i>		
TITLE		DRAWING No.		
A15 FRONT PANEL		33W31293		
		3 / 3		

40

ANRITSU CORP. 3-393

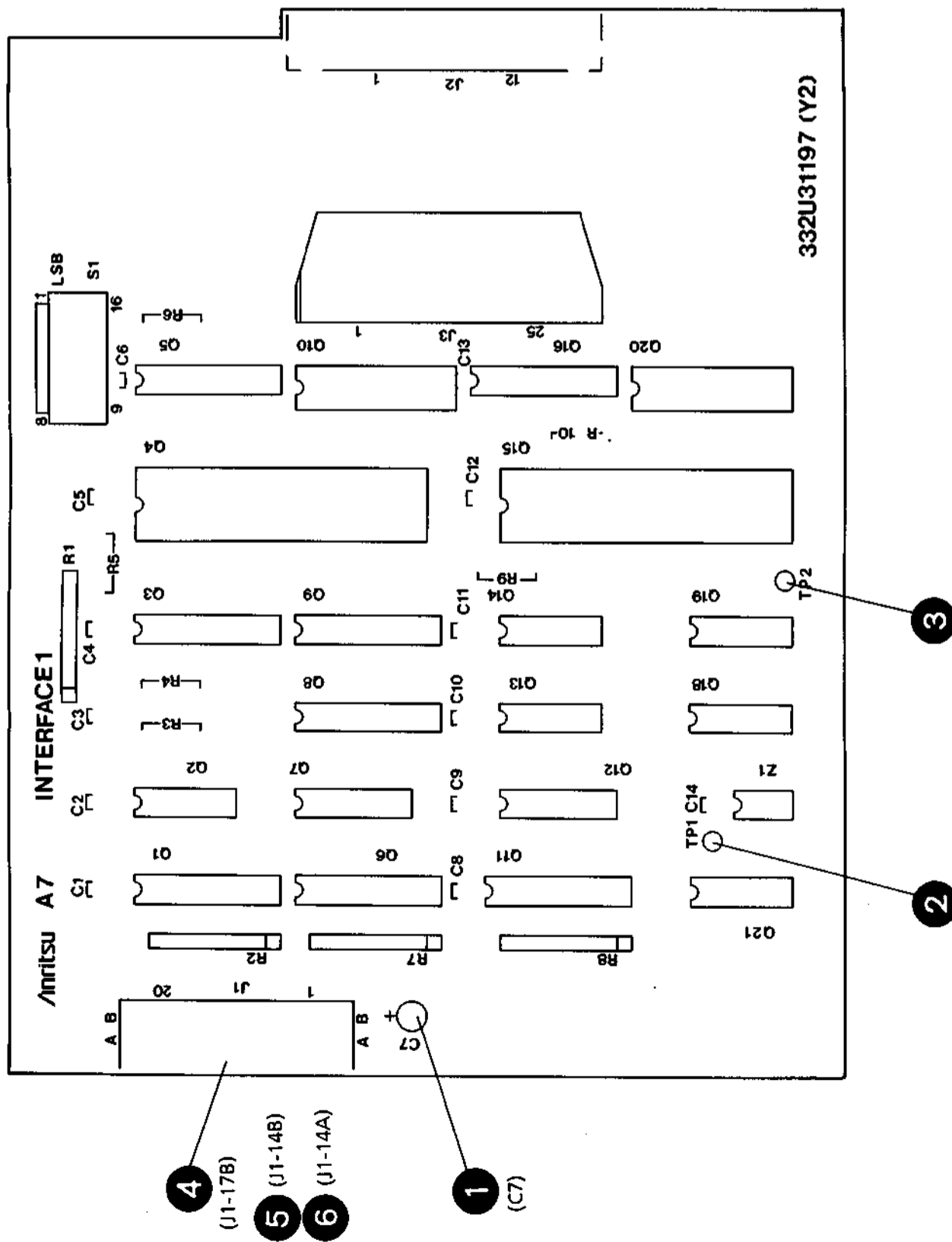


Fig. 3-106
 A7 INTERFACE (1) PC-Board
 Parts Layout **34**

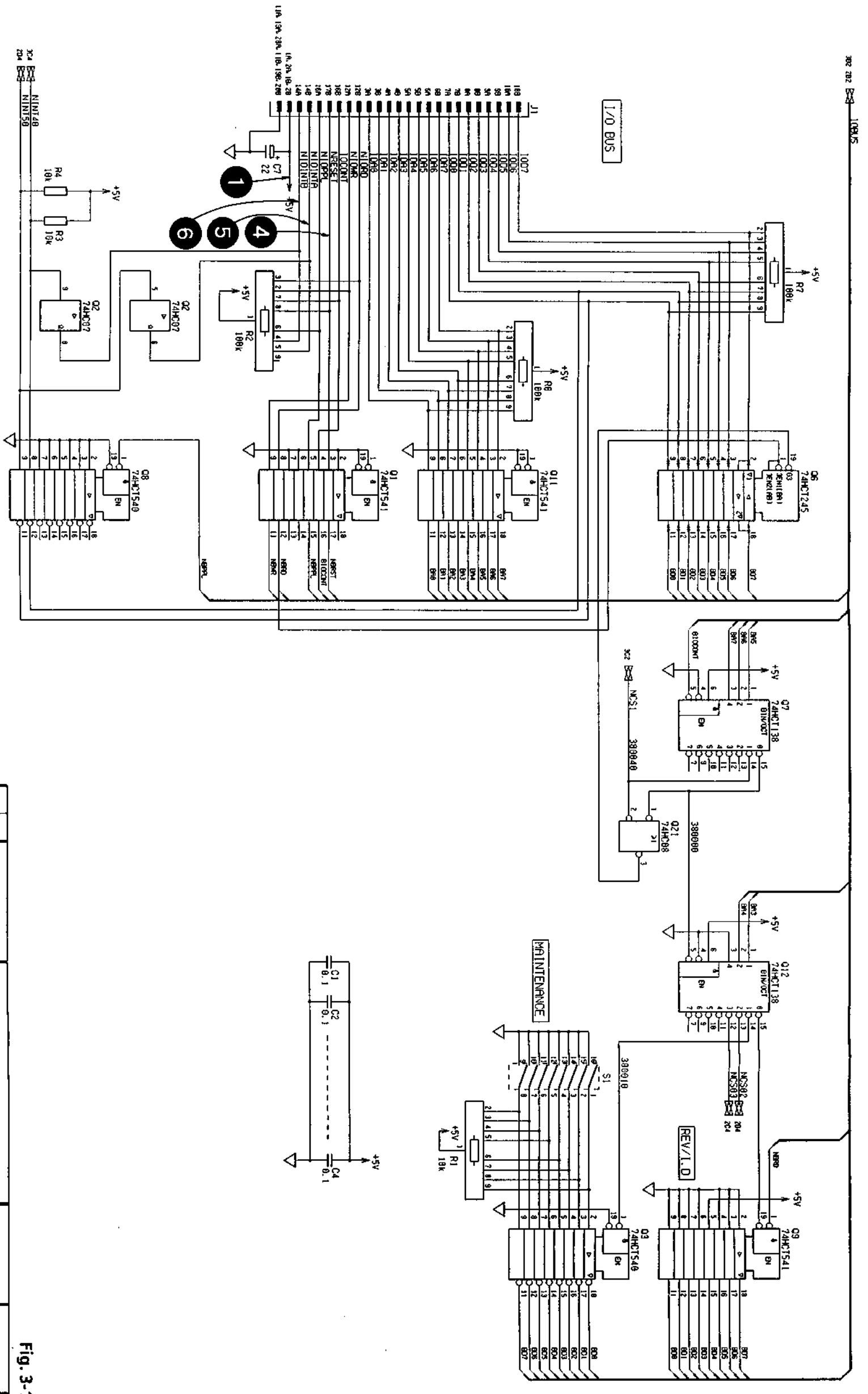


Fig. 3-107 (1/3)

QTY/TEN	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *A. K. Jayaram* DRAWN BY *KAWAUCHI* SCALE

APPROVED BY *H. Sada* DESIGNED BY *KAWAUCHI*

TITLE **A7 INTERFACE (1) BOARD** DRAWING No. **33W31295**

34

DEP

33W31295
APPLICATION

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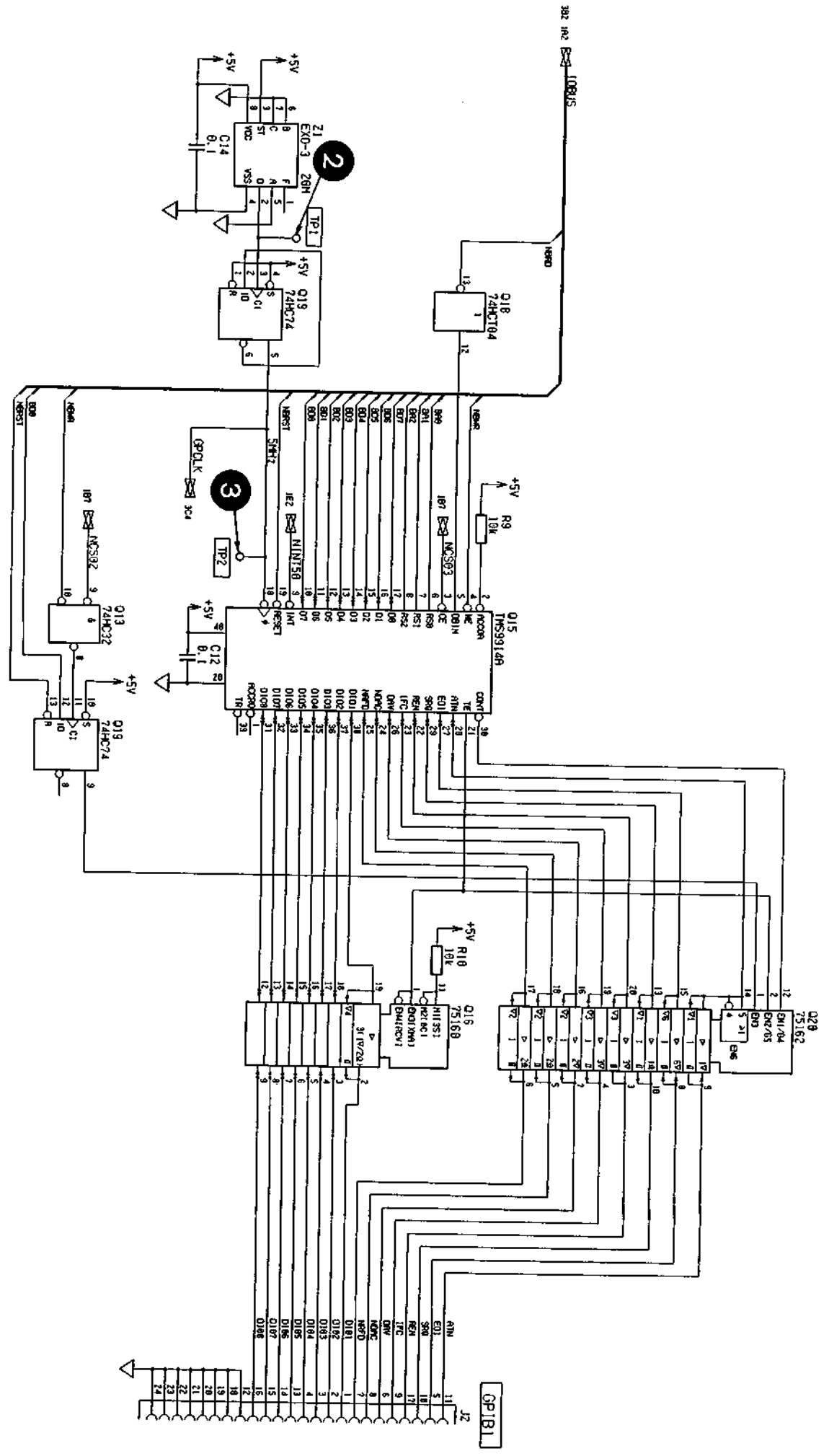


Fig. 3-107 (2/3)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
A7 INTERFACE (1) BOARD				
CHECKED BY		DRAWN BY		
APPROVED BY		DESIGNED BY		
TITLE		DRAWING No.		

34

ANRITSU CORP. 3-397/3-398

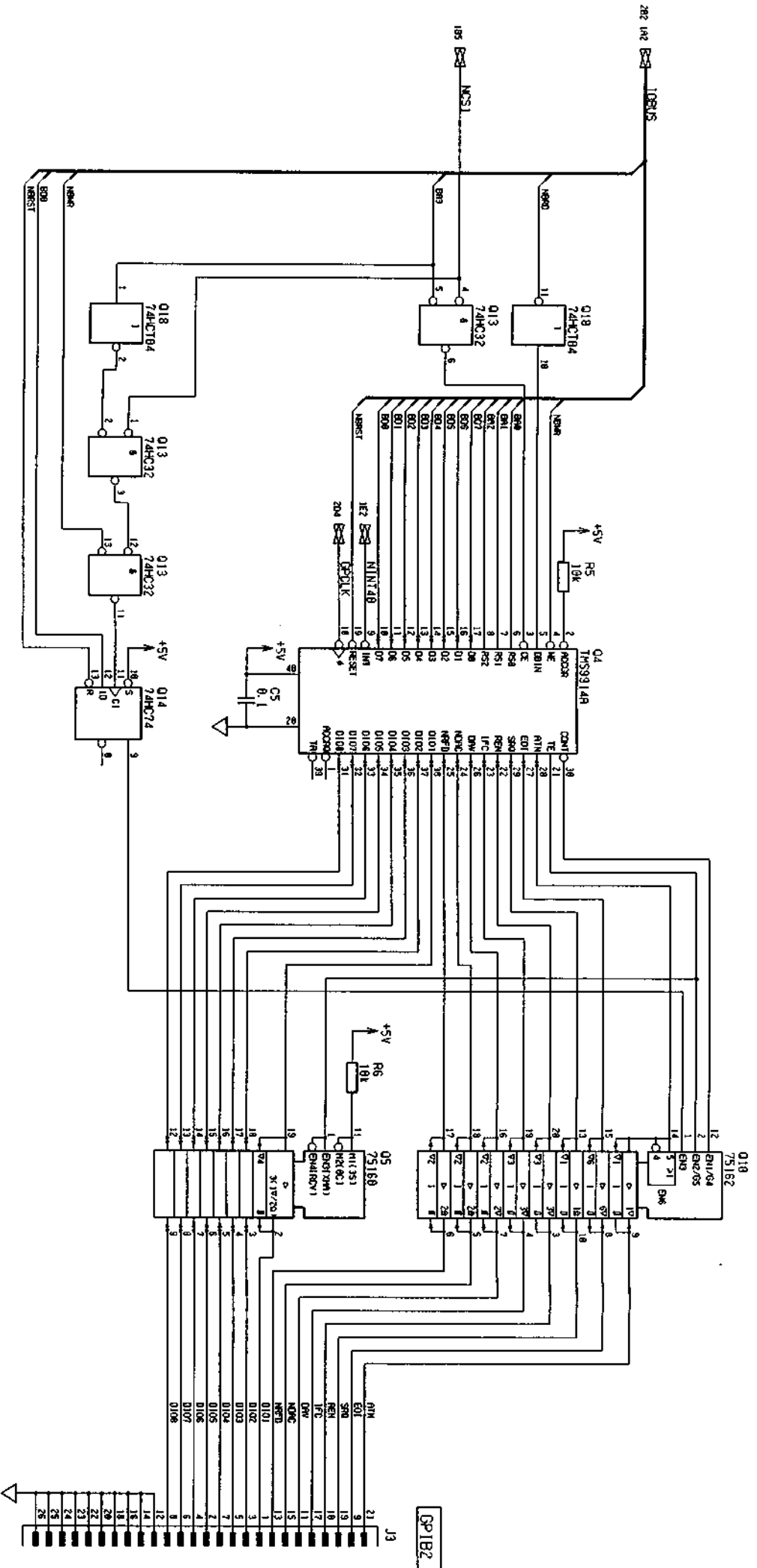


Fig. 3-107 (3/3)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. S. Ferguson</i>				
DRAWN BY <i>Kawachi</i>				
APPROVED BY <i>V. Soda</i>				
DESIGNED BY <i>Kawachi</i>				
TITLE A7 INTERFACE (1) BOARD				
DRAWING No. 33W31295				
3 / 3				

34

3.8.10 A12 INTERFACE (2) (Opt. 03) **50**

(1) Setup

1. Remove A12 INTERFACE (2) as described in paragraph 5.5.7.
2. Reattach it using an extender board.

(2) Troubleshooting

Check each test point by referring to the following table.

Table 3-103

Signal name	Test point	Normal state
+5	①	+5 ± 0.25 V
CLOCK	② (TP1)	10 MHz pulse wave
	③ (TP2)	5 MHz pulse wave
NRESET	④ (J1-17B)	Normally HIGH
NIOINT A	⑤ (J1-14B)	HIGH or HIGH/LOW repeated (normally continuous LOW not output)
NIOINT B	⑥ (J1-14A)	

3.8.11 A13 INTERFACE (3) (Opt. 02) **51**

(1) Setup

1. Remove A13 INTERFACE (3) as described in paragraph 5.5.7.
2. Reattach it using an extender board.

(2) Troubleshooting

Check each test point by referring to the following table.

Table 3-104

Signal name	Test point	Normal state
+5	①	+5 ± 0.25 V
CLOCK	② (TP1)	10 MHz pulse wave
	③ (TP2)	5 MHz pulse wave
	④ (Z1-2)	Approx. 3.7 MHz pulse wave
NRESET	⑤ (J1-17B)	Normally HIGH
NIOINT A	⑥ (J1-14B)	HIGH or HIGH/LOW repeated (normally continuous LOW not output)
NIOINT B	⑦ (J1-14A)	

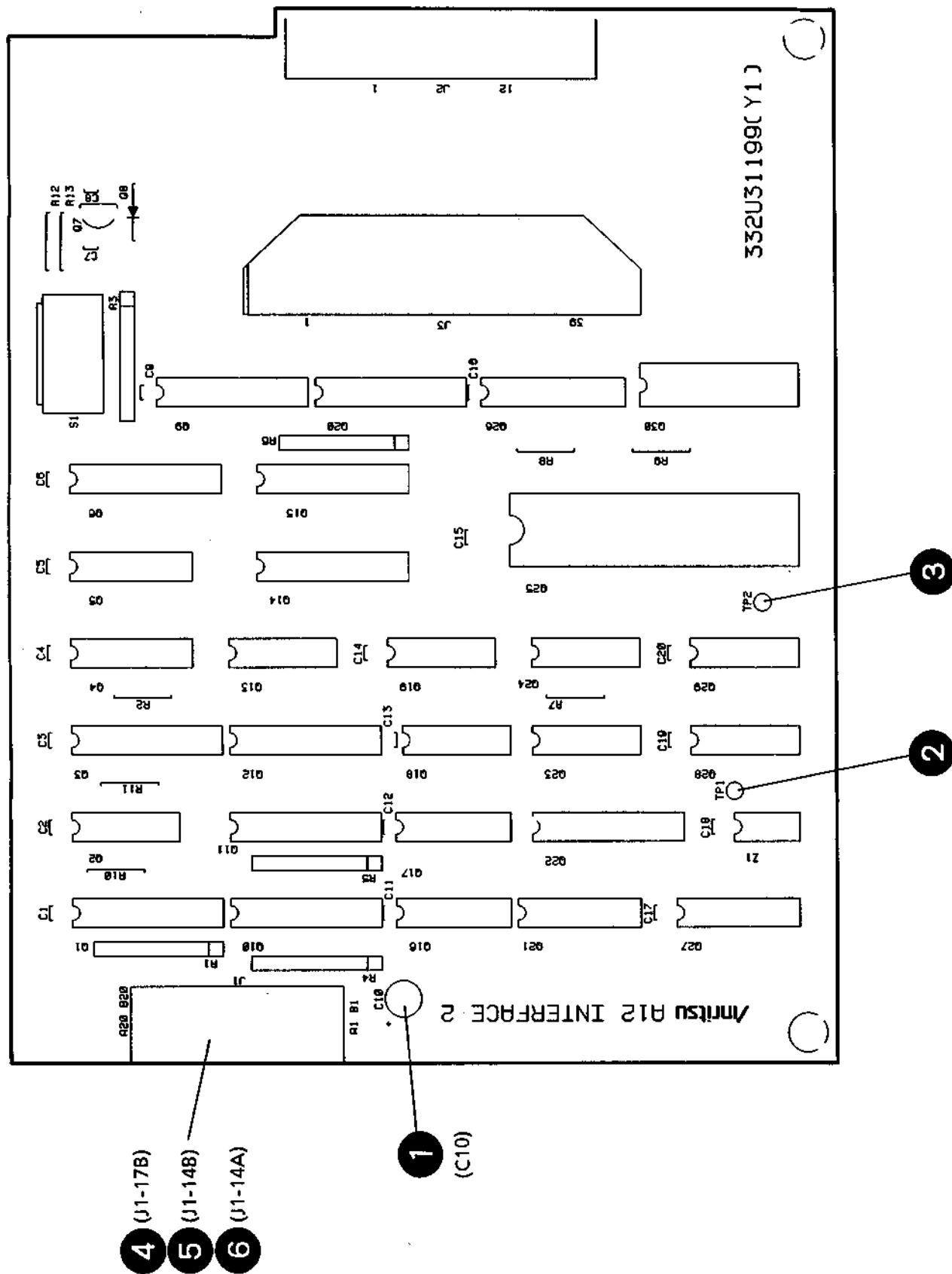


Fig. 3-108

A12 INTERFACE (2) PC-Board
Parts Layout



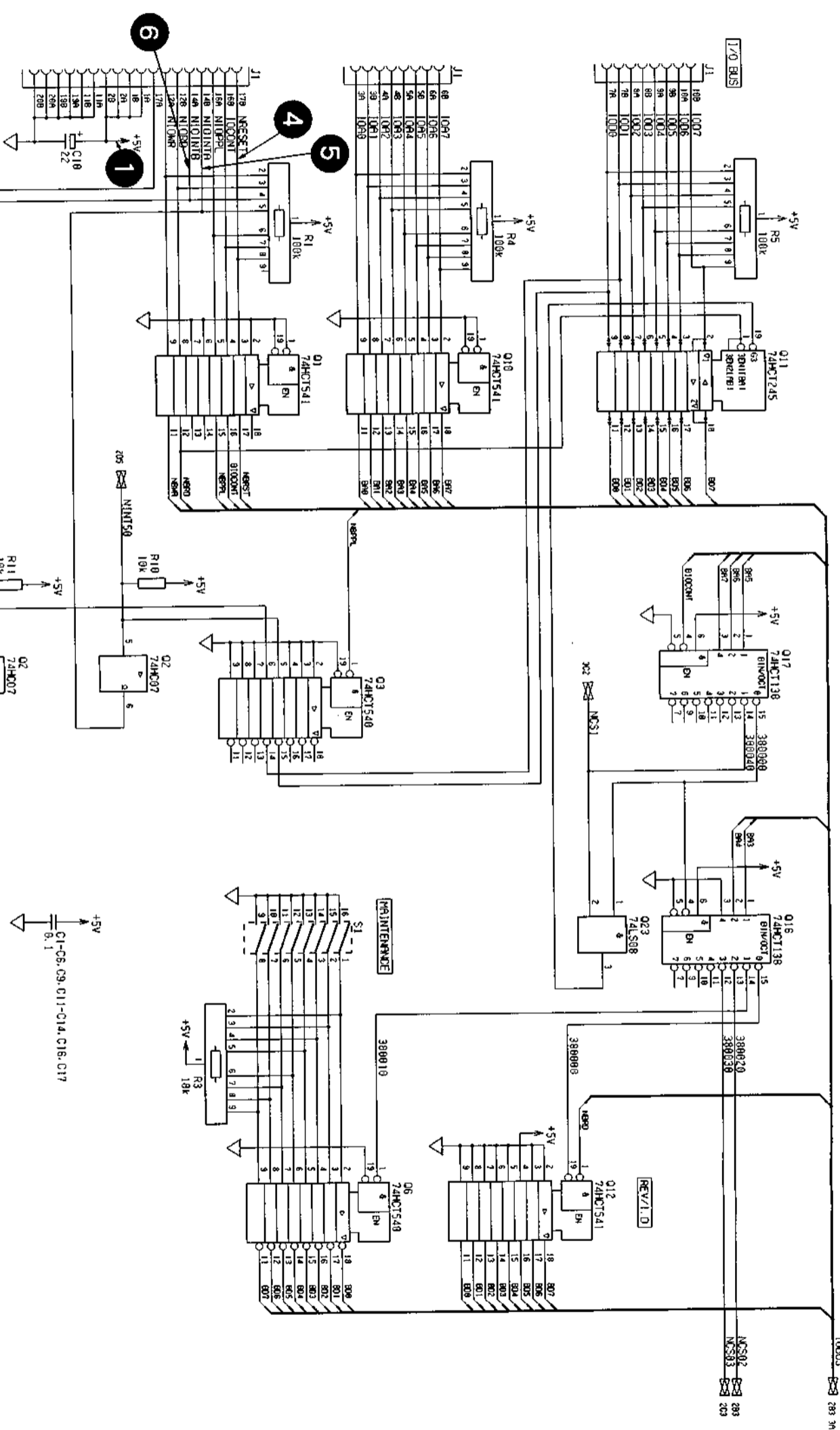


Fig. 3-109 (1/3)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
A12 INTERFACE (2) BOARD				
CHECKED BY <i>A. Nakayama</i>				
DRAWN BY				
APPROVED BY <i>K. Sada</i>				
DESIGNED BY <i>Kawabuchi</i>				
SCALE				
DRAWING No. 33W31296				
1/3				

50

DEP



33W31296
APPLICATION

REVISIONS

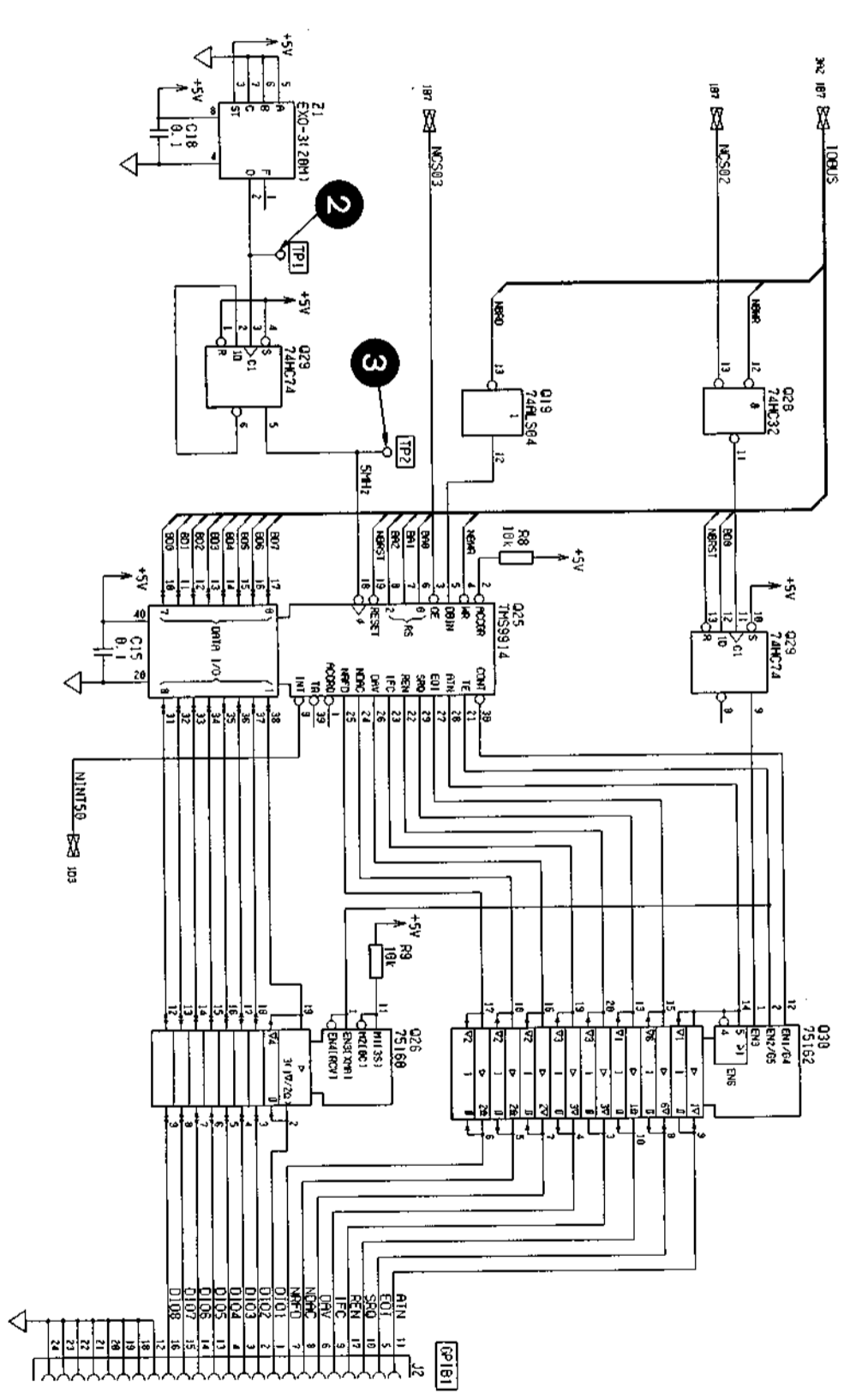


Fig. 3-109 (2/3)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. Nakayama</i>				
DRAWN BY				
APPROVED BY <i>K. Sada</i>				
DESIGNED BY <i>Kawamura</i>				
TITLE				
A12 INTERFACE (2) BOARD				
DRAWING No.				
33W31296				
3-4073-408				

50



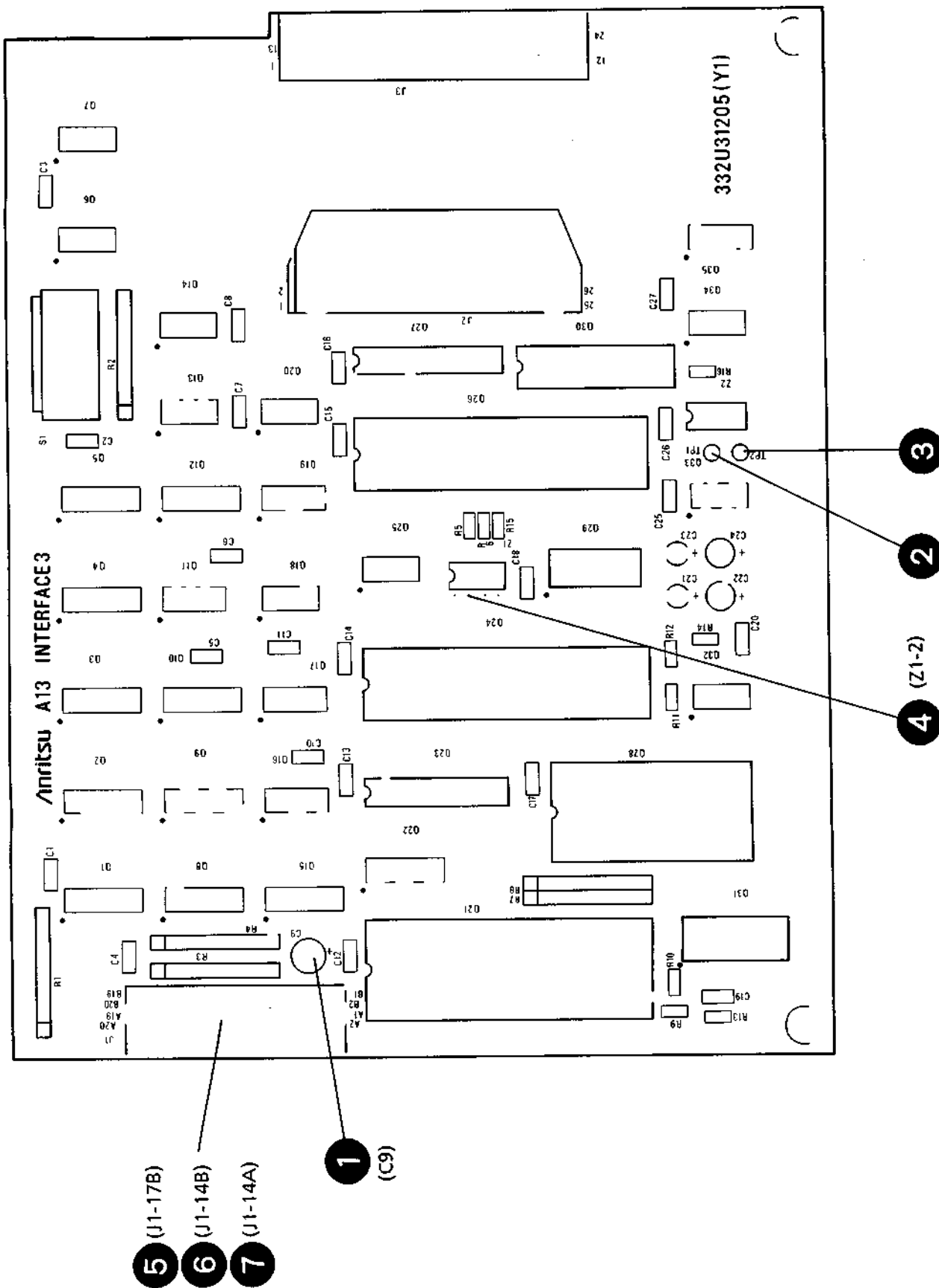
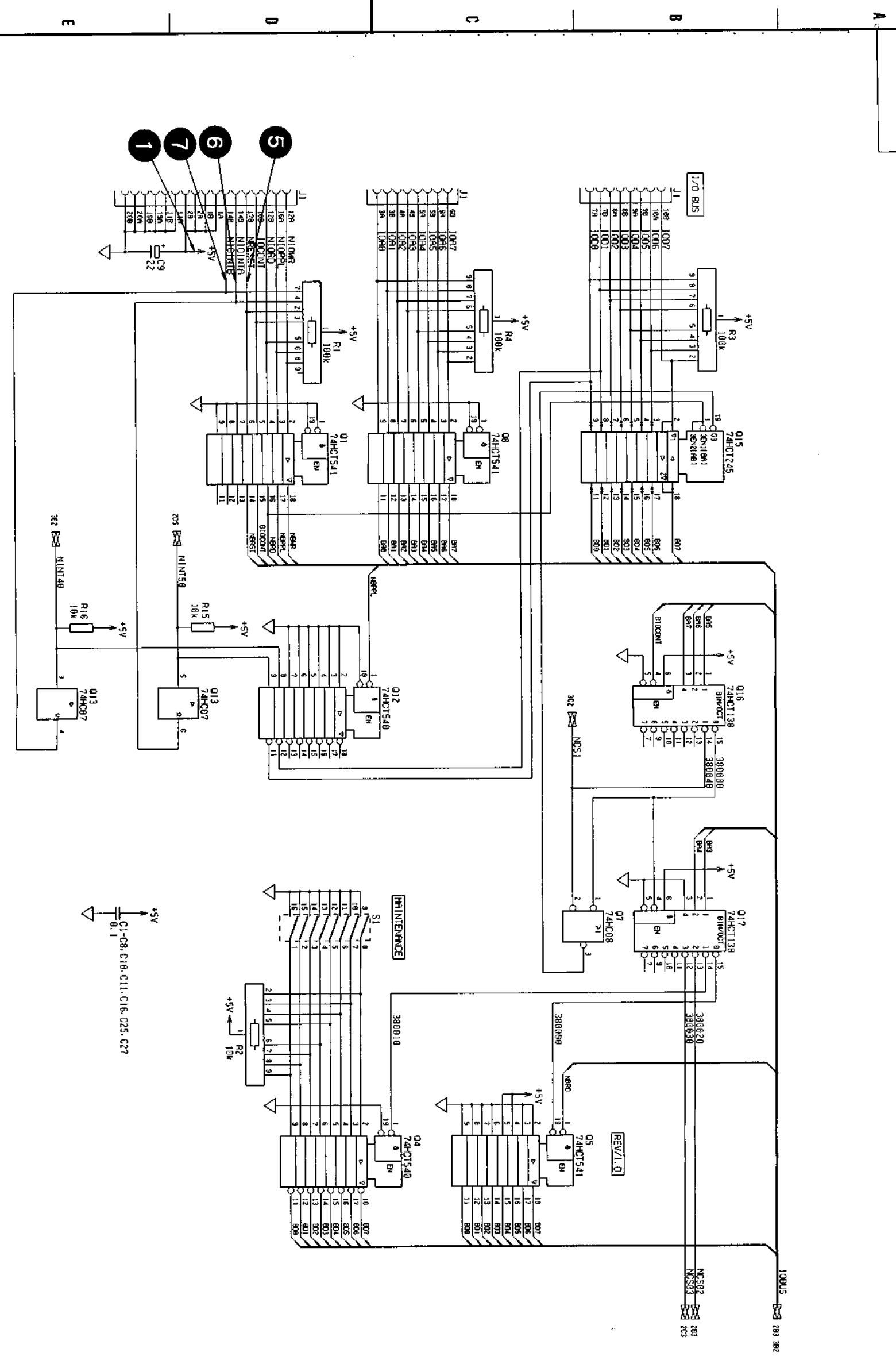


Fig. 3-110
 A13 INTERFACE (3) PC- Board
 Parts Layout 51



+5V
C1-C8, C10, C11, C16, C25, C27

Fig. 3-111 (1/5)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>J. M. Stephens</i>				
DRAWN BY				
APPROVED BY <i>J. S. Sada</i>				
DESIGNED BY <i>Kawachi</i>				
SCALE				
TITLE A13 INTERFACE (3) BOARD				
DRAWING No. 33W31297				
1/5				

51

DEP

1 2 3 4 5 6 7

ANRITSU CORP. 3-411/3-412

33W31297
APPLICATION

REVISIONS

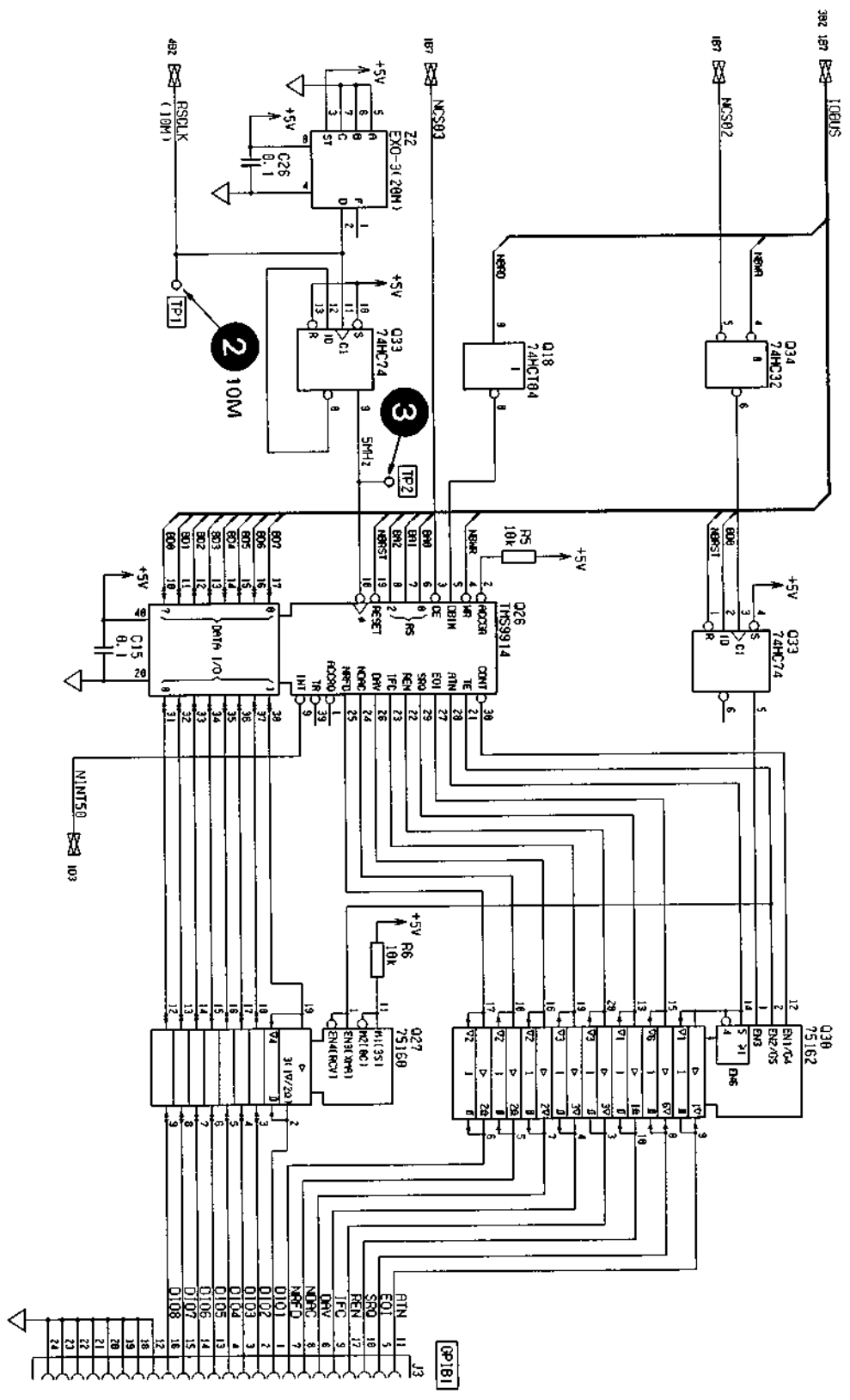


Fig. 3-111 (2/5)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. N. Stoyama</i>		DRAWN BY		
APPROVED BY <i>X. Soda</i>		DESIGNED BY <i>Kawachi</i>		
TITLE A13 INTERFACE (3) BOARD				
DRAWING No. 33W31297				
3-413/3-414				

51

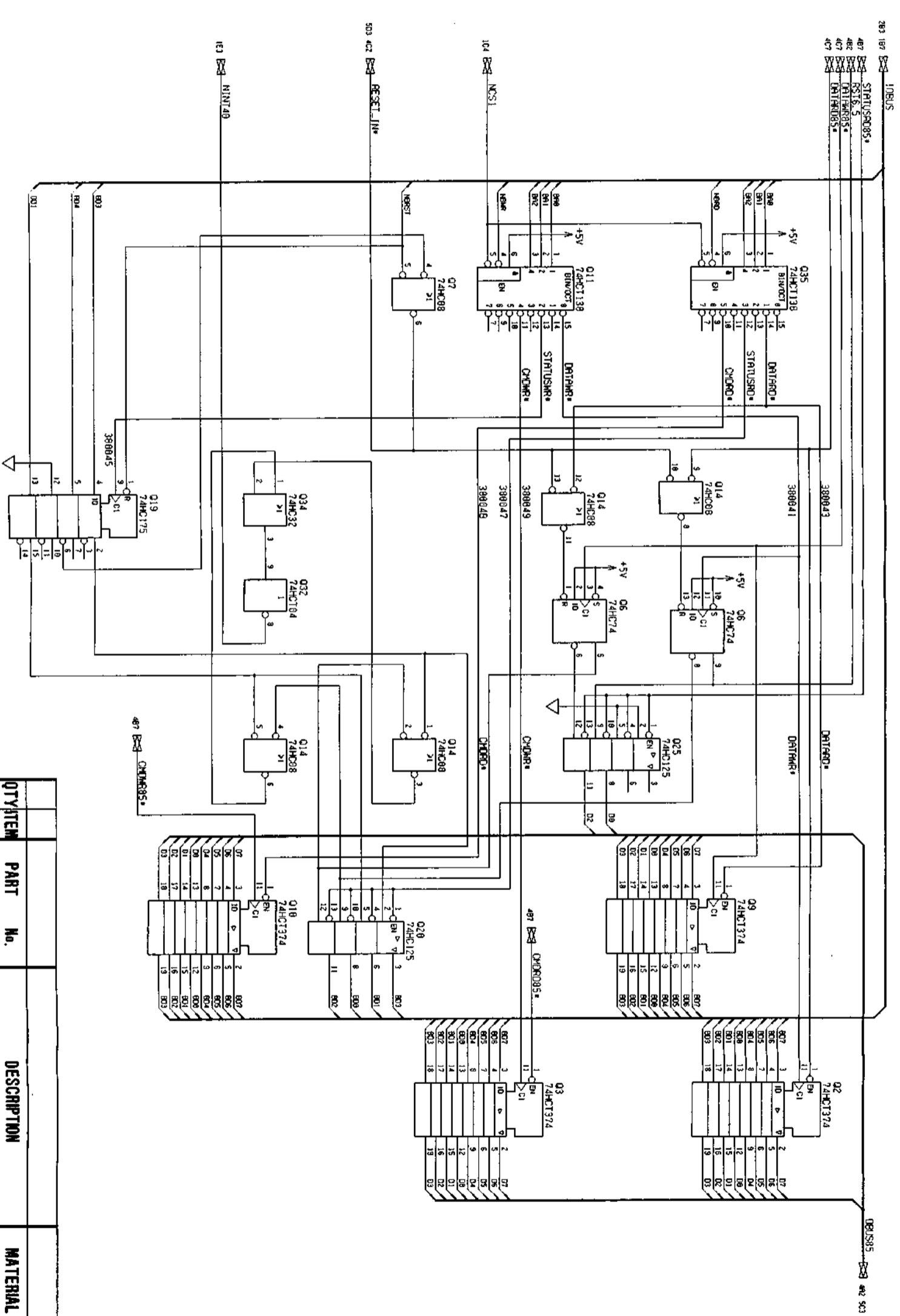


Fig. 3-111 (3/5)

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
07	3	10	9	5	07
06	4	10	9	5	06
05	7	05	7	6	05
04	8	04	8	9	04
03	13	03	13	12	03
02	14	01	14	15	02
01	17	02	17	16	01
00	18	03	18	19	00

CHECKED BY: *J. M. Taylor*
 APPROVED BY: *H. Soda*
 DRAWN BY: *Kawachi*
 DESIGNED BY: *Kawachi*

TITLE: A13 INTERFACE (3) BOARD

DRAWING No. 33W31297

SCALE: 1:1

3/5



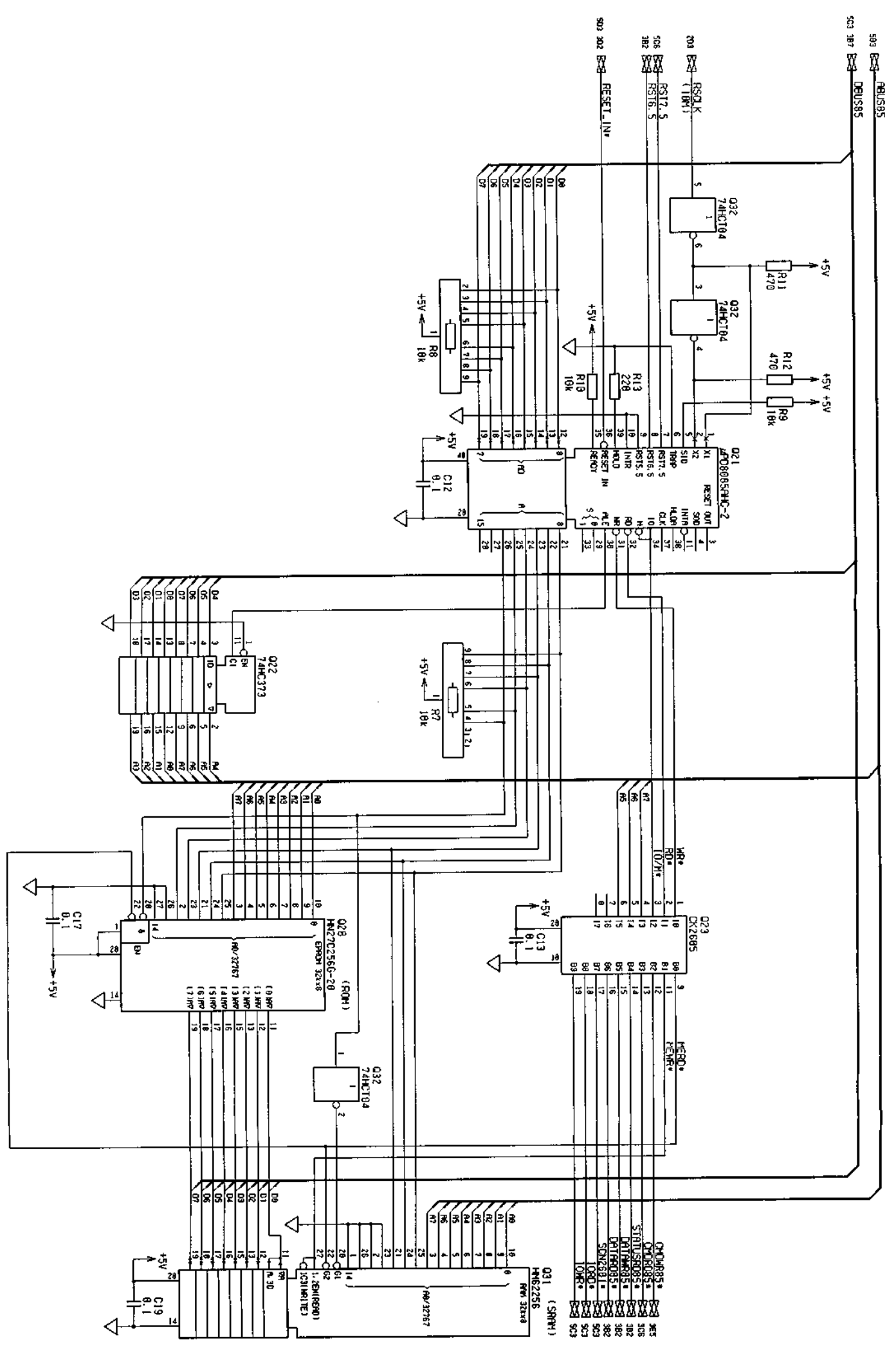


Fig. 3-111 (4/5)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>A. Katayama</i> DRAWN BY				
APPROVED BY <i>J. Soda</i> DESIGNED BY <i>Kawachi</i>				
TITLE A13 INTERFACE (3) BOARD				
DRAWING No. 33W31297				
ANRITSU CORP. 3-4173-418				

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33W31297
APPLICATION

REVISIONS

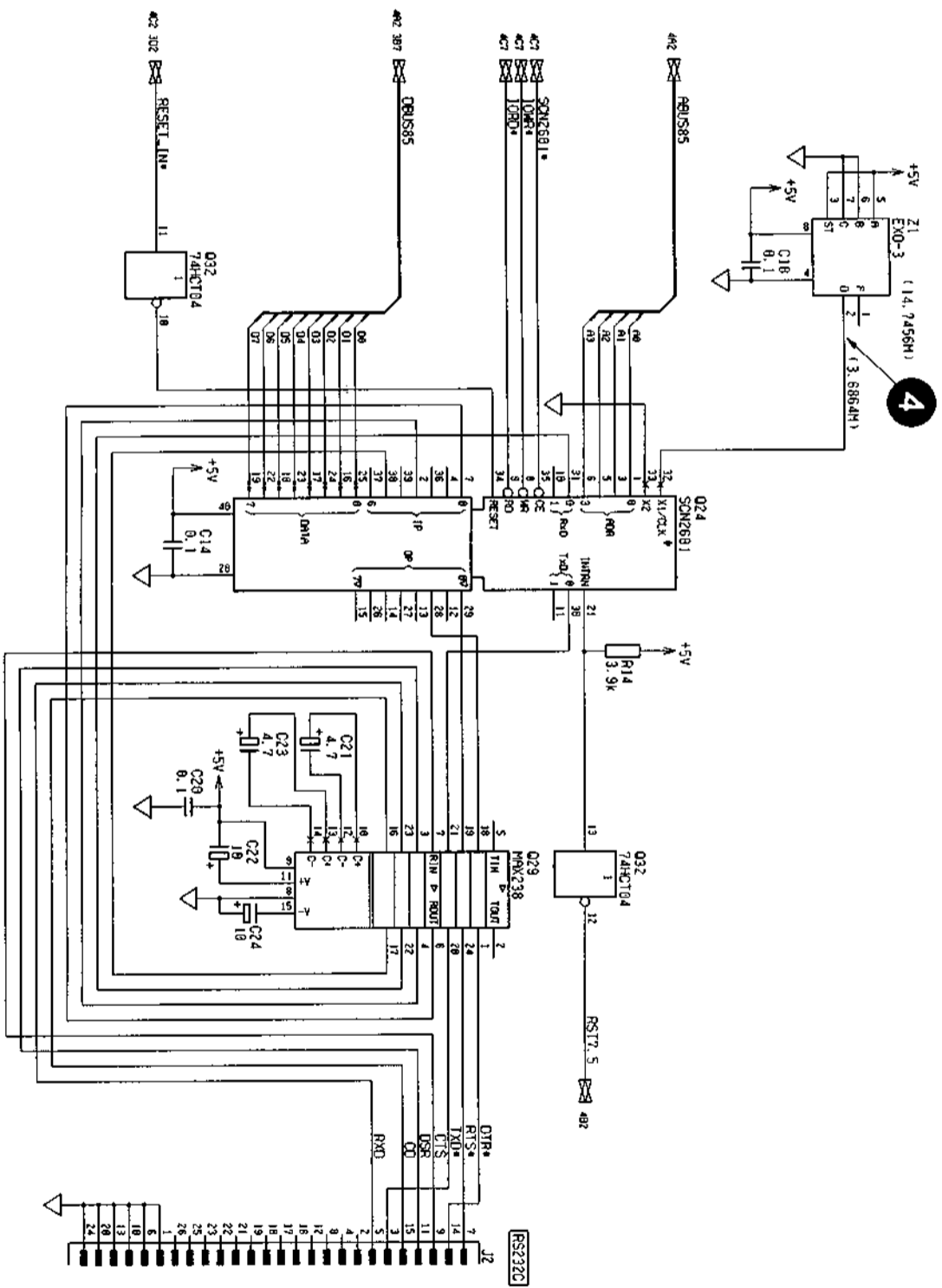


Fig. 3-111 (5/5)

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
A13 INTERFACE (3) BOARD				
CHECKED BY		DRAWN BY		
APPROVED BY		DESIGNED BY		
TITLE		DRAWING No.		

51

DEP

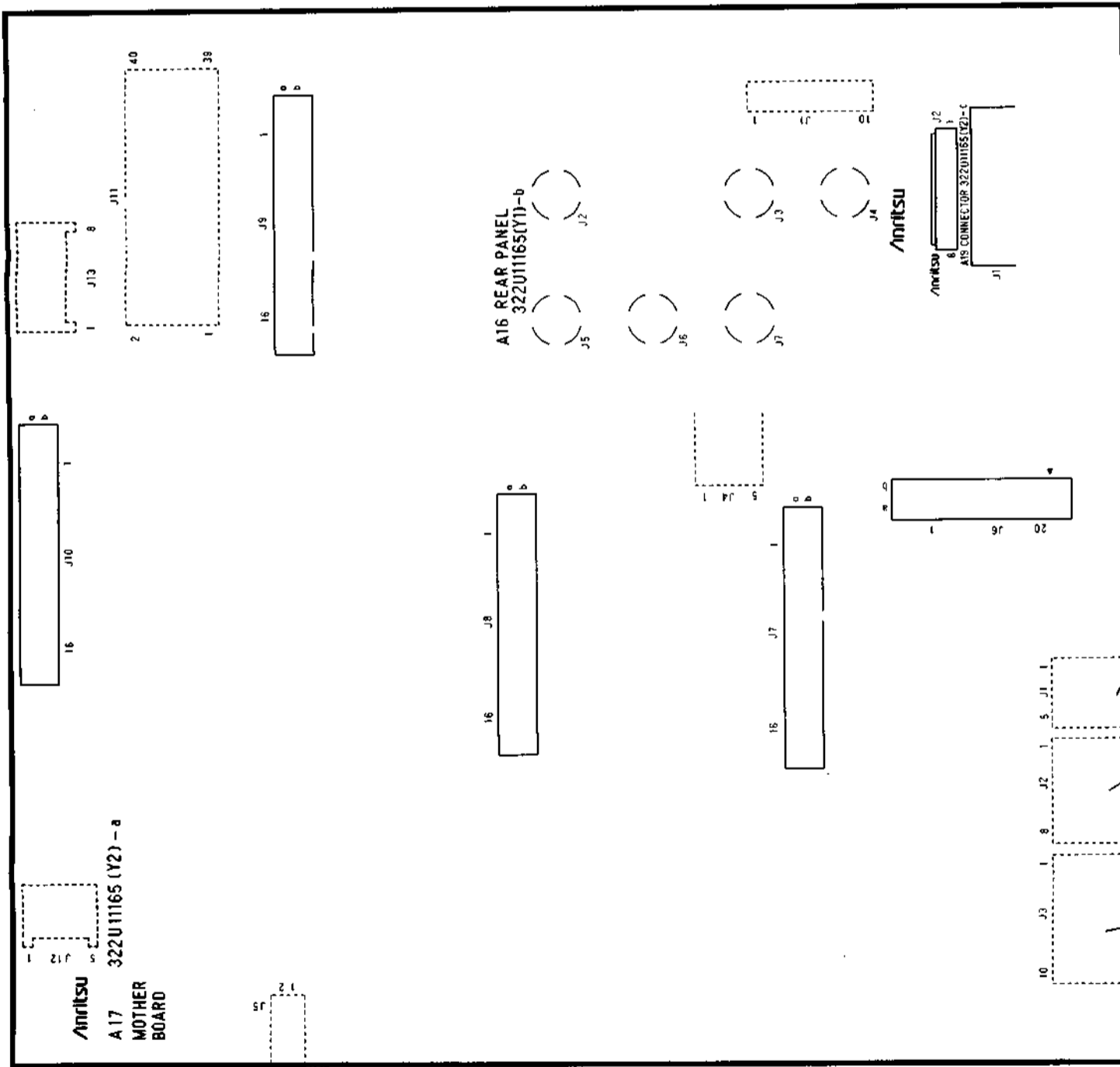
33W31297
ANRITSU CORP.
3-419/3-420

3.9 A16 REAR PANEL 41

The I/O signal connector is mounted on this board.

3.10. A17 MOTHER BOARD 42

This board sends the power supplies and control signals to each RF, LOCAL and IF unit.



- 1 Pin No. 2
- 2 Pin No. 3
- 3 Pin No. 4
- 4 Pin No. 5, 6
- 5 Pin No. 7, 8
- 6 Pin No. 6, 7
- 7 Pin No. 8, 9

Fig. 3-112 (1/2)
 A16 REAR PANEL/A17 MOTHER-
 BOARD PC- Board Parts Layout
 (Component Side) 41 , 42

34W97268

APPLICATION

REVISIONS

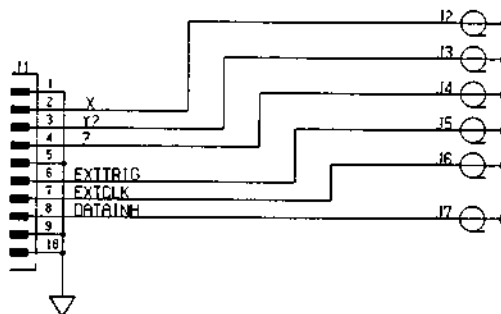
A

B

C

D

E



Parts List 34W97267

Fig. 3-113

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
	CHECKED BY	<i>H. Oka</i>	DRAWN BY	SCALE	41
	APPROVED BY	<i>H. Foda</i>	DESIGNED BY	<i>H. Amamoto</i>	
DEP	TITLE			DRAWING No.	
	A16 REAR PANEL			34W97268	





33W31502
APPLICATION

REVISIONS

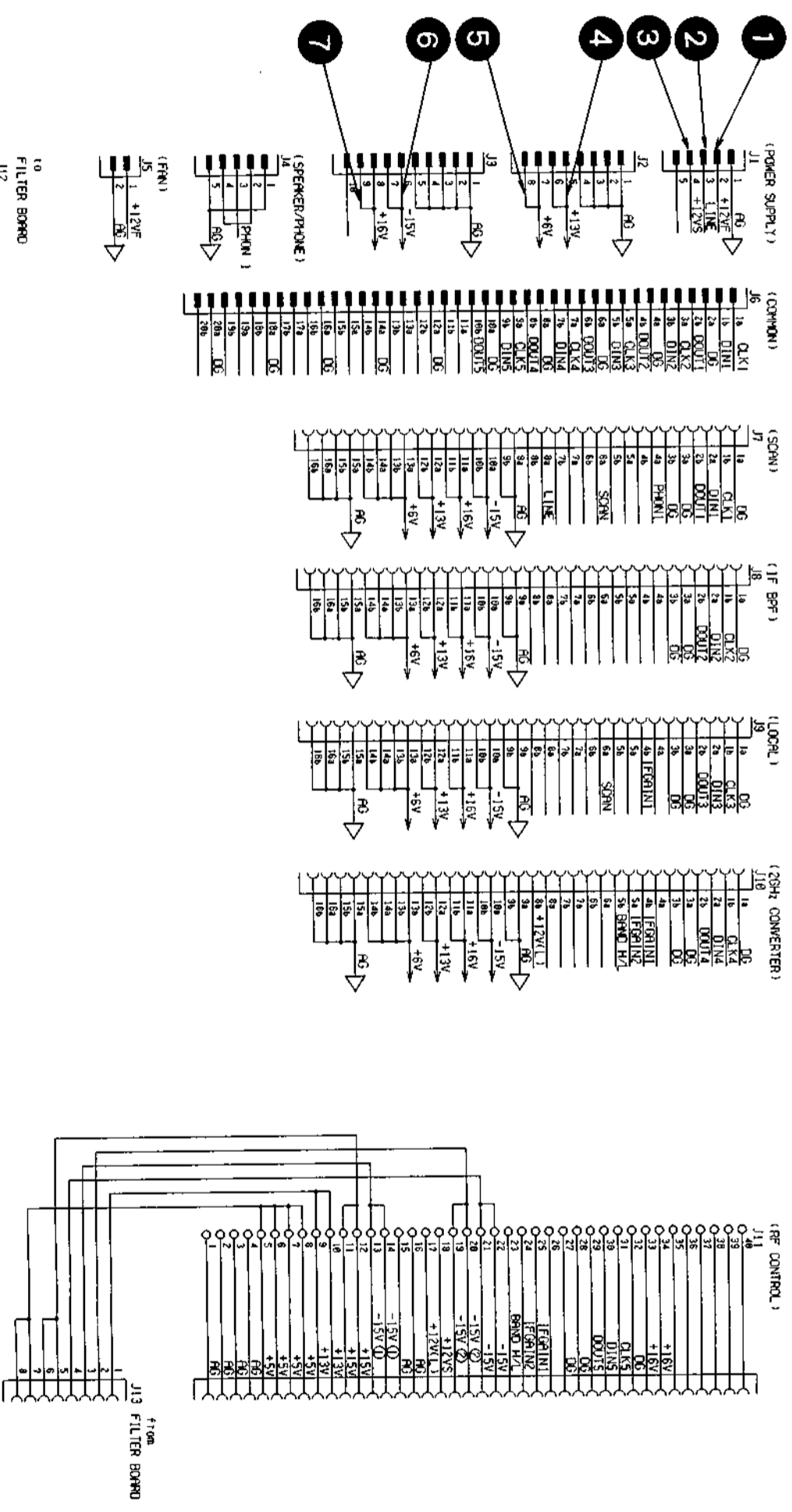


Fig. 3-114

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
	CHECKED BY	<i>L. Oka</i>	DRAWN BY		
	APPROVED BY	<i>J. Sada</i>	DESIGNED BY	<i>H. Green</i>	
TITLE A17 MOTHERBOARD					
DRAWING No. 33W31502					
3-427/3-428					

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3.11 A18 LPF & SW UNIT 43
(Refer to paragraph 2.8)

3.11.1 Overall

3.11.2 A18-A1 ISOL AMP 44

3.11.3 A18-A2 10 MHz REF (Standard) 45

3.11.4 A18-A2 10 MHz REF (Opt 01) 45

3.11.5 A18-A3 LPF & SW CONT 46



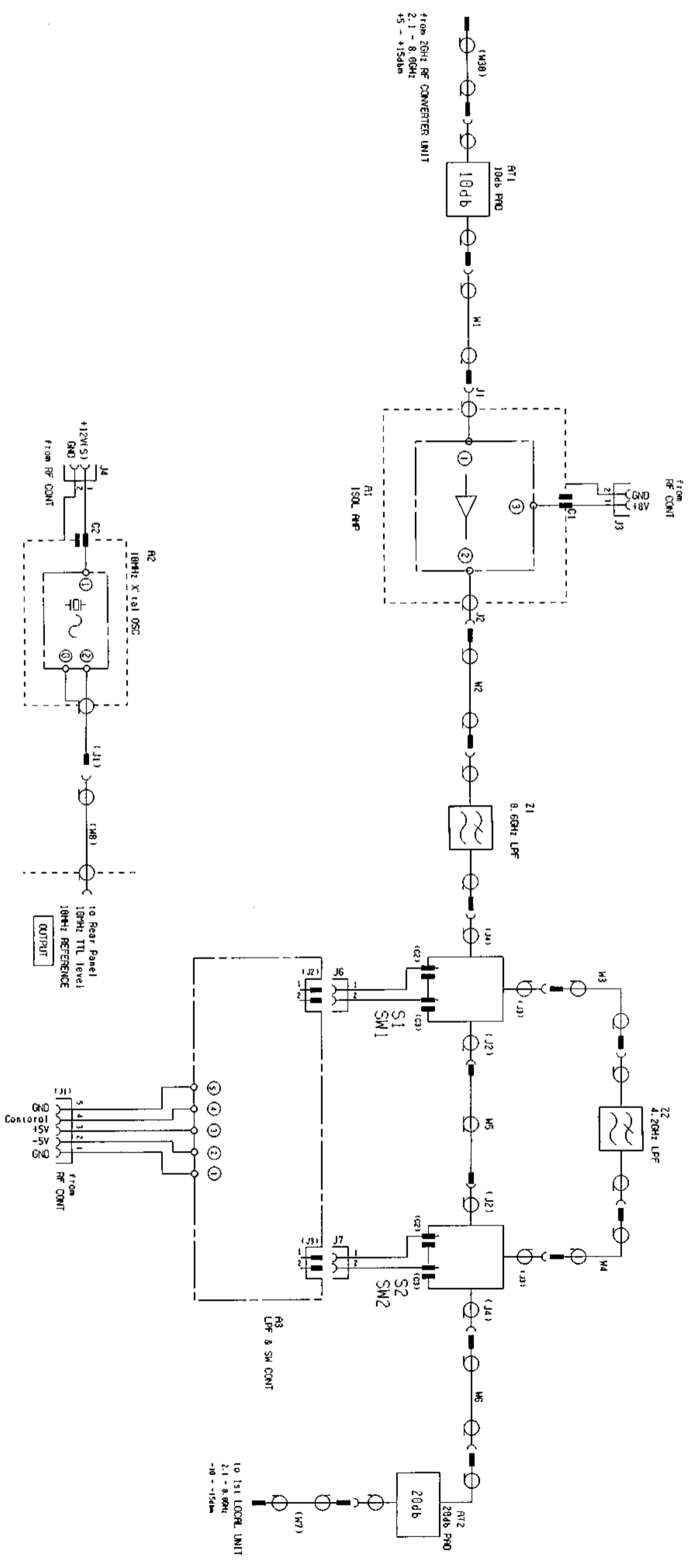


Fig. 3-115

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH

CHECKED BY *Hanagawa* DRAWN BY *N. SAKAGAMI* SCALE *1:1*

APPROVED BY *H. Tada*

TITLE **A18 LPF&SW UNIT**

DRAWING No. **33W31893**

43

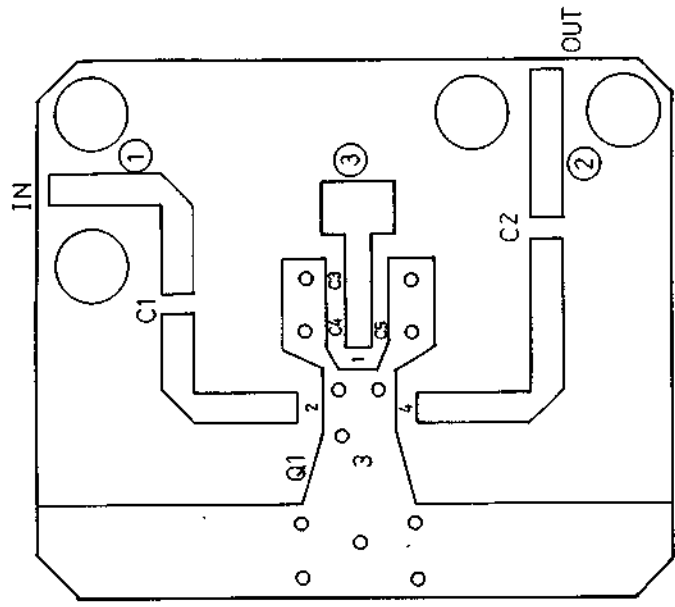


Fig 3-116(1/2) A18-A1 ISOL AMP PC-Board Parts Layout (Component Side) 44



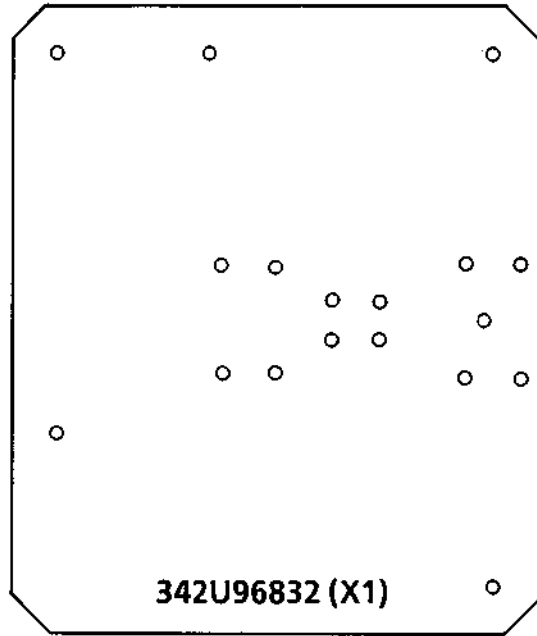


Fig 3-116(2/2) A18-A1 ISOL AMP PC-Board Parts Layout (Pattern Side) 44

(3 - 433 blank)/3 - 434

34W97062

APPLICATION

REVISIONS

A

B

C

D

E

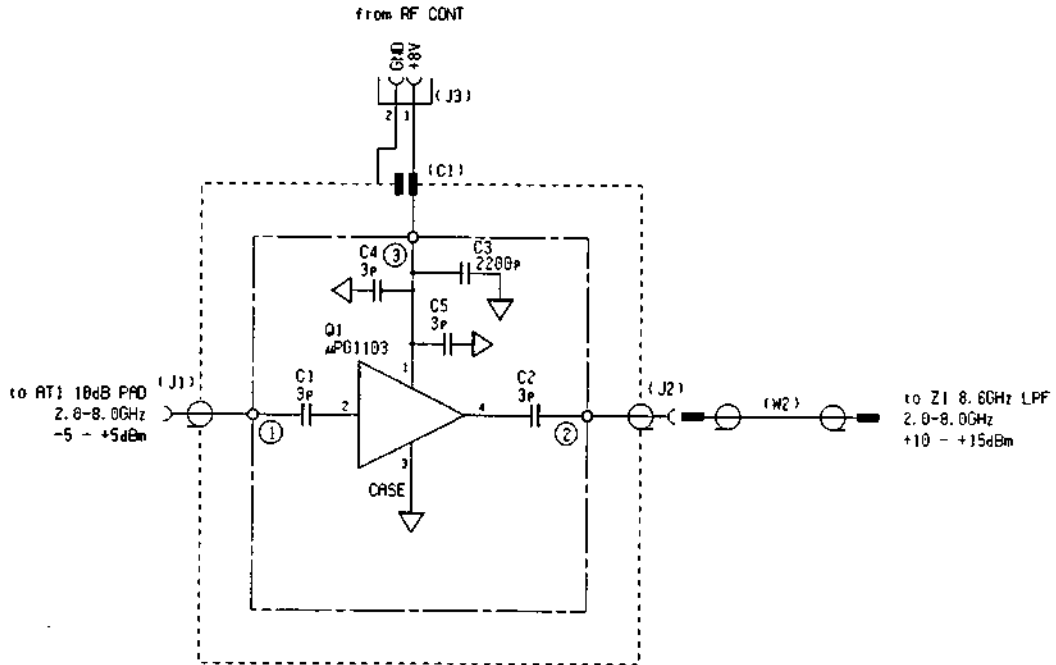


Fig. 3-117

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY		SCALE	
APPROVED BY		DESIGNED BY			
TITLE				DRAWING No.	
A18-A1 ISOL AMP				34W97062	

44



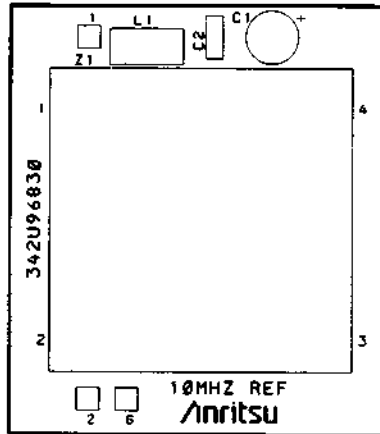


Fig 3-118 A18-A2 10 MHz REF (Standard) PC-Board Parts Layout 45

34W97060

APPLICATION

REVISIONS

A

B

C

D

E

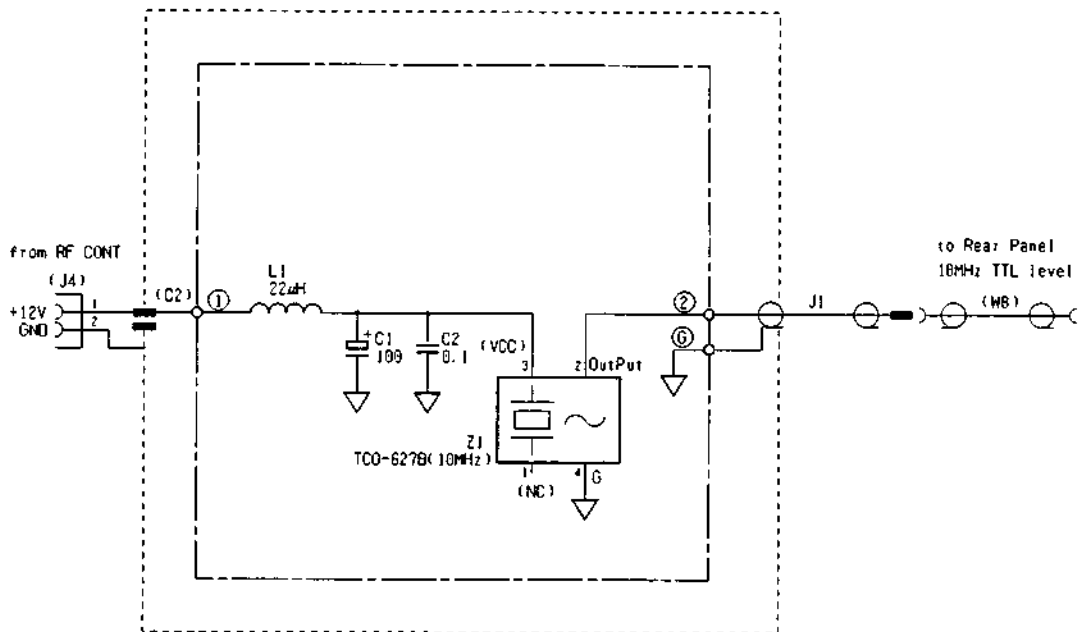
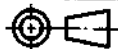


Fig. 3-119

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY		DRAWN BY		SCALE	
APPROVED BY		DESIGNED BY			
DEP	TITLE			DRAWING No.	
	A18-A2 10MHz REF (Standard)			34W97060	

45



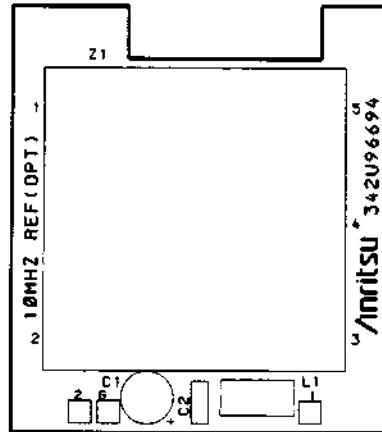


Fig 3-120 A18-A2 10 MHz REF (Opt 01) PC-Board Parts Layout **45**

34W97061

APPLICATION

REVISIONS

A

B

C

D

E

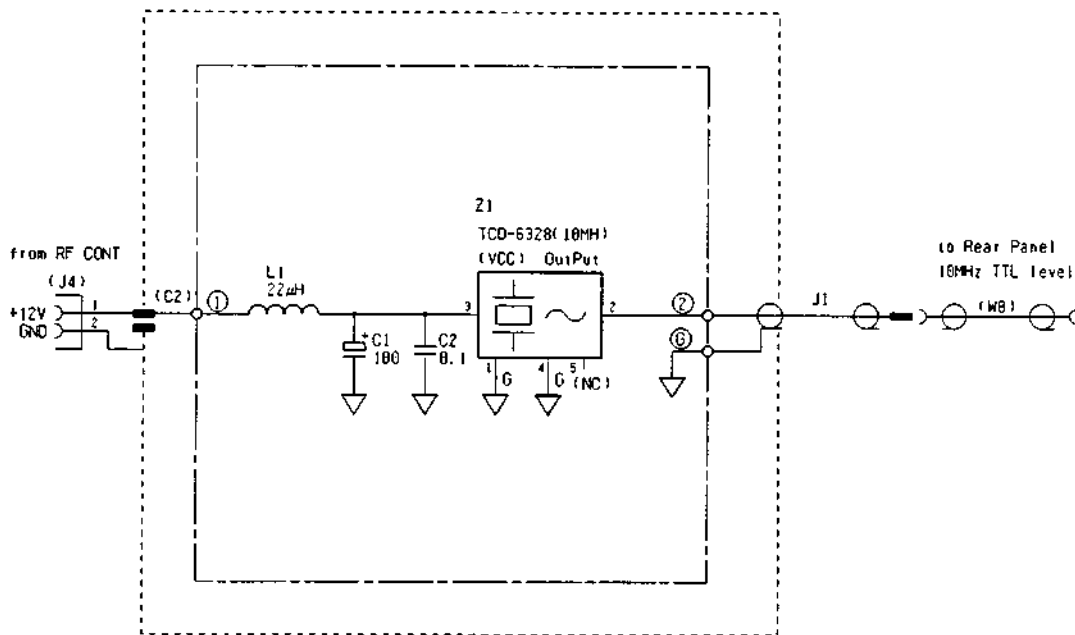


Fig. 3-121

QTY	ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Yuzawa</i>		DRAWN BY		SCALE	
APPROVED BY <i>H. Toda</i>		DESIGNED BY <i>N. Shimizu</i>			
DEP	TITLE A18-A2 10MHz REF (Opt.01)			DRAWING No. 34W97061	

45



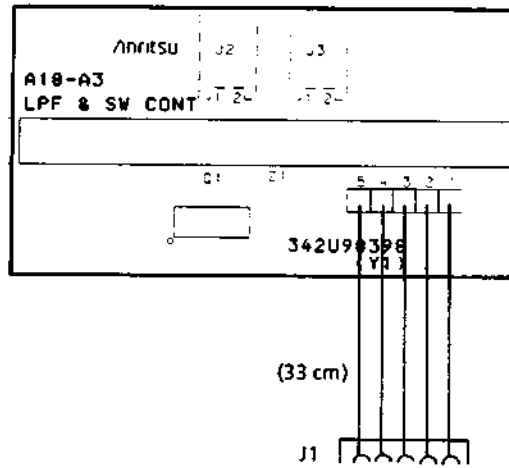


Fig 3-122 A18-A3 LPF & SW CONT PC-Board Parts Layout **46**

34W98422

APPLICATION

REVISIONS

A

B

C

D

E

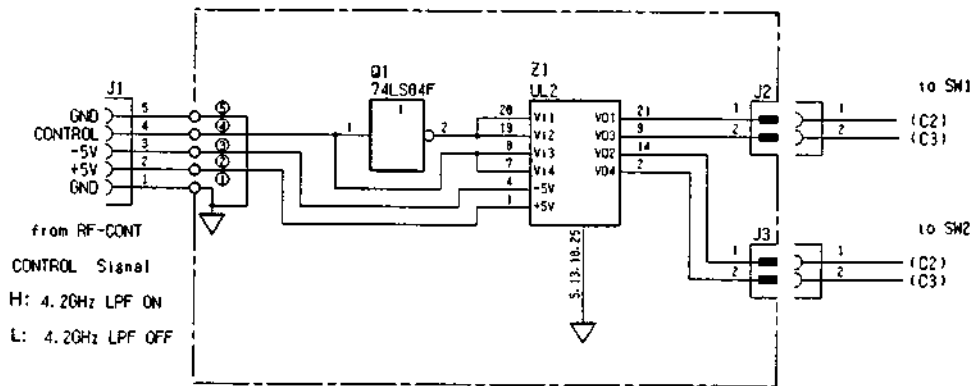


Fig. 3-123

QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>J. S. ...</i>	DRAWN BY		SCALE	46
APPROVED BY <i>H. Joda</i>	DESIGNED BY <i>N. Shypanov</i>			
DEP	TITLE A18-A3 LPF&SW CONT		DRAWING No. 34W98422	



3.12 A21 FILTER BOARD **49**

This feeds filtered-DC power supply voltages to the A1-A3 RF CONTROL.



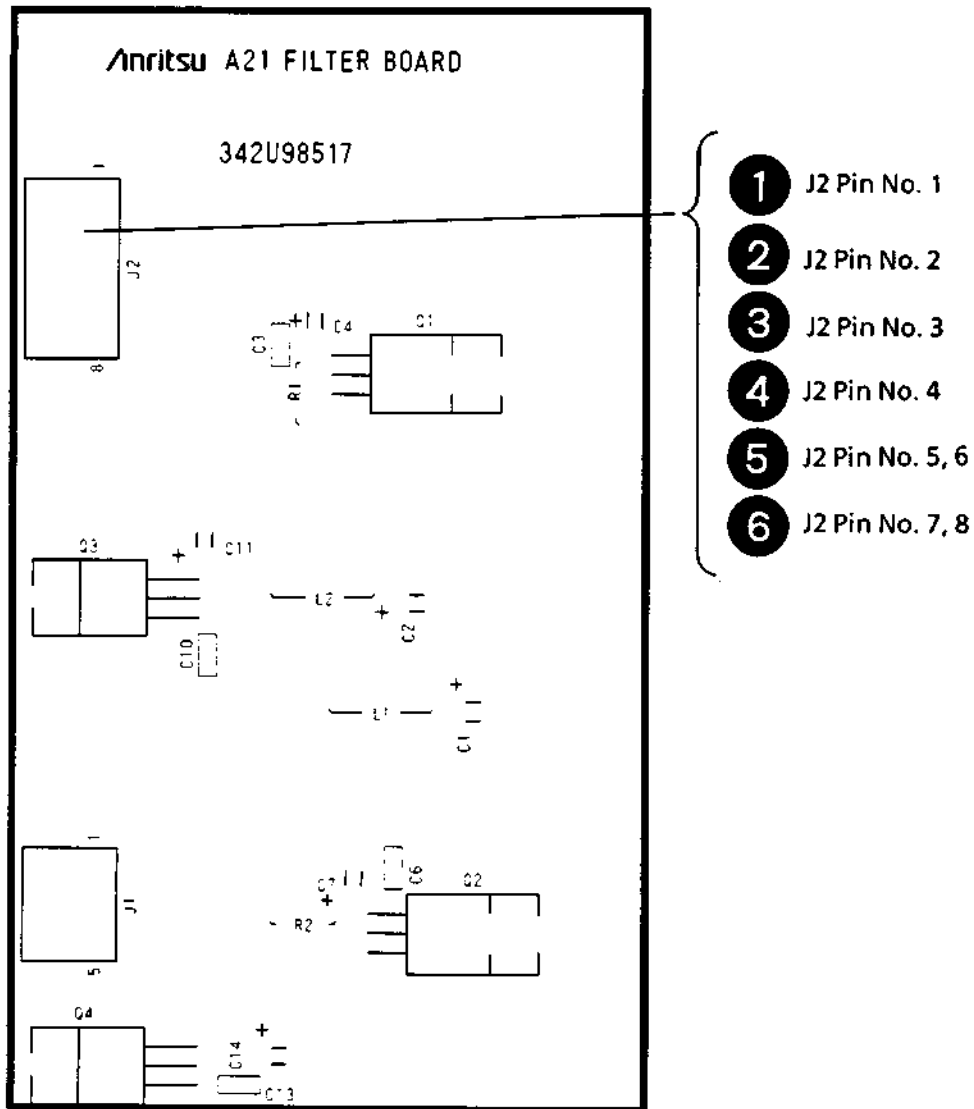
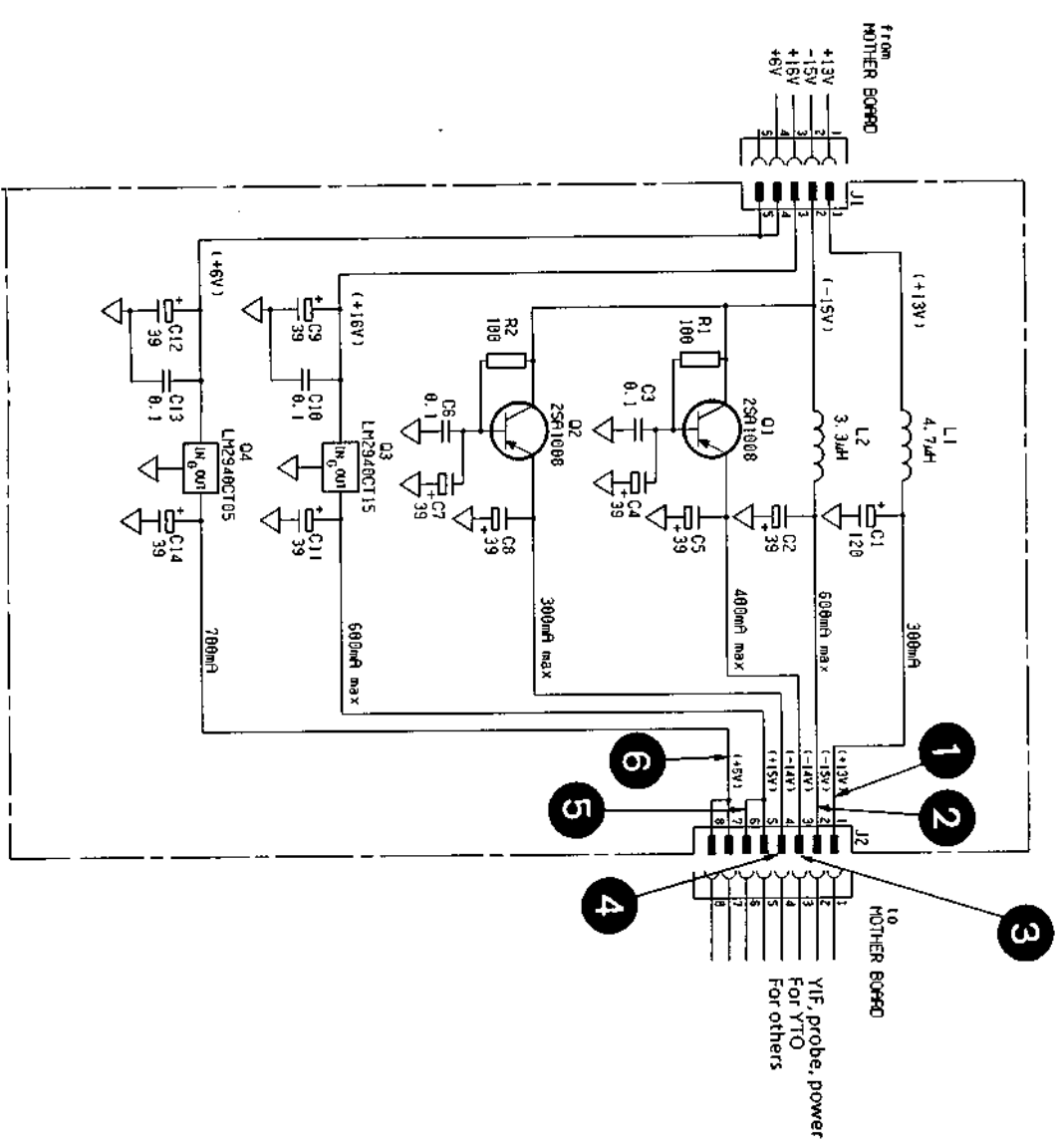


Fig. 3-124 A21 FILTER BOARD PC-Board Parts Layout **49**

33W32101
APPLICATION

REVISIONS



QTY/ITEM	PART No.	DESCRIPTION	MATERIAL	FINISH
CHECKED BY <i>Sanjiv</i>				
DRAWN BY				
APPROVED BY <i>H. Bada</i>				
DESIGNED BY <i>N. Sanjiv</i>				
TITLE				
A21 FILTER BOARD				
DRAWING No. 33W32101				

Fig. 3-125

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ANRITSU CORP.



SECTION 4

OVERALL ADJUSTMENT AND CALIBRATION OF COMPENSATION DATA

4.1 Precautions

Do not tamper with the A1 32 GHz (or 24.5 GHz) Unit, because it would result in loss of calibration of the instrument.

In as much as possible, the testing should be performed at the point at which the frequency reduced to 21.4 MHz If or any point thereafter.

Many of the important adjustments are carried out using potentiometers accessible after removing the right side cover of the MS2702A/MS2802A.

The items adjusted at A1-A3 RF CONTROL PC-board are:

- | | | |
|---|---|---|
| (1) Reference voltage | } | See adjustment of
A3-A1-A5 YTO PLL CONT.
[Para 3.4.2 (6)]
and
YTO related data
[Para 3.4.1 (19)] |
| (2) YTO pretuning | | |
| (3) Span linearity for greater than 2 MHz | | |
| (4) C/N of MS2702A/MS2802A | | |
| (5) Mixer bias ——— See 32 GHz CONVERTER control signals.
[Para. 3.3.3] | | |
| (6) YTF tuning adjustment ——— See para. 4.2. | | |

Note that if you carry out any one ("X") of the above steps, then it must be followed by what is given as "Y" in the table below:

Table 4-1

Case	Carry out ("X") then must be followed by ("Y")	
	X	Y
1	(1)	(2), (3), (4)
2	(2)	————
3	(3)	————
4	(4)	————
5	(5)	(6)
6	(6)	————

4.2 YTF Tuning Adjustment

CAUTION: The YTF tuning adjustment must be carried out only after YTO frequency and YTO sweep linearity adjustments.

(1) Setting frequency voltage

Set the MS2702A/MS2802A band 1-, and Frequency span 0 Hz.

Center Freq. in GHz	Voltage at TP1 ② in V	Tuning Resistor	Remarks
1.7	-2.22 ± 0.01	R17 ⑧	See Fig. 3-15 for the adjusting points and TPs. (on the A1-A3 RF CONTROL)
4.4786	-5.00 ± 0.01	R165 ⑨	
7.4786	-8.00 ± 0.01	R166 ⑩	

(2) Adjusting YTF end points

1. Set the MS2702A/MS2802A band 1-, frequency span 0, center frequency 1.7 GHz, YTF ON, and pre-selector entry 0.
2. Feed A 1.7 GHz, -10dBm signal from a signal generator at RF INPUT.
3. Adjust R50 so as to make signal displayed at the MS2702A/MS2802A display maximum.
4. Set the MS2702A/MS2802A band 3+, frequency span 0, center frequency 23 GHz, YTF ON, and pre-selector entry 0.
5. Feed a 23 GHz, -10dBm signal from a signal generator at RF INPUT.
6. Adjust R45 ⑪ so as to make signal displayed at the MS2702A/MS2802A display maximum.

(3) Adjusting non-linearity

1. Set the MS2702A/MS2802A band 1-, frequency span 0, center frequency 3 GHz, YTF ON, and pre-selector entry 0.
2. Feed a 3 GHz, -10dBm signal from a signal generator at RF INPUT.
3. Adjust R50 ⑫ so as to make signal displayed at the MS2702A/MS2802A display maximum.

(4) Compensating sweep non-linearity

1. Set the MS2702A/MS2802A band 2+, start frequency 6.5 GHz, stop frequency 16.5 GHz, and pre-selector entry 0.
2. Feed a 11.5 GHz, -10dBm signal from a signal generator at RF INPUT.
3. Adjust R26 ⑬ so as to make signal displayed at the MS2702A/2802A display maximum.

(5) Others

Leave R21 ⑭ at it's middle position.

4.3 Calibration

4.3.1 Equipment required

Table 4-3

Instrument	Required performance	Recommended model (Anritsu)
Signal generator	Frequency range 10 MHz to 40 GHz	6769B opt. 2C (Wiltron, USA)
Signal generator	Frequency range 10 Hz to 30 MHz	MG443B
Attenuator	Frequency range DC to 300 MHz Attenuation 0 to 100 dB	MN1501J
Power meter with power sensor	Frequency range 100 kHz to 32 GHz Measuring power range -30 dBm to +20 dBm	ML4803A with MA4601A and MA4705A
Fixed attenuator (3 dB) (2 pcs)	Frequency range DC to 40 GHz	41KC-3 (Wiltron, USA)
Fixed attenuator (10 dB)	Frequency range DC to 18 GHz	41KA-10 (Wiltron, USA)
Coaxial cables	Frequency range DC to 40 GHz	
Personal computer	with GP-IB interface	

4.3.2 Calibration of compensation data

The MS2702A/MS2802A measuring accuracy can be improved by entering the compensation data shown below in the built-in memory.

1. RF GAIN compensation data
2. CAL level & CAL ATT compensation data
3. RF ATT compensation data
4. YTF OFFSET compensation data
5. Frequency-characteristics compensation data

If the specifications are not met for the performance test described in SECTION 5 of the Operation Manual (Basic Operations) after the circuit related to these compensation data has been repaired, the compensation data must be reentered. The input method is described below.

When using the maintenance commands or when rewriting data in the memory, send the following character string via the GP-IB first.

MENTE MS2702A ON for the MS2702A

or

MENTE MS2802A ON for the MS2802A

Send the following command to set the compensation data ON/OFF.

Compensation data ON/OFF

CDT Δ data

└───> 0: OFF, 1: ON

Response data ON/OFF

CRE Δ data

└───> 0: OFF, 1: ON

Send the following command to write from the common memory to the EEPROM.

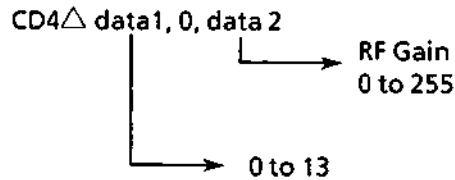
CDW Δ 99

(1) Calibration of RF gain

After repairing the RF section, when the reference-level-accuracy performance test does not meet the specifications (paragraph 5.3.9 of Operation Manual [Basic Operations]), use the following method of correcting the compensation data with Response data ON.

Use the following maintenance command to change this compensation value.

RF Gain (WRITE to common memory)



- | | |
|----------------------|----------------------|
| 0: 0 band (YTF OFF) | 7: 1- band (YTF ON) |
| 1: 1- band (YTF OFF) | 8: 1+ band (YTF ON) |
| 2: 1+ band (YTF OFF) | 9: 2+ band (YTF ON) |
| 3: 2+ band (YTF OFF) | 10: 3+ band (YTF ON) |
| 4: 3+ band (YTF OFF) | |
| 5: 4+ band (YTF OFF) | |

- | | |
|-------------|----------------|
| 12: EXT MIX | (2-port mixer) |
| 13: EXT MIX | (3-port mixer) |

(a) RF Gain calibration (Response data must be ON.)

- Setup

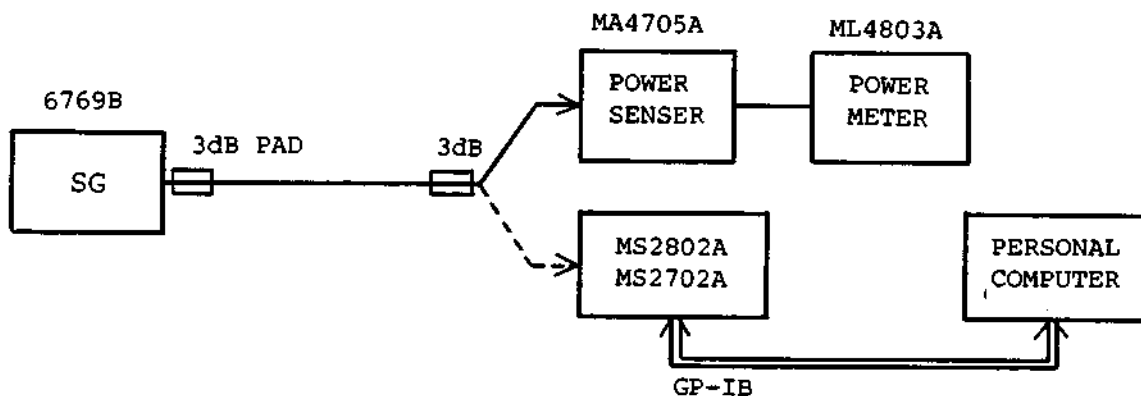


Fig. 4-1

● Procedure

Step	Procedure
1	Initialize the power meter.
2	Initialize the signal generator and set the level to -6 dBm.
3	Initialize the MS2702A/MS2802A and set the following parameters. SPAN: 10 KHz RBW: 3 KHz VBW: 100 Hz RL: -10 dBm CF: Refer to Table 1-1.
4	Set the SG center frequency to the MS2702A/MS2802A center frequency and read the SG level (L1) with the power meter.
5	Connect the SG to the MS2702A/MS2802A and read the level (L2) from the CRT with the zero span after performing the PK → CF operation.
6	Write the RF Gain data (between points 0 to 255) in the common memory so that (L2) - (L1) is less than ±0.5 dB.
7	Perform the RF Gain calibration for each band in the same way.

● Calibration frequency

Table 4-4

Band	Frequency
0	625 kHz Use internal CAL signal
1- (YTF OFF)	4.5 GHz
1+ (YTF OFF)	7.5 GHz
2+ (YTF OFF)	11.5 GHz
3+ (YTF OFF)	17.0 GHz
4+ (YTF OFF)	26.0 GHz
1- (YTF ON)	4.5 GHz
1+ (YTF ON)	7.5 GHz
2+ (YTF ON)	11.5 GHz
3+ (YTF ON)	17.0 GHz

(b) EXT-MIXER RF Gain calibration (Response data must be ON.)

- Setup

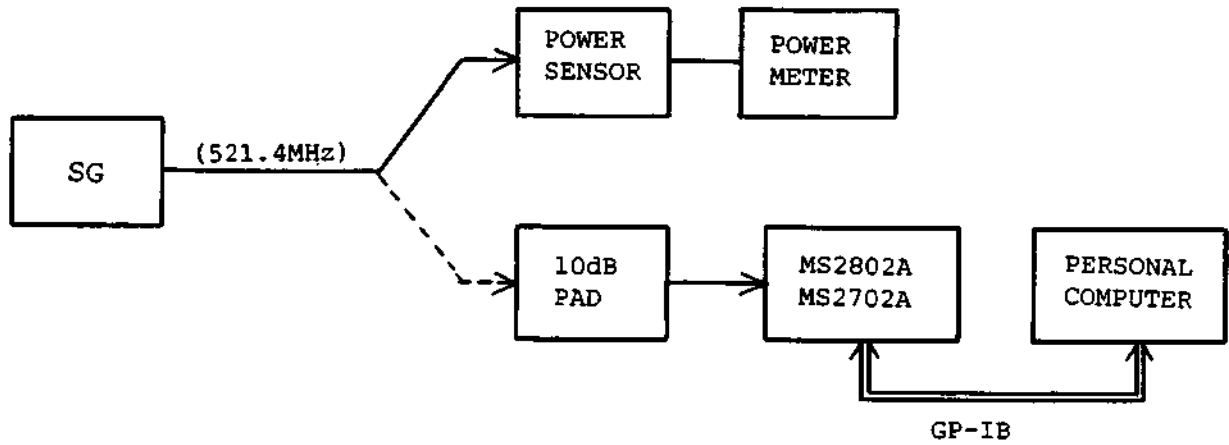


Fig. 4-2 EXT-MIXER RF Gain Calibration Setup

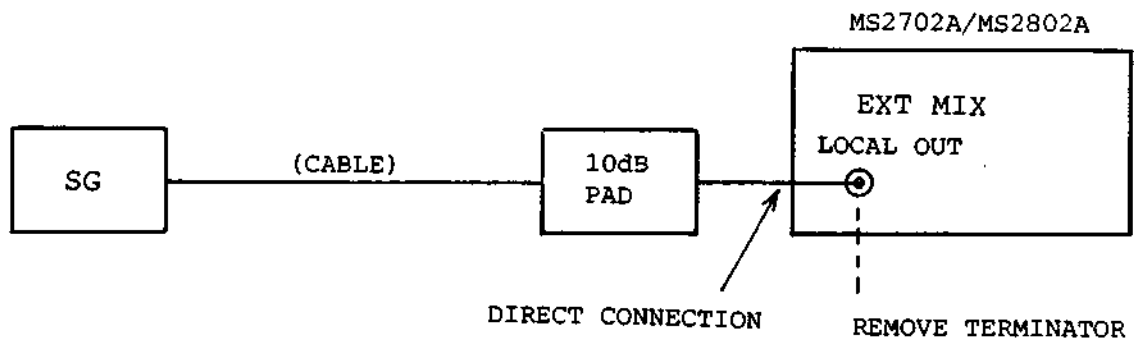


Fig. 4-3 MS2702A/MS2802A Setup with 2-port Mixer

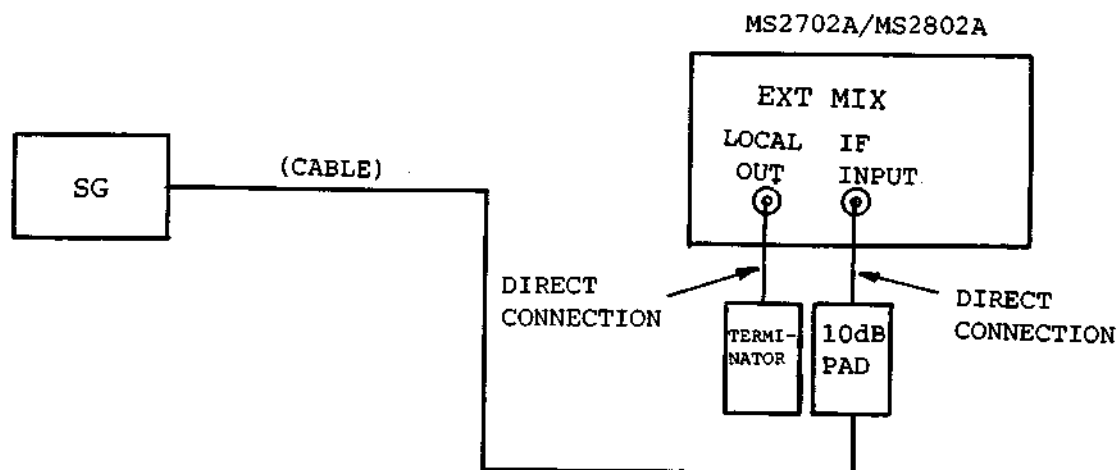


Fig. 4-4 MS2702A/MS2802A Setup with 3-port Mixer

● Procedure

Step	Procedure
1	Initialize the power meter.
2	Initialize the SG and set the following parameters. CF: 521.4 MHz LEVEL: -18 dBm
3	Initialize the MS2702A/MS2802A and set the following parameters. BAND: 0 SPAN: 200 KHz LOSS: 18 dB, RL -10 dBm
4	Read the SG level with the power meter and adjust the SG level so that it becomes -10 dBm \pm 0.1 dB.
5	Connect the SG to the MS2702A/MS2802A and read the level on the CRT.
6	Write the RF gain data (between points 0 and 255) in the common memory so that the level is -10 dBm \pm 0.2 dB.
7	Calibrate the RF Gain in the same way by switching ports.

(2) Calibration of calibrating level and calibrating attenuator

If the specification is not met for the performance test of the CRT display amplitude scale linearity (paragraph 5.3.7 in the Operation Manual [Basic Operations]) after the CAL circuit has been repaired, calibrate the compensation data using the following procedures.

Use the following maintenance commands to change these calibration value.

625 kHz CAL signal ON/OFF

CSG Δ data
└───> 0: OFF, 1: ON

625 kHz CAL ATT setting

CAT Δ data
└───> 0 to 99 (1 step)
 0 dB to 99 dB

625 kHz CAL signal absolute level (WRITE to common memory)

CD1 Δ data
└───> Absolute level in 0.01 dBm units (integer)

625 kHz CAL ATT switching deviation (WRITE to common memory)

CD2 Δ data1,data2
└───> Switching deviation in 0.01 dB units
 (integer)
 0 to 99 (1 step) 0 dB to 99 dB

• Setup

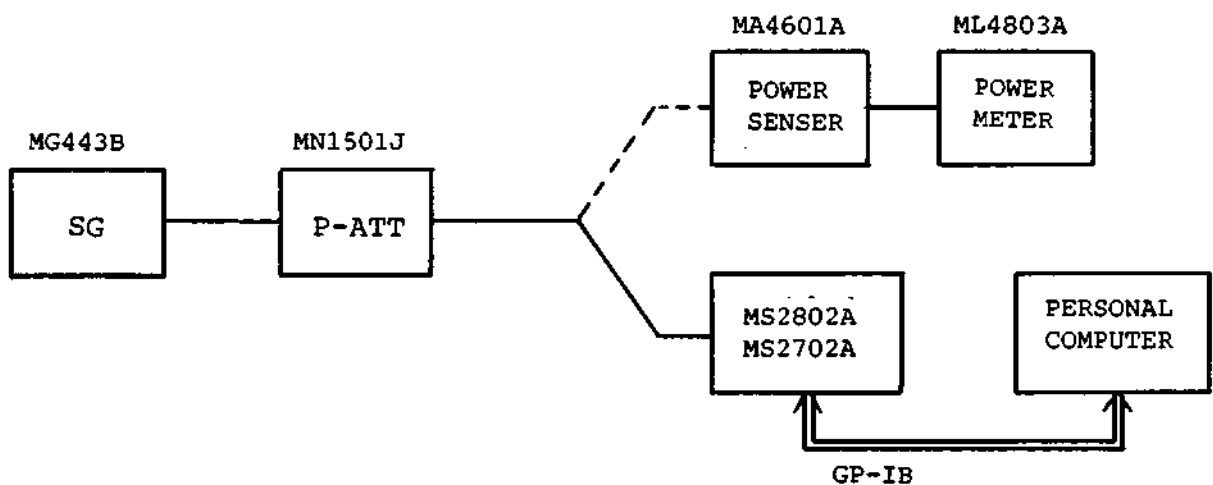


Fig. 4-5

● Procedure

Step	Procedure
1	Initialize the power meter.
2	Set P-ATT to 5 dB.
3	Initialize the SG and set the following parameters. CF: 625 kHz LEVEL: - 5 dBm
4	Connect the SG to MS2702A/MS2802A, initialize the MS2702A/MS2802A, and set the following parameters. CF: 625 kHz SPAN: 100 Hz RBW: 100 Hz VBW: 100 Hz RLV: - 10 dBm ATT: 0 dB
5	Set zero span after the PK → CF operation.
6	Switch the signal to internal CAL.
7	Set the internal CAL ATT to 4 dB.
8	Read the internal CAL level (L1) from the CRT.
9	Switch the signal to external and read the level (L2).
10	Change the SG level so that (L1) - (L2) is less than ± 0.2 dB.
11	Read the level at this time with the power meter.
12	Write the CAL level compensation data calculated by equation (1) below to the common memory.
13	Switch the signal to internal CAL.
14	Decrease the RF Gain by just 30 points.
15	Set the internal CAL ATT and settings shown in Table 4-5 and read the level (L3) from the CRT.
16	Switch the signal to external and read the level (L4).
17	Calculate the level deviation (DL) as shown below.

Step	Procedure
18	When $L3 < L4$, increase the ATT by +1 and read the level (L5) at this time to obtain DL in equation (2); when $L3 > L4$, decrease the ATT by -1 and read the level (L5) at this time to obtain DL in equation (3).
19	Return RF Gain to the original setting.
20	Calculate the CAL ATT compensation data as shown below and write to the common memory.
21	Perform calibration in the same way in 1 dB steps from 0 to 99 dB.
	Equation (1): CAL level compensation data = power meter reading + (L1 - L2)
	Equation (2) $DL = \frac{L4 - L3}{L4 - L5}$
	Equation (3) $DL = \frac{L4 - L3}{L5 - L4}$
	CAL ATT compensation data (based on deviation at 4 dB) = DL (deviation at each ATT) - DL (deviation at 4 dB)

Table 4-5

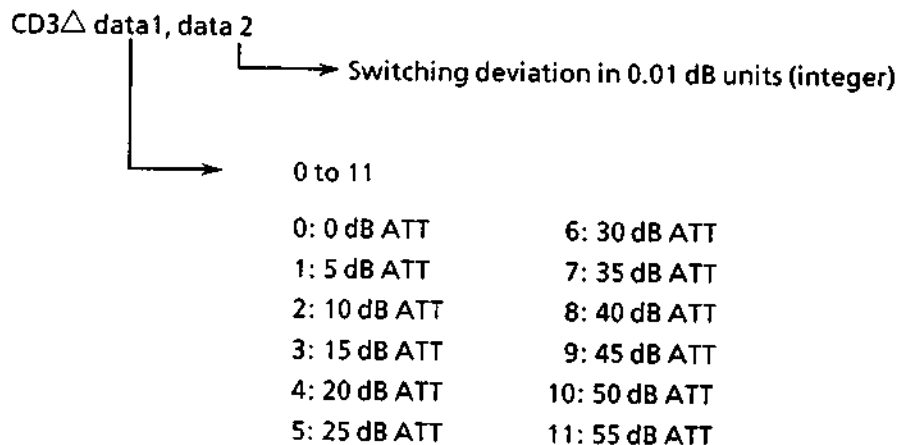
CAL ATT	RLV	Others
0 to 6 dB	- 10 dBm	
7 to 50 dB	-(CAL ATT + 4) dBm	
51 to 84 dB	- 55 dBm	VBW: 1 Hz
85 to 99 dB	————	Set deviation to the same value as the value at 84 dB.

(3) Calibration of RF attenuator

After repairing the RF section, when the input-attenuator-switching-error performance test does not meet the specifications (paragraph 5.3.14 of Operation Manual [Basic Operations]), use the following method to correct the compensation data.

Use the following maintenance command to change this compensation value.

RF ATT switching deviation (WRITE to common memory)



• Setup

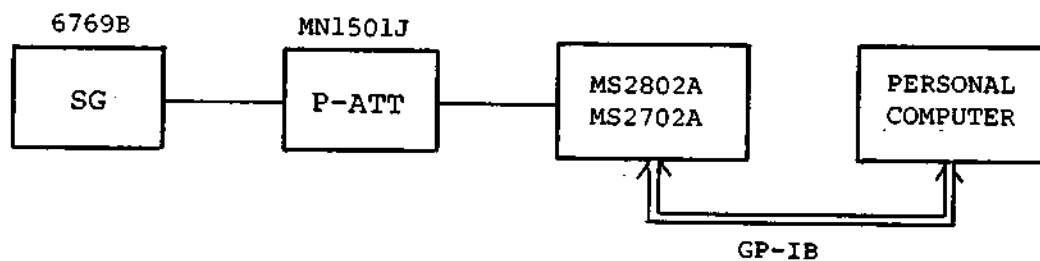


Fig. 4-6

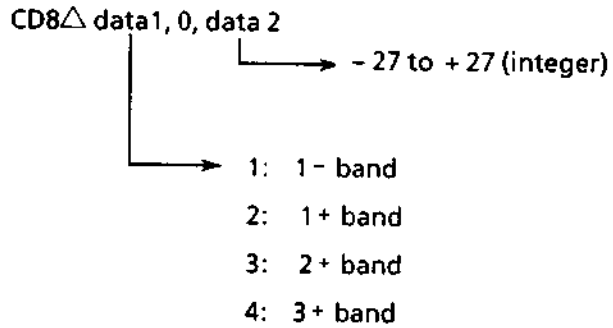
● Procedure

Step	Procedure
1	Initialize the SG and set the following parameters. CF: 100 MHz LEVEL: 0 dBm
2	Initialize the MS2702A/MS2802A to set the following parameters. RLV: -55 dBm ATT: 0 dB
3	Set P-ATT to 55 dB.
4	Read the MS2702A/MS2802A peak level and calculate the level deviation.
5	Find each the level deviation in the same way when the P-ATT is changed by +5 dB and ATT by -5 dB in the ATT range from 0 to 55 dB.
6	Find each the level deviation based on ATT 10 dB and write it to the common memory.

(4) Calibration of YTF offset

Correct the compensation data using the following method after the YTF is changed. Use the following maintenance command to change the compensation value.

YTF Offset



• Setup

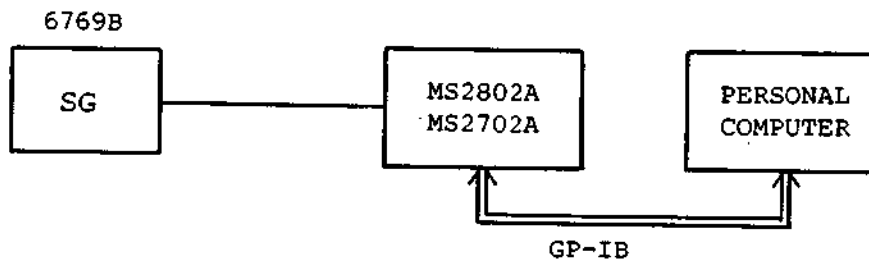


Fig. 4-7

● Procedure

Step	Procedure
1	Initialize the SG and set the LEVEL to -10 dBm.
2	Initialize the MS2702A/MS2802A and set the BAND, CF, and SPAN as shown in Table 4-6.
3	Set the SG center frequency to the MS2702A/MS2802A center frequency.
4	Perform the pre-selector peak operation and read the tuning value.
5	Write the tuning value to the common memory.
6	Measure the tuning value for each band in the same way and write the values to the common memory.

● Calibration frequency

Table 4-6

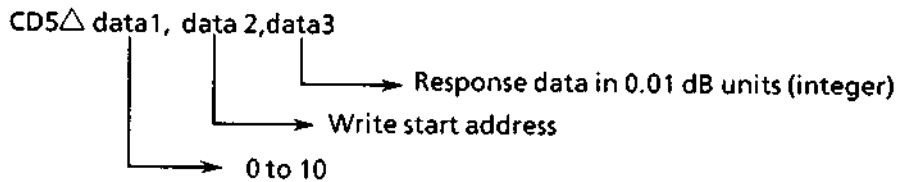
BAND	CF	SPAN
1-	4.5 GHz	25 MHz
1+	7.5 GHz	25 MHz
2+	11.5 GHz	25 MHz
3+	17.0 GHz	25 MHz

(5) Calibration of frequency response

If the specifications are not met for the performance test of the frequency response (paragraph 5.3.8 in the Operation Manual [Basic Operations]) after the RF circuits has been repaired, calibrate the compensation data according to the procedures described below.

Use the following maintenance command to change the compensation value.

RESPONSE data (level data only) (WRITE to common memory)



- | | |
|-----------------------|-----------------------|
| 0: 0 band (YTF OFF) | 7: 1 - band (YTF ON) |
| 1: 1 - band (YTF OFF) | 8: 1 + band (YTF ON) |
| 2: 1 + band (YTF OFF) | 9: 2 + band (YTF ON) |
| 3: 2 + band (YTF OFF) | 10: 3 + band (YTF ON) |
| 4: 3 + band (YTF OFF) | |
| 5: 4 + band (YTF OFF) | |

• Setup

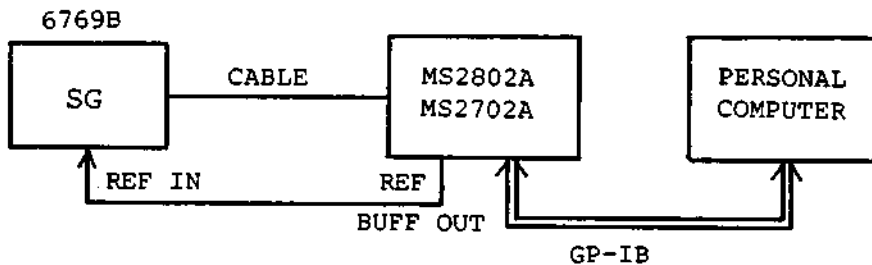


Fig. 4-8

● Procedure

Step	Procedure
1	Initialize the power meter.
2	Initialize the SG and set the LEVEL to - 6 dBm.
3	Initialize the MS2702A/MS2802A and set the following parameters. RLV: - 10 dBm ATT: 10 dB RBW: 3 kHz SPAN: 100 Hz RBW: 100 Hz VBW: 100 Hz
4	Set the SG frequency and level with the power meter.
5	Set the MS2702A/MS2802A center frequency and read the level.
6	Calculate the level deviation and write it at the common memory.
7	Perform calibration for the frequency characteristics for each band in the same way with 20 MHz interval.



SECTION 5 MECHANICAL CONFIGURATION

5.1 Introduction

This section describes the mechanical structure, the position of the internal units, and the procedures for removing these units to disassemble/reassemble the MS2702A/MS2802A.

The numbers in Figs. 5-1 to 5-20 indicate the mechanical parts. Table 5-1 to 5-20 lists the parts with the corresponding numbers.

CAUTION

When disassembling/reassembling the MS2702A/MS2802A, turn off the POWER switch on the front panel and unplug the power supply cord from the ac outlet.

5.2 Cabinet Assembly (Fig. 5-1)

(1) Removing the top cover ⑩

Remove the two screws ⑮. Then, remove the top cover ⑩ by lifting it from the rear in the direction indicated by the * arrow.

(2) Removing the bottom cover ⑪

Remove the two screws ⑮. Then, remove the bottom cover ⑪ from the rear as indicated by the * arrow.

(3) Removing the side covers, ⑫, ⑬

Open the cover of the handle ⑨ in the direction indicated by the * arrow and remove the two screws ⑮. Then, remove the four screws ⑰ and remove the side cover ⑫, ⑬.

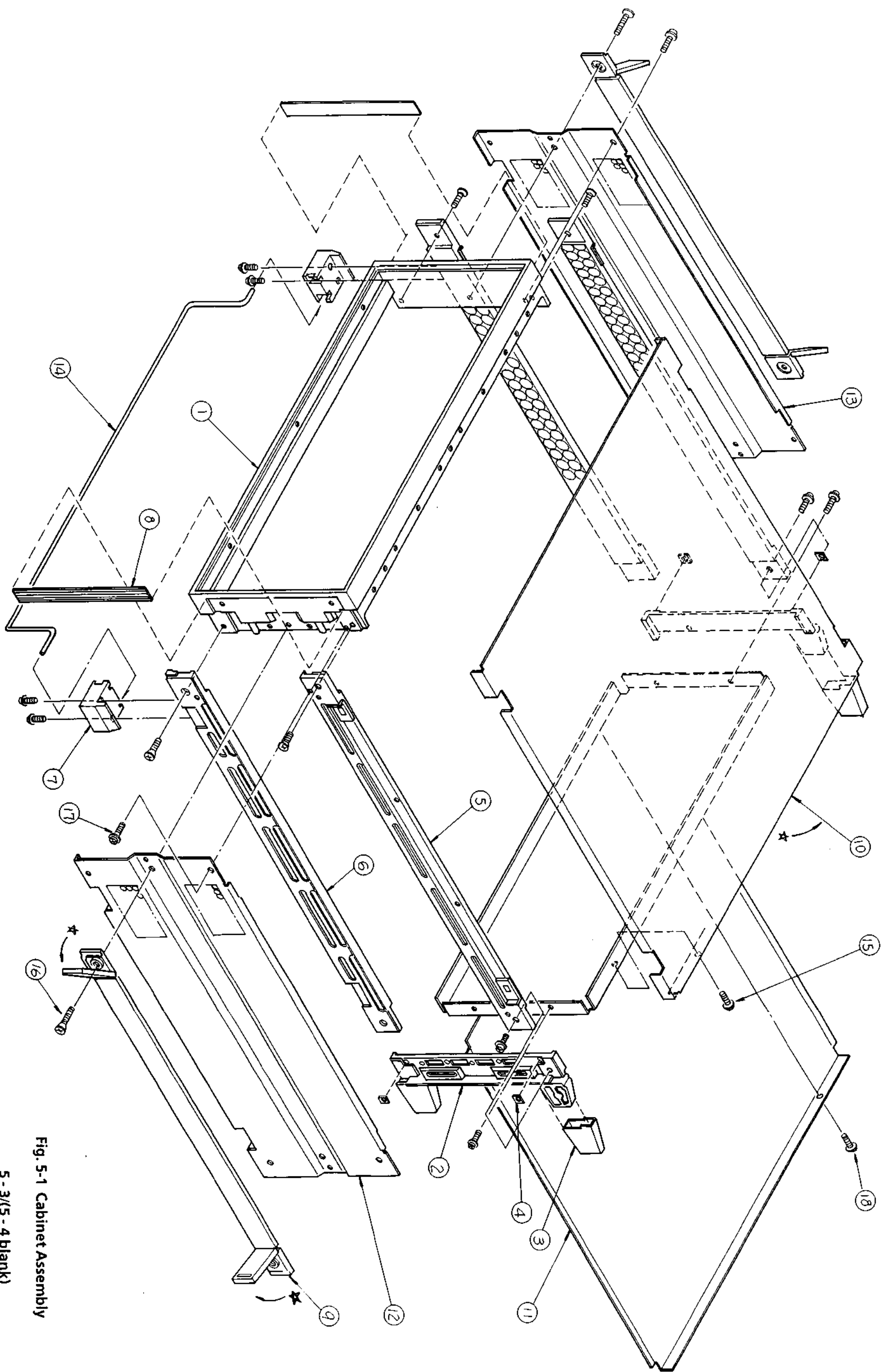


Fig. 5-1 Cabinet Assembly

5 - 3/(5 - 4 blank)



5.3 Front Panel Removal

(1) Key top removal (Figs. 5-2 and 5-3)

To replace the key tops shown in Figs. 5-2 (MS2802A) and 5-3 (MS2702A), remove the front panel and pull off the key tops by holding them with pliers.

(2) Removing front panel unit (① decorative panel + ② front panel + ③ A15: FRONT + ④ A20: LED + ⑤ bezel + ⑥ bezel) (Fig. 5-4)

Step	Procedure
1	Remove the two screws #1 at both the left and right sides.
2	Pull the front-panel unit out forwards and disconnect the three connectors.

(3) Removing ⑦ Z1: CRT (Fig. 5-4)

Step	Procedure
1	Follow steps 1 and 2 in the paragraph (2) above.
2	Remove the four screws #2 and two screws #3 and pull ⑦ out forwards.



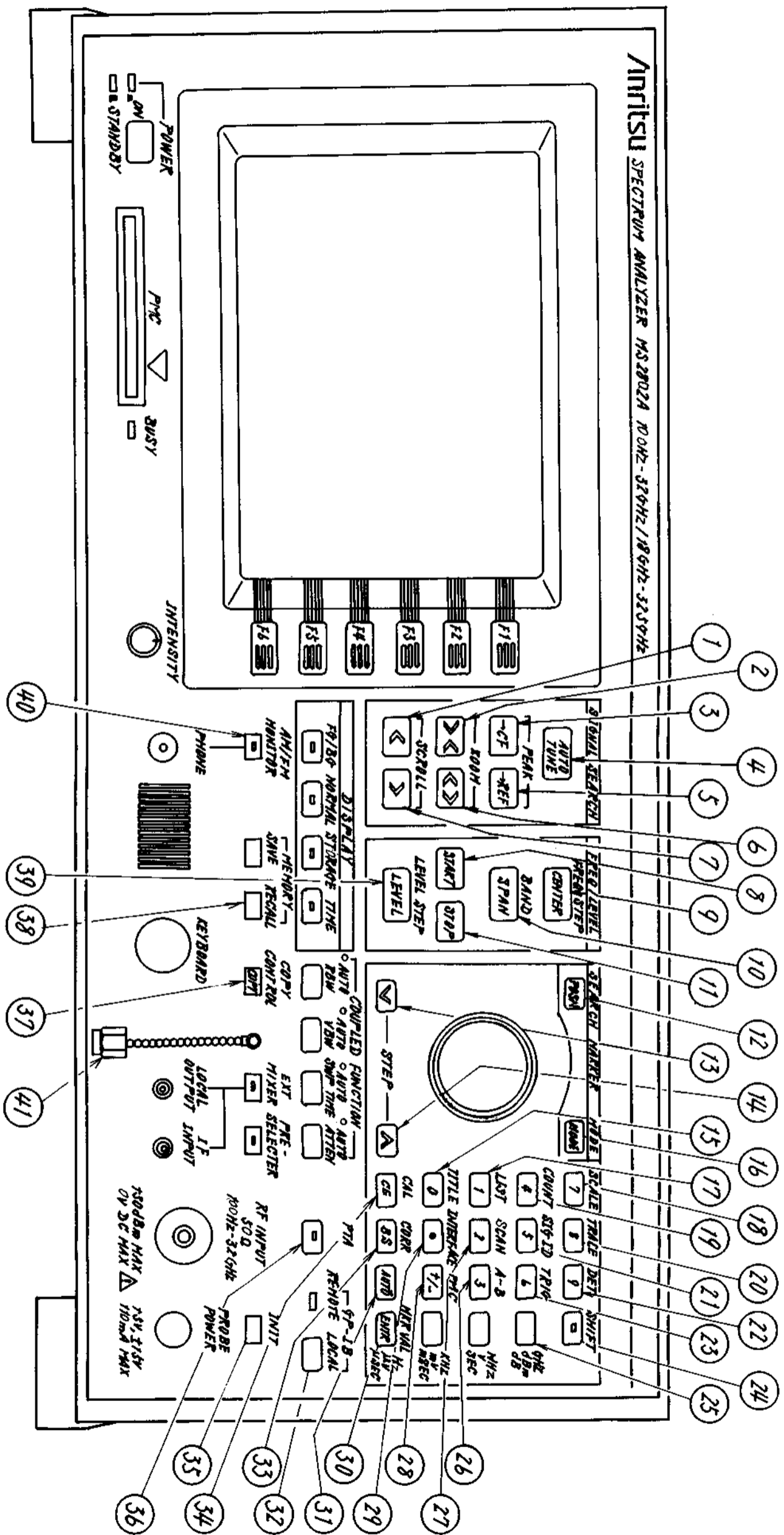


Fig. 5-2 Key Tops of the MS2802A

5-7/(5-8 balnk)

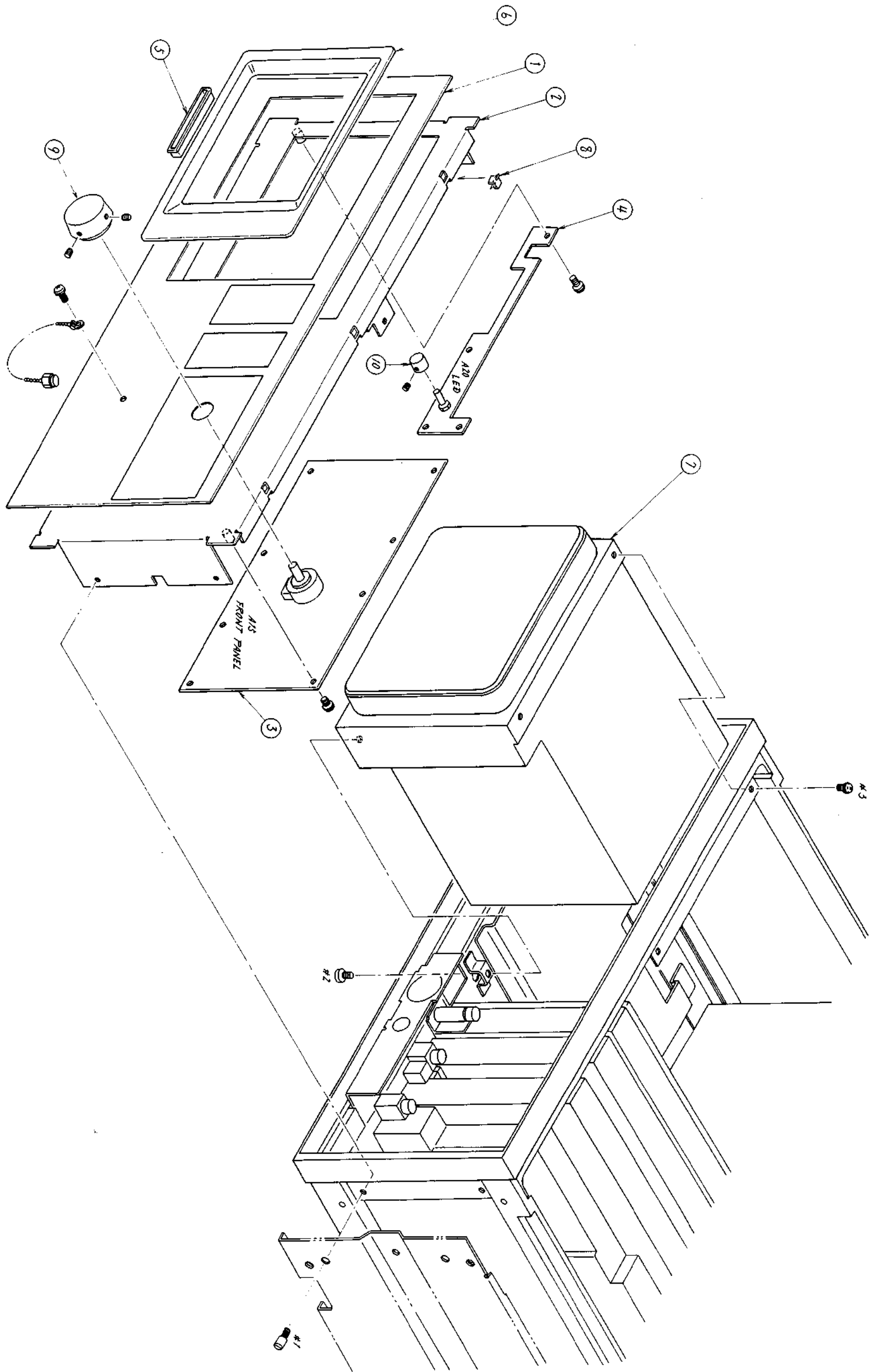


Fig. 5-4 Front-Unit Assy

5 - 11/(5 - 12 blank)



5.4 Main Unit Removal

- (1) A18: LPF & SW unit
- (2) A1: 32 GHz CONVERTER (MS2802A)/24.5 GHz CONVERTER (MS2702A)
- (3) A2: 2 GHz CONVERTER
- (4) A3: 1st LOCAL UNIT
- (5) A4: IF BPF
- (6) A5: SCAN, A6: IF LOG/DET

To remove the above-mentioned units, remove the top cover ⑩ as described in paragraph 5.2 and follow the procedures described in the following paragraphs.

5.4.1 A18 LPF & SW UNIT removal (Fig. 5-5)

Step	Procedure
1	Remove the W8 and W30 (Fig. 5-5); and A1-A3 J8, J12, and J13 (Fig. 5-9 for the MS2802A, Fig. 5-10 for the MS2702A).
2	Remove the J7 from the J1 of A3-A1-Z1 sampler (Fig. 5-16).
3	Remove #1 (×3) and #2 (×2) screws and then lift-up the A18 unit ⑪. (Fig. 5-5)

5.4.2 A1:32 GHz CONVERTER (MS2802A)/24.5 GHz CONVERTER (MS2702A) removal (Fig. 5-5)

Step	Procedure
1	Perform procedures described in paragraph 5.4.1 to remove the A18 unit.
2	Remove the W9 and W10 from the angle ③ (Fig. 5-5). Remove the (W4), (W5), and (W6) (A1: Fig. 5-9 for the MS2802A, Fig. 5-10 for the MS2702A) from the Z1, J2, and J7 (A2: Fig. 5-11). Remove the J16 and J17 (Fig. 5-5).
3	Remove the #3 (×3) and #4 (×5) screws, lift-up the rear side of A1 unit to release it from the positioning projection, remove J10 (Fig. 5-5), shift the entire A1 unit backward, and lift-up it to take out.

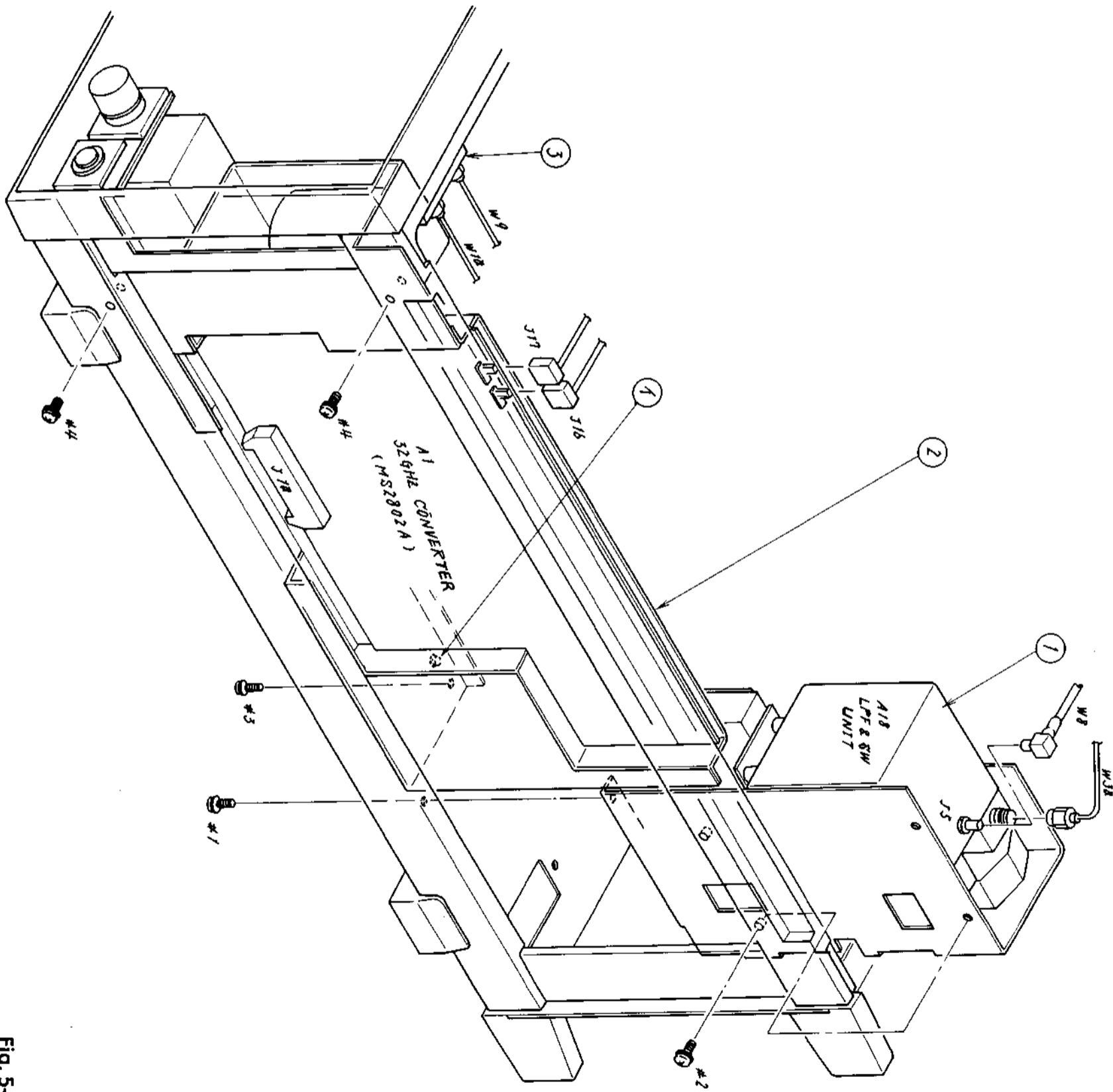


Fig. 5-5 A1 and A18 Assy

5 - 15/(5 - 16 blank)

5.4.3 Removing A2: 2 GHz CONVERTER ③ unit (Fig. 5-6)

Step	Procedure
1	Disconnect connectors Z1: J2, J4, J8, J7, J11, and J13 (A2: Fig. 5-11) as well as J5 (A3-A2: Fig. 5-13).
2	Remove one screw each #1 and #2 (Fig. 5-6).
3	Remove one screw #3 at both the front and rear panels and two screws #3 on the bottom panel (Figs. 5-6, 5-7).
4	Lift out the A2 unit (Fig. 5-6).

5.4.4 Removing A3: 1st LOCAL UNIT ④ (Fig. 5-6)

Step	Procedure
1	Remove two screws #1 and angle ⑦. Remove two screws #2 and angle ⑧. Remove two screws #4, one screw #5 and plate ⑩. Remove two screws #7, one screw #8 and angle ⑩. Remove eight screws #9 and plate ⑫.
2	Remove connectors J16, 17 (A1: Fig. 5-9 (MS2802A), Fig. 5-10 (MS2702A)), J8, J13 (A2: Fig. 5-11) and Z1-J1 (A3-A1: Fig. 5-16), J6, J5, J4 (A3-A2: Fig. 5-14) and J2 (A6: Fig. 5-18).
3	Remove one screw #10 from the front and rear panels, and two screws from the bottom panel (Fig. 5-6, Fig. 5-5 #2, #3).
4	Lift out the A3 unit.

5.4.5 Removing A4: IF BPF ⑤ unit (Fig. 5-6)

Step	Procedure
1	Remove the two screws #11, the two screws #12 and angle ⑬. Remove the two screws #13, the two screws #14 and angle ⑭. Remove the eight screws #9 and palte ⑯.
2	Remove connectors J8 (A2: Fig. 5-11), J1 (A6: Fig. 5-18) and J1 (A5: Fig. 5-19).
3	Remove one screw #15 at both the front and rear panels, and two screws from the bottom panel (Fig. 5-6, Fig. 5-7 #4).
4	Lift out the A14 unit.

5.4.6 Removing A5/A6: SCAN and IF LOG/DET ⑥ units (Fig. 5-6)

Step	Procedure
1	Follow step 1 in paragraph 5.4.5.
2	Remove connectors J1, J8 (A5: Fig. 5-19), J1, J11, J10, J5, J2, and J7 (A6: Fig. 5-18).
3	Remove one screw #16 at both the front and rear panels, and two screws from the bottom panel (Figs. 5-6, 5-7 #5).
4	Lift out the A5 and A6 units while disconnecting J7 and J12 (A5: Fig. 5-19).

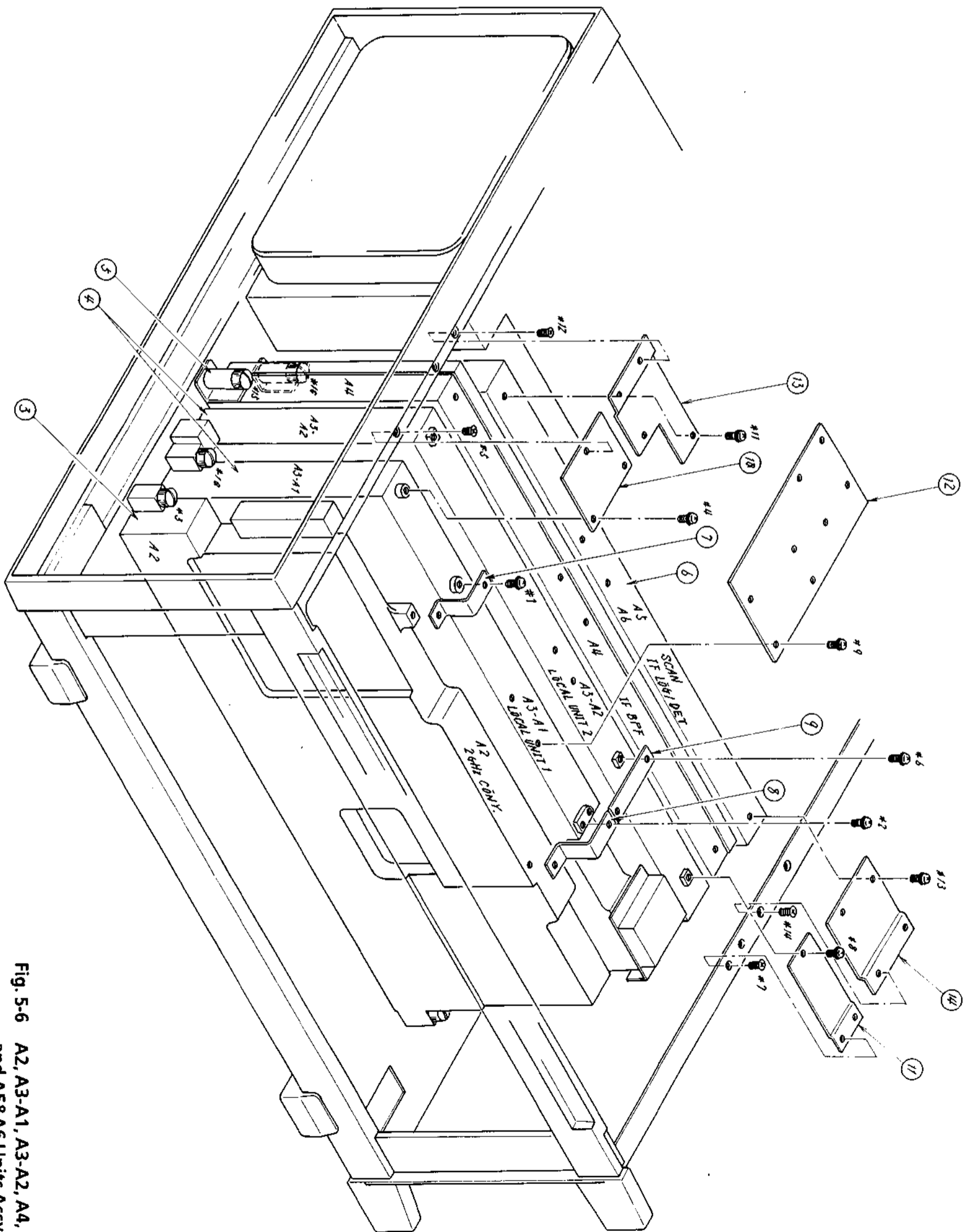


Fig. 5-6 A2, A3-A1, A3-A2, A4,
and A5&A6 Units Assy

5 - 19/(5 - 20 blank)

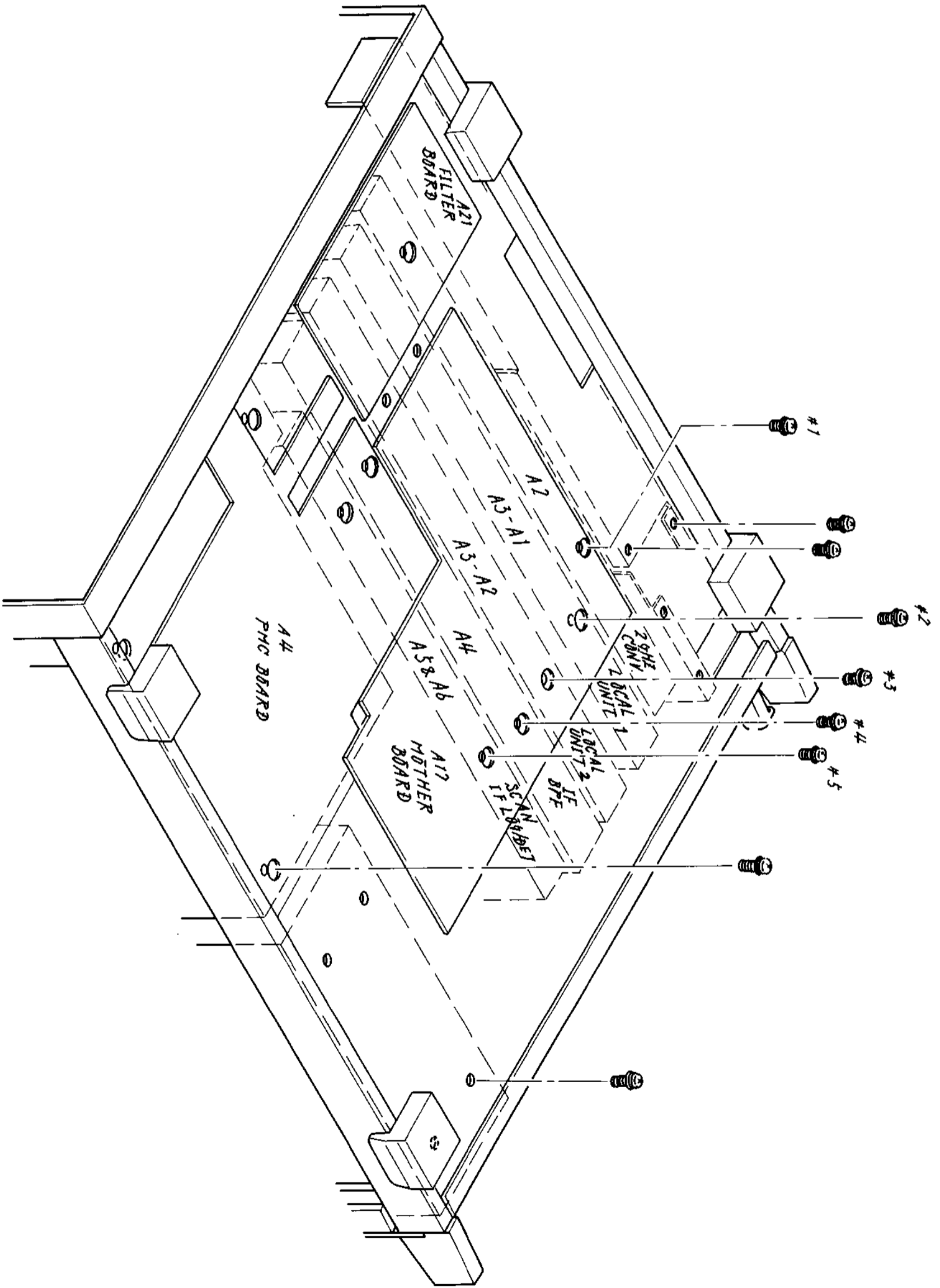


Fig. 5-7 Bottom View

5 - 21/(5 - 22 blank)

5.5 Rear Panel Removal (Fig. 5-8)

To remove the rear panel; remove the top cover ⑩, side covers ⑫ ⑬, and bottom cover ⑪ as described in paragraph 5.2, and then follow the procedures described in the following paragraphs.

5.5.1 Removing rear panel plate 2 ①

Step	Procedure
1	Remove eight screws #4, three screws #2 and two screws #3.
2	Pull out ① in the rear panel direction.

5.5.2 Removing rear panel plate 1 ②

Step	Procedure
1	Follow steps 1 and 2 in paragraph 5.5.1.
2	Remove two screws #1 at both the right and left sides, and seven screws #7, three screws #2 and two screws #3.
3	Pull out ② in the rear panel direction.

5.5.3 Removing power supply ③ unit

Step	Procedure
1	Follow steps 1 and 2 in paragraph 5.5.2.
2	Remove two screws #5 from the top panel, and four screws #6 from the bottom panel.
3	Remove three connectors (C1).
4	Pull ③ out in the rear direction.

5.5.4 Removing A10: MAIN CPU ④

Step	Procedure
1	Follow steps 1 and 2 in paragraph 5.5.2.
2	Pull the upper and lower ejectors and pull out ④.

5.5.5 Removing A9: DISP CPU ⑤

Step	Procedure
1	Follow steps 1 and 2 in paragraph 5.5.2.
2	Remove the two connectors (J4, J2).
3	Remove the three connectors (C3) at the top part.
4	Pull the upper and lower ejectors and pull out ⑤.

5.5.6 Removing A8: MEASURE CPU ⑥

Follow the same procedure as paragraph 5.5.5.

5.5.7 Removing A7: INTERFACE (1) ⑦

Follow the same procedure as paragraph 5.5.5.

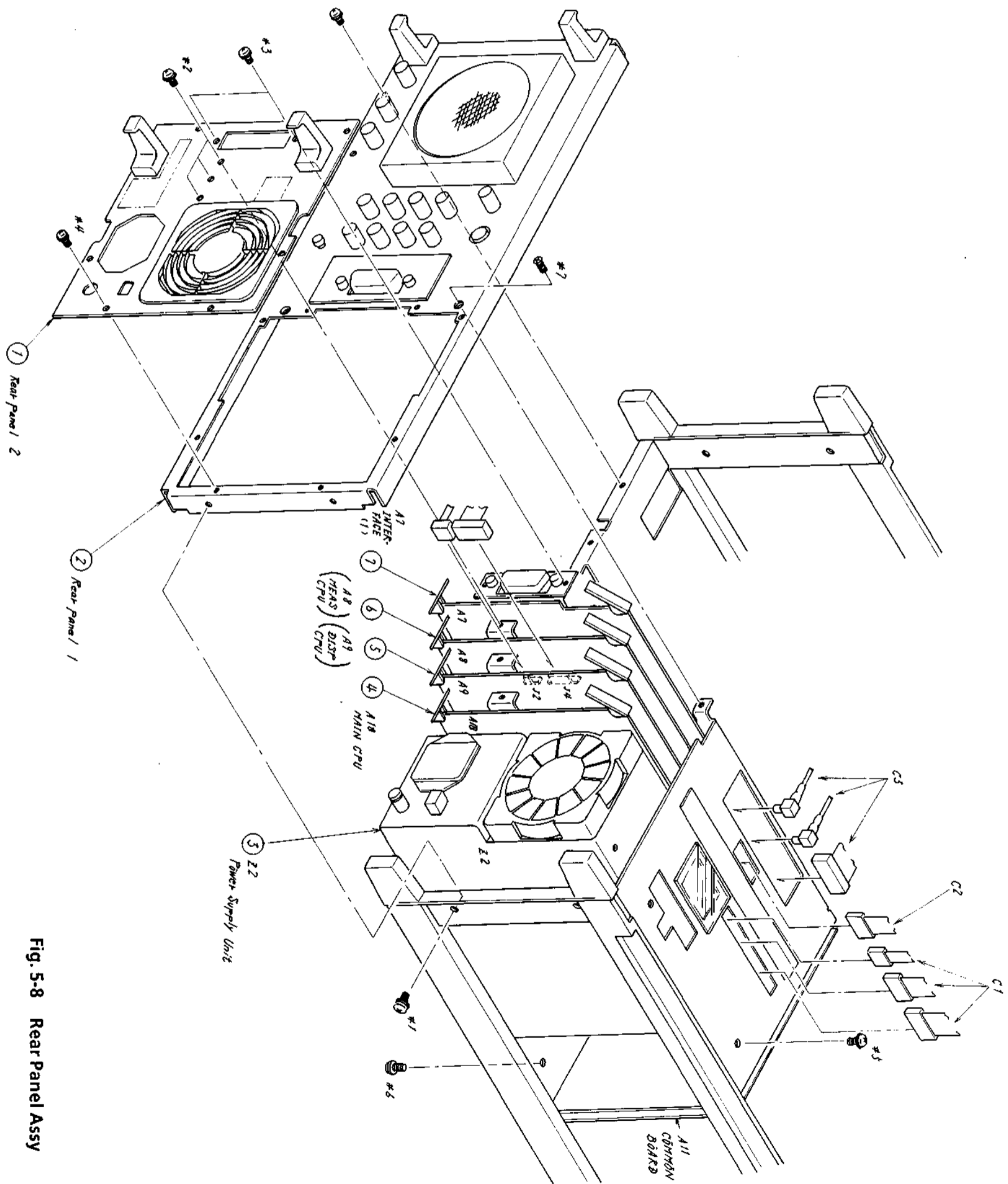


Fig. 5-8 Rear Panel Assy

5 - 25/(5 - 26 blank)



5.6 Disassembling A1: 32 GHz CONVERTER (MS2802A, Fig. 5-9) and 24.5 GHz CONVERTER (MS2702A, Fig. 5-10)

The following procedure is for the MS2802A in Fig. 5-9.

Step	Procedure
1	Remove the seven A1-A3: RF CONTROL ① connectors (J9, J6, J11, J2, J1, J3 and J4), the eight screws #8 and four connectors (J18, J19, J5, and J15) to remove ①.
2	Remove the four screws #2 and ② (Z2: YTO + W6: semirigid + AT4: ATT + angle).
3	Remove the semirigid cables W3 and W6, and the four screws #3, and remove ③ (A1: μ 1st CONV + A2: EXT IF AMP + W7, W8, W10 + AT3) while removing AT2.
4	Remove W2 and the four screws #4 and remove ④ (K3: SW + plate + AT2).
5	Remove W2, W3, and W4 from ⑤ (K2: SW), and remove the two screws #5 and remove ⑤.
6	Remove W1 from ⑥ (AT1: P-ATT + plate), and remove the two screws #6 and remove ⑥.
7	Remove the two screws #7 and remove ⑦ (Z1: YTF, W4, W5).
8	Remove the two screws #8 and remove ⑧ (K1: SW + W1, W2, (W4)).

The following procedure is for the MS2702A in Fig. 5-10.

Step	Procedure
9	Follow step 1 in the procedure above.
10	Follow step 2 in the procedure above.
11	Remove W3, W5, and (W6) and remove four screws #3. Remove ③ (A1: μ 1st CONV + W5 (W6) + AT2 + AT3).
12	Remove W1 from ④ (AT1: P-ATT + plate), and remove two screws #4 and remove ④.
13	Remove two screws #5 and remove ⑤ (Z1: YTF, W4, W5).
14	Remove two screws #6 and remove ⑥ (K1: SW + W1, W2 (W4)).



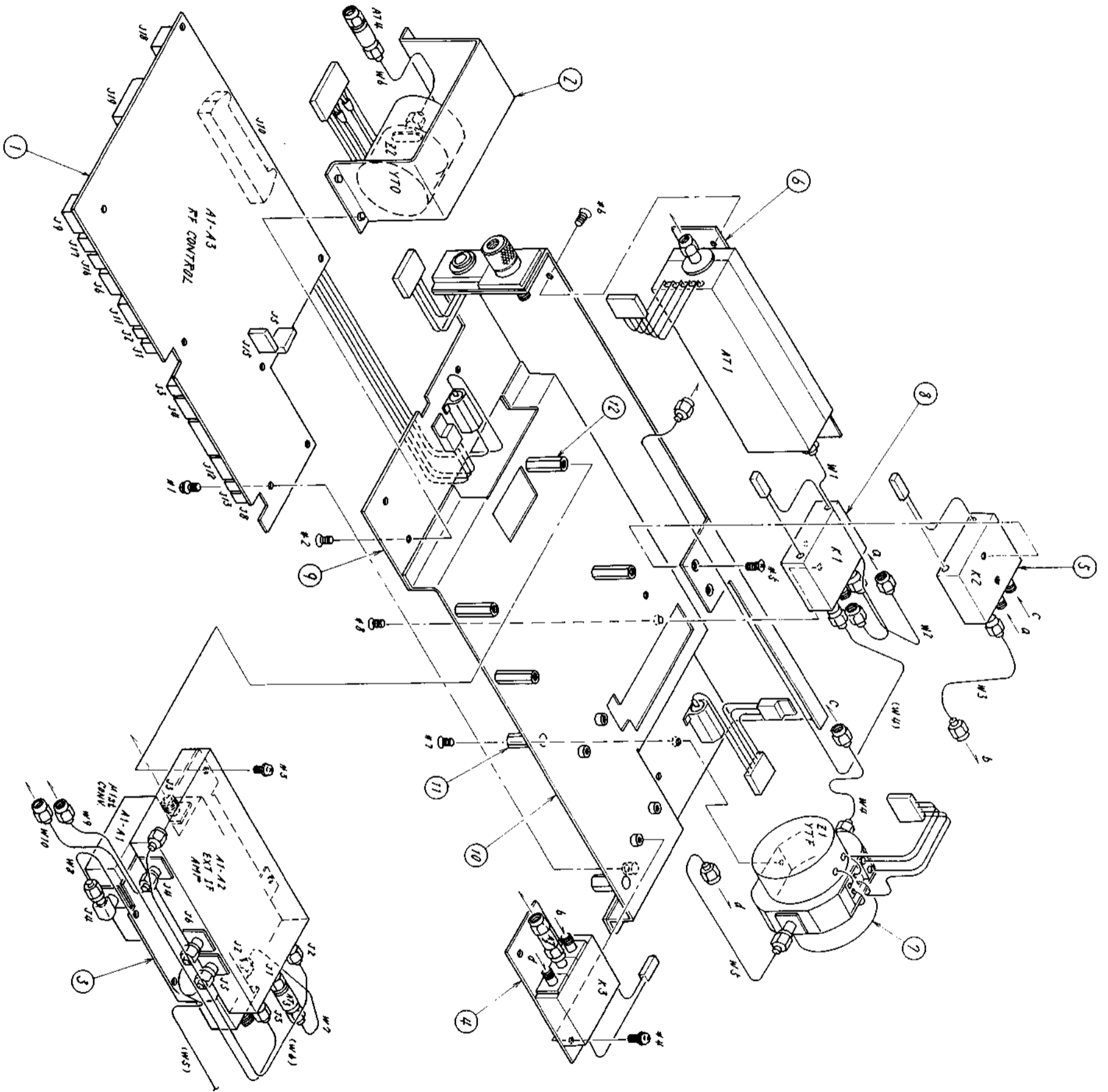


Fig. 5-9 MS2802A
 A1: 32 GHz CONVERTER
 5 - 29/(5 - 30 blank)

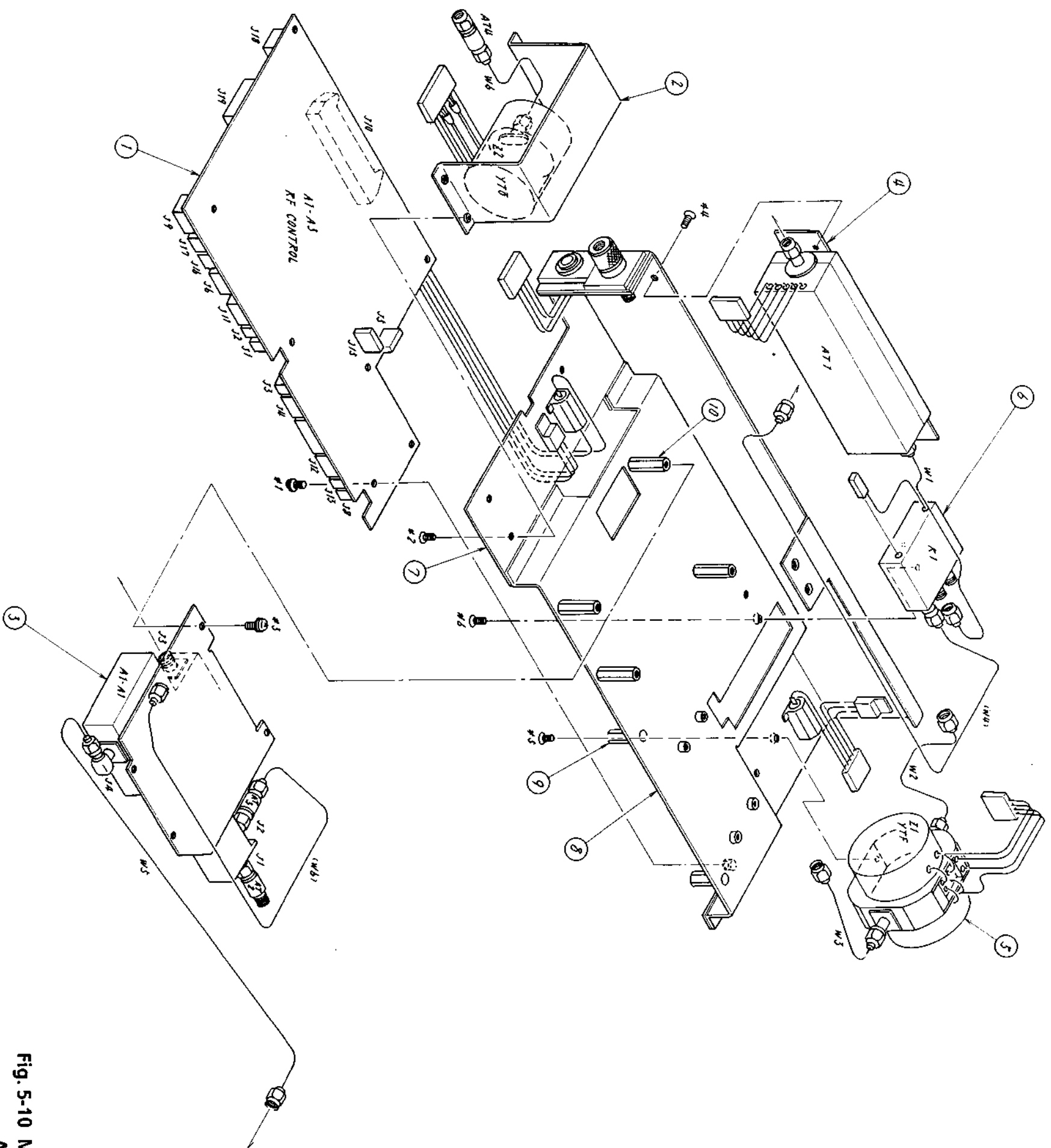


Fig. 5-10 MS2702A
 A1: 24.5 GHz CONVERTER
 5 - 31/(5 - 32 blank)

5.7 Disassembling A2: 2 GHz CONVERTER (Figs. 5-11 and 5-12)

Remove the 38 screws #1 and remove covers ① and ②.

(1) Removing A2-A7: 3rd CONV (Fig. 5-11)

Unsolder each wire and remove the seven screws securing the walls ③, ④, ⑤ and A7, and lift out A7.

(2) Removing A2-A5: 2nd CONV (Fig. 5-11)

Unsolder each wire and remove the eleven screws securing wall ⑥ and A5. Lift A5 up so that it is not blocked by terminal ⑦ (Ⓐ direction) and then remove A5.

(3) Removing A2-A11: 2.5214 GHz BPF (Fig. 5-11)

Remove the stop plate ⑧ and disconnect the semirigid cables W1 and W2 from Z4 (LPF). Remove the ten screws securing A11 and the two screws securing ⑨ (block) and then remove ⑨ and W2 from A11 together.

(4) Removing A2-A9: 625 kHz CAL OSC (Fig. 5-11)

Unsolder each wire and remove the two screws #2, wall ⑩ and the ten screws securing A9 to remove A9.

(5) Disassembling A2-A3, A4, Z2 and Z3 (Fig. 5-12)

Remove the 13 screws #1 and remove ① and ②.

A3: 1st LO AMP

Z2: 2.2 GHz MIXER

Z3: DF

A4: 2.5214 GHz IF AMP

Do not remove these items as the electrical characteristics will be changed.



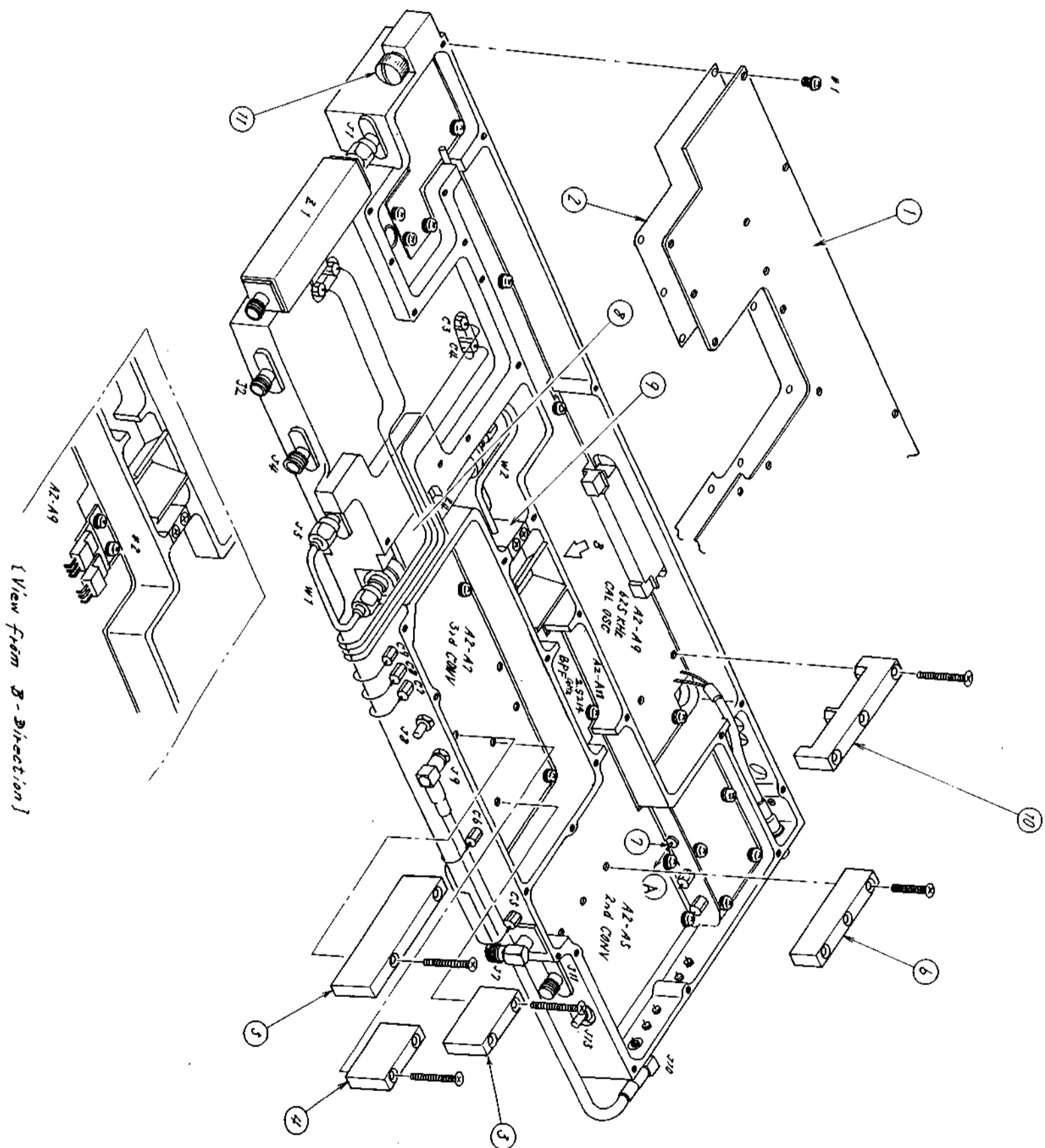


FIG. 5-11 A2:2GHZ COM
(1/2)

5-35/5-36 B

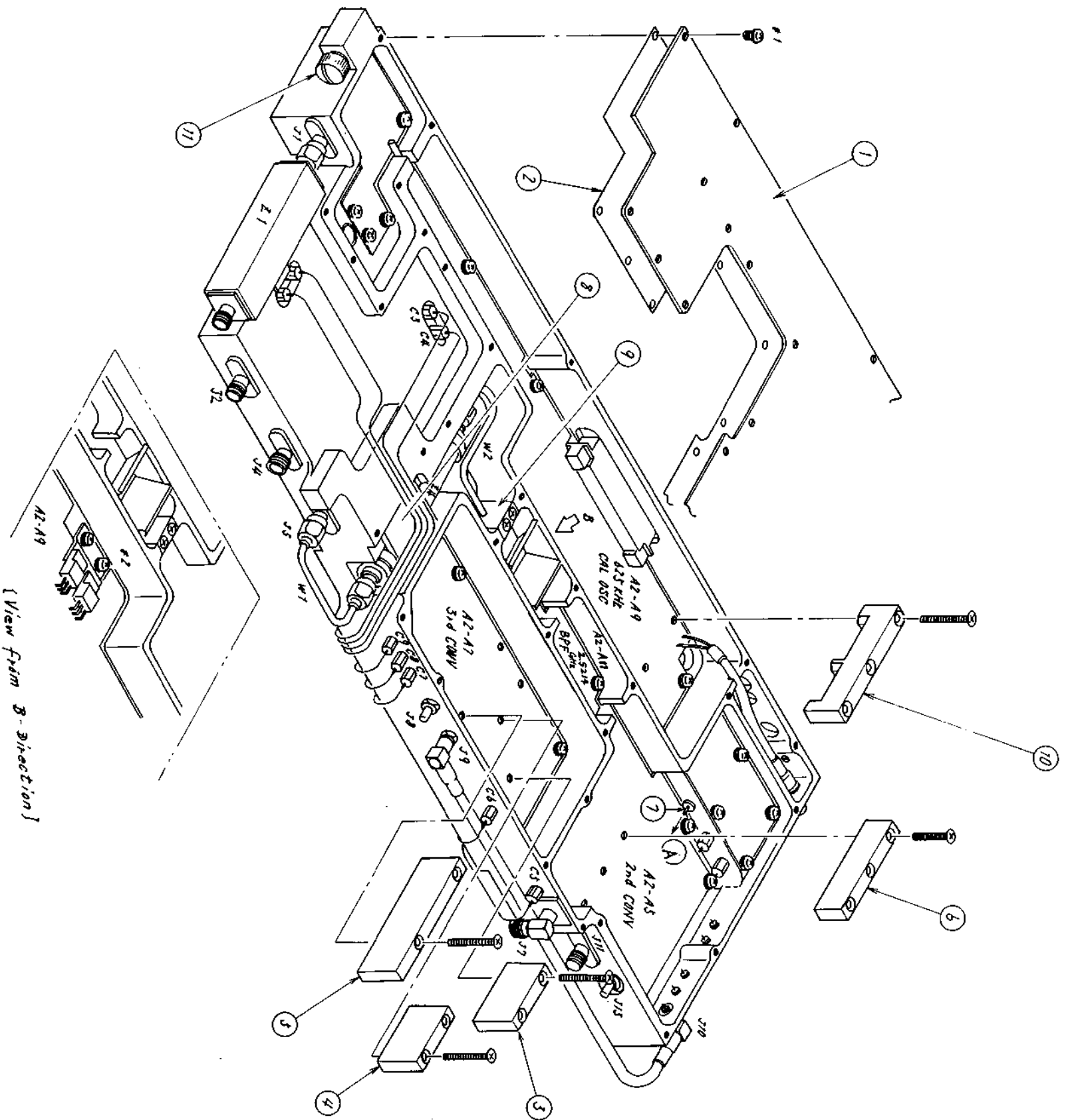


Fig. 5-11 A2: 2GHz CONVERTER
(1/2)

5 - 35/(5 - 36 blank)

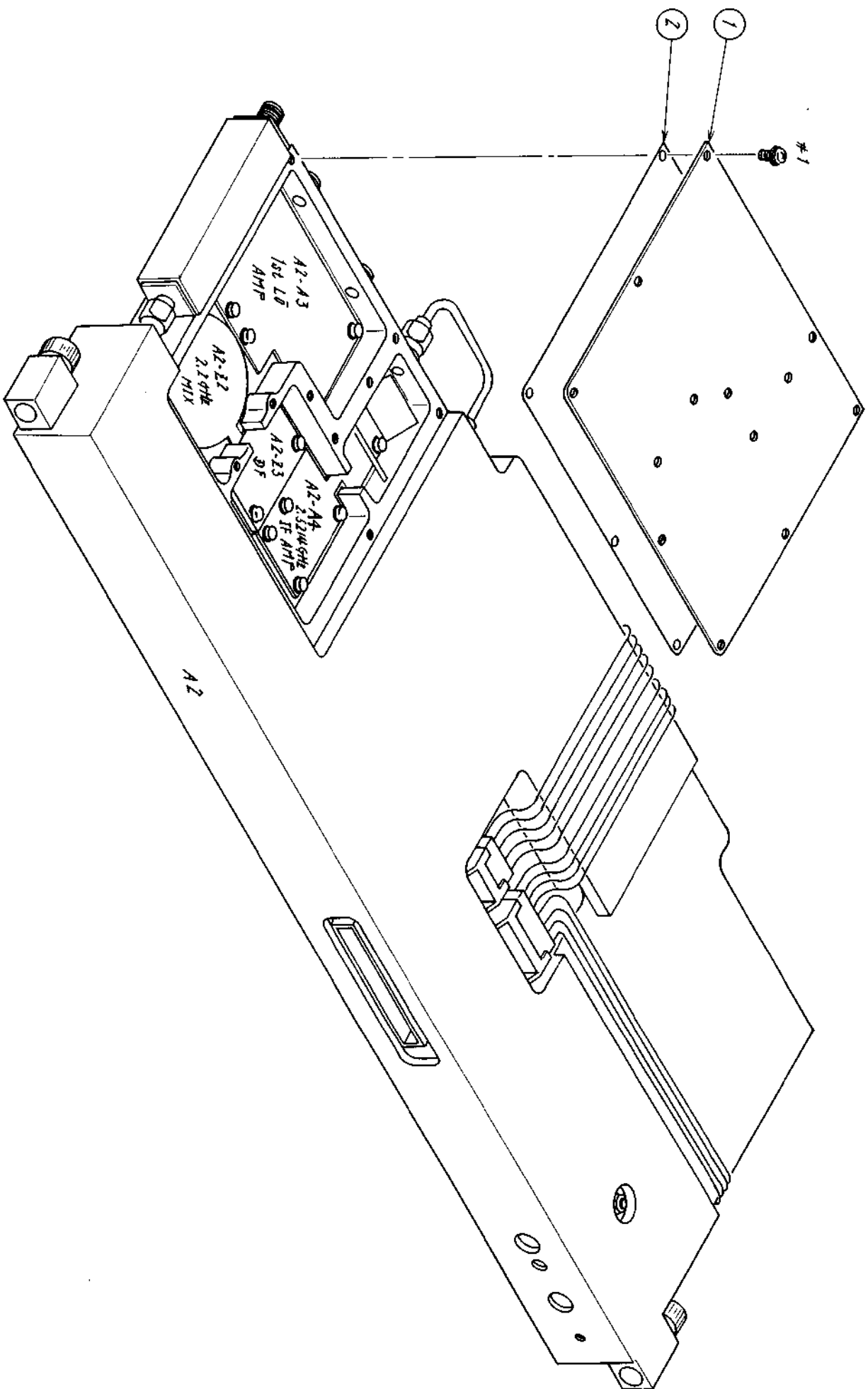


Fig. 5-12 A2: 2 GHz CONVERTER
(2/2)

5 - 37/(5 - 38 blank)



5.8 Disassembling A3: 1st LOCAL UNIT (Figs. 5-13 to 5-16)

(1) A3-A2: LOCAL UNIT (2) (Figs. 5-13 and 5-14)

Remove 32 screws #1 and cover ①.

(a) Removing A3-A2-A6: 1 Hz STEP SYNTH (Fig. 5-13)

Step	Procedure
1	Remove four screws #2 and cover ②.
2	Remove three screws #3 and cover ③.
3	Remove four screws #4 and cover ④.
4	Remove two screws #5 and cover ⑤.
5	Remove seven screws #6 and cover ⑥.
6	Remove three screws #7 and wall ⑦.
7	Remove four screws #8 and cover ⑧.
8	Unsolder each wire.
9	Remove nine screws #9 and connector J1 and remove A3-A2-A6.

(b) Removing A3-A2-A5: 125/300/500 MHz REF (Fig. 5-13)

Step	Procedure
1	Unsolder each wire.
2	Remove eleven screws #10 and remove A3-A2-A5.

(c) Removing A3-A2-A4: 100 MHz REF CONT (Fig. 5-13)

Step	Procedure
1	Unsolder each wire.
2	Remove four screws #11 and remove A3-A2-A4.

(d) Removing A3-A2-A3: 100 MHz REF (Fig. 5-13)

Step	Procedure
1	Unsolder each wire.
2	Remove five screws #12 and remove A3-A2-A3.



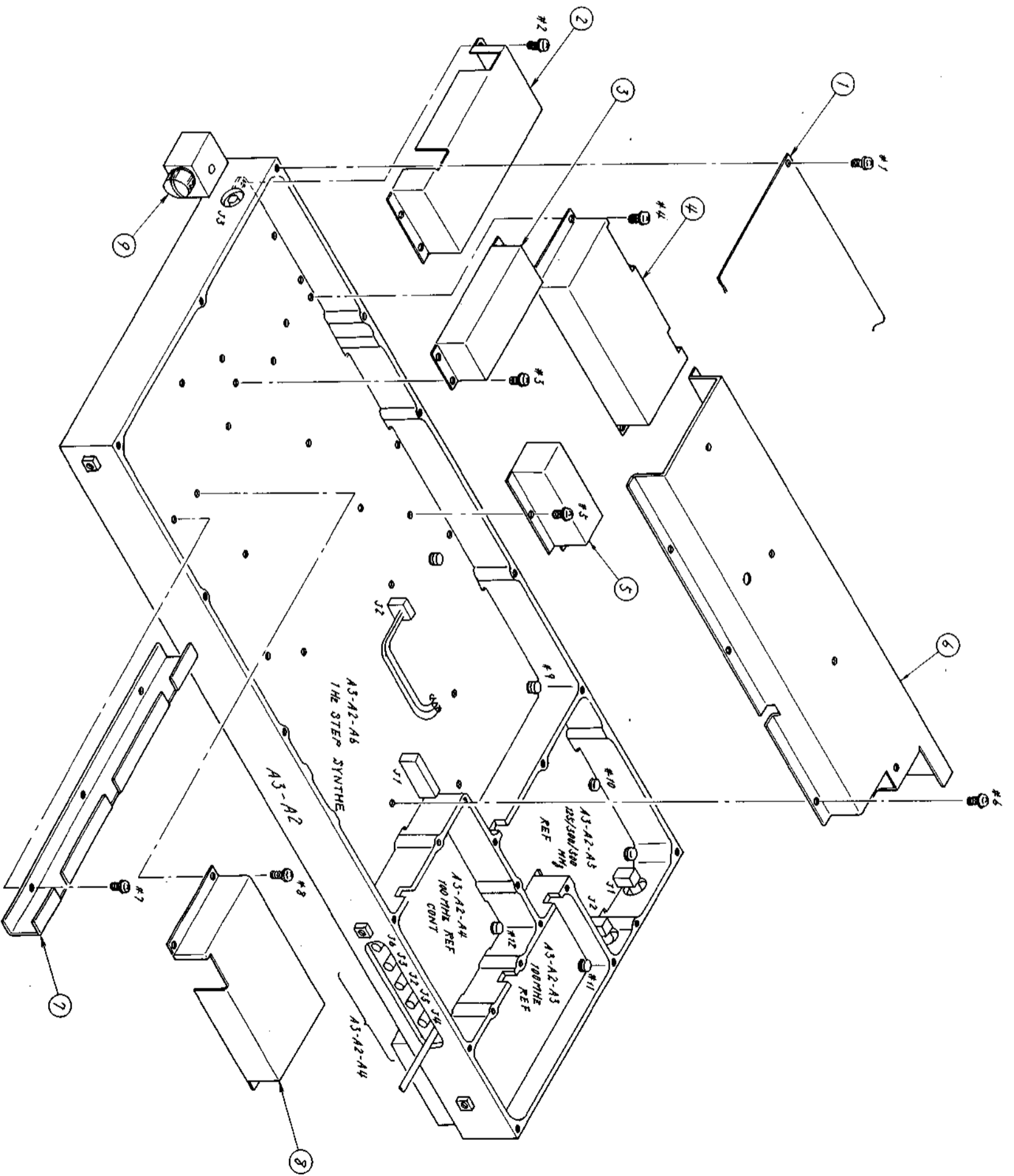


Fig. 5-13 A3: 1st LOCAL UNIT -
 A2: LOCAL UNIT (2)
 (1/2)

5 - 41/(5 - 42 blank)

(e) Removing A3-A2-A1: LOCAL MB2 (Fig. 5-14)

Step	Procedure
1	Unsolder each wire.
2	Remove eleven screws #1 and remove A3-A2-A1.

(f) Removing A3-A2-A2: 100 MHz REF (Fig. 5-14)

Step	Procedure
1	Remove six screws #2 and cover ①.
2	Unsolder each wire.
3	Remove three screws #3 and remove A3-A2-A2.



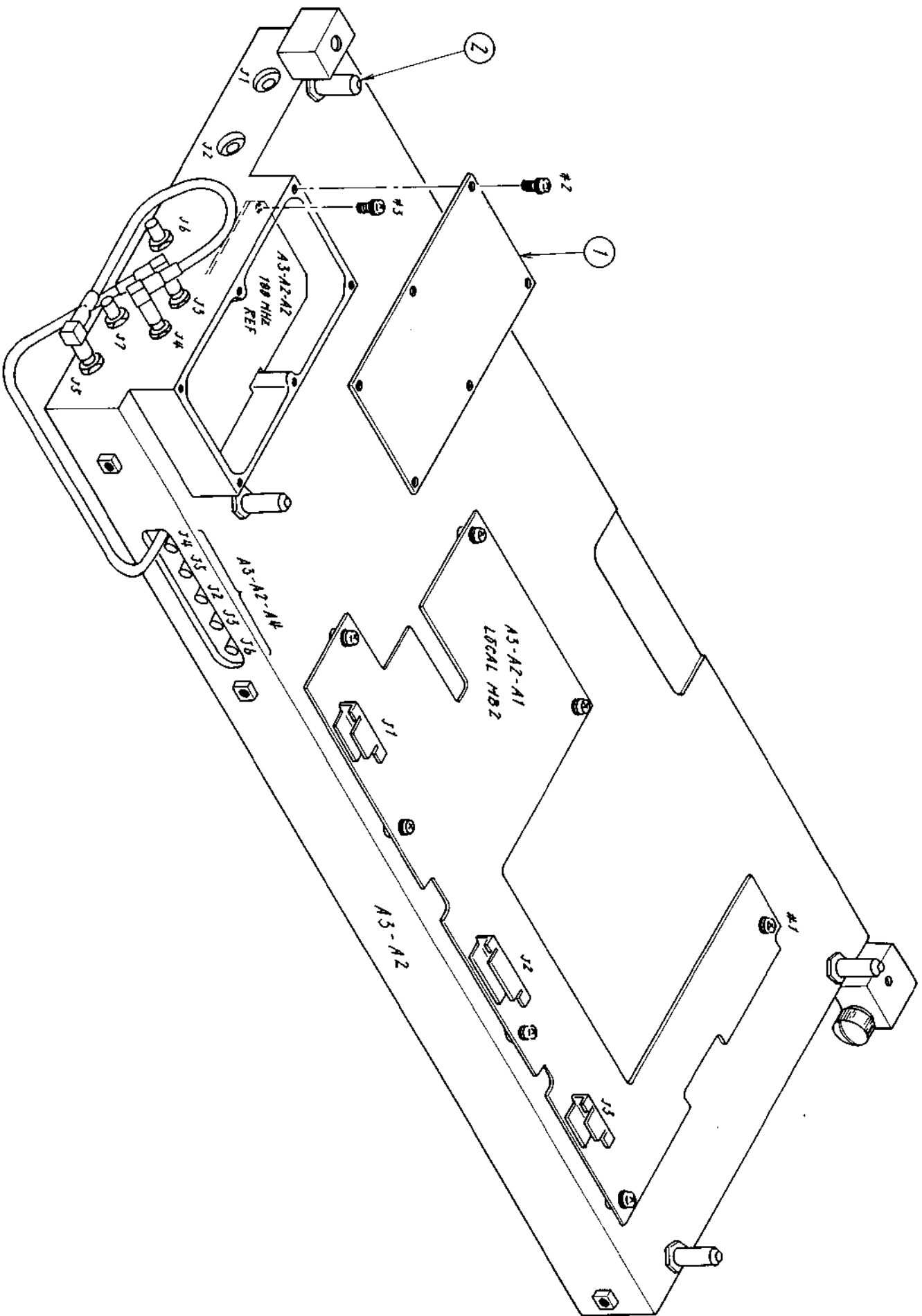


Fig. 5-14 A3: 1st LOCAL UNIT-
 A2: LOCAL UNIT (2)
 (2/2)

5 - 45/(5 - 46 blank)



(2) A3-A1: LOCAL UNIT (1) (Figs. 5-15 and 5-16)

Remove 45 screws #1 and cover ① (Fig. 5-15).

(a) Removing A3-A1-A2: 1 MHz STEP SYNTH (Fig. 5-15)

Step	Procedure
1	Remove four screws #2 and cover ②.
2	Remove three screws #3 and wall ③.
3	Remove three screws #4 and cover ④.
4	Remove seven screws #5 and wall ⑤.
5	Remove six screws #6 and cover ⑥.
6	Unsolder each wire.
7	Remove five screws #7 and connector (J2), and remove A3-A1-A2.

(b) Removing A3-A1-A3: 1/M DIVIDER (Fig. 5-15)

Step	Procedure
1	Remove four screws #8 and cover ⑦.
2	Unsolder each wire.
3	Remove six screws #9 and remove A3-A1-A3.

(c) Removing A3-A1-A4: SAMPL OSC LOOP (Fig. 5-15)

Step	Procedure
1	Remove seven screws #10 and cover ⑧.
2	Remove six screws #11 and cover ⑨.
3	Remove six screws #12 and two walls ⑩.
4	Remove seven screws #13 and cover ⑪.
5	Unsolder each wire.
6	Remove four screws #14 and connector (J9), and remove A3-A1-A4.

(d) Removing A3-A1-A5: YTO PLL CONT (Fig. 5-15)

Step	Procedure
1	Unsolder each wire.
2	Remove six screws #15 and remove A3-A1-A5.

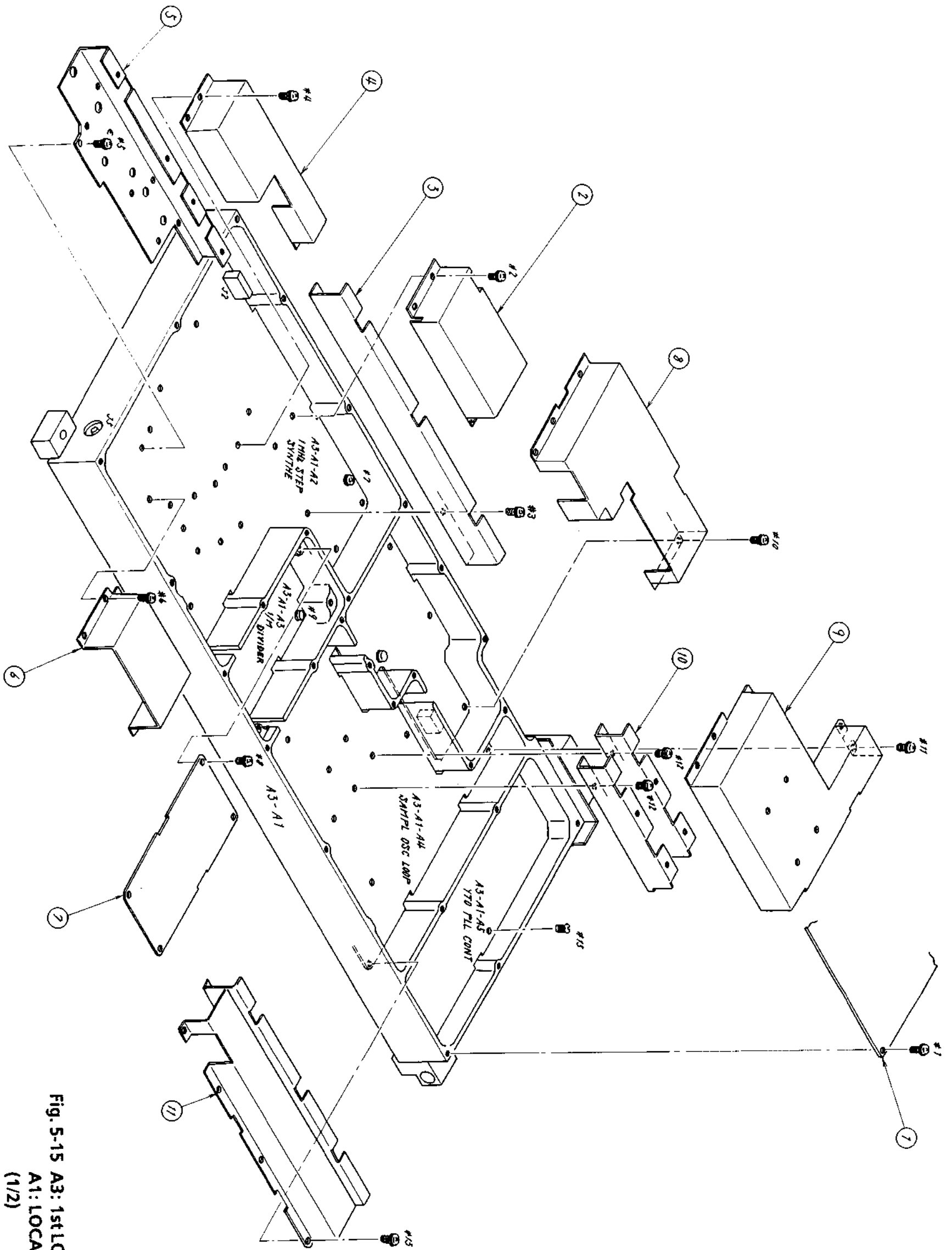


Fig. 5-15 A3: 1st LOCAL UNIT-
A1: LOCAL UNIT (1)
(1/2)

5 - 49/(5 - 50 blank)



(e) Removing A3-A1-A1: LOCAL MB1 (Fig. 5-16)

Step	Procedure
1	Unsolder each wire.
2	Remove thirteen screws #1 and remove A3-A1-A1 (LOCAL MB1).



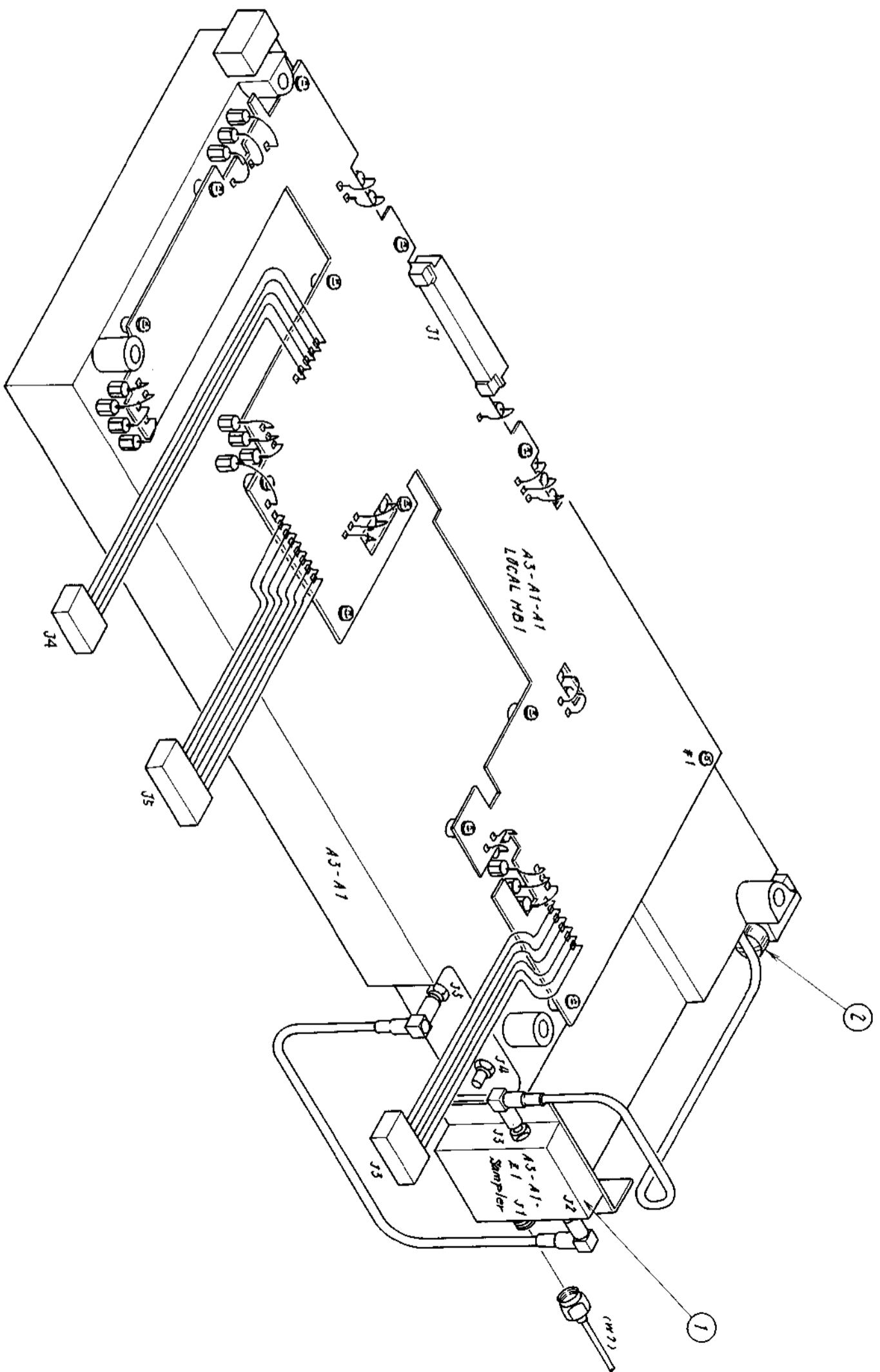


Fig. 5-16 A3: 1st LOCAL UNIT-
 A1: LOCAL UNIT (1)
 (2/2)

5 - 53/(5 - 54 blank)



5.9 Disassembling A4: IF BPF (Fig. 5-17)

Step	Procedure
1	Remove 35 screws #1 and cover ①.
2	Remove sixteen screws #2 and wall ②.
3	Remove six screws #3 and remove A4: IF BPF board.



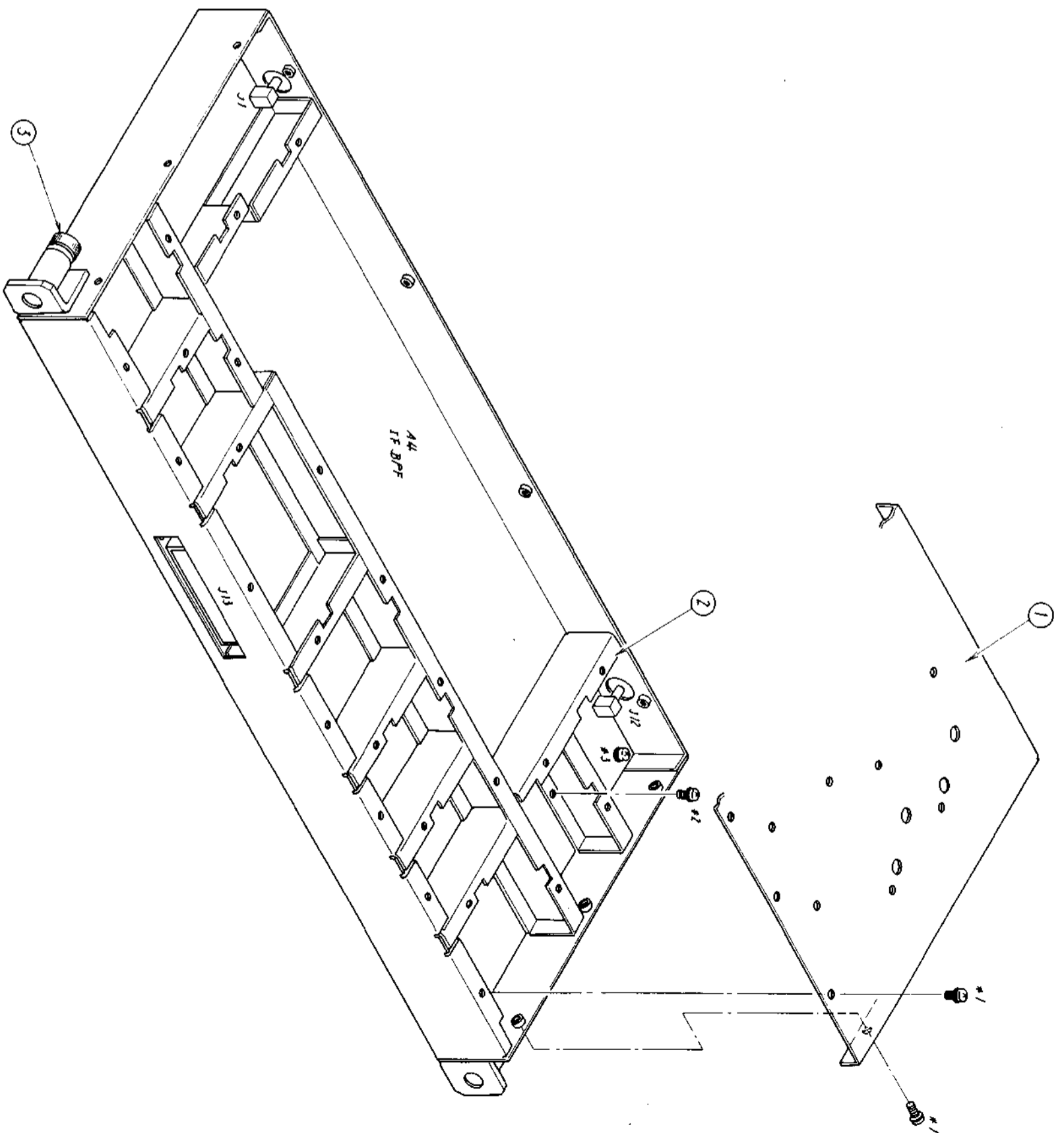


Fig. 5-17 A4: IF BPF

5 - 57/(5 - 58 blank)



5.10 Disassembling A5: SCAN/A6: IF LOG/DET (Figs. 5-18 and 5-19)

(1) Disassembling A6: IF LOG/DET (Fig. 5-18)

Step	Procedure
1	Remove 30 screws #1 and cover ①.
2	Remove ten screws #2 and wall ②.
3	Remove nine screws #3 and wall ③.
4	Remove four screws #4 and two connectors (J8, J9), and remove PC board (A6: IF LOG/DET).



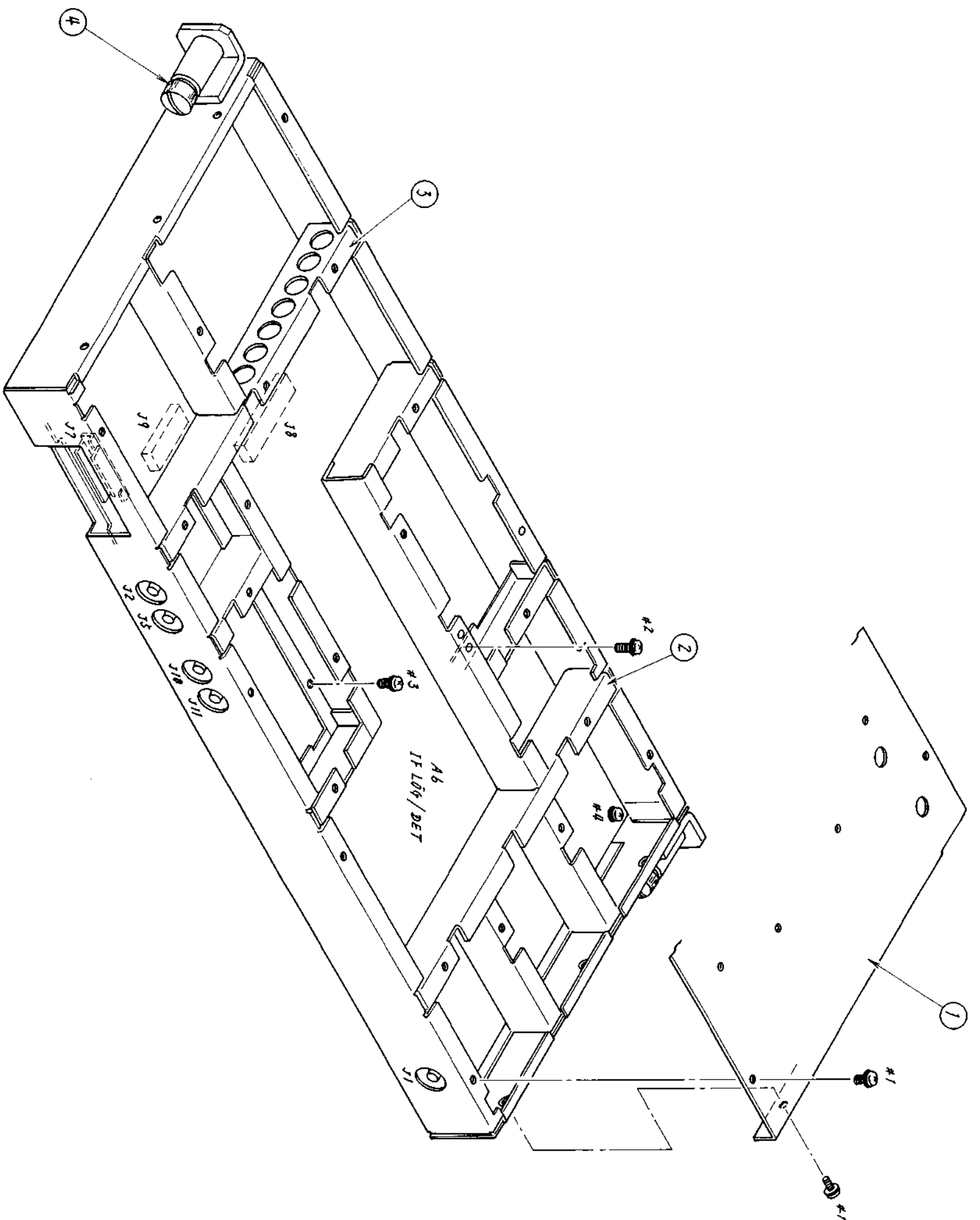


Fig. 5-18 AS&A6: SCAN&IF
LOG/DET Assy (1/2)

5-61(5 - 62 blank)

(2) Disassembling A5: SCAN (Fig. 5-19)

Remove 14 screws #1 and two connectors (J5, J6) and remove PC board (A5: SCAN).



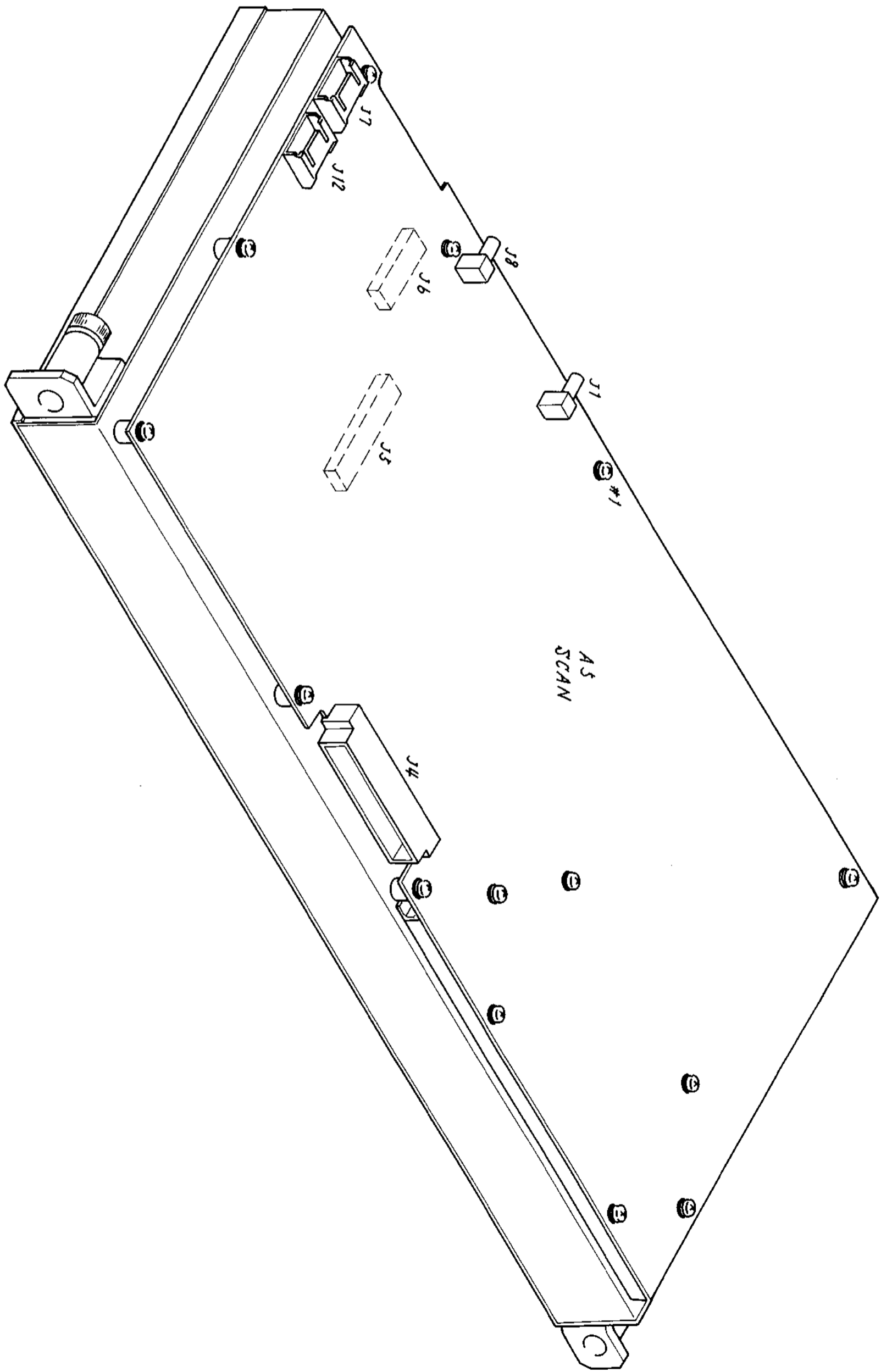


Fig. 5-19 A5&A6: SCAN&IF
 LOG/DET Assy (2/2)

5 - 65/(5 - 66 blank)



5.11 Disassembling A18: LPF & SW UNIT (Fig. 5-20)

Step	Procedure
1	Remove four screws #1 and ① (A18-A2: 10 MHz REF).
2	Remove semirigid-cable ② side J2 and semirigid-cable ③ side Z1. Remove two screws #2 and ④ (A18-A1: ISOLATION AMP).
3	Remove two screws #3 and ⑤ (Block + ATT).
4	Remove two screws #4 and ⑥ (Z1: LPF + angle).
5	Remove semirigid-cable ⑦ side Z2 and two screws each #5 and #6. Remove semirigid-cable ⑧ side ⑨ (S1: SPDT) J7, and remove ⑩ (Block + ATT), ⑪, ⑫, and ⑬ at the same time.
6	Remove two screws #7 and two screws #8, and then remove ⑭ (Z2: LPF + angle) and semirigid cables ⑮, ⑯, and ⑰ (S2: SPDT) at the same time.



Table 5-1 Mechanical Parts List (Fig. 5-1)

No.	Parts No.	Description	Remarks	Qty.
①	32B7662C	Front frame	1mW"4U	1
②	32B7666	Rear channel	4U	2
③	33B20662B	Protector		4
④	34B73668	Float nut		4
⑤	32B7670	Top channel	450D	2
⑥	32B7671	Bottom channel	450D	2
⑦	322B7672	Standard foot		4
⑧	34B73660H	Trim tape	4U	2
⑨	349B73661K	Side handle	450D	2
⑩	33B31456	Top cover		1
⑪	33B31457	Bottom cover		1
⑫	33B29287	Side cover		1
⑬	33B29287B	Side cover		1
⑭	34B73674D	Tilt stand		1

Table 5-2 MS2802A FRONT-PANEL Mechanical Parts List (Fig. 5-2) (1/3)

No.	Parts No.	Description	Remarks	Qty.
①	342E97663	Key top		1
②	342E97663	Key top		1
③	342E97664	Key top		1
④	342E97661	Key top		1
⑤	342E97664	Key top		1
⑥	342E97663	Key top		1
⑦	342E97663	Key top		1
⑧	342E97665(B)	Key top		1
⑨	342E97662(B)	Key top		1
⑩	342E97662(B)	Key top		1
⑪	342E97665(B)	Key top		1
⑫	342E97667(B)	Key top		1
⑬	342E97666	Key top		1
⑭	342E97666	Key top		1
⑮	342E97666	Key top		1
⑯	342E97667(B)	Key top		1
⑰	342E97666	Key top		1

Table 5-2 MS2802A FRONT-PANEL Mechanical Parts List (Fig. 5-2) (2/3)

No.	Parts No.	Description	Remarks	Qty.
18	342E97666	Key top		1
19	342E97666	Key top		1
20	342E97666	Key top		1
21	342E97666	Key top		1
22	342E97666	Key top		1
23	342E97666	Key top		1
24	342E91905(D)	Key top		1
25	34E91904(B)	Key top		7
26	342E97666	Key top		1
27	342E97666	Key top		1
28	342E97666	Key top		1
29	342E97666	Key top		1
30	342E97667	Key top		1
31	342E97667	Key top		1
32	34E91904	Key top		1
33	342E97666	Key top		1
34	342E97666	Key top		1
35	34E91910(C)	Key top		1

Table 5-2 MS2802A FRONT-PANEL Mechanical Parts List (Fig. 5-2) (3/3)

No.	Parts No.	Description	Remarks	Qty.
36	342E91905	Key top		5
37	342E97668(F)	Key top		1
38	34E91910	Key top		2
39	342E97662(B)	Key top		1
40	342E91911	Key top		2
41	34J99433	Terminator (SMA)		1

Table 5-3 MS2702A FRONT-PANEL Mechanical Parts List (Fig. 5-3) (1/3)

No.	Parts No.	Description	Remarks	Qty.
①	342E97663	Key top		1
②	342E97663	Key top		1
③	342E97664	Key top		1
④	342E97661	Key top		1
⑤	342E97664	Key top		1
⑥	342E97663	Key top		1
⑦	342E97663	Key top		1
⑧	342E97665(B)	Key top		1
⑨	342E97662(B)	Key top		1
⑩	342E97662(B)	Key top		1
⑪	342E97665(B)	Key top		1
⑫	342E97667(B)	Key top		1
⑬	342E97666	Key top		1
⑭	342E97666	Key top		1
⑮	342E97666	Key top		1
⑯	342E97667(B)	Key top		1
⑰	342E97666	Key top		1

Table 5-3 MS2702A FRONT-PANEL Mechanical Parts List (Fig. 5-3) (2/3)

No.	Parts No.	Description	Remarks	Qty.
18	342E97666	Key top		1
19	342E97666	Key top		1
20	342E97666	Key top		1
21	342E97666	Key top		1
22	342E97666	Key top		1
23	342E97666	Key top		1
24	342E91905(D)	Key top		1
25	34E91904(B)	Key top		7
26	342E97666	Key top		1
27	342E97666	Key top		1
28	342E97666	Key top		1
29	342E97666	Key top		1
30	342E97667	Key top		1
31	342E97667	Key top		1
32	34E91904	Key top		1
33	342E97666	Key top		1
34	342E97666	Key top		1
35	34E91910(C)	Key top		1

Table 5-3 MS2702A FRONT-PANEL Mechanical Parts List (Fig. 5-3) (3/3)

No.	Parts No.	Description	Remarks	Qty.
③⑥	342E91905	Key top		5
③⑦	342E97668(F)	Key top		1
③⑧	34E91910	Key top		2
③⑨	342E97662(B)	Key top		1
④⑩	342E91911	Key top		2

Table 5-4 Mechanical Parts List (Fig. 5-4)

No.	Parts No.	Description	Remarks	Qty.
①	322B11324	Decorative panel		1
②	322B11286	Front panel		1
⑤	33E31459	Bezel		1
⑥	332E32175	Bezel		1
⑧	34H9028(B)	Clamp		6
⑨	342E73700	Knob		1
⑩	342E73701	Knob		
#1	34B91852 (B)	Screw		4
#2	4NPS12S7 + SW	Screw		4
#3	3NPS6B3 + SW	Screw		2

Table 5-5 Mechanical Parts List (Fig. 5-5)

No.	Parts No.	Description	Remarks	Qty.
③	342B97242	Moutning plate		1
#1	3NPS8B3 + SW	Screw		3
#2	3NPS14B3 + SW	Screw		2
#3	3NPS8B3 + SW	Screw		3
#4	3NPS14B3 + SW	Screw		5

Table 5-6 Mechanical Parts List (Fig. 5-6) (1/2)

No.	Parts No.	Description	Remarks	Qty.
⑦	34B98040	Angle		1
⑧	34B98039	Angle		1
⑨	34B96789	Plate		1
⑩	342B97648	Plate		1
⑪	342B98038	Angle		1
⑫	342B97646	Plate		1
⑬	342B97647	Plate		1
⑭	342B98037	Plate		1
#1	3NPS8B3 + SW	Screw		2
#2	3NPS8B3 + SW	Screw		2
#3	ES2B36	Screw		2
#4	3NPS8B3 + SW	Screw		2
#5	3FPS6B3 + SW	Screw		1
#6	3NPS8B3 + SW	Screw		2
#7	3FPS8B3 + SW	Screw		2
#8	3NPS8B3 + SW	Screw		1

Table 5-6 Mechanical Parts List (Fig. 5-6) (2/2)

No.	Parts No.	Description	Remarks	Qty.
#9	3NPS8B3 + SW	Screw		8
#10	ES2B36	Screw		2
#11	3NPS8B3 + SW	Screw		2
#12	3FPS8B3 + SW	Screw		2
#13	3NPS8B3 + SW	Screw		2
#14	3FPS6B3 + SW	Screw		2
#15	ES2B36	Screw		2
#16	ES2B36	Screw		2

Table 5-7 Mechanical Parts List (Fig. 5-7)

No.	Parts No.	Description	Remarks	Qty.
#1	3NPS8B3+SW	Screw		2
#2	3NPS8B3+SW	Screw		2
#3	3NPS8B3+SW	Screw		2
#4	3NPS8B3+SW	Screw		2
#5	3NPS8B3+SW	Screw		2

Table 5-8 Mechanical Parts List (Fig. 5-8)

No.	Parts No.	Description	Remarks	Qty.
①	323B11325	Rear panel 1		1
②	333B31458	Rear panel 2		1
#1	4NPS12S7 + SW	Screw		4
#2	3NPS8B3 + SW	Screw		3
#3	3NPS8B3 + SW	Screw		2
#4	3NSP8B3 + SW	Screw		8
#5	4NPS8B3 + SW	Screw		2
#6	4NPS8B3 + SW	Screw		4
#7	3FPS6B3 + SW	Screw		7

Table 5-9 Mechanical Parts List (Fig. 5-9) (1/3)

No.	Parts No.	Description	Remarks	Qty.
②	439H36891(B)	YTO	A1 Z2	1
②	34J99064	Cable	A1 W6	1
②	No.1305	AT-102	A1 AT4	1
②	342B96855	Angle		1
③	329H112B1	μ 1st CONVERTER	A1 A1	1
③	329H11280	EXT IF AMP	A1 A2	1
③	34J99055	Cable	A1 W7	1
③	34J99403	Cable	A1 W8	1
③	34J99053	Cable	A1 W9	1
③	34J99052	Cable	A1 W10	1
③	No.1305	AT-103	A1 AT3	1
③	34J99063	Cable	(W5)	1
③	34J99060	Cable	(W6)	1
④	329H11381	Switch	A1 K3	1
④	339H31270	ATT	A1 AT2	1
④	34B97715	Plate		1

Table 5-9 Mechanical Parts List (Fig. 5-9) (2/3)

No.	Parts No.	Description	Remarks	Qty.
⑤	329H11381	Switch	A1 K2	1
⑤	343J98639	Cable	A2 W3	1
⑥	429H14393(D)	P-ATT	AT AT1	1
⑥	34B97714	Plate		1
⑥	343J98638	Cable	A1 W1	1
⑦	429H10413(E)	YTF	A1 Z1	1
⑦	343J98640	Cable	A1 W5	1
⑦	343J98637	Cable	A1 W4	1
⑧	329H11381	Switch	A1 K1	1
⑧	343J98641	Cable	A1 W2	1
⑧	34J99059	Cable	(W4)	1
⑨	322B11220	Chassis 1		1
⑩	322B11221	Chassis 2		1
⑪	34H39505	Support	ℓ = 16, M3	2

Table 5-9 Mechanical Parts List (Fig. 5-9) (3/3)

No.	Parts No.	Description	Remarks	Qty.
⑫	33B4242	Support	ℓ = 21.2, M2.6	4
#1	2.6NPS6B3 + SW	Screw		8
#2	3FPS6B3	Screw		4
#3	2.6NPS6B3 + SW	Screw		4
#4	2.6NPS6B3 + SW + WB	Screw		4
#5	2.6FPS3B3	Screw		2
#6	3FPS4B3	Screw		4
#7	3FPS4B3	Screw		4
#8	2.6FPS3B3	Screw		2

Table 5-10 Mechanical Parts List (Fig. 5-10) (1/2)

No.	Parts No.	Description	Remarks	Qty.
②	439H36891(B)	YTO	A1 Z2	1
②	34J99064	Cable	A1 W6	1
②	No.1305	AT-102	A1 AT4	1
②	342B96855	Angle		1
③	329H11281	μ 1st CONVERTER	A1 A1	1
③	339H31270	ATT	A1 AT2	1
③	34J100039	Cable	(W5)	1
③	34J100040	Cable	(W6)	1
③	No. 1305	AT-103	A1 AT3	1
④	429H14393(D)	P-ATT	A1 AT1	1
④	34B97714	Plate		1
④	342J100041	Cable	A1 W1	1
⑤	429H10413(E)	YTF	A1 Z1	1
⑤	342J100043	Cable	A1 W3	1
⑤	342J100042	Cable	A1 W2	1

Table 5-10 Mechanical Parts List (Fig. 5-10) (2/2)

No.	Parts No.	Description	Remarks	Qty.
⑥	329H11381	Switch	A1 K1	1
⑥	34J99059	Cable	(W4)	1
⑦	322B11220	Chassis 1		1
⑧	322B11221	Chassis 2		1
⑨	34H39505	Support	ℓ=16, M3	2
⑩	33B4242	Support	ℓ=21.2, M2.6	4
#1	2.6NPS6B3 + SW	Screw		8
#2	3FPS6B3	Screw		4
#3	2.6NPS6B3 + SW	Screw		4
#4	3FPS4B3	Screw		4
#5	3FPS4B3	Screw		4
#6	2.6FPS3B3	Screw		2

Table 5-11 Mechanical Parts List (Fig. 5-11)

No.	Parts No.	Description	Remarks	Qty.
①	32B11233	Cover 1		1
②	32B11233(B)	Cover 2		1
③	34H98042	Wall (1)		1
④	34H98043	Wall (2)		1
⑤	34H98044	Wall (3)		1
⑥	34H98046	Wall (5)		1
⑧	34B96988	Stop plate		1
⑩	34H98045	Wall (4)		1
⑪	ES2B36	Screw		2
#1	2.6NPS6B3 + SW	Screw		38
#2	3NPS6B3 + SW	Screw		2

Table 5-12 Mechanical Parts List (Fig. 5-12)

No.	Parts No.	Description	Remarks	Qty.
①	34B96983	Cover 1	Thickness = 1.6 mm	1
②	34B96983(B)	Cover 2	Thickness = 0.3 mm	1
#1	2.6NPS6B3 + SW	Screw		13

Table 5-13 Mechanical Parts List (Fig. 5-13) (1/2)

No.	Parts No.	Description	Remarks	Qty.
①	32B11209	Cover		1
②	34B96778	Cover		1
③	34B96779	Cover		1
④	34B96780	Cover		1
⑤	34B96781	Cover		1
⑥	332B31866	Cover		1
⑦	342B96783	Wall		1
⑧	34B96782	Cover		1
⑨	ES2B36	Screw		2
#1	2.6NPS6B3 + SW	Screw		32
#2	2.6NPS6B3 + SW	Screw		4
#3	2.6NPS6B3 + SW	Screw		3
#4	2.6NPS6B3 + SW	Screw		4
#5	2.6NPS6B3 + SW	Screw		2
#6	2.6NPS6B3 + SW	Screw		7
#7	2.6NPS6B3 + SW	Screw		3

Table 5-13 Mechanical Parts List (Fig. 5-13) (2/2)

No.	Parts No.	Description	Remarks	Qty.
#8	2.6NPS6B3+SW	Screw		4
#9	2.6NPS6B3+SW	Screw		9
#10	2.6NPS6B3+SW	Screw		11
#11	2.6NPS6B3+SW	Screw		4
#12	2.6NPS6B3+SW	Screw		5

Table 5-14 Mechanical Parts List (Fig. 5-14)

No.	Parts No.	Description	Remarks	Qty.
①	34B96756	Cover		1
②	34H96791	Support		4
#1	2.6NPS6B3 + SW	Screw		11
#2	2.6NPS6B3 + SW	Screw		6
#3	2.6NPS6B3 + SW	Screw		3

Table 5-15 Mechanical Parts List (Fig. 5-15) (1/2)

No.	Parts No.	Description	Remarks	Qty.
①	32B11217	Cover		1
②	34B96979	Cover		1
③	342B96784	Wall		1
④	34B96978	Cover		1
⑤	342B96785	Wall		1
⑥	34B96975	Cover		1
⑦	34B96954	Cover		1
⑧	33B31372	Cover		1
⑨	34B96980	Cover		1
⑩	342B96982	Wall		2
⑪	343B97149	Cover		1
#1	2.6NPS6B3 + SW	Screw		45
#2	2.6NPS6B3 + SW	Screw		4
#3	2.6NPS6B3 + SW	Screw		3
#4	2.6NPS6B3 + SW	Screw		3
#5	2.6NPS6B3 + SW	Screw		7

Table 5-15 Mechanical Parts List (Fig. 5-15) (2/2)

No.	Parts No.	Description	Remarks	Qty.
#6	2.6NPS6B3 + SW	Screw		6
#7	2.6NPS6B3 + SW	Screw		5
#8	2.6NPS6B3 + SW	Screw		4
#9	2.6NPS6B3 + SW	Screw		6
#10	2.6NPS6B3 + SW	Screw		7
#11	2.6NPS6B3 + SW	Screw		6
#12	2.6NPS6B3 + SW	Screw		6
#13	2.6NPS6B3 + SW	Screw		7
#14	2.6NPS6B3 + SW	Screw		4

Table 5-16 Mechanical Parts List (Fig. 5-16)

No.	Parts No.	Description	Remarks	Qty.
①	439H36908(D)	Sampler	A3-A1-Z1	1
②	ES2B36	Screw		2
#1	2.6NPS6B3 + SW	Screw		13

Table 5-17 Mechanical Parts List (Fig. 5-17)

No.	Parts No.	Description	Remarks	Qty.
①	33B31364	Cover		1
②	333B31362	Wall		1
③	ES2B36	Screw		
#1	2.6NPS6B3 + SW	Screw		35
#2	2.6NPS6B3 + SW	Screw		16
#3	2.6NPS6B3 + SW	Screw		6

Table 5-18 Mechanical Parts List (Fig. 5-18)

No.	Parts No.	Description	Remarks	Qty.
①	33B31417	Cover		1
②	333B31415	Wall assembly (1)		1
③	333B31416	Wall assembly (2)		1
#1	2.6NPS6B3 + SW	Screw		30
#2	2.6NPS6B3 + SW	Screw		10
#3	2.6NPS6B3 + SW	Screw		9
#3	2.6NPS6B3 + SW	Screw		4

Table 5-19 Mechanical Parts List (Fig. 5-19)

No.	Parts No.	Description	Remarks	Qty.
#1	2.6NPS6B3 + SW	Screw		14

Table 5-20 Mechanical Parts List (Fig. 5-20) (1/2)

No.	Parts No.	Description	Remarks	Qty.
②	34J99051	Cable	A18-W1	1
③	34J99048	Cable	A18-W2	1
⑤	34H96842	Block		1
⑤	439H32078(G)	ATT	A18-AT1: 10 dB	1
⑥	439H38093(E)	LPP	A18-Z1	1
⑥	34B96857	Angle		2
⑦	34J99047	Cable	A18-W4	1
⑧	34J99050	Cable	A18-W5	1
⑨	429H14682(B)	SPDT	A18-S2	1
⑩	34H96842	Block		1
⑩	439H32078(J)	ATT	A18-AT2: 20 dB	1
⑪	34J99049	Cable	A18-W6	1
⑫	439H38093(G)	LPP	A18-Z2	1
⑫	34B96857	Angle		2
⑬	34J99046	Cable	A18-W3	1
⑭	429H14682(B)	SPDT	A18-S1	1

Table 5-20 Mechanical Parts List (Fig. 5-20) (2/2)

No.	Parts No.	Description	Remarks	Qty.
#1	3NPS6B3 + SW	Screw		4
#2	2.6NPS6B3 + SW	Screw		2
#3	2.6NPS6B3 + SW	Screw		2
#4	3NPS6B3 + SW + WBS	Screw		2
#5	2.6NPS6B3 + SW	Screw		2
#6	2NPS6B3 + SW	Screw		2
#7	3NPS6B3 + SW	Screw		2
#8	2NPS6B3 + SW	Screw		2



SECTION 6 REPLACEMENT PARTS

6.1 Introduction

This section contains information relative to ordering replacement parts. The following tables shows circuit reference (hereinafter CKT REF) and abbreviations used for parts given in the Parts List.

In the Parts List, the quantity of each part is one if no quantitative description is given in the "NOTE" column.

6.2 Ordering Information

When ordering parts, please give the following descriptions by referring to the Parts List.

Item	Example
(1) Name of instrument	Spectrum Analyzer MS2802A
(2) Name of parts list	Parts of MS2802A OVERALL CIRCUIT
(3) CKT REF	Z 1
(4) Name of part	7-inch mono-chromatic CRT Note: Parts name is given in parentheses () in the Parts List. Parts with asterisk* are those that require factory adjustment upon repairing. When ordering a part or parts with asterisk, give full description of the part.
(5) Quantity	1
(6) Serial No. of instrument	Serial No. M31257

When ordering PC boards with parts mounted, please include the A-number under item (2) above instead of items (3) and (4). (See Table 3-4 for PC board number.)

(1) Abbreviations for circuit components

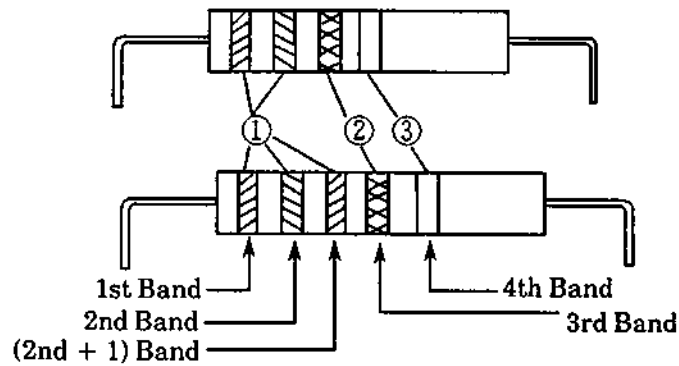
A	Assembly	J	Jack, plug, connector	P	Lamp	T	Transformer
AT	Attenuator	K	Relay	Q	Transistor, diode, IC, rectifier	V	Neon lamp, vacuum tube
C	Capacitor	L	Coil, microinductor	R	Resistor	X	Crystal OSC
F	Fuse	M	Meter, timer	S	Switch	Z	Unit

(2) Abbreviations

AC	alternating current	LCD	liquid crystal display
A/D	analog-to-digital	LED	light-emitting diode
ADJ	adjuster	LF	low frequency
AL	aluminum	LPF	low-pass filter
BEF	band-elimination filter	LSI	large scale integrated circuit
BIDIR	bidirectional	MDL	module
BPF	band-pass filter	NI-CD	Nickel Cadmium
CAP	capacitor	OPNL	operational
CER	ceramic	OSC	oscillator
CMOS	complementary metal oxide semiconductor	PDIO	photo-diode
CONST	constant	PROM	programmable read only memory
D/A	digital-to-analog	PSU	power supply unit
DC	direct current	PUJT	programmable unijunction transistor
DIP	dual in-line package	RAM	random access memory
DIR	directional	REAC	reactance
DRAM	dynamic random access memory	RECT	rectangular
EEPROM	electrically erasable programmable read only memory	RES	resistor
ELECTLT	electrolytic	RF	radio frequency
EPROM	erasable programmable read only memory	SRAM	static random access memory
FET	field-effect transistor	TA	tantalum
F/V	frequency-to-voltage	VAR	variable
GEN	generator	VARICAP	variable capacitor
HPF	high-pass filter	VCO	voltage controlled oscillator
IC	integrated circuit	YIG	Yttrium Iron Garnet
IF	intermediate frequency		

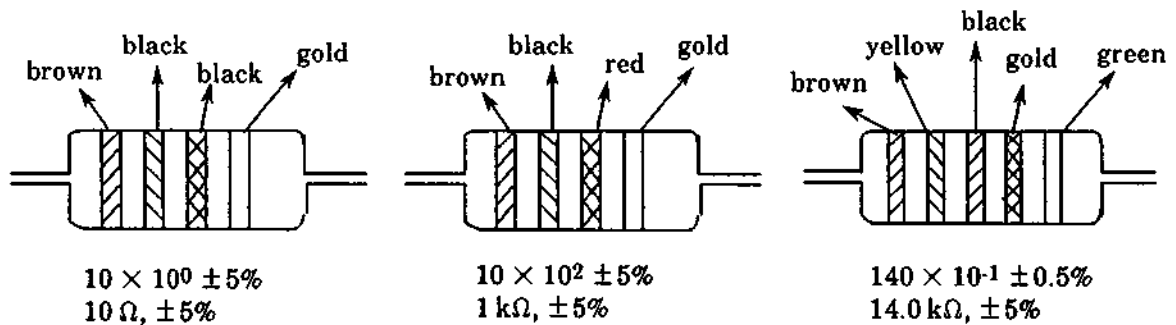
6.3 Reading Capacitance and Resistance

(1) Reading resistance

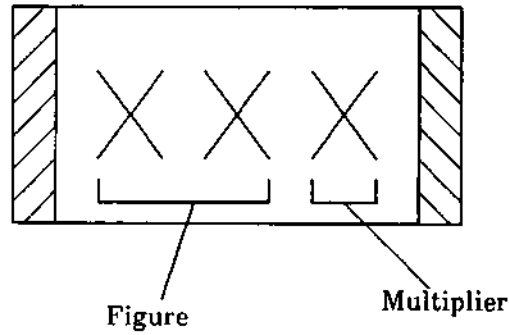


COLOR	① Figure		② Multiplier	③ Tolerance
	1st	2nd	3rd	4th
Black	0	0	$\times 10^0$	-
Brown	1	1	$\times 10^1$	-
Red	2	2	$\times 10^2$	-
Orange	3	3	$\times 10^3$	-
Yellow	4	4	$\times 10^4$	-
Green	5	5	$\times 10^5$	$\pm 0.5\%$
Blue	6	6	$\times 10^6$	-
Purple	7	7	$\times 10^7$	-
Gray	8	8	$\times 10^8$	-
White	9	9	$\times 10^0$	-
Gold	-	-	$\times 10^{-1}$	$\pm 5\%$
Silver	-	-	$\times 10^{-2}$	$\pm 10\%$
-----	-	-		$\pm 20\%$

For Example:



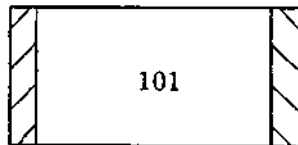
(2) Reading chip resistance



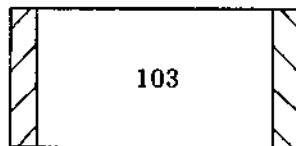
The first two digits represent decimal values while the last numeric character indicates the number of zeros following these two characters.

A decimal point is represented by the character R. When the R representation is used, all numeric characters represent significant digits.

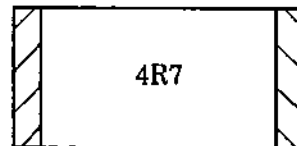
For Example:



100 Ω



10 k Ω



4.7 Ω

(3) Reading capacitance

CAPACITANCE
MULTIPLIER

EXAMPLES: 103 = 10,000 pF = 10^{-8} F or 0.01 μ F
 302 = 3,000 pF = 3×10^{-9} F or 0.03 μ F
 676 = 67,000,000 pF = 67×10^{-6} F or 67 μ F

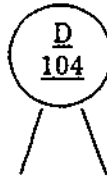
(a) Ceramic and polyester capacitors

Indication	0.5	1	10	101	102	103	104
Capacity	0.5 pF	1 pF	10 pF	100 pF	1000 pF	0.01 μ F	0.1 μ F

Example:

Ceramic Capacitor

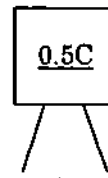
1000 pF



4700 pF



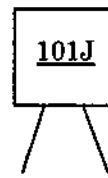
0.5 pF



10 pF



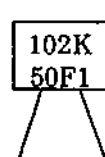
100pF



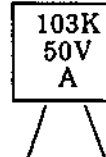
Capacity values are always underlined.

Polyester Capacitor

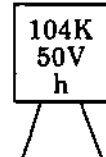
1000 pF



0.01 μ F



0.1 μ F

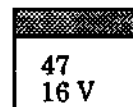


(b) Tantalum, metallized, and electrolytic capacitors

Indication	OR47	010	100	101
Capacity	0.47 μ F	1 μ F	10 μ F	100 μ F

(c) Chip tantalum capacitance

Indication	0.47	4.7	47
Capacity	0.47 μ F	4.7 μ F	47 μ F



+ 47 μ F
16 V

(4) Reading chip ceramic capacitance

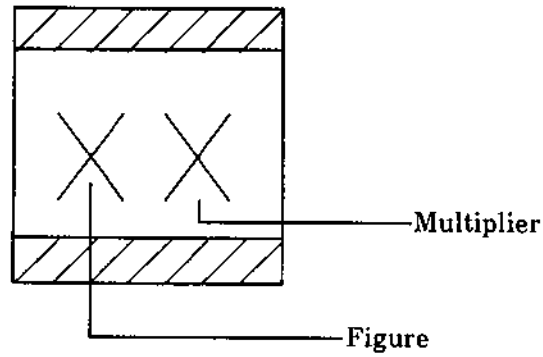
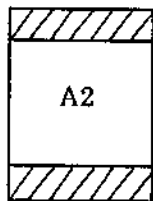
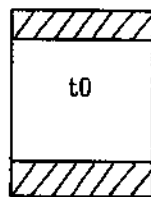


Figure						Multiplier	
Indicated alphabetic character	Corresponding value	Indicated alphabetic character	Corresponding value	Indicated alphabetic character	Corresponding value	Indicated value	Corresponding multiplier
A	1.0	M	3.0	Y	8.2	0	10 ⁰
B	1.1	N	3.3	Z	9.1	1	10 ¹
C	1.2	P	3.6	a	2.5	2	10 ²
D	1.3	Q	3.9	b	3.5	3	10 ³
E	1.5	R	4.3	d	4.0	4	10 ⁴
F	1.6	S	4.7	e	4.5	5	10 ⁵
G	1.8	T	5.1	f	5.0	6	10 ⁶
H	2.0	U	5.6	m	6.0	7	10 ⁷
J	2.2	V	6.2	n	7.0	8	10 ⁸
K	2.4	W	6.8	t	8.0	9	10 ⁻¹
L	2.7	X	7.5	y	9.0		

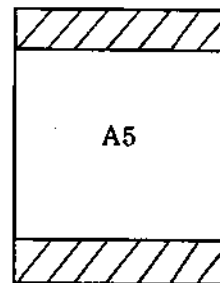
Examples:



100 pF

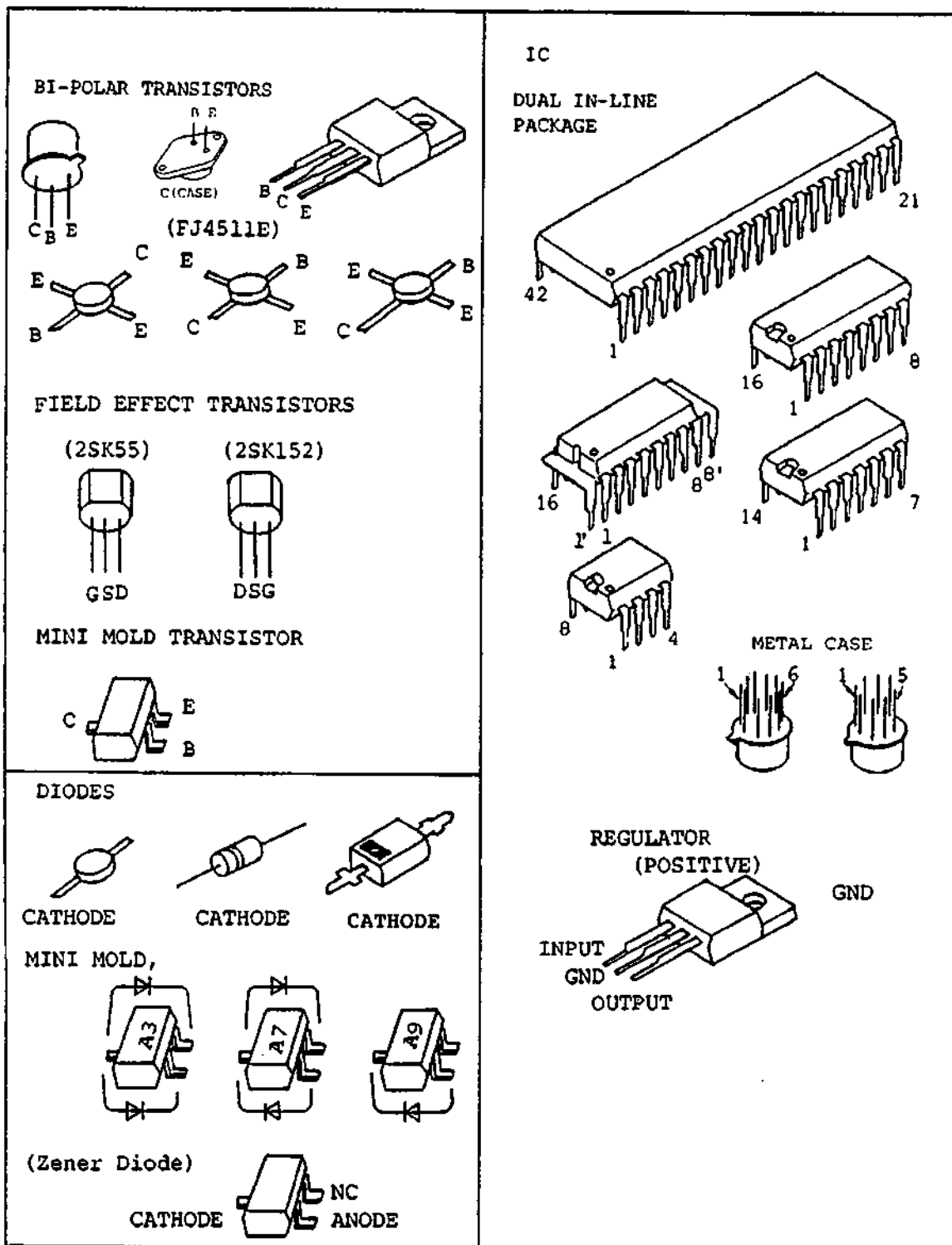


8 pF



0.1 μF

6.4 Semiconductor Markings



6.5 Parts List

Note: For the list of parts-list numbers and names, see Table 3-4.

Parts List of: MS2702A
SPECTRUM ANALYZER
OVERALL

Ref. No.	Part Code	Description	Rating	Qty	Note
A 1		24.5GHZ CONVERTER		1	34W9612
A 2		26GHZ CONVERTER		1	34W96578
A 3		1ST LOCAL UNIT		1	34W97976
A 4		3P BPF		1	34W96357
A 5		SCAN		1	34W96649
A 6		IF LOG/DET		1	34W96537
A 7		INTERFACE (1)		1	34W96808
A 8		PLAS CPU		1	34W96803
A 9		DISP CPU		1	34W96802
A 10		MAIN CPU		1	34W96801
A 11		COMMON BOARD		1	34W96804
A 12		NOT ASSIGNED			
A 13		NOT ASSIGNED			
A 14		PMC BOARD		1	34W96805
A 15		FRONT PANEL		1	34W96806
A 16		REAR PANEL		1	34W97267
A 17		MOTHER BOARD		1	34W97269
A 18		LPS/ESW UNIT		1	34W97949
A 19		NOT ASSIGNED			
A 20		LFD BOARD		1	34W96807
A 21		FILTER BOARD		1	34W98514

Dep. Selected at factory. Drawing No. 34W9625 2/4
ANRITSU CORP.

Parts List of: MS2702A
SPECTRUM ANALYZER
OVERALL

Ref. No.	Part Code	Description	Rating	Qty	Note
B 1		LOUDSPEAKER EAS-3P123		1	
G 1		FAN FBK-D9A12HZ		1	
J 1		JACK DF1-2S2.5R24		1	
J 2		JACK DF1-2S2.5R24		1	
J 3		CABLE 27DP-LP		1	34J90714W
J 4		CABLE 27DP-LP		1	34J90714W
J 5		JACK DF1-2S2.5R24		1	
J 6		JACK DF1-8S2.5R24-20B-1		1	
J 7		CONNECTOR TCS0284-01-0101		1	
J 8		PLUG BNC-R-NT		1	
J 9		JACK DF1B-5S2.5R		1	
J 10		JACK DF1B-8S2.5R		1	
J 11		JACK DF1-3S2.5R24-20B-1		1	
J 12		CONNECTOR TCS0204-01-0101		1	
J 13		JACK DF1B-2S2.5R		1	
J 14		CABLE S42W10090(5H)		1	
J 15		JACK S-GB038		1	
J 16		U LINK		1	

Dep. Selected at factory. Drawing No. 34W9625 2/4
ANRITSU CORP.

Parts List of: MS2702A
SPECTRUM ANALYZER
OVERALL

Ref. No.	Part Code	Description	Rating	Qty	Note
M 1		NOT ASSIGNED			
M 2		NOT ASSIGNED			
M 3		NOT ASSIGNED			
M 4		SEMI-RIGID CABLE		1	
M 5		SEMI-RIGID CABLE		1	
M 6		SEMI-RIGID CABLE		1	
M 7		SEMI-RIGID CABLE		1	
M 8		CABLE 27DP-LP-BNC-PJ-1.5V		1	34J92837E
M 9		CABLE 27DP-LP-LP		1	34J90715R
M 10		CABLE 27DP-LP-LP		1	34J90715W
M 11		CABLE 27DP-LP-LP		1	34J90715T
M 12		NOT ASSIGNED			
M 13		NOT ASSIGNED			
M 14		SEMI-RIGID CABLE		1	
M 15		CABLE 27DP-LP-BNC-PJ-1.5V		1	34J92837G
M 16		CABLE 27DP-LP-BNC-PJ-1.5V		1	34J92837F
M 17		CABLE 27DP-LP-LP		1	34J90715R
M 18		CABLE 27DP-LP-LP		1	34J90715P
M 19		CABLE 27DP-LP-BNC-PJ-1.5V		1	34J92837D
M 20		CABLE 342J9801D		1	
M 21		CABLE 27DP-LP-BNC-PJ-1.5V		1	34J92837F
M 22		CABLE 27DP-LP-LP		1	34J90715W
M 23		CABLE 27DP-LP-LP		1	34J90715H

Dep. Selected at factory. Drawing No. 34W9625 2/4
ANRITSU CORP.

Parts List of: MS2702A
SPECTRUM ANALYZER
OVERALL

Ref. No.	Part Code	Description	Rating	Qty	Note
U 26		CABLE 342J98009		1	
U 27		DF1B-8S2.5R24-20B-1		1	
U 28		DF1B-10S2.5R24-40B-1		1	
U 29		DF1B-8S2.5R24-40B-1		1	
U 30		DF1B-5S2.5R24-40B-1		1	
U 31		SEMI-RIGID CABLE		1	
U 32		DF1B-5S2.5R24-20B-1		1	
U 33		CABLE DF1B-8S2.5R24-20B-1		1	
Z 1		CRT UNIT		1	
Z 2		POWER SUPPLY UNIT 3429673D		1	

Dep. Selected at factory. Drawing No. 34W9625 2/4
ANRITSU CORP.

Parts List of: MS2802A
SPECTRUM ANALYZER
OVERALL

Ref. No.	Part Code	Description	Rating	Qty	Note
A 1		32GHZ CONVERTER		1	34W97978
A 2		2GHZ CONVERTER		1	34W96578
A 3		1ST LOCAL UNIT		1	34W97976
A 4		1F BPF		1	34W96357
A 5		SCAN		1	34W96649
A 6		1F LOG/DET		1	34W96537
A 7		INTERFAC(11)		1	34W96808
A 8		MEAS CPU		1	34W96803
A 9		UTSP CPU		1	34W96802
A 10		MAIN CPU		1	34W96801
A 11		COMMON BOARD		1	34W96804
A 12		NOT ASSIGNED			
A 13		NOT ASSIGNED			
A 14		PM BOARD		1	34W96805
A 15		FRONT PANEL		1	34W96806
A 16		REAR PANEL		1	34W97267
A 17		MOTHER BOARD		1	34W97269
A 18		LP-BSW UNIT		1	34W97949
A 19		NOT ASSIGNED			
A 20		LED BOARD		1	34W96807
A 21		FILTER BOARD		1	34W98514
A 22		NOT ASSIGNED			

ANRITSU CORP. DRAWING NO. 34W98012 1/4

Parts List of: MS2802A
SPECTRUM ANALYZER
OVERALL

Ref. No.	Part Code	Description	Rating	Qty	Note
B		LOUDSPEAKER		1	
		EAS-3P123			
G 1		FAN		1	
		F0K-D9A12HZ			
J 1		JACK		1	
		DF1-2S2.5R24			
J 2		JACK		1	
		DF1-2S2.5R24			
J 3		CABLE		1	34J90714W
		27DP-LP			
J 4		CABLE		1	34J90714W
		27DP-LP			
J 5		JACK		1	
		DF1-2S2.5R24			
J 6		JACK		1	
		DF1-8S2.5R24-20B-1			
J 7		CONNECTOR		1	
		TCSD284-01-0101			
J 8		PLUG		1	
		BM-R-N1			
J 9		JACK		1	
		DF1B-5S2.5R			
J 10		JACK		1	
		DF1B-8S2.5R			
J 11		JACK		1	
		DF1-3S2.5R24-20B-1			
J 12		CONNECTOR		1	
		TCSD204-01-0101			
J 13		JACK		1	
		DF1B-2S2.5R			
J 14		CABLE		1	
		542W009D15H1			
J 15		JACK		1	
		S 68038			
J 16		U LINK		1	
J 17		NOT ASSIGNED			
J 18		NOT ASSIGNED			

ANRITSU CORP. DRAWING NO. 34W98012 2/4

Parts List of: MS2802A
SPECTRUM ANALYZER
OVERALL

Ref. No.	Part Code	Description	Rating	Qty	Note
J 10		SMA TERMINATOR		1	
W 1		SEMI-RIGID CABLE		1	
W 2		SEMI-RIGID CABLE		1	
W 3		NOT ASSIGNED			
W 4		SEMI-RIGID CABLE		1	
W 5		SEMI-RIGID CABLE		1	
W 6		SEMI-RIGID CABLE		1	
W 7		SEMI-RIGID CABLE		1	
W 8		CABLE		1	
		27DP-LP-BNC-PJ-1.5V			
W 9		CABLE		1	34J92837E
W 10		CABLE		1	34J90715R
		27DP-LP-LP			
W 11		CABLE		1	34J90715R
		27DP-LP-LP			
W 12		NOT ASSIGNED			
W 13		NOT ASSIGNED			
W 14		SEMI-RIGID CABLE		1	
W 15		CABLE		1	
		27DP-LP-BNC-PJ-1.5V			
W 16		CABLE		1	34J92837G
W 17		CABLE		1	34J92837F
		27DP-LP-BNC-PJ-1.5V			
W 18		CABLE		1	34J90715R
		27DP-LP-LP			
W 19		CABLE		1	34J90715P
		27DP-LP-LP			
W 20		CABLE		1	34J92837D
		27DP-LP-BNC-PJ-1.5V			
W 21		CABLE		1	34J98010

ANRITSU CORP. DRAWING NO. 34W98012 3/4

Parts List of: MS2802A
SPECTRUM ANALYZER
OVERALL

Ref. No.	Part Code	Description	Rating	Qty	Note
W 21		CABLE		1	34J92837F
		27DP-LP-BNC-PJ-1.5V			
W 22		CABLE		1	34J90715W
		27DP-LP-LP			
W 23		CABLE		1	34J90715Q
		27DP-LP-LP			
W 24		CABLE		1	
		542J98009			
W 25		CABLE		1	
		57FE-150 GP-1B			
W 26		CABLE		1	
		DF1B-8S2.5R24-20C-1			
W 27		CABLE		1	
		DF1B-10S2.5R24-40C-1			
W 28		CABLE		1	
		DF1B-8S2.5R24-40C-1			
W 29		CABLE		1	
		DF1B-5S2.5R24-40C-1			
W 30		SEMI-RIGID CABLE		1	
W 31		CABLE		1	
		DF1B-5S2.5R24-20C-1			
W 32		CABLE		1	
		DF1B-8S2.5R24-20C-1			
Z 1		CRT UNIT		1	
Z 2		POWER SUPPLY UNIT		1	
		34296730			

ANRITSU CORP. DRAWING NO. 34W98012 4/4

Parts List of: MS2702A
SPECTRUM ANALYZER
A1 24.5GHZ CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
A 1		& 1ST CONVERTER		1	329H11281A
A 2		NOT ASSIGNED			
A 3		RF CONTROL		1	
AT 1		VAR ATTENUATOR		1	
AT 2		6DB PAD		1	439H52D78F
AT 3		3DB PAD		1	P-J TYPE
AT 4		2DB PAD		1	
J 1		CABLE 342W987D1(A)		1	
J 2		NOT ASSIGNED			
J 3		NOT ASSIGNED			
J 4		CABLE S42W1009D(51)		1	
J 5		CABLE 342W987D2(A)		1	
J 6		NOT ASSIGNED			
J 7		NOT ASSIGNED			
J 8		CONNECTOR RAD304MAG	SP	1	
J 9		CABLE S42W1009D(5F)		1	
J 10		CONNECTOR HE-PA-PJ		1	
J 11		NOT ASSIGNED			
J 12		NOT ASSIGNED			
J 13		NOT ASSIGNED			
J 14		NOT ASSIGNED			

Checked by: [Signature] Approved by: [Signature]
 Date: [Date]
 No. 0075-888 H
 Drawn No. 34499612 1/7
 ANRITSU CORP.

Parts List of: MS2702A
SPECTRUM ANALYZER
A1 25.5GHZ CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
J 15		CABLE 342W987D2(B)		1	
J 16		NOT ASSIGNED			
J 17		NOT ASSIGNED			
K 1		COAXIAL SWITCH		1	
Q 1		TRANSISTOR 25D1565		1	
Q 2		TRANSISTOR 25D568		1	
R 1		WM RHF-10-15Ω F	15Ω	1	
R 2		WM RHF-10-10Ω F	10Ω	1	
W 1		SEMI-RIGID CABLE			
W 2		SEMI-RIGID CABLE			
W 3		SEMI-RIGID CABLE			
W 4		NOT ASSIGNED			
W 5		NOT ASSIGNED			
W 6		SEMI-RIGID CABLE			
Z 1		Y1F		1	429H10413E
Z 2		Y1G		1	439H56691B

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 No. 0075-888 H
 Drawn No. 34499612 2/7
 ANRITSU CORP.

Parts List of: MS2802A
SPECTRUM ANALYZER
A1 32GHZ CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
A 1		& 1ST CONVERTER		1	329H11281A
A 2		EXT IF AMP		1	329H11280A
A 3		RF CONTROL		1	
AT 1		VAR ATTENUATOR		1	
AT 2		6DB PAD		1	
AT 3		3DB PAD		1	
AT 4		2DB PAD		1	
J 1		CABLE 342W987D1(A)		1	
J 2		CABLE 342W987D1(B)		1	
J 3		CABLE S42W1009D(20)		1	
J 4		CABLE S42W1009D(51)		1	
J 5		CABLE 342W987D2(A)		1	
J 6		NOT ASSIGNED			
J 7		NOT ASSIGNED			
J 8		CONNECTOR RAD304MAG	SP	1	
J 9		CABLE S42W1009D(5F)		1	
J 10		CONNECTOR HE-PA-PJ		1	
J 11		NOT ASSIGNED			
J 12		NOT ASSIGNED			
J 13		NOT ASSIGNED			
J 14		NOT ASSIGNED			

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Parts List of: MS2802A
SPECTRUM ANALYZER
A1 32GHZ CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
J 15		CABLE 342W987D2(B)		1	
J 16		NOT ASSIGNED			
J 17		NOT ASSIGNED			
J 18		NOT ASSIGNED			
J 19		CABLE 342W98923		1	
K 1		COAXIAL SWITCH		1	
K 2		COAXIAL SWITCH		1	
K 3		COAXIAL SWITCH		1	
Q 1		TRANSISTOR 25D1565		1	
Q 2		TRANSISTOR 25D568		1	
Q 3		NOT ASSIGNED			
R 1		WM RHF-10-15Ω F	15Ω	1	
R 2		WM RHF-10-10Ω F	10Ω	1	
W 1		SEMI-RIGID CABLE			
W 2		SEMI-RIGID CABLE			
W 3		SEMI-RIGID CABLE			
W 4		SEMI-RIGID CABLE			
W 5		SEMI-RIGID CABLE			

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Parts List of: M52B02A
SPECTRUM ANALYZER
A1 526HZ CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
U 0		SEMI-RIGID CABLE			
U 7		SEMI-RIGID CABLE			
U 8		SEMI-RIGID CABLE			
U 9		SEMI-RIGID CABLE			
U 10		SEMI-RIGID CABLE			
U 11		NOT ASSIGNED			
Z 1		YTF		1	
Z 2		YTF		1	
Z 3		NOT ASSIGNED			

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Parts List of: A1-A1-1 1ST CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
A 1		521.4MHZ AMP		1	
C 1		CER CAP TSF640CXR1H102Y	1000p F	1	
C 2		CER CAP TSF640CXR1H102Y	1000p F	1	
J 1		RECEPTACLE 030-645-0019-89		1	
J 2		RECEPTACLE 44J83465B		1	
J 3		RECEPTACLE NRW500-115		1	
J 4		PLUG 270P-BR		1	
J 5		PLUG DF19-552.5R	5P	1	
Z 1		COUPLER			
Z 2		AMP			
Z 3		MIXER			

Dep. Selected at factory. Drawing No. 34U9658B 171
ANRITSU CORP.

Parts List of: A1-A1-A1 521.4MHZ AMP

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP C0732CH1H1000 (A) b	1000 F ± 0.5% 50V	1	
C 2		CER CAP C0732CH1H471J (S) b	4700 F ± 5% 50V	1	
C 3		CER CAP C0732CH1H102K (A) 3	10000 F ± 10% 50V	1	
C 4		CER CAP C0732CH1H471J (S) b	4700 F ± 5% 50V	1	
C 5		NOT ASSIGNED			
C 6		NOT ASSIGNED			
C 7		CER CAP C0732CH1H102K (A) 3	10000 F ± 10% 50V	1	
C 8		CER CAP C0732CH1H471J (S) b	4700 F ± 5% 50V	1	
C 9		CER CAP C0732CJ1H030C (M) b	30 F 50V ± 0.25 p F	1	
C 10		CER CAP C0732CH1H0500 (L) b	50 F 50V ± 0.5 p F	1	
C 11		CER CAP C0732CK1H020C (H) b	20 F 50V ± 0.25 p F	1	
C 12		CER CAP C0735B1H104K	0.1 μ F ± 10% 50V	1	
L 1		INDUCTOR NL322522-R10K	0.1 μ H	1	
L 2		INDUCTOR	18n H	1	PATTERN
L 3		INDUCTOR	18n H	1	PATTERN
L 4		INDUCTOR 34L74430J	7n H	1	
L 5		INDUCTOR	7n H	1	
L 6		INDUCTOR 34L74430J	7n H	1	
L 7		INDUCTOR 34L74431P	125n H	1	
L 8		NOT ASSIGNED			

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Parts List of: A1-A1-A1 521.4MHZ AMP

Ref. No.	Part Code	Description	Rating	Qty	Note
B 1		TRANSISTOR 2SC2367		1	
B 2		IC MMA22B		1	
B 3		ZENER DIODE RDS.1MB2 (512)		1	
H 1		CARBON FILM RES ARD251221J	270Ω ± 5% 1/4W	1	
R 2		CERMET RESISTOR NK73H2A221J	220Ω ± 5% 1/10W	1	
R 3		NOT ASSIGNED			
R 4		METAL FILM RESISTOR RN73G2A112D	1.1kΩ ± 0.5% 1/10W	1	

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Parts List of: A1-A2 EXT IF AMP

Ref. No.	Part Code	Description	Rating	Qty	Note
A		S21.4MHZ EXT IF AMP		1	34U96604
C 1		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 2		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 3		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 4		CER CAP TSFD4DCXR1H102Y	1000p F	1	
J 1		JACK HRM500-27		1	
J 2		JACK HRM500-27		1	
J 3		JACK HRM500-27		1	
J 4		JACK HRM500-27		1	
J 5		PLUG Z7HP-0R		1	
J 6		JACK HRM504B		1	
J 7		CONNECTOR DF1B-522.5R	5p	1	
Z 1		CUMPLER		1	
Z 2		DEPLEXER		1	

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Parts List of: A1-A2-A1 S21.4MHZ ETK IF AMP

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 2		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 3		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 4		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 5		CER CAP C0732CH10500 (f b)	5p F 50V ± 0.5p F	1	
C 6		CER CAP C0732CH10500 (f b)	5p F 50V ± 0.5p F	1	
C 7		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 8		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 9		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 10		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 11		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 12		NOT ASSIGNED		1	
C 13		NOT ASSIGNED		1	
C 14		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 15		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 16		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 17		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 18		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 19		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 20		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
C 21		CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 22		CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 23		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	

ANRITSU CORP.

Parts List of: A1-A2-A1 S21.4MHZ ETK IF AMP

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		CER CAP CK732B1H102K (A 3)	1000p F ± 10% 50V	1	
L 1		INDUCTOR NL322522-R10K	0.1μ H	1	
L 2		INDUCTOR NL322522-R10K	0.1μ H	1	
L 3		INDUCTOR NL322522-R10K	18n H	1	PATTERN
L 4		INDUCTOR NL322522-R10K	18n H	1	PATTERN
L 5		INDUCTOR NL322522-R10K	0.1μ H	1	
L 6		INDUCTOR NL322522-R10K	0.1μ H	1	
L 7		INDUCTOR NL322522-R10K	0.1μ H	1	
L 8		INDUCTOR NL322522-R10K	0.1μ H	1	
L 9		INDUCTOR NL322522-R10K	0.1μ H	1	
L 10		INDUCTOR NL322522-R10K	0.1μ H	1	
Q 1		DIODE 1SS279		1	
Q 2		DIODE 1SS279		1	
Q 3		TRANSISTOR FATL3Z		1	
Q 4		TRANSISTOR FATL3Z		1	
Q 5		TRANSISTOR FATL3Z		1	
Q 6		IC M PC1650C		1	
Q 7		DIODE 1SS279		1	
Q 8		DIODE 1SS279		1	
Q 9		TRANSISTOR FATL3Z		1	
Q 10		TRANSISTOR FATL3Z		1	

ANRITSU CORP.

Parts List of: A1-A2-A1 S21.4MHZ ETK IF AMP

Ref. No.	Part Code	Description	Rating	Qty	Note
B 11		TRANSISTOR FATL3Z		1	
R 1		CERMET RESISTOR RK73M2A470J	47Ω ± 5% 1/10W	1	
R 2		CERMET RESISTOR RK73M2A470J	47Ω ± 5% 1/10W	1	
R 3		CERMET RESISTOR RK73M2A510J	51Ω ± 5% 1/10W	1	
R 4		CERMET RESISTOR RK73M2A510J	51Ω ± 5% 1/10W	1	
R 5		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 6		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 7		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 8		NOT ASSIGNED		1	
R 9		NOT ASSIGNED		1	
R 10		CERMET RESISTOR RK73M2A500J	500Ω ± 5% 1/10W	1	
R 11		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 12		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 13		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 14		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 15		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		TA ELECTLYT CAP CS732E1E225M	2.2M F ± 10%, 25V	1	
C 2		ICER CAP CK732B1H223K	0.022M F ± 10%, 50V	1	
C 3		TA ELECTLYT CAP CS732E1E225M	2.2M F ± 10%, 25V	1	
C 4		ICER CAP CK732B1H223K	0.022M F ± 10%, 50V	1	
C 5		TA ELECTLYT CAP CS732E1E225M	2.2M F ± 10%, 25V	1	
C 6		ICER CAP CK732B1H223K	0.022M F ± 10%, 50V	1	
C 7		TA ELECTLYT CAP CS732E1E225M	2.2M F ± 10%, 25V	1	
C 8		ICER CAP CK732B1H223K	0.022M F ± 10%, 50V	1	
C 9		TA ELECTLYT CAP CS732E1E225M	2.2M F ± 10%, 25V	1	
C 10		ICER CAP CK732B1H223K	0.022M F ± 10%, 50V	1	
C 11		TA ELECTLYT CAP CS732E1E225M	2.2M F ± 20%, 25V	1	
C 12		ICER CAP CK732B1H223K	0.022M F ± 10%, 50V	1	
C 13		TA ELECTLYT CAP CS732E1E225M	2.2M F ± 20%, 25V	1	
C 14		ICER CAP CK732B1H223K	0.022M F ± 10%, 50V	1	
C 15		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 16		AL ELECTLYT CAP KMA25VB-47	47M F ± 20%, 25V	1	
C 17		AL ELECTLYT CAP KMA25VB-47	47M F ± 20%, 25V	1	
C 18		NOT ASSIGNED			
C 19		NOT ASSIGNED			
C 20		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 21		ICER CAP CK732B1H472K (S B)	4700P F ± 10%, 50V	1	
C 22		ICER CAP CC732CH1H150J (E B)	15P F ± 5%, 50V	1	
C 23		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 25		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 26		ICER CAP CK732B1H222K (J B)	2200P F ± 10%, 50V	1	
C 27		NOT ASSIGNED			
C 28		NOT ASSIGNED			
C 29		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 30		ICER CAP CC732CH1H220J (J B)	22P F ± 5%, 50V	1	
C 31		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 32		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 33		NOT ASSIGNED			
C 34		NOT ASSIGNED			
C 35		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 36		NOT ASSIGNED			
C 37		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 38		ICER CAP CC732CH1H150J (E B)	15P F ± 5%, 50V	1	
C 39		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 40		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 41		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 42		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 43		ICER CAP CC732CH1H150J (E B)	15P F ± 5%, 50V	1	
C 44		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 45		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 46		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
C 47		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 48		NOT ASSIGNED			
C 49		NOT ASSIGNED			
C 50		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 51		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 52		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 53		NOT ASSIGNED			
C 54		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 55		NOT ASSIGNED			
C 56		NOT ASSIGNED			
C 57		NOT ASSIGNED			
C 58		NOT ASSIGNED			
C 59		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 60		AL ELECTLYT CAP KMA25VB-47	47M F ± 20%, 25V	1	
C 61		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 62		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	
C 63		NOT ASSIGNED			
C 64		NOT ASSIGNED			
C 65		NOT ASSIGNED			
C 66		NOT ASSIGNED			
C 67		NOT ASSIGNED			
C 68		NOT ASSIGNED			
C 69		NOT ASSIGNED			

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
C 70		NOT ASSIGNED			
C 71		ICER CAP CK733B1H104K	0.1M F ± 10%, 50V	1	
C 72		ICER CAP CK732B1H102K (A B)	1000P F ± 10%, 50V	1	
C 73		ICER CAP CK733B1H104K	0.1M F ± 10%, 50V	1	
C 74		ICER CAP CK732B1H102K (A B)	1000P F ± 10%, 50V	1	
C 75		ICER CAP CC732CH1H471J (S B)	4700P F ± 5%, 50V	1	
C 76		ICER CAP CK732B1H472K (S B)	4700P F ± 10%, 50V	1	
C 77		ICER CAP CK732B1H472K (S B)	4700P F ± 10%, 50V	1	
C 78		ICER CAP CC732CH1H480J (W B)	48P F ± 5%, 50V	1	
C 79		PLSTC FILM CAP EC0-V1H105JW	1M F ± 5%, 50V	2	
C 80		ICER CAP CC732CH1H680J (W B)	68P F ± 5%, 50V	1	
C 81		ICER CAP CK732B1H103K (A B)	0.01M F ± 10%, 50V	1	
C 82		ICER CAP CK732B1H103K (A B)	0.01M F ± 10%, 50V	1	
C 83		AL ELECTLYT CAP KMA16VB-10D	100M F ± 20%, 16V	1	
C 84		ICER CAP CK733B1H104K	0.1M F ± 10%, 50V	1	
C 85		TA ELECTLYT CAP CS735E1D226M	22M F ± 20%, 20V	1	
C 86		NOT ASSIGNED			
C 87		PLSTC FILM CAP EC0-V1H105JW	1M F ± 5%, 50V	1	
C 88		NOT ASSIGNED			
C 89		TA ELECTLYT CAP CS735E1D226M	22M F ± 20%, 20V	1	
C 90		TA ELECTLYT CAP CS735E1D226M	22M F ± 20%, 20V	1	
C 91		NOT ASSIGNED			
C 92		ICER CAP CK733F1H104Z (A B)	0.1M F.50V ± 80/-20%	1	

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
C 95		NOT ASSIGNED			
C 94		CER CAP CK737B1H224K (1 J)	0.22µ F ± 10% .50V	1	
C 95		NOT ASSIGNED			
C 96		NOT ASSIGNED			
C 97		PLSTC FILM CAP 1ECB-V1H474JW	0.47µ F ± 5% .50V	1	
C 98		TA ELECTLY CAP CS735E10226H	22µ F ± 20% .20V	1	
C 99		CER CAP CC732CH1H220J (J b)	22µ F ± 5% .50V	1	
C 100		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 101		TA ELECTLY CAP CS735E10226H	22µ F ± 20% .20V	1	
C 102		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 103		AL ELECTLY CAP KMA16V8-10D	100µ F ± 20% .25V	1	
C 104		CER CAP CK733B1H104K	0.1µ F ± 10% .50V	1	
C 105		CER CAP CK732B1H102K (A B)	1000p F ± 10% .50V	1	
C 106		CER CAP CK733B1H104K	0.1µ F ± 10% .50V	1	
C 107		NOT ASSIGNED			
C 108		CER CAP CK733B1H104K	0.1µ F ± 10% .50V	1	
C 109		CER CAP CC732CH1H471J (S b)	470p F ± 5% .50V	1	
C 110		CER CAP CC732CH1H471J (S b)	470p F ± 5% .50V	1	
C 111		NOT ASSIGNED			
C 112		CER CAP CK732B1H223K	0.022µ F ± 10% .50V	1	
C 113		CER CAP CK732B1H223K	0.022µ F ± 10% .50V	1	
C 114		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 115		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
C 116		NOT ASSIGNED			
C 117		NOT ASSIGNED			
C 118		NOT ASSIGNED			
C 119		NOT ASSIGNED			
C 120		NOT ASSIGNED			
C 121		NOT ASSIGNED			
C 122		NOT ASSIGNED			
C 123		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 124		NOT ASSIGNED			
C 125		NOT ASSIGNED			
C 126		NOT ASSIGNED			
C 127		NOT ASSIGNED			
C 128		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 129		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 130		NOT ASSIGNED			
C 131		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 132		AL ELECTLY CAP KMA16V8-47			
C 133		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 134		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 135		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 136		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 137		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 138		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
C 139		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 140		CER CAP CK733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 141		CER CAP CK924C1H472H	4700p F ± 20% .50V	1	
J 1		PLUG DF1B-2P2.5DS(D1)	2P	1	
J 2		PLUG DF1B-2P2.5DS(D1)	2P	1	
J 3		PLUG DF1B-2P2.5DS(D1)	2P	1	
J 4		PLUG DF1B-2P2.5DS(D1)	5P	1	
J 5		PLUG DF1B-5P2.5DS(A101)	5P	1	
J 6		PLUG DF1B-5P2.5DS(D1)	5P	1	
J 7		PLUG DF1B-8P2.5DS(D1)	8P	1	
J 8		PLUG DF1B-2P2.5DS(D1)	2P	1	
J 9		PLUG DF1B-5P2.5DS(D1)	5P	1	
J 10		PLUG CNF3-34P-2.54DS	34P	1	
J 11		PLUG DF1B-5P2.5DS(D1)	5P	1	
J 12		PLUG DF1B-5P2.5DS(D1)	5P	1	
J 13		PLUG DF1B-2P2.5DS(D1)	2P	1	
J 14		NOT ASSIGNED			
J 15		PLUG DF1B-5P2.5DS(A101)	5P	1	
J 16		PLUG DF1-2P2.5DS	2P	1	
J 17		PLUG DF1-2P2.5DS	2P	1	
J 18		NOT ASSIGNED			
J 19		PLUG DF1B-10P2.5DS(D1)	10P	1	

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
J 20		CONNECTOR 008261-033311-852			
J 21		CONNECTOR 008261-024200-870			
J 22		CONNECTOR 008261-033311-852			
J 23		CONNECTOR 008261-024200-870			
K 1		RELAY D1P-5V		1	
K 2		RELAY D1P-5V		1	
L 1		INDUCTOR NL453232-3R3K	3.3µ H ± 10%	1	
L 2		INDUCTOR NL453232-3R3K	3.3µ H ± 10%	1	
L 3		INDUCTOR NL453232-3R3K	3.3µ H ± 10%	1	
Q 1		TRANSISTOR 2SC1623 (L5 OR L6)		1	
Q 2		TRANSISTOR 2SA812 (M5 OR M6)		1	
Q 3		TRANSISTOR 2SA1154		1	
Q 4		TRANSISTOR 2SC2721		1	
Q 5		DIODE A155123		1	
Q 6		TRANSISTOR 2SC1623 (L5 OR L6)		1	
Q 7		TRANSISTOR 2SA812 (M5 OR M6)		1	
Q 8		TRANSISTOR 2SA1154		1	
Q 9		TRANSISTOR 2SC2721		1	
Q 10		DIODE A155123		1	
Q 11		TRANSISTOR 2SC1623 (L5 OR L6)		1	
Q 12		TRANSISTOR 2SA812 (M5 OR M6)		1	
Q 13		TRANSISTOR 2SA1154		1	
Q 14		TRANSISTOR 2SC2721		1	
Q 15		DIODE A155123		1	

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
16		TRANSISTOR 2SC1623 (L5 OR L6)		1	
17		TRANSISTOR 2SA812 (M5 OR M6)		1	
18		TRANSISTOR 2SA1154		1	
19		TRANSISTOR 2SC2721		1	
20		DIODE A155123		1	
21		TRANSISTOR 2SC1623 (L5 OR L6)		1	
22		TRANSISTOR 2SA812 (M5 OR M6)		1	
23		TRANSISTOR 2SA1154		1	
24		TRANSISTOR 2SC2721		1	
25		DIODE A155123		1	
26		TRANSISTOR 2SC1623 (L5 OR L6)		1	
27		TRANSISTOR 2SA812 (M5 OR M6)		1	
28		TRANSISTOR 2SA1154		1	
29		TRANSISTOR 2SC2721		1	
30		DIODE A155123		1	
31		TRANSISTOR 2SC1623 (L5 OR L6)		1	
32		TRANSISTOR 2SA812 (M5 OR M6)		1	
33		TRANSISTOR 2SA1154		1	
34		TRANSISTOR 2SC2721		1	
35		DIODE A155123		1	
36		IC AC162AFP		1	
37		IC M PC4570G2		1	
38		IC M PC4570G2		1	

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
39		IC AC162AFP		1	
40		IC M P05201G		1	
41		IC M P05201G		1	
42		IC M PC4570G2		1	
43		IC M PC4570G2		1	
44		IC PM7524HS		1	
45		IC M PC4570G2		1	
46		ZENER DIODE RD2.0E8		1	
47		ZENER DIODE RD2.0E8		1	
48		NOT ASSIGNED			
49		NOT ASSIGNED			
50		IC M P05201G		1	
51		IC M PC4570G2		1	
52		NOT ASSIGNED			
53		IC AC162AFP		1	
54		IC PM7524HS		1	
55		IC M PC4570G2		1	
56		IC PM7524HS		1	
57		IC M PC4570G2		1	
58		IC M PC4570G2		1	
59		TRANSISTOR 2SK514J		1	
60		TRANSISTOR 2SK514J		1	
61		NOT ASSIGNED			

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
62		IC M MAX90CPA		1	
63		IC AC162AFP		1	
64		IC 74HC74F		1	
65		IC 74HC08F		1	
66		IC 74HC04F		1	
67		IC 74HC393F		1	
68		IC 74HC393F		1	
69		IC MNS8065FP-25T		1	
70		IC AC162AFP		1	
71		NOT ASSIGNED			
72		NOT ASSIGNED			
73		NOT ASSIGNED			
74		TRANSISTOR 2SC1623 (L5 OR L6)		1	
75		TRANSISTOR 2SC2721		1	
76		TRANSISTOR 2SC1623 (L5 OR L6)		1	
77		ZENER DIODE RD11MB3		1	
78		TRANSISTOR 2SC2721		1	
79		NOT ASSIGNED			
80		NOT ASSIGNED			
81		IC DAC7541AKU		1	
82		IC DAC7541AKU		1	
83		IC M PC4570G2		1	
84		IC M PC4570G2		1	

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
85		IC TC4053BF		1	
86		IC TC4053BF		1	
87		IC M PC4570G2		1	
88		NOT ASSIGNED			
89		IC M PC4570G2		1	
90		IC M P05200G		1	
91		IC M PC4570G		1	
92		IC M PC398C		1	
93		IC M P05201G		1	
94		IC M PC4570G2		1	
95		IC LM3900Z		1	
96		TRANSISTOR 2SA812 (M5 OR M6)		1	
97		DIODE 15S279		1	
98		M PC4570G2		1	
99		TRANSISTOR 2SA1152		1	
100		TRANSISTOR 2SC2719		1	
101		ZENER DIODE RD5.1MB2 (512)		1	
102		ZENER DIODE RD3.9MB (397)		1	
103		IC AC162AFP		1	
104		IC AC162AFP		1	
105		IC AC162AFP		1	
106		IC TC5020BP		1	
107		TRANSISTOR 2SC3615		1	

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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 108	IC	TC7504F			
Q 109	IC	TC7504F			
Q 110	ZENER DIODE	RDS-9MB (39V)			
Q 111	ZENER DIODE	RDS-1MB2 (512)			
Q 112	TRANSISTOR	2SA815A(C16 OR C1)			
Q 113	TRANSISTOR	2SC1623(LS OR L6)			
Q 114	TRANSISTOR	2SC2901			
Q 115	IC	PC16305H			
Q 116	DIODE	1S953			
Q 117	DIODE	1S953			
Q 118	TRANSISTOR	2SC3015			
Q 119	IC	PC2410HF			
R 1	CERMET RESISTOR	RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 2	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 3	CERMET RESISTOR	RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 4	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 5	CERMET RESISTOR	RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 6	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 7	CERMET RESISTOR	RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 8	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 9	CERMET RESISTOR	RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 10	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5% 1/10W	1	

Checked at: Resistor at: Diode at: IC at: Dep.

Selected at factory: Drawn No. 34896590 13/22
ANRITSU CORP.

Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
R 11	CERMET RESISTOR	RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 12	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 13	CERMET RESISTOR	RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 14	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 15	METAL FILM RESISTOR	RN73G2A302D	3KΩ ± 0.5% 1/10W	1	
R 16	METAL FILM RESISTOR	RN73G2A123D	12KΩ ± 0.5% 1/10W	1	
R 17	VARIABLE RESISTOR	RG54M202	2KΩ 1/4W	1	
R 18	METAL FILM RESISTOR	RN73G2A393D	39KΩ ± 0.5% 1/10W	1	
R 19	METAL FILM RESISTOR	RN73G2A223D	22KΩ ± 0.5% 1/10W	1	
R 20	METAL FILM RESISTOR	RN73G2A223D	22KΩ ± 0.5% 1/10W	1	
R 21	VARIABLE RESISTOR	RG54M203	20KΩ 1/4W	1	
R 22	METAL FILM RESISTOR	RN73G2A023D	62KΩ ± 0.5% 1/10W	1	
R 23	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 24	CERMET RESISTOR	RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 25	NOT ASSIGNED				
R 26	VARIABLE RESISTOR	RG54M501	500Ω 1/4W	1	
R 27	METAL FILM RESISTOR	RN73G2A472D	4.7KΩ ± 0.5% 1/10W	1	
R 28	METAL FILM RESISTOR	RN73G2A512D	5.1KΩ ± 0.5% 1/10W	1	
R 29	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 30	METAL FILM RESISTOR	RR1220P-393-B	39KΩ ± 0.1% 1/10W	1	
R 31	METAL FILM RESISTOR	RR1220P-393-B	39KΩ ± 0.1% 1/10W	1	
R 32	METAL FILM RESISTOR	RR1220P-393-B	39KΩ ± 0.1% 1/10W	1	
R 33	METAL FILM RESISTOR	RR1220P-393-B	39KΩ ± 0.1% 1/10W	1	

Checked at: Resistor at: Diode at: IC at: Dep.

Selected at factory: Drawn No. 34896590 14/22
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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
R 34	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 35	CERMET RESISTOR	RK73M2A682J	6.8KΩ ± 5% 1/10W	1	
R 36	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 37	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 38	CERMET RESISTOR	RK73M2A472J	4.7KΩ ± 5% 1/10W	1	
R 39	NOT ASSIGNED				
R 40	METAL FILM RESISTOR	RN73G2A433D	43KΩ ± 0.5% 1/10W	1	
R 41	METAL FILM RESISTOR	RN73G2A242D	2.4KΩ ± 0.5% 1/10W	1	
R 42	NOT ASSIGNED				
R 43	METAL FILM RESISTOR	RN73G2A433D	43KΩ ± 0.5% 1/10W	1	
R 44	METAL FILM RESISTOR	RN73G2A242D	2.4KΩ ± 0.5% 1/10W	1	
R 45	VARIABLE RESISTOR	RG54M501	500Ω 1/4W	1	
R 46	METAL FILM RESISTOR	RN73G2A512D	5.1KΩ ± 0.5% 1/10W	1	
R 47	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 48	METAL FILM RESISTOR	RN73G2A104D	100KΩ ± 0.5% 1/10W	1	
R 49	METAL FILM RESISTOR	RN73G2A752D	7.5KΩ ± 0.5% 1/10W	1	
R 50	VARIABLE RESISTOR	RG54M104	100KΩ 1/4W	1	
R 51	METAL FILM RESISTOR	RN73G2A104D	100KΩ ± 0.5% 1/10W	1	
R 52	CERMET RESISTOR	RK73M2A105J	70Ω ± 5% 1/10W	1	
R 53	CERMET RESISTOR	RK73M2A472J	4.7KΩ ± 5% 1/10W	1	
R 54	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 55	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 56	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	

Checked at: Resistor at: Diode at: IC at: Dep.

Selected at factory: Drawn No. 34896590 15/22
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Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
R 57	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 58	NOT ASSIGNED				
R 59	MF	RS2FS470JL	47Ω 33Ω	1	
R 60	MF	RS2FS330JL	± 5% 2W	1	
R 61	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 62	METAL FILM RESISTOR	RN73G2A203D	20KΩ ± 0.5% 1/10W	1	
R 63	METAL FILM RESISTOR	RN73G2A133D	13KΩ ± 0.5% 1/10W	1	
R 64	CERMET RESISTOR	RK73M2A272J	2.7KΩ ± 5% 1/10W	1	
R 65	METAL FILM RESISTOR	RN73G2A201D	200Ω ± 0.5% 1/10W	1	
R 66	NOT ASSIGNED				
R 67	NOT ASSIGNED				
R 68	CERMET RESISTOR	RK73M2A682J	6.8KΩ ± 5% 1/10W	1	
R 69	VARIABLE RESISTOR	RG54M103	10KΩ 1/4W	1	
R 70	VARIABLE RESISTOR	RG54M103	10KΩ 1/4W	1	
R 71	NOT ASSIGNED				
R 72	VARIABLE RESISTOR	RG54M103	10KΩ 1/4W	1	
R 73	VARIABLE RESISTOR	RG54M103	10KΩ 1/4W	1	
R 74	METAL FILM RESISTOR	RN73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 75	METAL FILM RESISTOR	RN73G2A302D	3KΩ ± 0.5% 1/10W	1	
R 76	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 77	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 78	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 79	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5% 1/10W	1	

Checked at: Resistor at: Diode at: IC at: Dep.

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Parts List of: A1-A3 RF CONTROL

Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
R 80		METAL FILM RESISTOR RN7362A103D	10KΩ ± 0.5% 1/10W	1	
R 81		METAL FILM RESISTOR RN7362A512D	5.1KΩ ± 0.5% 1/10W	1	
R 82		METAL FILM RESISTOR RN7362A103D	10KΩ ± 0.5% 1/10W	1	
R 83		CERMET RESISTOR RK73M2A222J	± 2.2KΩ ± 5% 1/10W	1	
R 84		METAL FILM RESISTOR RN7362A202G	2KΩ ± 0.5% 1/10W	1	
R 85		METAL FILM RESISTOR RN7362A102D	1KΩ ± 0.5% 1/10W	1	
R 86		NOT ASSIGNED			
R 87		NOT ASSIGNED			
R 88		CERMET RESISTOR RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 89		CERMET RESISTOR RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 90		CERMET RESISTOR RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 91		RF RS1F5150JL	15Ω ± 5% 1W	1	
R 92		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 93		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 94		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 95		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 96		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 97		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 98		NOT ASSIGNED			
R 99		NOT ASSIGNED			
R 100		NOT ASSIGNED			
R 101		METAL FILM RESISTOR RN7362A103D	10KΩ ± 0.5% 1/10W	1	
R 102		VARIABLE RESISTOR RGS4H501	500Ω 1/2W	1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
R 103		METAL FILM RESISTOR RN7362A103D	10KΩ ± 0.5% 1/10W	1	
R 104		METAL FILM RESISTOR RN7362A103D	10KΩ ± 0.5% 1/10W	1	
R 105		VARIABLE RESISTOR RGS4H501	500Ω 1/4W	1	
R 106		METAL FILM RESISTOR RN7362A103D	10KΩ ± 0.5% 1/10W	1	
R 107		METAL FILM RESISTOR RN7362A303D	30KΩ ± 0.5% 1/10W	1	
R 108		METAL FILM RESISTOR RN7362A303D	30KΩ ± 0.5% 1/10W	1	
R 109		METAL FILM RESISTOR RN7362A303D	30KΩ ± 0.5% 1/10W	1	
R 110		METAL FILM RESISTOR RN7362A302D	3KΩ ± 0.5% 1/10W	1	
R 111		METAL FILM RESISTOR RN7362A133D	13KΩ ± 0.5% 1/10W	1	
R 112		METAL FILM RESISTOR RN7362A153D	15KΩ ± 0.5% 1/10W	1	
R 113		METAL FILM RESISTOR RN7362A222D	2.2KΩ ± 0.5% 1/10W	1	
R 114		VARIABLE RESISTOR RA12P-200Q	200Ω 1/2W	1	
R 115		METAL FILM RESISTOR RN7362A302D	3KΩ ± 0.5% 1/10W	1	
R 116		METAL FILM RESISTOR RN7362A302D	3KΩ ± 0.5% 1/10W	1	
R 117		VARIABLE RESISTOR RA12P-500Q	500Ω 1/2W	1	
R 118		METAL FILM RESISTOR RN7362A302D	3KΩ ± 0.5% 1/10W	1	
R 119		METAL FILM RESISTOR RN7362A512D	5.1KΩ ± 0.5% 1/10W	1	
R 120		VARIABLE RESISTOR RGS4H202	2KΩ 1/4W	1	
R 121		METAL FILM RESISTOR RN7362A512D	5.1KΩ ± 0.5% 1/10W	1	
R 122		METAL FILM RESISTOR RN7362A512D	5.1KΩ ± 0.5% 1/10W	1	
R 123		METAL FILM RESISTOR RN7362A512D	5.1KΩ ± 0.5% 1/10W	1	
R 124		METAL FILM RESISTOR RR1632P-4871-B	± 0.18 1/10W 1KΩ	1	
R 125		CERMET RESISTOR RK73M2A105J	± 5% 1/10W 10KΩ	1	

Selected at factory: Drawing No. 34496590 19/22
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Parts List of: A1-A3 RF CONTROL

Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
R 126		CERMET RESISTOR RK73M2A105J	10KΩ ± 5% 1/10W	1	
R 127		METAL FILM RESISTOR RR1632P-4871-B	4.87KΩ ± 0.1% 1/10W	1	
R 128		CERMET RESISTOR RK73M2A105J	10KΩ ± 5% 1/10W	1	
R 129		CERMET RESISTOR RK73M2A105J	10KΩ ± 5% 1/10W	1	
R 130		METAL FILM RESISTOR RR1632P-2001-B	2.00KΩ ± 0.1% 1/10W	1	
R 131		CERMET RESISTOR RK73M2A474J	470KΩ ± 5% 1/10W	1	
R 132		CERMET RESISTOR RK73M2A474J	470KΩ ± 5% 1/10W	1	
R 133		METAL FILM RESISTOR RN7362A113D	11KΩ ± 0.5% 1/10W	1	
R 134		METAL FILM RESISTOR RN7362A682D	6.8KΩ ± 0.5% 1/10W	1	
R 135		METAL FILM RESISTOR RR1632P-4020-B	402Ω ± 0.1% 1/10W	1	
R 136		VARIABLE RESISTOR RA12P-1KQ	1KΩ 1/2W	1	
R 137		METAL FILM RESISTOR RR1632P-9091-B	90.9KΩ ± 0.1% 1/10W	1	
R 138		METAL FILM RESISTOR RN7362A512D	5.1KΩ ± 0.5% 1/10W	1	
R 139		METAL FILM RESISTOR RN7362A392D	3.9KΩ ± 0.5% 1/10W	1	
R 140		METAL FILM RESISTOR RN7362A183D	18KΩ ± 0.5% 1/10W	1	
R 141		VARIABLE RESISTOR RGS4H502	5KΩ 1/4W	1	
R 142		METAL FILM RESISTOR RN7362A433D	43KΩ ± 0.5% 1/10W	1	
R 143		METAL FILM RESISTOR RN7362A752D	7.5KΩ ± 0.5% 1/10W	1	
R 144		METAL FILM RESISTOR RR1632P-2001-B	2.0KΩ ± 0.1% 1/10W	1	
R 145		METAL FILM RESISTOR RR1632P-2001-B	2.0KΩ ± 0.1% 1/10W	1	
R 146		METAL FILM RESISTOR RN7362A331D	330Ω ± 0.5% 1/10W	1	
R 147		METAL FILM RESISTOR RR1632P-1001-B	1.00KΩ ± 0.1% 1/10W	1	
R 148		METAL FILM RESISTOR RR1632P-1001-B	1.00KΩ ± 0.1% 1/10W	1	

Selected at factory: Drawing No. 34496590 19/22
ANRITSU CORP.

Ref. No.	Part Code	Description	Rating	Qty	Note
R 149		METAL FILM RESISTOR RN7362A102D	1KΩ ± 0.5% 1/10W	1	
R 150		METAL FILM RESISTOR RN7362A331D	330Ω ± 0.5% 1/10W	1	
R 151		NOT ASSIGNED			
R 152		NOT ASSIGNED			
R 153		METAL FILM RESISTOR RN7362A822D	8.2KΩ ± 0.5% 1/10W	1	
R 154		CARBON FILM RES ARD25T330J	33Ω ± 5% 1/4W	1	
R 155		METAL FILM RESISTOR RN14K2M301J	0.3KΩ ± 5% 1/2W	1	
R 156		CARBON FILM RES ARD25T47J	4.7Ω ± 5% 1/4W	1	
R 157		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 158		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 159		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 160		CARBON FILM RES ARD25T150J	15Ω ± 5% 1/4W	1	
R 161		CERMET RESISTOR RK73M2A533J	53KΩ ± 5% 1/10W	1	
R 162		CERMET RESISTOR RK73M2A333J	33KΩ ± 5% 1/10W	1	
R 163		NOT ASSIGNED			
R 164		METAL FILM RESISTOR RN14K2M301J	0.3KΩ ± 5% 1/2W	1	
R 165		VARIABLE RESISTOR RGS4H502	5KΩ	1	
R 166		VARIABLE RESISTOR RGS4H203	20KΩ	1	
R 167		METAL FILM RESISTOR RN7362A104D	100KΩ ± 0.5% 1/10W	1	
R 168		METAL FILM RESISTOR RN7362A823D	82KΩ ± 0.5% 1/10W	1	
R 169		METAL FILM RESISTOR RN7362A182D	1.8KΩ ± 0.5% 1/10W	1	
R 170		METAL FILM RESISTOR RN7362A104D	100KΩ ± 0.5% 1/10W	1	
R 171		METAL FILM RESISTOR RN7362A103D	10KΩ ± 0.5% 1/10W	1	

Selected at factory: Drawing No. 34496590 20/22
ANRITSU CORP.

Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
R 172		METAL FILM RESISTOR RN7362A104D	100KΩ ± 0.5% 1/10W	1	
R 173		METAL FILM RESISTOR RN7362A103D	10KΩ ± 0.5% 1/10W	1	
R 174		METAL FILM RESISTOR RN7362A104D	100KΩ ± 0.5% 1/10W	1	
R 175		METAL FILM RESISTOR RN7362A104D	100KΩ ± 0.5% 1/10W	1	
R 176		METAL FILM RESISTOR RN7362A222D	2.2KΩ ± 0.5% 1/10W	1	
R 177		METAL FILM RESISTOR RN7362A104D	100KΩ ± 0.5% 1/10W	1	
R 178		METAL FILM RESISTOR RN7362A104D	100KΩ ± 0.5% 1/10W	1	
R 179		METAL FILM RESISTOR RN7362A752D	7.5KΩ ± 0.5% 1/10W	1	
R 180		CERMET RESISTOR RK73M2A105J	10KΩ ± 5% 1/10W	1	
R 181		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 182		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 183		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 184		METAL FILM RESISTOR RN7362A682D	6.8KΩ ± 0.5% 1/10W	1	
R 185		METAL FILM RESISTOR RN7362A103D	10KΩ ± 0.5% 1/10W	1	
R 186		METAL FILM RESISTOR RN7362A153D	15KΩ ± 0.5% 1/10W	1	
R 187		METAL FILM RESISTOR RN7362A512D	5.1KΩ ± 0.5% 1/10W	1	
R 188		METAL FILM RESISTOR RN7362A103D	10KΩ ± 0.5% 1/10W	1	
R 189		NOT ASSIGNED			
R 190		NOT ASSIGNED			
R 191		NOT ASSIGNED			
P 192		CERMET RESISTOR RK73M2A333J	33KΩ ± 5% 1/10W	1	
R 193		CERMET RESISTOR RK73M2A333J	33KΩ ± 5% 1/10W	1	
R 194		CERMET RESISTOR RK73M2A681J	680Ω ± 5% 1/10W	1	

Selected at factory. Drawing No. 34496590. 21/22. No. 0073-1088-11. ANRITSU CORP.

Parts List of: A1-A3 RF CONTROL

Ref. No.	Part Code	Description	Rating	Qty	Note
A 195		NOT ASSIGNED			
R 196		NOT ASSIGNED			
R 197		CERMET RESISTOR RK73M2A331J	330Ω ± 5% 1/10W	1	
R 198		CERMET RESISTOR RK73M2A331J	330Ω ± 5% 1/10W	1	
R 199		METAL FILM RESISTOR RN7362A132D	1.3KΩ ± 0.5% 1/10W	1	
R 200		METAL FILM RESISTOR RN14K2H33D	33Ω ± 5% 1/2W	1	
R 201		METAL FILM RESISTOR RN14K2H22D	22Ω ± 5% 1/2W	1	
R 202		METAL FILM RESISTOR RN14K2H33D	33Ω ± 5% 1/2W	1	
R 203		METAL FILM RESISTOR RN14K2H22D	22Ω ± 5% 1/2W	1	
R 204		METAL FILM RESISTOR RN14K2H33D	33Ω ± 5% 1/2W	1	
R 205		METAL FILM RESISTOR RN14K2H22D	22Ω ± 5% 1/2W	1	

Selected at factory. Drawing No. 34496590. 22/22. No. 0073-1088-11. ANRITSU CORP.

Parts List of: A2 26HZ CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
A		NOT ASSIGNED			
A 2		ERV AND SWITCH		1	3449658D
A 3		1ST LD AMP		1	34496581
A 4		2.5214GHZ IF AMP		1	34496582
A 5		2ND CONVERTER		1	34496583
A 6		NOT ASSIGNED			
A 7		3RD CONVERTER		1	34496585
A 8		NOT ASSIGNED			
A 9		625KHZ CAL OSC		1	34496587
A 10		NOT ASSIGNED			
A 11		2.5214GHZ BPF		1	34497103
C 1		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 2		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 3		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 4		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 5		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 6		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 7		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 8		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 9		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 10		CER CAP TSFD4DCXR1H102Y	1000p F	1	

Selected at factory. Drawing No. 34496578. 1/3. No. 0073-1088-11. ANRITSU CORP.

Parts List of: A2 26HZ CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
C 11		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 12		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 13		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 14		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 15		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 16		NOT ASSIGNED			
C 17		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 18		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 19		CER CAP TSFD4DCXR1H102Y	1000p F	1	
C 20		CER CAP CK924C1H104H	0.1μ F ± 20% 50V	1	
J 1		PLUG HRH-307B		1	
J 2		PLUG HRH-307B		1	
J 3		NOT ASSIGNED			
J 4		PLUG HRH-307B		1	
J 5		PLUG HRH-307B		1	
J 6		NOT ASSIGNED			
J 7		PLUG HRH-3D9S		1	
J 8		PLUG 27DP-BR		1	
J 9		PLUG 27DP-BR		1	
J 10		PLUG 27DP-BR		1	
J 11		PLUG HRH-307B		1	
J 12		NOT ASSIGNED			

Selected at factory. Drawing No. 34496578. 2/3. No. 0073-1088-11. ANRITSU CORP.

Parts List of: A2 2GHZ CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
J 13		PLUG 27DP-BR		1	
J 14		PLUG 27DP-BJ		1	34J98066
J 15		CABLE S42M1009D(1.8H)	8P	1	
J 16		CABLE S42M1009D(1.5F)	5P	1	
Q 1		TRANSISTOR 2SC1255		1	
Q 2		DIODE 1SV210		1	
R 1		CARBON FILM RES ARD25T220J	22Ω ± 5% 1/4W	1	
R 2		CARBON FILM RES ARD25T270J	270Ω ± 5% 1/4W	1	
R 3		CARBON FILM RES ARD25T182J	182Ω ± 5% 1/4W	1	
R 4		METAL FILM RESISTOR RN14X2E10RDD	10Ω ± 0.5% 1/4W	1	
W 1		SEMI-RIGID CABLE		1	
W 2		SEMI-RIGID CABLE		1	
W 3		CABLE 27DP-LP-LP		1	34J9D7155
Z 1		2GHZ LPV MIXER		1	
Z 2		2GHZ		1	
Z 3		DI		1	
Z 4		1.6GHZ LPF		1	

Selected at factory: 3/7
Drawing No. 34J97977
No. 0070-1000
ANRITSU CORP.

Parts List of: A2-A2 EBU AND SWITCH

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CC732C1H221J (H b)	220p F ± 5% .50V	1	
C 2		CER CAP CC732C1H040B (H b)	40p F .50V ± 0.5p F	1	
C 3		CER CAP CK732B1H102K (A 3)	1000p F ± 10% .50V	1	
C 4		CER CAP CK732B1H224K (I J)	0.22μ F ± 10% .50V	1	
K 1		RELAY UH-12		1	
L 1		INDUCTOR NL45322-1R5K	1.5μ H ± 10%	1	
L 2		NOT ASSIGNED		1	
R 1		CERMET RESISTOR RK73M2A470J	47Ω ± 5% 1/10W	1	
R 2		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	1	
R 3		CERMET RESISTOR RK73M2A390J	39Ω ± 5% 1/10W	1	
R 4		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	1	

Selected at factory: 3/7
Drawing No. 34J96580
No. 0070-1000
ANRITSU CORP.

Parts List of: A2-A3 1ST LO AMP

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CC732C1H020C (H b)	2p F .50V ± 0.25p F	1	
C 2		CER CAP CC732C1H020C (H b)	2p F .50V ± 0.25p F	1	
C 3		CER CAP CK732B1H102K (A 3)	1000p F ± 10% .50V	1	
C 4		CER CAP CC732C1H020C (H b)	2p F .50V ± 0.25p F	1	
C 5		CER CAP CC732C1H020C (H b)	2p F .50V ± 0.25p F	1	
C 6		CER CAP CK732B1H102K (A 3)	1000p F ± 10% .50V	1	
C 7		CER CAP CK732B1H102K (A 3)	1000p F ± 10% .50V	1	
C 8		CER CAP CC732C1H020C (H b)	2p F .50V ± 0.25p F	1	
C 9		CER CAP CC732C1H020C (H b)	2p F .50V ± 0.25p F	1	
C 10		CER CAP CC732C1H020C (H b)	2p F .50V ± 0.25p F	1	
C 11		CER CAP CC732C1H020C (H b)	2p F .50V ± 0.25p F	1	
Q 1		IC JPG110B(H)		1	
Q 2		IC JPG110B(H)		1	
Q 3		TRANSISTOR 2SC3617		1	
R 1		CERMET RESISTOR RK73M2A270J	27Ω ± 5% 1/10W	1	
R 2		CERMET RESISTOR RK73M2A221J	220Ω ± 5% 1/10W	1	
R 3		CERMET RESISTOR RK73M2A221J	220Ω ± 5% 1/10W	1	
R 4		METAL FILM RESISTOR RN73G2A160D	16Ω ± 0.5% 1/10W	1	
R 5		METAL FILM RESISTOR RN73G2A160D	16Ω ± 0.5% 1/10W	1	
R 6		METAL FILM RESISTOR RN73G2A160D	16Ω ± 0.5% 1/10W	1	

Selected at factory: 3/7
Drawing No. 34J94581
No. 0070-1000
ANRITSU CORP.

Parts List of: A2-A3 1ST LO AMP

Ref. No.	Part Code	Description	Rating	Qty	Note
R 7		CERMET RESISTOR RK73M2A332J	33Ω ± 5% 1/10W	1	
R 8		CERMET RESISTOR RK73M2A180J	18Ω ± 5% 1/10W	1	
R 9		CERMET RESISTOR RK73M2A271J	27Ω ± 5% 1/10W	1	
R 10		CERMET RESISTOR RK73M2A271J	27Ω ± 5% 1/10W	1	
Z 1		NOT ASSIGNED		1	
Z 2		NOT ASSIGNED		1	

Selected at factory: 3/7
Drawing No. 34J94581
No. 0070-1000
ANRITSU CORP.

Parts List of: A2-AA 2.52146HZ IF AMP

Ref No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CC732CH1H101J (A B)	1000 F ± 5% .50V	1	
C 2		CER CAP CC732CH1H101J (A B)	1000 F ± 5% .50V	1	
C 3		CER CAP CK732B1H102K (A 3)	1000P F ± 10% .50V	1	
C 4		CER CAP CK732B1H102K (A 3)	1000P F ± 10% .50V	1	
R 1		IC M P6100B		1	
Z 1		IBPF TUCF4R2521W050B01	2.52146HZ	1	

Checked at factory: []
Drawing No. 34U96582 1/1
ANRITSU CORP.

Parts List of: A2-A5 2ND CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CC732C1H020C (H B)	2P F .50V ± 0.25P F	1	
C 2		CER CAP CC732C1H040D (M B)	4P F .50V ± 0.5P F	1	
C 3		CER CAP CC732C1H050D (F B)	5P F .50V ± 0.5P F	1	
C 4		CER CAP CC732C1H010C (A B)	1P F .50V ± 0.25P F	1	
C 5		NOT ASSIGNED			
C 6		NOT ASSIGNED			
C 7		NOT ASSIGNED			
C 8		NOT ASSIGNED			
C 9		CER CAP CC732C1H070D (L B)	7P F .50V ± 0.5P F	1	
C 10		CER CAP CC732C1H471J (S B)	470P F ± 5% .50V	1	
C 11		CER CAP CK732B1H102K (A 3)	1000P F ± 10% .50V	1	
C 12		CER CAP CC732C1H471J (S B)	470P F ± 5% .50V	1	
C 13		CER CAP CK732B1H102K (A 3)	1000P F ± 10% .50V	1	
C 14		CER CAP CK732B1H102K (A 3)	1000P F ± 10% .50V	1	
C 15		CER CAP CK732B1H102K (A 3)	1000P F ± 10% .50V	1	
C 16		CER CAP CK732B1H102K (A 3)	1000P F ± 10% .50V	1	
C 17		CER CAP CK732B1H102K (A 3)	1000P F ± 10% .50V	1	
C 18		CER CAP CK732B1H102K (A 3)	1000P F ± 10% .50V	1	
C 19		TA ELECTLY CAP CS735E10226M	22µ F ± 20% .20V	1	
C 20		NOT ASSIGNED			
C 21		NOT ASSIGNED			
C 22		NOT ASSIGNED			
C 23		NOT ASSIGNED			

Checked at factory: []
Drawing No. 34U96583 1/8
ANRITSU CORP.

Parts List of: A2-A5 2ND CONVERTER

Ref No.	Part Code	Description	Rating	Qty	Note
C 24		NOT ASSIGNED			
C 25		NOT ASSIGNED			
C 26		CER CAP CC732C1H101J (A B)	1000 F ± 5% .50V	1	
C 27		CER CAP CF733F1H104Z (A B)	0.1µ F .50V +80/-20%	1	
C 28		CER CAP CC732C1H102J	1000P F ± 5% .50V	1	
C 29		NOT ASSIGNED			
C 30		CER CAP CC732C1H101J (A B)	1000 F ± 5% .50V	1	
C 31		CER CAP CC732C1H101J (A B)	1000 F ± 5% .50V	1	
C 32		CER CAP CC732C1H102J	1000P F ± 5% .50V	1	
C 33		CER CAP CC732C1H471J (S B)	470P F ± 5% .50V	1	
C 34		CER CAP CC732C1H471J (S B)	470P F ± 5% .50V	1	
C 35		CER CAP CC732C1H471J (S B)	470P F ± 5% .50V	1	
C 36		CER CAP CC732C1H102J	1000P F ± 5% .50V	1	
C 37		CER CAP CC732C1H471J (S B)	470P F ± 5% .50V	1	
C 38		CER CAP CC732C1H471J (S B)	470P F ± 5% .50V	1	
C 39		CER CAP CC732C1H102J	1000P F ± 5% .50V	1	
C 40		CER CAP CC732C1H471J (S B)	470P F ± 5% .50V	1	
C 41		NOT ASSIGNED			
C 42		CER CAP CC732C1H102J	1000P F ± 5% .50V	1	
C 43		CER CAP CC732C1H471J (S B)	470P F ± 5% .50V	1	
C 44		CER CAP CC732C1H181J (G B)	180P F ± 5% .50V	1	
C 45		CER CAP CC732C1H102J	1000P F ± 5% .50V	1	
C 46		CER CAP CF733F1H475K (L S)	0.1µ F ± 10% .50V	1	

Checked at factory: []
Drawing No. 34U96583 2/8
ANRITSU CORP.

Parts List of: A2-A5 2ND CONVERTER

Ref No.	Part Code	Description	Rating	Qty	Note
C 47		TA ELECTLY CAP CS732E1V105M	1µ F ± 20% .35V	1	
C 48		NOT ASSIGNED			
C 49		TA ELECTLY CAP CS732E10335M	3.3µ F ± 20% .20V	1	
C 50		TA ELECTLY CAP CS732E10335M	3.3µ F ± 20% .20V	1	
C 51		CER CAP CK733B1H104K	0.1µ F ± 10% .50V	1	
C 52		CER CAP CK733B1H104K	0.1µ F ± 10% .50V	1	
C 53		TA ELECTLY CAP CS732E10335M	3.3µ F ± 20% .20V	1	
C 54		CER CAP CK733B1H104K	0.1µ F ± 10% .50V	1	
C 55		NOT ASSIGNED			
C 56		TA ELECTLY CAP CS732E10335M	3.3µ F ± 20% .20V	1	
C 57		CER CAP CK733B1H104K	0.1µ F ± 10% .50V	1	
C 58		NOT ASSIGNED			
C 59		TA ELECTLY CAP CS732E10335M	3.3µ F ± 20% .20V	1	
C 60		CER CAP CK733B1H104K	0.1µ F ± 10% .50V	1	
C 61		CER CAP CC732C1H471J (S B)	470P F ± 5% .50V	1	
C 62		CER CAP CC732C1H030C (M B)	3P F .50V ± 0.25P F	1	
C 63		CER CAP CC732C1H030C (M B)	3P F .50V ± 0.25P F	1	
C 64		CER CAP CC924C1H471J	470P F ± 5% .50V	1	
J 1		CONNECTOR DD-826103-3311-852	3P	1	
J 2		CONNECTOR DD-826102-4200-87D	2P	1	

Checked at factory: []
Drawing No. 34U96583 3/8
ANRITSU CORP.

Parts List of: A2-A5 2ND CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
L 1			5.50 H		PATTERN
L 2			110 H		PATTERN
L 3			110 H		PATTERN
L 4		INDUCTOR	0.1A H		
L 5		INDUCTOR NL322522-R10K	0.1A H	1	
L 6		INDUCTOR	0.1A H		
L 7		INDUCTOR NL322522-R10K	280 H	1	
L 8		INDUCTOR 34L7443DL	100 H	1	
L 9		INDUCTOR 34L74431J	70 H	1	
L 10		INDUCTOR 34L74430J	125 H	1	
L 11		INDUCTOR 34L74432F	210 H	1	
L 12		INDUCTOR 34L74432B	150 H	1	
G 1		DIODE NU487R2-5P		1	
G 2		DIODE NU487R2-5P		1	
G 3		ZENER DIODE R05.1MB2 (512)		1	
G 4		TRANSISTOR 2SC2367		1	
G 5		DIODE 155279		1	
G 6		DIODE 155279		1	
G 7		TRANSISTOR FA1152		1	
G 8		TRANSISTOR FA1152		1	
G 9		TRANSISTOR FA1152		1	
G 10		IC IC 74151H		1	

ANRITSU CORP. No. 0073-68811

Parts List of: A2-A5 2ND CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 11		ZENER DIODE R05.1MB2 (512)		1	
Q 12		IC # P8582C		1	
Q 13		IC # PC1656C		1	
Q 14		IC # PC1656C		1	
Q 15		IC # PC1656C		1	
Q 16		IC # PC4570G2		1	
Q 17		TRANSISTOR 2SC3735 (834 OR B3)		1	
Q 18		ZENER DIODE R05.1MB2 (512)		1	
Q 19		ZENER DIODE R05.1MB2 (512)		1	
Q 20		TRANSISTOR 2SC2901		1	
Q 21		ZENER DIODE R05.1MB2 (512)		1	
Q 22		ZENER DIODE R05.1MB2 (512)		1	
Q 23		THERMISTOR DS05-300-1		1	
R 1		CERMET RESISTOR RK73M2A101J	100Ω	1	
R 2		CERMET RESISTOR RK73M2A101J	± 5% 1/10W	1	
R 3		CERMET RESISTOR RK73M2A101J	100Ω	1	
R 4		METAL FILM RESISTOR RN75G2A112D	± 0.5% 1/10W	1	
R 5		CERMET RESISTOR RK73M2A510J	51Ω	1	
R 6		CERMET RESISTOR RK73M2A510J	± 5% 1/10W	1	
R 7		CARBON FILM RES ARD251271J	270Ω	1	
R 8		CERMET RESISTOR RK73M2A150J	15Ω	1	
R 9		CERMET RESISTOR RK73M2A150J	± 5% 1/10W	1	
R 10		NOT ASSIGNED		1	
R 11		NOT ASSIGNED		1	
R 12		NOT ASSIGNED		1	
R 13		CERMET RESISTOR RK73M2A102J	1KΩ	1	
R 14		CERMET RESISTOR RK73M2A102J	± 5% 1/10W	1	

ANRITSU CORP. No. 0073-68811

Parts List of: A2-A5 2ND CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
R 10		CERMET RESISTOR RK73M2A104J	100KΩ	1	
R 11		CERMET RESISTOR RK73M2A104J	± 5% 1/10W	1	
R 12		CERMET RESISTOR RK73M2A104J	100KΩ	1	
R 13		CERMET RESISTOR RK73M2A104J	± 5% 1/10W	1	
R 14		CERMET RESISTOR RK73M2A104J	100KΩ	1	
R 15		NOT ASSIGNED		1	
R 16		NOT ASSIGNED		1	
R 17		NOT ASSIGNED		1	
R 18		NOT ASSIGNED		1	
R 19		CERMET RESISTOR RK73M2A222J	2.2KΩ	1	
R 20		CERMET RESISTOR RK73M2A222J	± 5% 1/10W	1	
R 21		CERMET RESISTOR RK73M2A221J	220Ω	1	
R 22		NOT ASSIGNED		1	
R 23		CERMET RESISTOR RK73M2A51CJ	51Ω	1	
R 24		CERMET RESISTOR RK73M2A51CJ	± 5% 1/10W	1	
R 25		CERMET RESISTOR RK73M2A51CJ	51Ω	1	
R 26		CERMET RESISTOR RK73M2A390J	39Ω	1	
R 27		CERMET RESISTOR RK73M2A121J	120Ω	1	
R 28		CERMET RESISTOR RK73M2A121J	± 5% 1/10W	1	
R 29		CERMET RESISTOR RK73M2A121J	120Ω	1	
R 30		CERMET RESISTOR RK73M2A510J	51Ω	1	
R 31		CERMET RESISTOR RK73M2A510J	± 5% 1/10W	1	
R 32		METAL FILM RESISTOR RN75G2A4310	430Ω	1	

ANRITSU CORP. No. 0073-68811

Parts List of: A2-A5 2ND CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
R 33		METAL FILM RESISTOR RN75G2A4310	430Ω	1	
R 34		CERMET RESISTOR RK73M2A180J	± 0.5% 1/10W	1	
R 35		CERMET RESISTOR RK73M2A180J	180Ω	1	
R 36		CERMET RESISTOR RK73M2A220J	± 5% 1/10W	1	
R 37		NOT ASSIGNED		1	
R 38		NOT ASSIGNED		1	
R 39		METAL FILM RESISTOR RN75G2A5100	510Ω	1	
R 40		CERMET RESISTOR RK73M2A601J	600Ω	1	
R 41		CERMET RESISTOR RK73M2A601J	± 5% 1/10W	1	
R 42		CERMET RESISTOR RK73M2A601J	600Ω	1	
R 43		METAL FILM RESISTOR RN75G2A752D	750Ω	1	
R 44		METAL FILM RESISTOR RN75G2A511D	± 0.5% 1/10W	1	
R 45		NOT ASSIGNED		1	
R 46		METAL FILM RESISTOR RN75G2A153D	150Ω	1	
R 47		CERMET RESISTOR RK73M2A474J	470KΩ	1	
R 48		CERMET RESISTOR RK73M2A510J	51Ω	1	
R 49		CERMET RESISTOR RK73M2A510J	± 5% 1/10W	1	
R 50		CERMET RESISTOR RK73M2A102J	1KΩ	1	
R 51		CERMET RESISTOR RK73M2A123J	± 5% 1/10W	1	
R 52		CERMET RESISTOR RK73M2A180J	180Ω	1	
R 53		CERMET RESISTOR RK73M2A820J	82Ω	1	
R 54		CERMET RESISTOR RK73M2A820J	± 5% 1/10W	1	
R 55		CERMET RESISTOR RK73M2A101J	100Ω	1	

ANRITSU CORP. No. 0073-68811

Parts List of: A2-A5 2ND CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
R 56		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 57		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 58		CERMET RESISTOR RK73M2A471J	100Ω ± 5% 1/10W	1	
R 59		VARIABLE RESISTOR RGS4H501	500Ω	1	
R 60		CARBON FILM RES ARD25F510J	51Ω ± 5% 1/4W	1	
T 1		TRANSFORMER 342T74443		1	
Z 1		MIXER M-810-5 TYPE1		1	

* Selected at factory Drawing No. 34W965B5 8/8
 ANRITSU CORP.

Parts List of: A2-A7 3RD CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		NOT ASSIGNED			
C 2		NOT ASSIGNED			
C 3		CER CAP CC732CH1H090D	90p F 50V ± 0.5% F	1	
C 4		CER CAP CC732CH1H500J	500p F ± 5% 50V	1	
C 5		CER CAP CC732CH1H151J	150p F ± 5% 50V	1	
C 6		CER CAP CC732CH1H500J	500p F ± 5% 50V	1	
C 7		CER CAP CC732CH1H181J	180p F ± 5% 50V	1	
C 8		CER CAP CC732CH1H151J	150p F ± 5% 50V	1	
C 9		VAR CER CAP T203P450A	45p F 100V	1	
C 10		CER CAP CK732B1H103K	0.01μ F ± 10% 50V	1	
C 11		CER CAP CK732B1H103K	0.01μ F ± 10% 50V	1	
C 12		CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 13		CER CAP CK732B1H103K	0.01μ F ± 10% 50V	1	
C 14		CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 15		CER CAP CK732B1H102K	1000p F ± 10% 50V	1	
C 16		CER CAP CK732B1H103K	0.01μ F ± 10% 50V	1	
C 17		CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 18		CER CAP CK732B1H102K	1000p F ± 10% 50V	1	
C 19		CER CAP CC732CH1H600J	600p F ± 5% 50V	1	
C 20		CER CAP CK732B1H103K	0.01μ F ± 10% 50V	1	
C 21		CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 22		TA ELECTRLT CAP CS732E1E225M	2.2μ F ± 20% 25V	1	
C 23		NOT ASSIGNED			

* Selected at factory Drawing No. 34W965B5 1/5
 ANRITSU CORP.

Parts List of: A2-A7 3RD CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		CER CAP CK732B1H102K	1000p F ± 10% 50V	1	
C 25		CER CAP CK732B1H102K	1000p F ± 10% 50V	1	
C 26		CER CAP CK732B1H102K	1000p F ± 10% 50V	1	
C 27		CER CAP CC732CH1H330J	330p F ± 5% 50V	1	
T 28		CER CAP CK732B1H102K	1000p F ± 10% 50V	1	
C 29		CER CAP CK732B1H102K	1000p F ± 10% 50V	1	
C 30		CER CAP CK732B1H102K	1000p F ± 10% 50V	1	
C 31		CER CAP CK732B1H102K	1000p F ± 10% 50V	1	
C 32		CER CAP CK732B1H102K	1000p F ± 10% 50V	1	
C 33		CER CAP CK732B1H102K	1000p F ± 10% 50V	1	
C 34		TA ELECTRLT CAP CS732E1E225M	2.2μ F ± 20% 25V	1	
L 1		INDUCTOR	1μ H		PATTERN
L 2		NOT ASSIGNED			
L 3		INDUCTOR NL322522-R10K	0.1μ H ± 10%	1	
L 4		INDUCTOR NL322522-R33K	0.33μ H ± 10%	1	
L 5		INDUCTOR NL322522-R10K	0.1μ H ± 10%	1	
L 6		INDUCTOR NL322522-R68K	0.68μ H ± 10%	1	
L 7		NOT ASSIGNED			
L 8		NOT ASSIGNED			
L 9		INDUCTOR NL453232-R68K	0.68μ H ± 10%	1	
L 10		INDUCTOR NL453232-R33K	0.33μ H ± 10%	1	

* Selected at factory Drawing No. 34W965B5 2/5
 ANRITSU CORP.

Parts List of: A2-A7 3RD CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
L 11		INDUCTOR NL453232-100K	10μ H ± 10%	1	
L 12		INDUCTOR 34L74431J	10μ H	1	
L 13		INDUCTOR NL322522-R10K	0.1μ H	1	
L 14		INDUCTOR NL322522-R68K	0.68μ H ± 10%	1	
L 15		INDUCTOR NL322522-R10K	0.1μ H	1	
L 16		INDUCTOR NL322522-R68K	0.68μ H ± 10%	1	
L 17		INDUCTOR NL453232-220K	22μ H ± 10%	1	
B 1		ZENER DIODE R06-2MB2 (622)		1	
B 2		TRANSISTOR 2SC2351 (R2 OR R3)		1	
B 3		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	
B 4		DIODE 15V34		1	
B 5		DIODE 15V34		1	
B 6		TRANSISTOR 2SC2351 (R2 OR R3)		1	
B 7		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	
B 8		TRANSISTOR 2SC5617		1	
B 9		NOT ASSIGNED			
B 10		IC M-PC1677C		1	
B 11		IC MWA230		1	
B 12		IC MWA230		1	
R 1		CERMET RESISTOR RK73M2A510J	51Ω ± 5% 1/10W	1	

* Selected at factory Drawing No. 34W965B5 3/5
 ANRITSU CORP.

Parts List of: A2-A7 3RD CONVERTER

Parts List of: A2-A7 3RD CONVERTER

Ref. No.	Part Code	Description	Rating	Qty	Note
R 2		CERMET RESISTOR RK73M2A470J	470 ± 5% 1/10W	1	
R 3		CERMET RESISTOR RK73M2A102J	1K0 ± 5% 1/10W	1	
R 4		CERMET RESISTOR RK73M2A472J	4.7K0 ± 5% 1/10W	1	
R 5		CERMET RESISTOR RK73M2A681J	680Q ± 5% 1/10W	1	
R 6		CERMET RESISTOR RK73M2A681J	680Q ± 5% 1/10W	1	
R 7		CERMET RESISTOR RK73M2A331J	330Q ± 5% 1/10W	1	
R 8		CERMET RESISTOR RK73M2A102J	1K0 ± 5% 1/10W	1	
R 9		CERMET RESISTOR RK73M2A682J	6.8K0 ± 5% 1/10W	1	
R 10		CERMET RESISTOR RK73M2A822J	8.2K0 ± 5% 1/10W	1	
R 11		CERMET RESISTOR RK73M2A222J	2.2K0 ± 5% 1/10W	1	
R 12		CERMET RESISTOR RK73M2A471J	470Q ± 5% 1/10W	1	
R 13		CERMET RESISTOR RK73M2A102J	1K0 ± 5% 1/10W	1	
R 14		CERMET RESISTOR RK73M2A331J	330Q ± 5% 1/10W	1	
R 15		CERMET RESISTOR RK73M2A331J	330Q ± 5% 1/10W	1	
R 16		CERMET RESISTOR RK73M2A471J	470Q ± 5% 1/10W	1	
R 17		CERMET RESISTOR RK73M2A471J	470Q ± 5% 1/10W	1	
R 18		CERMET RESISTOR RK73M2A470J	47Q ± 5% 1/10W	1	
R 19		CERMET RESISTOR RK73M2A102J	1K0 ± 5% 1/10W	1	
R 20		CERMET RESISTOR RK73M2A102J	1K0 ± 5% 1/10W	1	
R 21		CERMET RESISTOR RK73M2A102J	1K0 ± 5% 1/10W	1	
R 22		CERMET RESISTOR RK73M2A271J	270Q ± 5% 1/10W	1	
R 23		CERMET RESISTOR RK73M2A220J	22Q ± 5% 1/10W	1	
R 24		CERMET RESISTOR RK73M2A271J	270Q ± 5% 1/10W	1	

Selected at factory
 DRAWING No. 34V965B5
 ANRITSU CORP.

Ref. No.	Part Code	Description	Rating	Qty	Note
R 25		CERMET RESISTOR RK73M2A221J	220Q ± 5% 1/10W	1	
R 26		CERMET RESISTOR RK73M2A220J	22Q ± 5% 1/10W	1	
R 27		CERMET RESISTOR RK73M2A221J	220Q ± 5% 1/10W	1	
R 28		CERMET RESISTOR RK73M2A271J	270Q ± 5% 1/10W	1	
R 29		CERMET RESISTOR RK73M2A180J	18Q ± 5% 1/10W	1	
R 30		CERMET RESISTOR RK73M2A271J	270Q ± 5% 1/10W	1	
R 31		CERMET RESISTOR RK73M2A150J	15Q ± 5% 1/10W	1	
R 32		CERMET RESISTOR RK73M2A271J	270Q ± 5% 1/10W	1	
R 33		CERMET RESISTOR RK73M2A180J	18Q ± 5% 1/10W	1	
R 34		CERMET RESISTOR RK73M2A271J	270Q ± 5% 1/10W	1	
R 35		CERMET RESISTOR RK73M2A471J	470Q ± 5% 1/10W	1	
R 36		CERMET RESISTOR RK73M2A100J	10Q ± 5% 1/10W	1	
R 37		CERMET RESISTOR RK73M2A471J	470Q ± 5% 1/10W	1	
R 38		CERMET RESISTOR RK73M2A150J	15Q ± 5% 1/10W	1	
R 39		CERMET RESISTOR RK73M2A471J	470Q ± 5% 1/10W	1	
R 40		CERMET RESISTOR RK73M2A100J	10Q ± 5% 1/10W	1	
R 41		CERMET RESISTOR RK73M2A471J	470Q ± 5% 1/10W	1	
Z 1		MIXER M-4		1	
Z 2		BPF ANT-521.4MB	521.4MHZ	1	
Z 3		BPF ANT-521.4MB	521.4MHZ	1	
Z 4		BPF ANT-521.4MB	521.4MHZ	1	
Z 5		BPF AMU-500MA-1	500MHZ	1	

Selected at factory
 DRAWING No. 34V965B5
 ANRITSU CORP.

Parts List of: A2-A9 625KHZ CAL OSC

Parts List of: A2-A9 625KHZ CAL OSC

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CK733B1H103K (A 4	0.01µ F ± 10% 50V	1	
C 2		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 3		CER CAP CC732CK1H020C (H 6	2p F 50V ± 0.25p F	1	
C 4		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 5		AL ELECTLYT CAP CE04C1E221A	220µ F ± 20% 25V	1	
C 6		AL ELECTLYT CAP CE04C1E221A	220µ F ± 20% 25V	1	
C 7		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 8		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 9		AL ELECTLYT CAP CE04C1E221A	220µ F ± 20% 25V	1	
C 10		AL ELECTLYT CAP CE04C1E221A	220µ F ± 20% 25V	1	
C 11		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 12		CER CAP CC732CH1M10DD (A 6	10p F ± 0.5% 50V	1	
C 13		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 14		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 15		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 16		CER CAP CK737B1H224K (I J	0.22µ F ± 10% 50V	1	
C 17		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 18		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 19		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 20		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 21		AL ELECTLYT CAP CE04C1H2R2A	2.2µ F ± 20% 50V	1	
C 22		AL ELECTLYT CAP CE04C1H2R2A	2.2µ F ± 20% 50V	1	
C 23		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	

Selected at factory
 DRAWING No. 34V965B7
 ANRITSU CORP.

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		AL ELECTLYT CAP SXFL6VB47PH10.3X7L	47µ F ± 20% 16V	1	
C 25		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 26		AL ELECTLYT CAP SXFL6VB47PH10.3X7L	47µ F ± 20% 16V	1	
C 27		AL ELECTLYT CAP C0731E1C225H	2.2µ F ± 20% 16V	1	
C 28		AL ELECTLYT CAP CE04C1H2R2A	2.2µ F ± 20% 50V	1	
C 29		AL ELECTLYT CAP US731E1C225H	2.2µ F ± 20% 16V	1	
C 30		AL ELECTLYT CAP CE04C1H2R2A	2.2µ F ± 20% 50V	1	
C 31		AL ELECTLYT CAP CE04C1H2R2A	2.2µ F ± 20% 50V	1	
C 32		CER CAP CK737B1H224K (I J	0.22µ F ± 10% 50V	1	
C 33		NOT ASSIGNED		1	
C 34		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 35		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 36		CER CAP CC732CH1M10DD (A 6	10p F ± 0.5% 50V	1	
C 37		AL ELECTLYT CAP SXFL6VB220PH10X12	220µ F ± 20% 16V	1	
C 38		AL ELECTLYT CAP SXFL6VB120PH10.3X11	120µ F ± 20% 16V	1	
C 39		AL ELECTLYT CAP SXFL6VB120PH10.3X11	120µ F ± 20% 16V	1	
J 1		NOT ASSIGNED		1	
J 2		PLUG DINA1612-32PB	32P	1	
J 3		PLUG DF18-8P2.50S(D1)	8P	1	
J 4		PLUG DF18-8P2.50S(D1)	8P	1	
J 5		CONNECTOR FFC-3AMEP		1	

Selected at factory
 DRAWING No. 34V965B7
 ANRITSU CORP.

Parts List of: A2-A9 625KHZ CAL OSC

Ref. No.	Part Code	Description	Rating	Qty	Note
1		RELAY DIP-5V		1	
L 1		INDUCTOR NL453232-101K	100μ H. ± 10%	1	
L 2		INDUCTOR NL453232-101K	100μ H. ± 10%	1	
L 3		INDUCTOR NL453232-221K	220μ H. ± 10%	1	
L 4		INDUCTOR LFB-220K	22μ H. ± 10%	1	
L 5		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 6		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
Q 1		TRANSISTOR 2SC3735 (834 OR 83)		1	
Q 2		IC 74HC103F		1	
Q 3		IC # PL78L05J		1	
Q 4		IC NJM5534M		1	
Q 5		IC # PD5201G		1	
Q 6		IC NJM5534M		1	
Q 7		IC # PD5201G		1	
Q 8		IC NJM5534M		1	
Q 9		IC # PD5201G		1	
Q 10		IC NJM5534M		1	
Q 11		TRANSISTOR 2SA812 (MS OR M6)		1	
Q 12		IC ACT102AFP		1	
Q 13		IC ACT102AFP		1	

Parts List of: A2-A9 625KHZ CAL OSC

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 14		IC # PC79L05J		1	
Q 15		IC # PC1430BM		1	
Q 16		LM2940CT5 TRANSISTOR		1	
Q 17		25C3617 TRANSISTOR		1	
Q 18		25C3617 TRANSISTOR		1	
Q 19		IC # PC79L12J		1	
Q 20		TRANSISTOR 25C3617		1	
Q 21		TRANSISTOR FA1L3Z		1	
Q 22		TRANSISTOR FA1L3Z		1	
Q 23		TRANSISTOR FA1L3Z		1	
Q 24		IC 74HC00P		1	
Q 25		TRANSISTOR 25C3617		1	
Q 26		TRANSISTOR FA1L3Z		1	
Q 27		TRANSISTOR FA1L3Z		1	
Q 28		IC TC7504F		1	
Q 29		IC TC7504F		1	
Q 30		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	
Q 31		DIODE NDA116-2		1	
Q 32		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	
Q 33		ZENER DIODE RD2.7MB (27%)		1	
R 1		CERMET RESISTOR RK73M2A50J	50Ω ± 5% 1/10W	1	
R 2		CERMET RESISTOR RK73M2A22J	22Ω ± 5% 1/10W	1	

Parts List of: A2-A9 625KHZ CAL OSC

Ref. No.	Part Code	Description	Rating	Qty	Note
R 3		CERMET RESISTOR RK73M2A22J	2.2KΩ ± 5% 1/10W	1	
R 4		CERMET RESISTOR RK73M2A50J	50Ω ± 5% 1/10W	1	
R 5		NOT ASSIGNED			
R 6		CERMET RESISTOR RK73M2A10J	1KΩ ± 5% 1/10W	1	
R 7		VARIABLE RESISTOR R604B102H	1KΩ 1/4W	1	
R 8		METAL FILM RESISTOR RN73G2A4310	430Ω ± 0.5% 1/10W	1	
R 9		METAL FILM RESISTOR RN73G2A330	33Ω ± 0.5% 1/10W	1	
R 10		METAL FILM RESISTOR RN73G2A330D	330Ω ± 0.5% 1/10W	1	
R 11		METAL FILM RESISTOR RN73G2A3910	390Ω ± 0.5% 1/10W	1	
R 12		METAL FILM RESISTOR RN73G2A220	22Ω ± 0.5% 1/10W	1	
R 13		METAL FILM RESISTOR RN73G2A100	10Ω ± 0.5% 1/10W	1	
R 14		METAL FILM RESISTOR RN73G2A332D	3.3KΩ ± 0.5% 1/10W	1	
R 15		METAL FILM RESISTOR RN73G2A122D	1.2KΩ ± 0.5% 1/10W	1	
R 16		METAL FILM RESISTOR RN73G2A201D	200Ω ± 0.5% 1/10W	1	
R 17		METAL FILM RESISTOR RN73G2A911D	910Ω ± 0.5% 1/10W	1	
R 18		METAL FILM RESISTOR RN73G2A100D	10Ω ± 0.5% 1/10W	1	
R 19		METAL FILM RESISTOR RN73G2A501D	50Ω ± 0.5% 1/10W	1	
R 20		METAL FILM RESISTOR RN73G2A390D	390Ω ± 0.5% 1/10W	1	
R 21		METAL FILM RESISTOR RN73G2A102D	1KΩ ± 0.5% 1/10W	1	
R 22		METAL FILM RESISTOR RN73G2A362D	3.6KΩ ± 0.5% 1/10W	1	
R 23		NOT ASSIGNED			
R 24		METAL FILM RESISTOR RN73G2A501D	50Ω ± 0.5% 1/10W	1	
R 25		METAL FILM RESISTOR RN73G2A150D	15Ω ± 0.5% 1/10W	1	

Parts List of: A2-A9 625KHZ CAL OSC

Ref. No.	Part Code	Description	Rating	Qty	Note
R 26		METAL FILM RESISTOR RN73G2A470D	47Ω ± 0.5% 1/10W	1	
R 27		METAL FILM RESISTOR RN73G2A430D	43Ω ± 0.5% 1/10W	1	
R 28		CARBON FILM RES ARD25T821J	820Ω ± 5% 1/4W	1	
R 29		CERMET RESISTOR RK73M2A391J	390Ω ± 5% 1/10W	1	
R 30		CERMET RESISTOR RK73M2A10J	100Ω ± 5% 1/10W	1	
R 31		CERMET RESISTOR RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 32		CERMET RESISTOR RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 33		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5% 1/10W	1	
R 34		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 35		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5% 1/10W	1	
R 36		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5% 1/10W	1	
R 37		METAL FILM RESISTOR RN14K2E1271D	1.27KΩ ± 0.5% 1/4W	1	
R 38		METAL FILM RESISTOR RN14K2E1741D	1.74KΩ ± 0.5% 1/4W	1	
R 39		METAL FILM RESISTOR RN14K2E51R1D	51.1Ω ± 0.5% 1/4W	1	
R 40		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 41		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 42		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5% 1/10W	1	
R 43		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5% 1/10W	1	
R 44		METAL FILM RESISTOR RN73G2A180D	18Ω ± 0.5% 1/10W	1	
R 45		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 46		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 47		METAL FILM RESISTOR RN73G2A432D	4.3KΩ ± 0.5% 1/10W	1	
R 48		METAL FILM RESISTOR RN73G2A332D	3.3KΩ ± 0.5% 1/10W	1	

Parts List of: A2-A9 425KHZ CAL OSC

Parts List of: A2-A11 2.5214GHZ BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
1	49	CERNET RESISTOR RK73H2A121J	120Ω ± 5% 1/10W	1	

Selected at factory
 Drawing No. 34U96587
 No. 0075-1000 1/1
ANRITSU CORP.

Ref. No.	Part Code	Description	Rating	Qty	Note
2	1	SFF TUCFAR2521W0SD001	2.5214GHZ	1	
2	2	36KHZ LPF		1	PATTERN

Selected at factory
 Drawing No. 34U97103
 No. 0075-1000 1/1
ANRITSU CORP.

Parts List of: A3-1ST LOCAL UNIT

Parts List of: A3-A1 LOCAL UNIT(1)

Ref. No.	Part Code	Description	Rating	Qty	Note
A	2	LOCAL UNIT(1)		1	34U97941
		LOCAL UNIT(2)		1	34U97942
L	1	CABLE 270P-HP-LP		1	34J90715W
K	2	CABLE 270P-LP-LP		1	34J90715Y
L	3	CABLE 270P-HP-LP		1	34J90715N
E	4	CABLE 270P-HP-LP		1	34J90715W
E	5	CABLE 270P-HP-LP		1	34J90715R

Selected at factory
 Drawing No. 34U97970
 No. 0075-1000 1/1
ANRITSU CORP.

Ref. No.	Part Code	Description	Rating	Qty	Note
A		LOCAL MB1		1	34U96776
A	2	1MHZ STEP SYNTH		1	34U96771
A	3	1/M DIVIDER		1	34U96772
A	4	SAMPL OSC LOOP		1	34U96774
A	5	1/20 PLL CONT		1	34U96775
C	1	CER CAP TSFD40CX1H102Y	1000p F 50V	1	
C	2	CER CAP TSFD40CX1H102Y	1000p F 50V	1	
C	3	CER CAP TSFD40CX1H102Y	1000p F 50V	1	
C	4	CER CAP TSFD40CX1H102Y	1000p F 50V	1	
C	5	CER CAP TSFD40CX1H102Y	1000p F 50V	1	
C	6	CER CAP TSFD40CX1H102Y	1000p F 50V	1	
E	7	CER CAP TSFD40CX1H102Y	1000p F 50V	1	
E	8	CER CAP TSFD40CX1H102Y	1000p F 50V	1	
C	9	CER CAP TSFD40BSL1H220K	22p F 50V	1	
C	10	CER CAP TSFD40BSL1H220K	22p F 50V	1	
C	11	CER CAP TSFD40BSL1H220K	22p F 50V	1	
C	12	CER CAP TSFD40BSL1H220K	22p F 50V	1	
C	13	CER CAP TSFD40BSL1H220K	22p F 50V	1	
C	14	CER CAP TSFD40BSL1H220K	22p F 50V	1	
C	15	CER CAP TSFD40BSL1H220K	22p F 50V	1	
C	16	CER CAP TSFD40BSL1H220K	22p F 50V	1	
C	17	CER CAP TSFD40CX1H102Y	1000p F 50V	1	

Selected at factory
 Drawing No. 34U97941
 No. 0075-1000 1/1
ANRITSU CORP.

Parts List of: A3-A1 LOCAL UNIT(1)

Ref. No.	Part Code	Description	Rating	Qty	Note
C 18		CER CAP TSF040BSL1M220K	220 P 50V	1	
C 19		CER CAP TSF040BSL1M220K	50V	1	
C 20		CER CAP TSF040BSL1M220K	1000 P F	1	
C 21		CER CAP TSF040CXR1H102Y	50V	1	
C 21		CER CAP TSF040CXR1H102Y	1000 P F	1	
C 22		CER CAP TSF040CXR1H102Y	50V	1	
C 22		CER CAP TSF040CXR1H102Y	1000 P F	1	
C 23		CER CAP TSF040CXR1H102Y	1000 P F	1	
C 24		CER CAP TSF040CXR1H102Y	50V	1	
C 24		CER CAP TSF040CXR1H102Y	1000 P F	1	
C 25		CER CAP TSF040CXR1H102Y	50V	1	
C 25		CER CAP TSF040CXR1H102Y	1000 P F	1	
C 26		CER CAP TSF040CXR1H102Y	50V	1	
C 26		CER CAP TSF040CXR1H102Y	1000 P F	1	
C 27		CER CAP TSF040CXR1H102Y	50V	1	
C 27		CER CAP TSF040CXR1H102Y	220 P F	1	
C 27		CER CAP TSF040BSL1M220K	50V	1	
C 28		CER CAP TSF040BSL1M220K	220 P F	1	
C 28		CER CAP TSF040BSL1M220K	50V	1	
C 29		CER CAP TSF040CXR1H102Y	1000 P F	1	
C 29		CER CAP TSF040CXR1H102Y	50V	1	
C 30		CER CAP TSF040CXR1H102Y	1000 P F	1	
C 30		CER CAP TSF040CXR1H102Y	50V	1	
C 31		CER CAP TSF040CXR1H102Y	1000 P F	1	
C 31		CER CAP TSF040CXR1H102Y	50V	1	
C 32		CER CAP TSF040CXR1H102Y	1000 P F	1	
C 32		CER CAP TSF040CXR1H102Y	50V	1	
J 1		CABLE 342W100172	4 P	1	
J 2		CABLE 342W100173	4 P	1	
J 3		NOT ASSIGNED		1	
J 4		PLUG 27DP-BR		1	
J 5		PLUG 27DP-BR		1	
J 6		PLUG 27DP-BR		1	
J 7		PLUG 27DP-BR		1	

Source of factory: ANRITSU CORP. DRAWING No. 34U9794 2/3

Parts List of: A3-A1 LOCAL UNIT(1)

Ref. No.	Part Code	Description	Rating	Qty	Note
J 8		PLUG 27DP-BR		1	
M 1		CABLE 27DP-LP-LP	60MM	1	34J90715A
M 2		CABLE 27DP-LP-LP	150MM	1	34J90715R
Z 1		SAMPLER		1	439H3690B0

Source of factory: ANRITSU CORP. DRAWING No. 34U9794 3/3

Parts List of: A3-A1-A1 LOCAL MB1

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CK732B1H103K (A 4)	0.01 μ F ± 10%, 50V	1	
C 2		CER CAP CK732B1H103K (A 4)	0.01 μ F ± 10%, 50V	1	
C 3		AL ELECTLT CAP E75511A-70H	47 μ F 10V	1	
C 4		AL ELECTLT CAP SXF10VB50	50 μ F 10V	1	
C 5		NOT ASSIGNED		1	
C 6		CER CAP CK733B1H104K	0.1 μ F 50V	1	
C 7		AL ELECTLT CAP SXF10VB47	47 μ F 10V	1	
C 8		NOT ASSIGNED		1	
C 9		CER CAP CK733B1H104K	0.1 μ F 50V	1	
C 10		AL ELECTLT CAP SXF10VB50	50 μ F 10V	1	
C 11		NOT ASSIGNED		1	
C 12		CER CAP CK733B1H104K	0.1 μ F 50V	1	
C 13		CER CAP CK733B1H104K	0.1 μ F 50V	1	
C 14		AL ELECTLT CAP SXF10VB47	47 μ F 10V	1	
C 15		NOT ASSIGNED		1	
C 16		CER CAP CK733B1H104K	0.1 μ F 50V	1	
C 17		AL ELECTLT CAP SXF10VB50	50 μ F 10V	1	
C 18		NOT ASSIGNED		1	
C 19		CER CAP CK733B1H104K	0.1 μ F 50V	1	
C 20		AL ELECTLT CAP SXF10VB50	50 μ F 10V	1	
C 21		NOT ASSIGNED		1	
C 22		AL ELECTLT CAP SXF10VB47	47 μ F 10V	1	
C 23		NOT ASSIGNED		1	

Source of factory: ANRITSU CORP. DRAWING No. 34M96770 1/4

Parts List of: A3-A1-A1 LOCAL MB1

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		CER CAP CK733B1H104K	0.1 μ F 50V	1	
C 25		CER CAP CK733B1H104K	0.1 μ F 50V	1	
C 26		AL ELECTLT CAP SXF10VB50	50 μ F 10V	1	
C 27		NOT ASSIGNED		1	
C 28		CER CAP CK733B1H104K	0.1 μ F 50V	1	
C 29		NOT ASSIGNED		1	
C 30		NOT ASSIGNED		1	
C 31		NOT ASSIGNED		1	
C 32		CER CAP CK733B1H104K	0.1 μ F 50V	1	
C 33		CER CAP CK733B1H104K	± 10%, 50V 0.1 μ F ± 10%, 53V	1	
J 1		PLUG D1M-1612-32PB		1	
J 2		NOT ASSIGNED		1	
J 3		CABLE 342W100174		1	
J 4		PLUG D1-552, 5R24-168-1		1	
J 5		PLUG D1-852, 5R24-108-1		1	
Q 1		IC LM2940CT05		1	
Q 2		IC LM2940CT12		1	
Q 3		IC LM2940CT05		1	
Q 4		IC LM2940CT12		1	
Q 5		IC LM2940CT05		1	
Q 6		IC LM2940CT05		1	

Source of factory: ANRITSU CORP. DRAWING No. 34U96770 2/3

Parts List of: A3-A1-A1 LOCAL M81

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 7	IC	LM2940CT12		1	
Q 8	IC	LM2940CT05		1	
Q 9	IC	AC162AFP		1	
Q 10	IC	AC162AFP		1	
Q 11	IC	AC162AFP		1	
Q 12		NOT ASSIGNED			
Q 13		NOT ASSIGNED			
Q 14		NOT ASSIGNED			
Q 15		NOT ASSIGNED			
Q 16		NOT ASSIGNED			
Q 17		NOT ASSIGNED			
Q 18		NOT ASSIGNED			
Q 19		NOT ASSIGNED			
Q 20		NOT ASSIGNED			
Q 21		NOT ASSIGNED			
Q 22		NOT ASSIGNED			
Q 23		NOT ASSIGNED			
Q 24	IC	LM350Z		1	
R 1		CARBON FILM RES	680Ω		
R 2		ARR25T681J	± 5% -1/4W	1	
R 3		RES ARRAY	100KΩ		
R 4		RRS-8-104JA	± 5%	1	
R 5		RES ARRAY	100KΩ		
R 6		RRS-8-104JA	± 5%	1	

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Parts List of: A3-A1-A1 LOCAL M81

Ref. No.	Part Code	Description	Rating	Qty	Note
R 5		RES ARRAY	100KΩ		
R 6		RRS-8-104JA	± 5%	1	
R 7		RES ARRAY	100KΩ		
R 8		RRS-4-104JA	± 5%	1	
R 9		RES ARRAY	100KΩ		
R 10		RRS-4-104JA	± 5%	1	
R 11		RES ARRAY	100KΩ		
R 12		RRS-4-104JA	± 5%	1	
R 13		NOT ASSIGNED			

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Parts List of: A3-A1-A2 1MHZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP	470P F	1	
C 2		CC732CH10471J (IS b)	± 5% 50V	1	
C 3		CER CAP	470P F	1	
C 4		CC732CH10471J (IS b)	± 5% 50V	1	
C 5		PLSTC FILM CAP	0.33μ F	1	
C 6		ECR-VIN334JM	± 5% 50V	1	
C 7		PLSTC FILM CAP	0.33μ F	1	
C 8		ECR-VIN334JM	± 5% 50V	1	
C 9		CER CAP	0.1μ F	1	
C 10		CK733B1H104K	50V	1	
C 11		CER CAP	0.1μ F	1	
C 12		CK733B1H104K	50V	1	
C 13		TA ELECTLY CAP	33μ F	1	
C 14		CS735E1C336H	16V	1	
C 15		TA ELECTLY CAP	33μ F	1	
C 16		CS735E1C336H	16V	1	
C 17		NOT ASSIGNED			
C 18		PLSTC FILM CAP	0.22μ F	1	
C 19		ECR-VIN224JM	± 5% 50V	1	
C 20		CER CAP	150P F	1	
C 21		CC732CH10151J (IB b)	± 5% 50V	1	
C 22		CER CAP	0.01μ F	1	
C 23		CK732B1H103K (A 4)	± 10% 50V	1	
C 24		TA ELECTLY CAP	33μ F	1	
C 25		CS735E1C336H	16V	1	
C 26		CER CAP	220P F	1	
C 27		CC732CH10221J (J b)	± 5% 50V	1	
C 28		CER CAP	1000P F	1	
C 29		CC732CH1020J	± 5% 50V	1	
C 30		CER CAP	1000P F	1	
C 31		CC732CH1020J	± 5% 50V	1	
C 32		CER CAP	1000P F	1	
C 33		CC732CH1020J	± 5% 50V	1	
C 34		CER CAP	220P F	1	
C 35		CC732CH1020J	± 5% 50V	1	
C 36		CER CAP	1000P F	1	
C 37		CC732CH1020J	± 5% 50V	1	
C 38		CER CAP	1000P F	1	
C 39		CC732CH1020J	± 5% 50V	1	
C 40		CER CAP	1000P F	1	
C 41		CC732CH1020J	± 5% 50V	1	
C 42		CER CAP	1000P F	1	
C 43		CC732CH1020J	± 5% 50V	1	
C 44		CER CAP	1000P F	1	
C 45		CC732CH1020J	± 5% 50V	1	
C 46		CER CAP	1000P F	1	

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Parts List of: A3-A1-A2 1MHZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		CER CAP	0.1μ F 50V	1	
C 25		CK733F1H104Z (A 6)	+80/-20%	1	
C 26		CER CAP	1000P F	1	
C 27		CC732CH1020J	± 5% 50V	1	
C 28		CER CAP	1000P F	1	
C 29		CC732CH1020J	± 5% 50V	1	
C 30		CER CAP	1000P F	1	
C 31		CC732CH1020J	± 5% 50V	1	
C 32		CER CAP	82P F	1	
C 33		CC732CH1020J (Y b)	± 5% 50V	1	
C 34		CER CAP	0.01μ F	1	
C 35		CK732B1H103K (A 4)	± 10% 50V	1	
C 36		CER CAP	0.1μ F	1	
C 37		CK733B1H104K	50V	1	
C 38		TA ELECTLY CAP	33μ F	1	
C 39		CS735E1C336H	16V	1	
C 40		CER CAP	2200P F	1	
C 41		CK732B1H222K (J 3)	± 10% 50V	1	
C 42		CER CAP	0.01μ F	1	
C 43		CK732B1H103K (A 4)	± 10% 50V	1	
C 44		CER CAP	0.01μ F	1	
C 45		CK732B1H103K (A 4)	± 10% 50V	1	
C 46		CER CAP	0.1μ F	1	
C 47		CK733B1H104K	50V	1	
C 48		CER CAP	0.1μ F	1	
C 49		CK733B1H104K	50V	1	
C 50		CER CAP	1000P F	1	
C 51		CC732CH1020J	± 5% 50V	1	
C 52		CER CAP	0.01μ F	1	
C 53		CK732B1H103K (A 4)	± 10% 50V	1	
C 54		CER CAP	10V	1	
C 55		CK732CH1020J	± 5% 50V	1	
C 56		CER CAP	220P F	1	
C 57		CC732CH10221J (J b)	± 5% 50V	1	
C 58		CER CAP	220P F	1	
C 59		CC732CH10221J (J b)	± 5% 50V	1	
C 60		CER CAP	220P F	1	
C 61		CC732CH10221J (J b)	± 5% 50V	1	
C 62		CER CAP	220P F	1	
C 63		CK733B1H104K	± 10% 50V	1	
C 64		CER CAP	0.1μ F	1	
C 65		CK733B1H104K	± 10% 50V	1	

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Parts List of: A3-A1-A2 1MHZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
C 47	TA ELECTLT CAP	33M F		1	
	CS735E1C336M	16V			
C 48	TA ELECTLT CAP	33M F		1	
	CS735E1C336M	16V			
C 49	CER CAP	0.1M F		1	
	CK733B1H104K	50V			
C 50	CER CAP	0.1M F		1	
	CK733B1H104K	50V			
C 51	PLSTC FILM CAP	0.15M F		1	
	EC0-V1H154JM	± 5% .50V			
C 52	CER CAP	0.01M F		1	
	CK732CH1H600J (W b)	± 5% .50V			
C 53	CER CAP	0.01M F		1	
	CK732B1H103K (A 4)	± 10% .50V			
C 54	TA ELECTLT CAP	33M F		1	
	CS735E1C336M	16V			
C 55	CER CAP	120P F		1	
	CC732CH1H121J (C b)	± 5% .50V			
C 56	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 57	CER CAP	20P F .50V		1	
	CC732CK1H020C (H b)	± 0.25P F			
C 58	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 59	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 60	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 61	TA ELECTLT CAP	33M F		1	
	CS735E1C336M	16V			
C 62	CER CAP	1000P F		1	
	CK732B1H102K (A 3)	± 10% .50V			
C 63	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 64	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 65	AL ELECTLT CAP	100M F		1	
	KMA10VB-100	10V			
C 66	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 67	CER CAP	0.01M F		1	
	CK732B1H103K (A 4)	± 10% .50V			
C 68	TA ELECTLT CAP	33M F		1	
	CS735E1C336M	16V			
C 69	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			

Parts List of: A3-A1-A2 1MHZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
C 70	CER CAP	0.01M F		1	
	CK732CH1H600J (W b)	± 5% .50V			
C 71	CER CAP	0.01M F		1	
	CK732CH1H600D (L b)	± 0.5P F			
C 72	CER CAP	100P F		1	
	CC732CH1H600J (W b)	± 5% .50V			
C 73	CER CAP	22P F		1	
	CC732CH1H220J (J b)	± 5% .50V			
C 74	CER CAP	47P F		1	
	CC732CH1H470J (S b)	± 5% .50V			
C 75	CER CAP	0.01M F		1	
	CK732B1H103K (A 4)	± 10% .50V			
C 76	CER CAP	0.01M F		1	
	CK732B1H103K (A 4)	± 10% .50V			
C 77	CER CAP	0.01M F		1	
	CK732B1H103K (A 4)	± 10% .50V			
C 78	NOT ASSIGNED			1	
C 79	CER CAP	0.01M F		1	
	CK732B1H103K (A 4)	± 10% .50V			
C 80	CER CAP	0.01M F		1	
	CK732B1H103K (A 4)	± 10% .50V			
C 81	CER CAP	0.01M F		1	
	CK732B1H103K (A 4)	± 10% .50V			
C 82	CER CAP	0.01M F		1	
	CK732B1H103K (A 4)	± 10% .50V			
C 83	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 84	CER CAP	0.01M F		1	
	CK733B1H104K	50V			
C 85	AL ELECTLT CAP	100M F		1	
	KMA10VB-100	10V			
C 86	CER CAP	0.1M F		1	
	CK733B1H104K	± 10% .50V			
C 87	CER CAP	0.1M F		1	
	CK733B1H104K	± 10% .50V			
C 88	CER CAP	0.1M F		1	
	CK733B1H104K	± 10% .50V			
C 89	NOT ASSIGNED			1	
C 90	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 91	CER CAP	50P F		1	
	CC732CH1H500J (U b)	± 5% .50V			
C 92	CER CAP	50P F		1	
	CC732CH1H500J (U b)	± 5% .50V			

Parts List of: A3-A1-A2 1MHZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
C 93	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 94	AL ELECTLT CAP	100M F		1	
	KMA10VB-100	10V			
C 95	AL ELECTLT CAP	100M F		1	
	KMA10VB-100	10V			
C 96	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 97	CER CAP	1000P F		1	
	CC732CH1H102J	± 5% .50V			
C 98	CER CAP	0.1M F		1	
	CK733B1H104K	± 10% .50V			
C 99	CER CAP	0.1M F		1	
	CK733B1H104K	± 10% .50V			
C 100	AL ELECTLT CAP	100M F		1	
	KMA10VB-100	10V			
C 101	CER CAP	0.1M F		1	
	CK733B1H104K	± 10% .50V			
C 102	CER CAP	0.01M F		1	
	CK732B1H103K (A 4)	± 10% .50V			
C 103	CER CAP	0.01M F		1	
	CK732B1H103K (A 4)	± 10% .50V			
C 104	CER CAP	27P F		1	
	CC732CH1H270J (L b)	± 5% .50V			
C 105	CER CAP	27P F		1	
	CC732CH1H270J (L b)	± 5% .50V			
C 106	CER CAP	0.01M F		1	
	CK732CH1H600J (W b)	± 5% .50V			
C 107	CER CAP	0.01M F		1	
	CK732CH1H600D (L b)	± 0.5P F			
C 108	CER CAP	0.01M F		1	
	CK732CH1H600J (W b)	± 5% .50V			
C 109	CER CAP	22P F		1	
	CC732CH1H220J (J b)	± 5% .50V			
C 110	CER CAP	47P F		1	
	CC732CH1H470J (S b)	± 5% .50V			
J 1	NOT ASSIGNED			1	
J 2	PLUG	6P		1	
J 3	DF1-4PZ-50SA			1	
J 4	270P-LR-PC			1	

Parts List of: A3-A1-A2 1MHZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
J 5	PLUG	270P-LR-PC		1	
J 6	CONNECTOR	00 826102 4200 870		1	
J 7	CONNECTOR	00 826103 3311 852		1	
J 8	PLUG	270P-LR-PC-1		1	
J 9	CONNECTOR	00 826102 4200 870		1	
J 10	CONNECTOR	00 826103 3311 852		1	
J 11	PLUG	270P-LR-PC-1		1	
J 12	PLUG	270P-LR-PC-1		1	
L 1	INDUCTOR	NL453232-220K	22M H ± 10%	1	
L 2	INDUCTOR	NL453232-221K	220M H ± 10%	1	
L 3	INDUCTOR	SPO408-6R8K	6.8M H ± 10%	1	
L 4	INDUCTOR	E537M-020019	70R H	1	
L 5	INDUCTOR	NL322522-R68K	0.68M H ± 10%	1	
L 6	INDUCTOR	NL322522-R22K	0.22M H ± 10%	1	
L 7	INDUCTOR	NL322522-R22K	0.22M H ± 10%	1	
L 8	INDUCTOR	NL322522-R22K	0.22M H ± 10%	1	
L 9	INDUCTOR	NL453232-4R7K	4.7M H ± 10%	1	
L 10	INDUCTOR	SPO408-6R8K	6.8M H ± 10%	1	
L 11	INDUCTOR	E537M-020019	70R H	1	
L 12	INDUCTOR	NL453232-220K	22M H ± 10%	1	
L 13	INDUCTOR	NL322522-R15K	0.15M H ± 10%	1	
L 14	INDUCTOR	NL322522-R22K	0.22M H ± 10%	1	

Parts List of: A3-A1-A2 1MHz STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
L 15		INDUCTOR NL322522-R10K	0.1μ H ± 10%	1	
L 16		INDUCTOR TSL0707-331KR36	330μ	1	
L 17		INDUCTOR TSL0707-331KR36	± 10%	1	
L 18		INDUCTOR NL453232-220K	22μ H ± 10%	1	
L 19		INDUCTOR NL322522-R10K	0.1μ H ± 10%	1	
L 20		INDUCTOR NL322522-R10K	0.1μ H ± 10%	1	
L 21		INDUCTOR NL322522-R15K	0.15μ H ± 10%	1	
L 22		INDUCTOR NL322522-R22K	0.22μ H ± 10%	1	
L 23		INDUCTOR NL322522-R10K	0.1μ H ± 10%	1	
Q 1		IC # PC4570G2		1	
Q 2		DIODE A155123		1	
Q 3		ZENER DIODE RD6.2MB2 (622)		1	
Q 4		ZENER DIODE RD7.5MB2 (752)		1	
Q 5		ZENER DIODE RD9.1MB2 (912)		1	
Q 6		DIODE A155123		1	
Q 7		DIODE 15V68		1	
Q 8		TRANSISTOR 2SK55E		1	
Q 9		TRANSISTOR 2SK55E		1	
Q 10		TRANSISTOR 2SK55E		1	
Q 11		IC #WA130		1	
Q 12		ZENER DIODE RDS.1MB2 (512)		1	
Q 13		ZENER DIODE RDS.1MB2 (512)		1	

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Parts List of: A3-A1-A2 1MHz STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 14		IC # PC1658C		1	
Q 15		TRANSISTOR 2SC3615		1	
Q 16		IC 74LS123F		1	
Q 17		IC 74F191F		1	
Q 18		IC 74F191F		1	
Q 19		IC 74LS164F		1	
Q 20		IC 74F00F		1	
Q 21		IC TC7508F		1	
Q 22		IC MC444N		1	
Q 23		IC 74196		1	
Q 24		IC # PD5200G		1	
Q 25		IC TC7504F		1	
Q 26		IC # PC4570G2		1	
Q 27		ZENER DIODE RD6.2MB2 (622)		1	
Q 28		ZENER DIODE RD6.2MB2 (622)		1	
Q 29		DIODE A155123		1	
Q 30		DIODE 15V68		1	
Q 31		TRANSISTOR 2SK55E		1	
Q 32		TRANSISTOR 2SK55E		1	
Q 33		TRANSISTOR 2SK55E		1	
Q 34		IC # PC1651G		1	
Q 35		IC # PC1654A		1	
Q 36		ZENER DIODE RDS.1MB2 (512)		1	

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Parts List of: A3-A1-A2 1MHz STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 37		ZENER DIODE RDS.1MB2 (512)		1	
Q 38		NOT ASSIGNED		1	
Q 39		TRANSISTOR .2SC2351 (R2 OR R3)		1	
Q 40		TRANSISTOR .2SC2351 (R2 OR R3)		1	
Q 41		TRANSISTOR 2SC3615		1	
Q 42		IC # PC31962		1	
Q 43		IC #IC1204DL		1	
Q 44		TRANSISTOR 2SC3615		1	
Q 45		IC TC5020BP		1	
Q 46		IC TC6051BF		1	
Q 47		ZENER DIODE RDS.1MB2 (912)		1	
Q 48		IC # PC1651G		1	
R 1		METAL FILM RESISTOR RN73G2A511D	510Ω ± 0.5%/1/10W	1	
R 2		METAL FILM RESISTOR RN73G2A272D	2.7KΩ ± 0.5%/1/10W	1	
R 3		METAL FILM RESISTOR RN73G2A511D	510Ω ± 0.5%/1/10W	1	
R 4		METAL FILM RESISTOR RN73G2A272D	2.7KΩ ± 0.5%/1/10W	1	
R 5		METAL FILM RESISTOR RN73G2A562D	5.6KΩ ± 0.5%/1/10W	1	
R 6		METAL FILM RESISTOR RN73G2A562D	5.6KΩ ± 0.5%/1/10W	1	
R 7		METAL FILM RESISTOR RN73G2A511D	510Ω ± 0.5%/1/10W	1	
R 8		METAL FILM RESISTOR RN73G2A202D	2KΩ ± 0.5%/1/10W	1	
R 9		METAL FILM RESISTOR RN73G2A752D	7.5KΩ ± 0.5%/1/10W	1	
R 10		METAL FILM RESISTOR RN73G2A121D	120Ω ± 0.5%/1/10W	1	

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Parts List of: A3-A1-A2 1MHz STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 11		CERMET RESISTOR RK73M2A100J	100Ω ± 5%/1/10W	1	
R 12		CERMET RESISTOR RK73M2A100J	100Ω ± 5%/1/10W	1	
R 13		METAL FILM RESISTOR RN73G2A511D	510Ω ± 0.5%/1/10W	1	
R 14		METAL FILM RESISTOR RN73G2A102D	1KΩ ± 0.5%/1/10W	1	
R 15		METAL FILM RESISTOR RN73G2A562D	5.6KΩ ± 0.5%/1/10W	1	
R 16		METAL FILM RESISTOR RN73G2A103D	10KΩ ± 0.5%/1/10W	1	
R 17		METAL FILM RESISTOR RN73G2A272D	2.7KΩ ± 0.5%/1/10W	1	
R 18		METAL FILM RESISTOR RN73G2A122D	1.2KΩ ± 0.5%/1/10W	1	
R 19		METAL FILM RESISTOR RN73G2A332D	3.3KΩ ± 0.5%/1/10W	1	
R 20		METAL FILM RESISTOR RN73G2A103D	10KΩ ± 0.5%/1/10W	1	
R 21		METAL FILM RESISTOR RN73G2A562D	5.6KΩ ± 0.5%/1/10W	1	
R 22		METAL FILM RESISTOR RN73G2A821D	820Ω ± 0.5%/1/10W	1	
R 23		METAL FILM RESISTOR RN73G2A151D	150Ω ± 0.5%/1/10W	1	
R 24		CERMET RESISTOR RK73M2A330J	33Ω ± 5%/1/10W	1	
R 25		CERMET RESISTOR RK73M2A181J	180Ω ± 5%/1/10W	1	
R 26		CERMET RESISTOR RK73M2A181J	180Ω NOT ASSIGNED	1	
R 27		CERMET RESISTOR RK73M2A390J	390Ω ± 5%/1/10W	1	
R 28		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 29		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 30		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 31		CERMET RESISTOR RK73M2A100J	100Ω ± 5%/1/10W	1	
R 32		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	2	
R 33		CERMET RESISTOR RK73M2A181J	180Ω ± 5%/1/10W	1	

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Parts List of: A3-A1-A2 1MHz STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 34		CERMET RESISTOR RK73M2A332J	3.3KΩ ± 5%/1/10W	1	
R 35		CERMET RESISTOR RK73M2A182J	1.8KΩ ± 5%/1/10W	1	
R 36		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5%/1/10W	1	
R 37		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 38		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 39		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%/1/10W	1	
R 40		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5%/1/10W	1	
R 41		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%/1/10W	1	
R 42		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/1/10W	1	
R 43		CERMET RESISTOR RK73M2A391J	390Ω ± 5%/1/10W	1	
R 44		CERMET RESISTOR RK73M2A332J	3.3KΩ ± 5%/1/10W	1	
R 45		CERMET RESISTOR RK73M2A332J	3.3KΩ ± 5%/1/10W	1	
R 46		METAL FILM RESISTOR RN73G2A510	510Ω ± 0.5%/1/10W	1	
R 47		METAL FILM RESISTOR RN73G2A152D	1.5KΩ ± 0.5%/1/10W	1	
R 48		METAL FILM RESISTOR RN73G2A510	510Ω ± 0.5%/1/10W	1	
R 49		METAL FILM RESISTOR RN73G2A152D	1.5KΩ ± 0.5%/1/10W	1	
R 50		METAL FILM RESISTOR RN73G2A472D	4.7KΩ ± 0.5%/1/10W	1	
R 51		METAL FILM RESISTOR RN73G2A472D	4.7KΩ ± 0.5%/1/10W	1	
R 52		METAL FILM RESISTOR RN73G2A102D	1KΩ ± 0.5%/1/10W	1	
R 53		METAL FILM RESISTOR RN73G2A392D	3.9KΩ ± 0.5%/1/10W	1	
R 54		METAL FILM RESISTOR RN73G2A151D	150Ω ± 0.5%/1/10W	1	
R 55		CERMET RESISTOR RK73M2A100J	100Ω ± 5%/1/10W	1	
R 56		CERMET RESISTOR RK73M2A100J	100Ω ± 5%/1/10W	1	

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Parts List of: A3-A1-A2 1MHz STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 57		METAL FILM RESISTOR RN73G2A511D	510Ω ± 0.5%/1/10W	1	
R 58		METAL FILM RESISTOR RN73G2A102D	1KΩ ± 0.5%/1/10W	1	
R 59		METAL FILM RESISTOR RN73G2A582D	5.8KΩ ± 0.5%/1/10W	1	
R 60		METAL FILM RESISTOR RN73G2A103D	10KΩ ± 0.5%/1/10W	1	
R 61		METAL FILM RESISTOR RN73G2A272D	2.7KΩ ± 0.5%/1/10W	1	
R 62		METAL FILM RESISTOR RN73G2A122D	1.2KΩ ± 0.5%/1/10W	1	
R 63		METAL FILM RESISTOR RN73G2A332D	3.3KΩ ± 0.5%/1/10W	1	
R 64		METAL FILM RESISTOR RN73G2A103D	10KΩ ± 0.5%/1/10W	1	
R 65		METAL FILM RESISTOR RN73G2A582D	5.8KΩ ± 0.5%/1/10W	1	
R 66		METAL FILM RESISTOR RN73G2A821D	820Ω ± 0.5%/1/10W	1	
R 67		METAL FILM RESISTOR RN73G2A151D	150Ω ± 0.5%/1/10W	1	
R 68		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 69		CERMET RESISTOR RK73M2A820J	820Ω ± 5%/1/10W	1	
R 70		CERMET RESISTOR RK73M2A820J	820Ω ± 5%/1/10W	1	
R 71		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 72		CERMET RESISTOR RK73M2A330J	330Ω ± 5%/1/10W	1	
R 73		CERMET RESISTOR RK73M2A181J	180Ω ± 5%/1/10W	1	
R 74		CERMET RESISTOR RK73M2A181J	180Ω ± 5%/1/10W	1	
R 75		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	2	
R 76		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 77		CERMET RESISTOR RK73M2A820J	820Ω ± 5%/1/10W	1	
R 78		CERMET RESISTOR RK73M2A820J	820Ω ± 5%/1/10W	1	
R 79		CERMET RESISTOR RK73M2A561J	560Ω ± 5%/1/10W	1	

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Parts List of: A3-A1-A2 1MHz STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 80		CERMET RESISTOR RK73M2A471J	4.7KΩ ± 5%/1/10W	1	
R 81		CERMET RESISTOR RK73M2A680J	6.8KΩ ± 5%/1/10W	1	
R 82		CERMET RESISTOR RK73M2A680J	6.8KΩ ± 5%/1/10W	1	
R 83		CERMET RESISTOR RK73M2A270J	270Ω ± 5%/1/10W	1	
R 84		CERMET RESISTOR RK73M2A391J	390Ω ± 5%/1/10W	1	
R 85		CERMET RESISTOR RK73M2A500J	500Ω ± 5%/1/10W	1	
R 86		CERMET RESISTOR RK73M2A680J	680Ω ± 5%/1/10W	1	
R 87		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 88		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 89		CERMET RESISTOR RK73M2A681J	680Ω ± 5%/1/10W	1	
R 90		CERMET RESISTOR RK73M2A561J	560Ω ± 5%/1/10W	1	
R 91		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 92		METAL FILM RESISTOR RN73G2A511D	510Ω ± 0.5%/1/10W	1	
R 93		METAL FILM RESISTOR RN73G2A511D	510Ω ± 0.5%/1/10W	1	
R 94		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%/1/10W	1	
R 95		CERMET RESISTOR RK73M2A392J	3.9KΩ ± 5%/1/10W	1	
R 96		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%/1/10W	1	
R 97		METAL FILM RESISTOR RN73G2A203D	20KΩ ± 0.5%/1/10W	1	
R 98		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 99		CERMET RESISTOR RK73M2A681J	680Ω ± 5%/1/10W	1	
R 100		METAL FILM RESISTOR RN73G2A752D	7.5KΩ ± 0.5%/1/10W	1	
R 101		METAL FILM RESISTOR RN73G2A153D	15KΩ ± 0.5%/1/10W	1	
R 102		METAL FILM RESISTOR RN73G2A162D	3.6KΩ ± 0.5%/1/10W	1	

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Parts List of: A3-A1-A2 1MHz STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 103		METAL FILM RESISTOR RN73G2A152D	1.5KΩ ± 0.5%/1/10W	1	
R 104		CERMET RESISTOR RK73M2A271J	270Ω ± 5%/1/10W	1	
R 105		CERMET RESISTOR RK73M2A180J	180Ω ± 5%/1/10W	1	
R 106		CERMET RESISTOR RK73M2A271J	270Ω ± 5%/1/10W	1	
R 107		CERMET RESISTOR RK73M2A510J	510Ω ± 5%/1/10W	1	
R 108		METAL FILM RESISTOR RN73G2A511D	510Ω ± 0.5%/1/10W	1	
R 109		CERMET RESISTOR RK73M2A70J	470Ω ± 5%/1/10W	1	
R 110		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 111		CERMET RESISTOR RK73M2A220J	220Ω ± 5%/1/10W	1	
R 112		CERMET RESISTOR RK73M2A150J	150Ω ± 5%/1/10W	1	
R 113		CERMET RESISTOR RK73M2A750J	750Ω ± 5%/1/10W	1	
R 114		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 115		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 116		CERMET RESISTOR RK73M2A181J	180Ω ± 5%/1/10W	1	
R 117		CERMET RESISTOR RK73M2A330J	330Ω ± 5%/1/10W	1	
R 118		CERMET RESISTOR RK73M2A181J	180Ω ± 5%/1/10W	1	
R 119		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 120		CERMET RESISTOR RK73M2A680J	680Ω ± 5%/1/10W	1	
R 121		CERMET RESISTOR RK73M2A500J	500Ω ± 5%/1/10W	1	
R 122		CERMET RESISTOR RK73M2A391J	390Ω ± 5%/1/10W	1	
R 123		CERMET RESISTOR RK73M2A561J	560Ω ± 5%/1/10W	1	
R 124		CERMET RESISTOR RK73M2A561J	560Ω ± 5%/1/10W	1	

1 Selected in factory
DRAWING NO. 34996771
14/15
ANRITSU CORP.

Parts List of: A3-A1-A2 1MHZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
Z 1		MIXER M-B		1	
Z 2		MIXER M-B		1	
Z 3		POWER DIVIDER PD-3		1	
Z 4		POWER DIVIDER PD-3		1	

Checked at factory
Drawing No. 3449677
15/14
No. 0275-1000 II
ANRITSU CORP.

Parts List of: A3-A1-A3 1/M DIVIDER

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 2		AL. ELECTLYT CAP KMA10VB-100	100µ F 10V	1	
C 3		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 4		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 5		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 6		CER CAP CK733B1H104K	0.1µ F 50V	1	
L 1		INDUCTOR 15L0707-331K1R30	550µ H ± 10%	1	
V 1		IC 116910C		1	
G 2		IC 74F00F		1	
G 3		IC 74F191F		1	
G 4		IC 74F191F		1	
G 5		IC 74F00F		1	
G 6		IC 74F06F		1	
G 7		IC 74S10F		1	
G 8		TRANSISTOR 25A1462 1Y33 OR V5		1	
G 9		IC 74LS164F		1	
G 10		IC H100E 15597		1	
R 1		CERMET RESISTOR RK73M2A50J	560 ± 5% 1/10W	1	
R 2		CERMET RESISTOR RK73M2A22J	220 ± 5% 1/10W	1	

Checked at factory
Drawing No. 3449677
1/2
No. 0275-1000 II
ANRITSU CORP.

Parts List of: A3-A1-A3 1/M DIVIDER

Ref. No.	Part Code	Description	Rating	Qty	Note
R 3		CERMET RESISTOR RK73M2A102J	1K0 ± 5% 1/10W	1	
R 4		CERMET RESISTOR RK73M2A221J	2200 ± 5% 1/10W	1	

Checked at factory
Drawing No. 3449677
2/2
No. 0275-1000 II
ANRITSU CORP.

Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CC732CH1M220J (J b)	220p F ± 5% 50V	1	
C 2		CER CAP CC732CH1M220J (J b)	220p F ± 5% 50V	1	
C 3		CER CAP CC732CH1M102J	1000p F ± 5% 50V	1	
C 4		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 5		CER CAP CC732CH1M102J	1000p F 50V	1	
C 6		CER CAP CC732CH1M151J (E b)	150p F ± 5% 50V	1	
C 7		CER CAP CC732CH1M151J (E b)	150p F ± 5% 50V	1	
C 8		CER CAP CC732CH1M151J (E b)	150p F ± 5% 50V	1	
C 9		CER CAP CC732CK1M010C (A b)	1p F 50V ± 0.25p F	1	
C 10		CER CAP CC732CH1M101J (A b)	100p F ± 5% 50V	1	
C 11		CER CAP CC732CH1M101J (A b)	100p F ± 5% 50V	1	
C 12		CER CAP CC732CH1M040D (d b)	220p F ± 0.5p F	1	
C 13		CER CAP CC732CH1M221J (J b)	220p F ± 5% 50V	1	
C 14		CER CAP CC732CH1M070D (d b)	7p F 50V ± 0.5p F	1	
C 15		CER CAP CC732CH1M151J (E b)	150p F ± 5% 50V	1	
C 16		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 17		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 18		NOT ASSIGNED		1	
C 19		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 20		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 21		CER CAP CC732CH1M331J (N b)	330p F ± 5% 50V	1	
C 22		CER CAP CC732CJ1M030C (M b)	3p F 50V ± 0.25p F	1	
C 23		CER CAP CC732CH1M271J (L b)	270p F ± 5% 50V	1	

Checked at factory
Drawing No. 3449677
1/12
No. 0275-1000 II
ANRITSU CORP.

Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		CER CAP CK733B1H104K	0.1M F 50V	1	
C 25		CER CAP CK733B1H104K	0.1M F 50V	1	
C 26		AL ELECTLY CAP CEDAC1A471A	470M F ± 20%, 10V	1	
C 27		AL ELECTLY CAP CEDAC1A471A	470M F ± 20%, 10V	1	
C 28		CER CAP CK733B1H104K	0.1M F 50V	1	
C 29		CER CAP CK732B1H103K	0.01M F ± 10%, 50V	1	
C 30		CER CAP CK732B1H103K	0.01M F ± 10%, 50V	1	
C 31		CER CAP CC732CH1H51J	150P F ± 5%, 50V	1	
C 32		CER CAP CK732B1H472K	4700P F ± 10%, 50V	1	
C 33		CER CAP CK732B1H102K	1000P F ± 10%, 50V	1	
C 34		CER CAP CK732B1H472K	4700P F ± 10%, 50V	1	
C 35		CER CAP CK732B1H102K	1000P F ± 10%, 50V	1	
C 36		PLSTC FILM CAP E08-VIN224JW	0.22M F ± 5%, 50V	1	
C 37		PLSTC FILM CAP E08-VIN224JW	0.22M F ± 5%, 50V	1	
C 38		CER CAP CK733B1H104K	0.1M F 50V	1	
C 39		CER CAP CK733B1H104K	0.1M F 50V	1	
C 40		TA ELECTLY CAP CS735E1C356H	33M F 16V	1	
C 41		TA ELECTLY CAP CS735E1C356H	33M F 16V	1	
C 42		CER CAP CC732CH1H681J	680P F ± 5%, 50V	1	
C 43		CER CAP CC732CH1H680J	680P F ± 5%, 50V	1	
C 44		CER CAP CC732CH1H681J	680P F ± 5%, 50V	1	
C 45		CER CAP CC732CK1M0R5C	0.5P F-50V ± 0.25p F	1	
C 46		CER CAP CK733B1H104K	0.1M F 50V	1	

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Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
C 47		AL ELECTLY CAP CEDAC1A471A	470M F ± 20%, 10V	1	
C 48		CER CAP CC732CH1H221J	220P F ± 5%, 50V	1	
C 49		CER CAP CC732CH1H331J	330P F ± 5%, 50V	1	
C 50		CER CAP CK732B1H102K	1000P F ± 10%, 50V	1	
C 51		CER CAP CK732B1H102K	1000P F ± 10%, 50V	1	
C 52		AL ELECTLY CAP CE04C1H100A	10M F ± 20%, 50V	1	
C 53		AL ELECTLY CAP CE04C1H100A	10M F ± 20%, 50V	1	
C 54		AL ELECTLY CAP CE04C1A471A	470M F ± 20%, 16V	1	
C 55		AL ELECTLY CAP CE04C1A471A	470M F ± 20%, 10V	1	
C 56		AL ELECTLY CAP KPA10VB-100	100M F 16V	1	
C 57		CER CAP CC732CH1H02J	1000P F ± 5%, 50V	1	
C 58		CER CAP CK732B1H222K	2200P F ± 10%, 50V	1	
C 59		CER CAP CK732B1H222K	2200P F ± 10%, 50V	1	
C 60		CER CAP CC732CH1H50D	50P F-50V ± 0.5p F	1	
C 61		CER CAP CC732CH1H05D	5P F-50V ± 0.5p F	1	
C 62		CER CAP CC732CH1H050C	3p F-50V ± 0.25p F	1	
C 63		CER CAP CC732CH1H02J	1000P F ± 5%, 50V	1	
C 64		AL ELECTLY CAP KPA10VB-100	10M F 16V	1	
C 65		CER CAP CC732CH1H040D	40P F-50V ± 0.5p F	1	
C 66		CER CAP CC732CH1H080D	80P F-50V ± 0.5p F	1	
C 67		CER CAP CC732CH1H50J	50P F ± 5%, 50V	1	
C 68		CER CAP CK733B1H104K	0.1M F ± 10%, 50V	1	
C 69		CER CAP CK733B1H104K	0.1M F ± 10%, 50V	1	

Dep. Selected at factory. DRAWING No. 34W92774. 3/12. ANRITSU CORP.

Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
C 70		CER CAP CC732CH1H50D	50P F ± 5%, 50V	1	
C 71		CER CAP CK733B1H104K	0.1M F ± 10%, 50V	1	
C 72		CER CAP CC732CH1H50D	50P F ± 5%, 50V	1	
C 73		CER CAP CK733B1H104K	0.1M F ± 10%, 50V	1	
C 74		CER CAP CC732CH1H102J	1000P F ± 5%, 50V	1	
C 75		CER CAP CK733B1H104K	0.1M F ± 10%, 50V	1	
C 76		CER CAP CC732CH1H102J	1000P F ± 5%, 50V	1	
C 77		CER CAP CC732CH1H102J	1000P F ± 5%, 50V	1	
C 78		CER CAP CK733B1H104K	0.1M F ± 5%, 50V	1	
C 79		CER CAP CC732CH1H102J	1000P F ± 5%, 50V	1	
C 80		TA ELECTLY CAP CS732E1C475H	4.7M F ± 20%, 16V	1	
C 81		TA ELECTLY CAP CS731E1C225H	2.2M F ± 20%, 16V	1	
C 82		AL ELECTLY CAP CEDAC1A471A	470M F ± 20%, 16V	1	
C 83		TA ELECTLY CAP CS732E1C475H	4.7M F ± 20%, 16V	1	
C 84		TA ELECTLY CAP CS731E1C225H	2.2M F ± 20%, 16V	1	
C 85		AL ELECTLY CAP CE04C1A471A	470M F ± 20%, 16V	1	
C 86		CER CAP CC732CH1H102J	1000P F ± 5%, 50V	1	
C 87		AL ELECTLY CAP CE04C1A471A	470M F ± 20%, 10V	1	
C 88		AL ELECTLY CAP CE04C1A471A	470M F ± 20%, 16V	1	
C 89		CER CAP CC732CH1H470J	47P F ± 5%, 50V	1	
C 90		AL ELECTLY CAP KPA10VB-100	100M F 16V	1	
C 91		TA ELECTLY CAP CS731E1C225H	2.2M F ± 20%, 16V	1	
C 92		CER CAP CK733B1H104K	0.1M F ± 10%, 50V	1	

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Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
C 93		CER CAP CC732CH1H50D	50P F ± 5%, 50V	1	
C 94		AL ELECTLY CAP CE04C1A471A	470M F ± 20%, 16V	1	
C 95		CER CAP CK733B1H104K	0.1M F ± 10%, 50V	1	
C 96		CER CAP CC732CH1H50D	50P F ± 5%, 50V	1	
J 1		NOT ASSIGNED			
J 2		PLUG 27DP-R-PC-1		1	
J 3		CONNECTOR D08261 02A200 87D		1	
J 4		CONNECTOR FFC-3AMEP		1	
J 5		CONNECTOR D08261 02A200 87D		1	
J 6		CONNECTOR FFC-3AMEP		1	
J 7		CONNECTOR D08261 02A200 87D		1	
J 8		CONNECTOR D08261 033311 852		1	
J 9		PLUG DF1-4P2.505A		1	
L 1		INDUCTOR ML322522-R15K	0.15M H ± 10%	1	
L 2		INDUCTOR ML455232-1R0K	1.0M H ± 10%	1	
L 3		INDUCTOR NOT ASSIGNED		1	
L 4		INDUCTOR ML322522-R47K	0.47M H ± 10%	1	
L 5		INDUCTOR ML322522-R47K	0.47M H ± 10%	1	
L 6		INDUCTOR ML322522-R15K	0.15M H ± 10%	1	
L 7		INDUCTOR ML322522-R47K	0.47M H ± 10%	1	
L 8		INDUCTOR ML322522-R33K	0.33M H ± 10%	1	

Dep. Selected at factory. DRAWING No. 34W92774. 5/12. ANRITSU CORP.

Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
L 9		INDUCTOR NL453232-100K	10M H ± 10%	1	
L 10		INDUCTOR NL322522-R68K	0.68M H ± 10%	1	
L 11		INDUCTOR NL322522-R68K	0.68M H ± 10%	1	
L 12		INDUCTOR TSLO707-331KR36	330M H	1	
L 13		INDUCTOR TSLO707-331KR36	330M H	1	
L 14		INDUCTOR NL453232-470K	47M H ± 10%	1	
L 15		INDUCTOR NL453232-470K	47M H ± 10%	1	
L 16		INDUCTOR 339T201980	50M H	1	
L 17		INDUCTOR 339T20198F	82M H	1	
L 18		INDUCTOR TSLO707-331KR36	330M H	1	
L 19		INDUCTOR 339T201980	50M H	1	
L 20		INDUCTOR SPD40B-6R8K	6.8M H ± 10%	1	
L 21		INDUCTOR SPD40B-6R8K	6.8M H ± 10%	1	
L 22		INDUCTOR SPD40B-6R8K	700H H	1	
L 23		INDUCTOR E537NM-020010	1000H H	1	
L 24		INDUCTOR SPD40B-2R2K	2.2M H ± 10%	1	
L 25		INDUCTOR NL453232-6R8K	6.8M H ± 10%	1	
L 26		INDUCTOR NL322522-R10K	0.1M H	1	
L 27		INDUCTOR NL322522-R10K	0.1M H	1	
L 28		INDUCTOR NOT ASSIGNED		1	
L 29		INDUCTOR NL322522-R68K	0.68M H ± 10%	1	
L 30		INDUCTOR 34L74430H	2.5M H	1	
L 31		INDUCTOR SPD40B-R68K	0.68M H ± 10%	1	

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ANRITSU CORP.

Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
L 32		INDUCTOR NL322522-R10K	0.1M H ± 10%	1	
Q 1		IC MMA130		1	
U 2		TRANSISTOR 2SC2351 (RZ OR R3)		1	
Q 3		ZENER DIODE RIP 1M82 (S121)		1	
Q 4		TRANSISTOR 2SC2351 (RZ OR R3)		1	
U 5		IC M44741		1	
U 6		IC M44044H		1	
Q 7		IC 747500		1	
Q 8		IC 747100		1	
Q 9		IC 747500		1	
Q 10		IC 747500		1	
Q 11		ZENER DIODE RNO-21W		1	
Q 12		NOT ASSIGNED		1	
Q 13		DIODE 15V50		1	
Q 14		DIODE 15V50		1	
Q 15		DIODE 15V50		1	
Q 16		DIODE 15V50		1	
U 17		DIODE 15V50		1	
Q 18		TRANSISTOR 2SC2351 (R64 OR R5)		1	
Q 19		TRANSISTOR 2SC182-2		1	
Q 20		ZENER DIODE RIP 5.9M (30F)		1	

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ANRITSU CORP.

Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 21		ZENER DIODE RD3.9MB (39F)		1	
Q 22		TRANSISTOR 3SK129-R		1	
Q 23		ZENER DIODE RD2.7MB (27F)		1	
Q 24		ZENER DIODE RD3.9MB (39F)		1	
Q 25		TRANSISTOR 3SK129-R		1	
Q 26		ZENER DIODE RD2.7MB (27F)		1	
Q 27		ZENER DIODE RD3.9MB (39F)		1	
Q 28		NOT ASSIGNED		1	
Q 29		IC MMA130		1	
Q 30		NOT ASSIGNED		1	
Q 31		IC MSA-0520		1	
Q 32		NOT ASSIGNED		1	
Q 33		TRANSISTOR 3SK129R		1	
Q 34		ZENER DIODE RD2.7MB (27F)		1	
Q 35		ZENER DIODE RD3.9MB (39F)		1	
R 1		CARBON FILM RES ARD25T220J	220 ± 5% 1/4W	1	
R 2		CERMET RESISTOR RK73M2A151J	1500 ± 5% 1/10W	1	
R 3		NOT ASSIGNED		1	
R 4		NOT ASSIGNED		1	
R 5		NOT ASSIGNED		1	
R 6		CERMET RESISTOR RK73M2A510J	510 ± 5% 1/10W	1	
R 7		CERMET RESISTOR RK73M2A51J	500 ± 5% 1/10W	1	

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Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
R 8		CERMET RESISTOR RK73M2A6R8J	6.80 ± 5% 1/10W	1	
R 9		CERMET RESISTOR RK73M2A6R8J	6.80 ± 5% 1/10W	1	
R 10		CARBON FILM RES ARD25T271J	2700 ± 5% 1/4W	1	
R 11		CERMET RESISTOR RK73M2A390J	390 ± 5% 1/10W	1	
R 12		METAL FILM RESISTOR RN73G2A750D	750 ± 0.5% 1/10W	1	
R 13		METAL FILM RESISTOR RN73G2A751D	750 ± 0.5% 1/10W	1	
R 14		CERMET RESISTOR RK73M2A271J	2700 ± 5% 1/10W	1	
R 15		CARBON FILM RES ARD25T101J	1000 ± 5% 1/4W	2	
R 16		CERMET RESISTOR RK73M2A391J	390 ± 5% 1/10W	1	
R 17		CERMET RESISTOR RK73M2A102J	100 ± 5% 1/10W	1	
R 18		CERMET RESISTOR RK73M2A102J	100 ± 5% 1/10W	1	
R 19		CERMET RESISTOR RK73M2A391J	390 ± 5% 1/10W	1	
R 20		METAL FILM RESISTOR RN73G2A350D	3.5K ± 0.5% 1/10W	1	
R 21		METAL FILM RESISTOR RN73G2A332D	3.3K ± 0.5% 1/10W	1	
R 22		METAL FILM RESISTOR RN73G2A221D	2200 ± 0.5% 1/10W	1	
R 23		METAL FILM RESISTOR RN73G2A221D	2200 ± 0.5% 1/10W	1	
R 24		METAL FILM RESISTOR RN73G2A222D	2.2K ± 0.5% 1/10W	1	
R 25		METAL FILM RESISTOR RN73G2A222D	2.2K ± 0.5% 1/10W	1	
R 26		METAL FILM RESISTOR RN73G2A241D	2400 ± 0.5% 1/10W	1	
R 27		METAL FILM RESISTOR RN73G2A221D	2200 ± 0.5% 1/10W	1	
R 28		METAL FILM RESISTOR RN73G2A221D	2200 ± 0.5% 1/10W	1	
R 29		METAL FILM RESISTOR RN73G2A221D	2200 ± 0.5% 1/10W	1	
R 30		METAL FILM RESISTOR RN73G2A470D	470 ± 0.5% 1/10W	1	

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Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
R 31		METAL FILM RESISTOR RN73G2A4700	470 ± 0.5% - 1/10W	1	
R 32		METAL FILM RESISTOR RN73G2A3310	3300 ± 0.5% - 1/10W	1	
R 33		METAL FILM RESISTOR RN73G2A3310	3300 ± 0.5% - 1/10W	1	
R 34		CERMET RESISTOR RK73M2A100J	100 ± 5% - 1/10W	1	
R 35		CERMET RESISTOR RK73M2A100J	100 ± 5% - 1/10W	1	
R 36		METAL FILM RESISTOR RN73G2A3310	3300 ± 0.5% - 1/10W	1	
R 37		NOT ASSIGNED			
R 38		METAL FILM RESISTOR RN73G2A3310	3300 ± 0.5% - 1/10W	1	
R 39		METAL FILM RESISTOR RN73G2A3300	330 ± 0.5% - 1/10W	1	
R 40		CERMET RESISTOR RK73M2A104J	100K ± 5% - 1/10W	1	
R 41		METAL FILM RESISTOR RN73G2A3310	3300 ± 0.5% - 1/10W	1	
R 42		NOT ASSIGNED			
R 43		NOT ASSIGNED			
R 44		VARIABLE RESISTOR R654H201	2000	1	
R 45		METAL FILM RESISTOR RN14K2E1820D	1820 ± 0.5% - 1/4W	1	
R 46		METAL FILM RESISTOR RN14K2E6810D	6810 ± 0.5% - 1/4W	1	
R 47		METAL FILM RESISTOR RN73G2A1020	100 ± 0.5% - 1/10W	1	
R 48		METAL FILM RESISTOR RN73G2A1510	1500 ± 0.5% - 1/10W	1	
R 49		METAL FILM RESISTOR RN73G2A1030	100K ± 0.5% - 1/10W	1	
R 50		METAL FILM RESISTOR RN73G2A3330	33K ± 0.5% - 1/10W	1	
R 51		METAL FILM RESISTOR RN73G2A1040	100K ± 0.5% - 1/10W	1	
R 52		METAL FILM RESISTOR RN73G2A3910	3900 ± 0.5% - 1/10W	1	
R 53		METAL FILM RESISTOR RN73G2A1040	100K ± 0.5% - 1/10W	1	

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Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
R 54		METAL FILM RESISTOR RN73G2A3330	33K ± 0.5% - 1/10W	1	
R 55		METAL FILM RESISTOR RN73G2A1030	100K ± 0.5% - 1/10W	1	
R 56		METAL FILM RESISTOR RN73G2A3910	3900 ± 0.5% - 1/4W	1	
R 57		NOT ASSIGNED			
R 58		NOT ASSIGNED			
R 59		CARBON FILM RES RD25T220J	220 ± 5% - 1/4W	1	
R 60		NOT ASSIGNED			
R 61		NOT ASSIGNED			
R 62		METAL FILM RESISTOR RS2F100JL	100 ± 5% - 2W	1	
R 63		METAL FILM RESISTOR RN73G2A240D	240 ± 0.5% - 1/10W	1	
R 64		METAL FILM RESISTOR RN73G2A2210	2200 ± 0.5% - 1/10W	1	
R 65		METAL FILM RESISTOR RN73G2A2210	2200 ± 0.5% - 1/10W	1	
R 66		NOT ASSIGNED			
R 67		NOT ASSIGNED			
R 68		METAL FILM RESISTOR RN73G2A2210	2200 ± 0.5% - 1/10W	1	
R 69		CERMET RESISTOR RK73M2A104J	100K ± 5% - 1/10W	1	
R 70		CERMET RESISTOR RK73M2A333J	33K ± 5% - 1/10W	1	
R 71		CERMET RESISTOR RK73M2A510J	510 ± 5% - 1/10W	1	
R 72		CERMET RESISTOR RK73M2A103J	100K ± 5% - 1/10W	1	
R 73		CERMET RESISTOR RK73M2A391J	3900 ± 5% - 1/10W	1	
T 1		NOT ASSIGNED			

ANRITSU CORP. 11/12/74

Parts List of: A3-A1-A4 SAMPL OSC LOOP

Ref. No.	Part Code	Description	Rating	Qty	Note
Z 1		MIXER M-0		1	
Z 2		NOT ASSIGNED			
Z 3		8PF 34282175 100MHZ		1	

ANRITSU CORP. 12/12/74

Parts List of: A3-A1-A5 YTO PLL CONT

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		NOT ASSIGNED			
C 2		NOT ASSIGNED			
C 3		CER CAP CC732CH1330J (N b)	330 F ± 5% - 50V	1	
C 4		CER CAP CC732CH1M101J (A b)	1000 F ± 5% - 50V	1	
C 5		CER CAP CC732CH1M680J (W b)	680 F ± 5% - 50V	1	
C 6		CER CAP CC732CH1M680J (W b)	680 F ± 5% - 50V	1	
C 7		CER CAP CC732CH1M101J (A b)	1000 F ± 5% - 50V	1	
C 8		CER CAP CC732CH1M101J (A b)	80 F - 50V	1	
C 9		CER CAP CC732CH1M820J (Y b)	820 F ± 5% - 50V	1	
C 10		CER CAP CC732CH1M1000 (A b)	1000 F ± 0.5% - 50V	1	
C 11		CER CAP CC732CH1M470J (S b)	470 F ± 5% - 50V	1	
C 12		NOT ASSIGNED			
C 13		CER CAP CK732B1H103K (A 4)	0.01 M F ± 10% - 50V	1	
C 14		TA ELECTLYT CAP CS735E1C336M	33 M F	1	
C 15		CER CAP CK732B1H103K (A 4)	10 M F ± 10% - 50V	1	
C 16		CER CAP CK732B1H103K (A 4)	0.01 M F ± 10% - 50V	1	
C 17		CER CAP CK732B1H103K (A 4)	0.01 M F ± 10% - 50V	1	
C 18		CER CAP CC732CH1M101J (A b)	1000 F ± 5% - 50V	1	
C 19		CER CAP CC732CH1M330J (N b)	330 F ± 5% - 50V	1	
C 20		CER CAP CC732CH1M820J (Y b)	820 F ± 5% - 50V	1	
C 21		CER CAP CC732CH1M101J (A b)	1000 F ± 5% - 50V	1	
C 22		CER CAP CC732CH1M470J (S b)	470 F ± 5% - 50V	1	
C 23		CER CAP CK732B1H103K (A 4)	0.01 M F ± 10% - 50V	1	

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Parts List of: A3-A1-A5 YTD PLL CONT

Parts List of: A3-A1-A5 YTD PLL CONT

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		TA ELECTLY CAP CS735E1C336M	33µ F 16V	1	
C 25		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 26		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 27		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 28		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 29		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 30		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 31		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 32		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 33		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 34		CER CAP CC732CH1270J (L b)	27µ F ± 5% 50V	1	
C 35		CER CAP CC732CH1270J (L b)	27µ F ± 5% 50V	1	
C 36		PLSTC FILM CAP ECB-V1M333JW	0.033µ F ± 5% 50V	1	
C 37		PLSTC FILM CAP ECB-V1M333JW	0.033µ F ± 5% 50V	1	
C 38		NOT ASSIGNED			
C 39		NOT ASSIGNED			
C 40		NOT ASSIGNED			
C 41		PLSTC FILM CAP ECB-V1M473JW	0.047µ F ± 5% 50V	1	
C 42		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 43		TA ELECTLY CAP CS735E1C336M	33µ F 16V	1	
C 44		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 45		TA ELECTLY CAP CS735E1C336M	33µ F 16V	1	
C 46		CER CAP CK732B1H102K (A 3)	1000µ F ± 10% 50V	1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
C 47		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 48		CER CAP CC732CH1D800 (L b)	80µ F 50V ± 0.5µ F	1	
C 49		CER CAP CC732CH1D1000 (A b)	100µ F ± 0.5% 50V	1	
C 50		TA ELECTLY CAP CS735E1C336M	33µ F 16V	1	
C 51		TA ELECTLY CAP CS735E1C336M	33µ F 16V	1	
C 52		TA ELECTLY CAP CS735E1C336M	33µ F 16V	1	
C 53		AL ELECTLY CAP 5XF10V8-4707-48X1SL	470µ F ± 20% 10V	1	
C 54		NOT ASSIGNED			
C 55		NOT ASSIGNED			
C 56		PLSTC FILM CAP ECB-V1M333JW	0.033µ F ± 5% 50V	1	
C 57		PLSTC FILM CAP ECB-V1M333JW	0.033µ F ± 5% 50V	1	
C 58		PLSTC FILM CAP ECB-V1M473JW	0.047µ F ± 5% 50V	1	
C 59		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 60		CER CAP CK732B1H223K	0.022µ F ± 10% 50V	1	
C 61		CER CAP CK732B1H223K	0.022µ F ± 10% 50V	1	
C 62		CER CAP CK733B1M473K (L S)	0.047µ F ± 10% 50V	1	
C 63		CER CAP CK732B1H102K (A 3)	1000µ F ± 10% 50V	1	
C 64		TA ELECTLY CAP CS735E1C336M	33µ F ± 20% 16V	1	
C 65		TA ELECTLY CAP CS735E10226M	22µ F ± 20% 20V	1	
C 66		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	
C 67		CER CAP CK733B1H104K	0.1µ F ± 10% 50V	1	

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Parts List of: A3-A1-A5 YTD PLL CONT

Parts List of: A3-A1-A5 YTD PLL CONT

Ref. No.	Part Code	Description	Rating	Qty	Note
L 1		INDUCTOR NL322522-R15K	0.15µ H ± 10%	1	
L 2		INDUCTOR NL322522-R22K	0.22µ H ± 10%	1	
L 3		INDUCTOR NL322522-R22K	0.22µ H ± 10%	1	
L 4		INDUCTOR NL322522-R15K	0.15µ H ± 10%	1	
L 5		INDUCTOR NL322522-R22K	0.22µ H ± 10%	1	
L 6		INDUCTOR NL322522-R22K	0.22µ H ± 10%	1	
L 7		INDUCTOR NL322522-R15K	0.15µ H ± 10%	1	
L 8		NOT ASSIGNED			
L 9		NOT ASSIGNED			
L 10		NOT ASSIGNED			
L 11		INDUCTOR TSLD707-351K36	330µ H ± 10%	1	
Q 1		NOT ASSIGNED			
Q 2		NOT ASSIGNED			
Q 3		NOT ASSIGNED			
Q 4		NOT ASSIGNED			
Q 5		NOT ASSIGNED			
Q 6		TRANSISTOR 2SC2551 (R2 OR R3)		1	
Q 7		ZENER DIODE RDS.9WB (59F)		1	
Q 8		TRANSISTOR 2SC2551 (R2 OR R3)		1	
Q 9		ZENER DIODE RDS.1MB2 (512)		1	
Q 10		IC M PC1654A		1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
Q 11		D100L		1	
Q 12		1SS97		1	
Q 13		D100E		1	
Q 14		1SS97		1	
Q 15		D100E		1	
Q 16		IC M PC457D62		1	
Q 17		IC M PC51962		1	
Q 18		D100E		1	
Q 19		R155123		1	
Q 20		NOT ASSIGNED			
Q 21		IC M PC457D6		1	
Q 22		IC M P052D06		1	
Q 23		IC TC75D4F		1	
R 1		CARBON FILM RES ARD25T301J	510Ω	1	
R 2		CARBON FILM RES ARD25T150J	15Ω	1	
R 3		NOT ASSIGNED			
R 4		NOT ASSIGNED			
R 5		CERMET RESISTOR RK73M2A510J	510 ± 5% 1/10W	1	
R 6		CERMET RESISTOR RK73M2A6R8J	6.8Ω ± 5% 1/10W	1	
R 7		CERMET RESISTOR RK73M2A6R8J	6.8Ω ± 5% 1/10W	1	
R 8		CERMET RESISTOR RK73M2A561J	560Ω ± 5% 1/10W	1	
R 9		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	1	

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Parts List of: A3-A2 LOCAL UNIT(2)

Ref. No.	Part Code	Description	Rating	Qty	Note
P 1		METAL FILM RESISTOR RN14K2E1000D	100W ± 0.5% 1/4W	1	
U 1		CABLE 27DP-LP-LP	60MM	1	34J90715N
U 2		CABLE 27DP-LP	150MM	1	34J90714R
Z 1		100MHZ VCXO		1	34XB1085

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Parts List of: A3-A2-A1 LOCAL MB2

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		AL ELECTLY CAP SXF10VB56	56μ F 10V	1	
C 2		NOT ASSIGNED		1	
C 3		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 4		AL ELECTLY CAP SXF16VB47	47μ F 16V	1	
C 5		NOT ASSIGNED		1	
C 6		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 7		AL ELECTLY CAP SXF16VB47	47μ F 16V	1	
C 8		NOT ASSIGNED		1	
C 9		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 10		AL ELECTLY CAP SXF10VB56	56μ F 10V	1	
C 11		NOT ASSIGNED		1	
C 12		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 13		AL ELECTLY CAP SXF10VB56	56μ F 10V	1	
C 14		NOT ASSIGNED		1	
C 15		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 16		TA ELECTLY CAP CS735E1C336M	33μ F 16V	1	
C 17		TA ELECTLY CAP CS735E1D226M	22μ F 20V	1	
C 18		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 19		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 20		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 21		AL ELECTLY CAP SXF16VB47	47μ F 16V	1	
C 22		TA ELECTLY CAP CS735E1C336M	33μ F 16V	1	
C 23		TA ELECTLY CAP CS735E1C336M	33μ F 16V	1	

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Parts List of: A3-A2-A1 LOCAL MB2

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		TA ELECTLY CAP CS735E1E105M	10μ F 25V	1	
C 25		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 26		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 27		AL ELECTLY CAP SXF10VB56	56μ F 10V	1	
J 1		PLUG DF1-6P2.50S	6P	1	
J 2		PLUG DF1-6P2.50S	6P	1	
J 3		PLUG DF1-5P2.50S	5P	1	
L 1		INDUCTOR TSL0707-220K1R3	22μ H	1	
Q 1		IC LM2940CT05		1	
Q 2		IC LM2940CT12		1	
Q 3		IC LM2940CT12		1	
Q 4		IC LM2940CT05		1	
Q 5		IC LM2940CT05		1	
Q 6		IC μ PDS200G		1	
Q 7		IC A PC45706		1	
Q 8		IC 74LS123F		1	
Q 9		NOT ASSIGNED		1	
Q 10		NOT ASSIGNED		1	
Q 11		NOT ASSIGNED		1	

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ANRITSU CORP.

Parts List of: A3-A2-A1 LOCAL MB2

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 12		NOT ASSIGNED		1	
Q 13		NOT ASSIGNED		1	
R 1		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 2		METAL FILM RESISTOR RN14K2E1022D	10.2KΩ ± 0.5% 1/4W	1	
R 3		METAL FILM RESISTOR RN14K2E1211D	12.1KΩ ± 0.5% 1/4W	1	
R 4		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 5		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 6		CARBON FILM RES ARD25T331J	330Ω ± 5% 1/4W	1	
R 7		CERMET RESISTOR RK73M2A474J	470KΩ ± 5% 1/10W	1	
R 8		METAL FILM RESISTOR RN14K2E1822D	18.2KΩ ± 0.5% 1/4W	1	
R 9		NOT ASSIGNED		1	
R 10		CERMET RESISTOR RK73M2A331J	330Ω ± 5% 1/10W	1	
R 11		CERMET RESISTOR RK73M2A331J	330Ω ± 5% 1/10W	1	

Dep. Selected at factory. Drawing No. 34U96770 3/3
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Parts List of: A3-A2-A3 100MHz REF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CC732CH1H102J	1000p F 50V	1	
C 2		CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 3		CER CAP CC732CH1H102J	1000p F 50V	1	
C 4		CER CAP CC732CH1H102J	1000p F 50V	1	
C 5		CER CAP CC732CH1H102J	1000p F 50V	1	
C 6		CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 7		CER CAP CC732CH1H102J	1000p F 50V	1	
C 8		CER CAP CC732CH1H102J	1000p F 50V	1	
C 9		CER CAP CC732CH1H102J	1000p F 50V	1	
C 10		CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 11		CER CAP CC732CH1H102J	1000p F 50V	1	
C 12		CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 13		CER CAP CC732CH1H102J	1000p F 50V	1	
C 14		CER CAP CC732CH1H102J	1000p F 50V	1	
C 15		CER CAP CC732CH1H102J	1000p F 50V	1	
C 16		CER CAP CK732B1H103K (A 4	0.01μ F ± 10%, 50V	1	
C 17		CER CAP CC732CH1H102J	1000p F 50V	1	
C 18		CER CAP CC732CH1H102J	1000p F 50V	1	
C 19		AL ELECTLYT CAP SXF10V8-50	50μ F 10V	1	
C 20		AL ELECTLYT CAP SXF16V8-120	120μ F 10V	1	
C 21		AL ELECTLYT CAP SXF10V8-4707-48X15L	470μ F 10V	1	
C 22		NOT ASSIGNED			

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Parts List of: A3-A2-A3 100MHz REF

Ref. No.	Part Code	Description	Rating	Qty	Note
L 1		INDUCTOR ML453232-100K	10μ H ± 10%	1	
L 2		INDUCTOR ML453232-100K	10μ H ± 10%	1	
L 3		INDUCTOR ML322522-R47K	0.47μ H ± 10%	1	
Q 1		IC INA130		1	
Q 2		IC μ PC1654A		1	
Q 3		IC μ PC1654A		1	
Q 4		IC μ PC1654A		1	
Q 5		IC μ PC1651G		1	
Q 6		NOT ASSIGNED			
Q 7		NOT ASSIGNED			
Q 8		NOT ASSIGNED			
R 1		CERMET RESISTOR RK73M2A331J	330Ω ± 5%, 1/10W	1	
R 2		CERMET RESISTOR RK73M2A150J	150Ω ± 5%, 1/10W	1	
R 3		CERMET RESISTOR RK73M2A331J	330Ω ± 5%, 1/10W	1	
R 4		CERMET RESISTOR RK73M2A150J	150Ω ± 5%, 1/10W	1	
R 5		CERMET RESISTOR RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 6		CERMET RESISTOR RK73M2A680J	680Ω ± 5%, 1/10W	1	
R 7		CERMET RESISTOR RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 8		CERMET RESISTOR RK73M2A101J	100Ω ± 5%, 1/10W	2	
R 9		CERMET RESISTOR RK73M2A151J	150Ω ± 5%, 1/10W	1	
R 10		CERMET RESISTOR RK73M2A391J	390Ω ± 5%, 1/10W	1	

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Parts List of: A3-A2-A3 100MHz REF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 11		CERMET RESISTOR RK73M2A151J	150Ω ± 5%, 1/10W	1	
R 12		NOT ASSIGNED			
R 13		NOT ASSIGNED			
R 14		CERMET RESISTOR RK73M2A220J	220Ω ± 5%, 1/10W	1	
R 15		CERMET RESISTOR RK73M2A220J	220Ω ± 5%, 1/10W	1	
R 16		CERMET RESISTOR RK73M2A101J	100Ω ± 5%, 1/10W	2	
R 17		CERMET RESISTOR RK73M2A220J	220Ω ± 5%, 1/10W	1	
R 18		CERMET RESISTOR RK73M2A101J	100Ω ± 5%, 1/10W	2	
R 19		CERMET RESISTOR RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 20		CERMET RESISTOR RK73M2A680J	680Ω ± 5%, 1/10W	1	
R 21		CERMET RESISTOR RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 22		CERMET RESISTOR RK73M2A331J	330Ω ± 5%, 1/10W	1	
R 23		CERMET RESISTOR RK73M2A150J	150Ω ± 5%, 1/10W	1	
R 24		CERMET RESISTOR RK73M2A331J	330Ω ± 5%, 1/10W	1	
R 25		CERMET RESISTOR RK73M2A151J	150Ω ± 5%, 1/10W	1	
R 26		CERMET RESISTOR RK73M2A750J	750Ω ± 5%, 1/10W	1	
R 27		CERMET RESISTOR RK73M2A750J	750Ω ± 5%, 1/10W	1	
R 28		CERMET RESISTOR RK73M2A680J	680Ω ± 5%, 1/10W	1	
R 29		CERMET RESISTOR RK73M2A121J	120Ω ± 5%, 1/10W	1	
R 30		CERMET RESISTOR RK73M2A680J	680Ω ± 5%, 1/10W	1	
T 1		TRANSFORMER 342T74421		1	
T 2		TRANSFORMER 342T74421		1	

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Parts List of: A3-A2-A4 100MHz REF CONT

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		NOT ASSIGNED			
C 2		CER CAP CK732B1H103K (A 4	0.01μ F ± 10%, 50V	1	
C 3		NOT ASSIGNED			
C 4		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 5		CER CAP CC732CH1H471J (S B	470p F ± 5%, 50V	1	
C 6		CER CAP CK732B1H103K (A 4	0.01μ F ± 10%, 50V	1	
C 7		CER CAP CC732CH1H331J (N b	330p F ± 5%, 50V	1	
C 8		CER CAP CC732CH1M681J	680p F ± 5%, 50V	1	
C 9		NOT ASSIGNED			
C 10		CER CAP CK732B1H103K (A 4	0.01μ F ± 10%, 50V	1	
C 11		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 12		CER CAP CC732CH1H102J	1000p F 50V	1	
C 13		CER CAP CC732CH1H331J (N b	330p F ± 5%, 50V	1	
C 14		CER CAP CC732CH1H102J	1000p F 50V	1	
C 15		CER CAP CK732B1H103K (A 4	0.01μ F ± 10%, 50V	1	
C 16		CER CAP CK732B1H103K (A 4	0.01μ F ± 10%, 50V	1	
C 17		CER CAP CK732B1H103K (A 4	0.01μ F ± 10%, 50V	1	
C 18		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 19		CER CAP CK733B1H104K	0.1μ F 50V	1	
C 20		CER CAP CK732B1H103K (A 4	0.01μ F ± 10%, 50V	1	
C 21		CER CAP CC732CJ1M030C (M b	3p F, 50V ± 0.25p F	1	
C 22		CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 23		CER CAP CC732CJ1M030C (M b	3p F, 50V ± 0.25p F	1	

ANRITSU CORP.

Parts List of: A3-A2-A4 100MHZ REF CONT

Parts List of: A3-A2-A4 100MHZ REF CONT

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		CER CAP CC732CH10500 (1 B)	5.0 P.F. 50V ± 0.5 P.F.	1	
C 25		CER CAP CK732BH103K (A 4)	0.01µF ± 10% 50V	1	
C 26		CER CAP CK733BH104K	0.1µF 50V	1	
C 27		NOT ASSIGNED			
C 28		NOT ASSIGNED			
C 29		AL ELECTLY CAP KMA16VB-100	100µF 16V	1	
C 30		AL ELECTLY CAP KMA16VB-100	100µF 16V	1	
C 31		CER CAP CK737FH105Z (A 6)	1µF 50V +80/-20%	1	
C 32		NOT ASSIGNED			
C 33		AL ELECTLY CAP KMA16VB-100	100µF 16V	1	
C 34		AL ELECTLY CAP KMA16VB-100	100µF 16V	1	
C 35		NOT ASSIGNED			
C 36		NOT ASSIGNED			
C 37		NOT ASSIGNED			
C 38		CER CAP CC732CH102J	1000P F 50V	1	
C 39		CER CAP CK733BH104K	0.1µF ± 10% 50V	1	
C 40		CER CAP CK733BH104K	0.1µF ± 10% 50V	1	
J 1		NOT ASSIGNED			
J 2		PLUG 27DP-LR-PC			
J 3		PLUG 27DP-LR-PC			
J 4		PLUG 27DP-LR-PC			
J 5		PLUG 27DP-LR-PC			

Checked by: [] Approved by: []
 No DOTS - 1000 H
 ANRITSU CORP. DRAWING No. 34U96767 6/75

Ref. No.	Part Code	Description	Rating	Qty	Note
J 6		PLUG 27DP-LR-PC		1	
L 1		INDUCTOR 10K13M-65	0.31µH	1	34L89366F
L 2		INDUCTOR NL45323-220K	22µH ± 10%	1	
L 3		INDUCTOR NL45323-100K	10µH ± 10%	1	
L 4		NOT ASSIGNED			
L 5		NOT ASSIGNED			
L 6		INDUCTOR NL32522-R47K	0.47µH ± 10%	1	
Q 1		NOT ASSIGNED			
Q 2		NOT ASSIGNED			
Q 3		ZENER DIODE RDS.9MB (50V)		1	
Q 4		IC 74LS04F		1	
Q 5		TRANSISTOR 2SC1623 (LS OR L6)		1	
Q 6		TRANSISTOR 2SC1623 (LS OR L6)		1	
Q 7		IC 74LS04F		1	
Q 8		NOT ASSIGNED			
Q 9		IC 74S196		1	
Q 10		IC 74F74F		1	
Q 11		IC µ PC1668C		1	
Q 12		IC NJM5534M		1	
Q 13		DIODE A1SS123		1	

Checked by: [] Approved by: []
 No DOTS - 1000 H
 ANRITSU CORP. DRAWING No. 34U96767 6/75

Parts List of: A3-A2-A4 100MHZ REF CONT

Parts List of: A3-A2-A4 100MHZ REF CONT

Ref. No.	Part Code	Description	Rating	Qty	Note
R 1a		ZENER DIODE RDS.1MB2 (512)		1	
R 1		CERMET RESISTOR RK73M2A221J	220Ω ± 5% 1/10W	1	
R 2		NOT ASSIGNED			
R 3		NOT ASSIGNED			
R 4		CERMET RESISTOR RK73M2A101J	180Ω ± 5% 1/10W	1	
R 5		CARBON FILM RES ARD25T151J	150Ω ± 5% 1/4W	1	
R 6		CARBON FILM RES ARD25T821J	820Ω ± 5% 1/4W	1	
R 7		CARBON FILM RES ARD25T152J	1.5KΩ ± 5% 1/4W	1	
R 8		CARBON FILM RES ARD25T471J	470Ω ± 5% 1/4W	1	
R 9		CARBON FILM RES ARD25T821J	820Ω ± 5% 1/4W	1	
R 10		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 11		CERMET RESISTOR RK73M2A680J	68Ω ± 5% 1/10W	1	
R 12		CARBON FILM RES ARD25T470J	47Ω ± 5% 1/4W	1	
R 13		CERMET RESISTOR RK73M2A390J	39Ω ± 5% 1/10W	1	
R 14		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 15		CERMET RESISTOR RK73M2A473J	47KΩ ± 5% 1/10W	1	
R 16		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 17		CERMET RESISTOR RK73M2A224J	220KΩ ± 5% 1/10W	1	
R 18		CERMET RESISTOR RK73M2A222J	2.2KΩ ± 5% 1/10W	1	
R 19		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5% 1/10W	1	
R 20		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	

Checked by: [] Approved by: []
 No DOTS - 1000 H
 ANRITSU CORP. DRAWING No. 34U96767 6/75

Ref. No.	Part Code	Description	Rating	Qty	Note
R 21		CARBON FILM RES ARD25T100J	10Ω ± 5% 1/4W	1	
Z 1		MIXER M-6		1	

Checked by: [] Approved by: []
 No DOTS - 1000 H
 ANRITSU CORP. DRAWING No. 34U96767 6/75

Parts List of: A3-A2-A5 125/300/500MHZ REF

Ref No.	Part Code	Description	Rating	Qty	Note
C 1	ICER CAP	0.01μ F		1	
C 2	CC732BH103K (A 4)	± 10% 50V		1	
C 3	ICER CAP	1000P F		1	
C 4	CC732CH102J	± 5% 50V		1	
C 5	ICER CAP	1000P F		1	
C 6	CC732CH102J	± 5% 50V		1	
C 7	ICER CAP	1000P F		1	
C 8	CC732CH102J	± 5% 50V		1	
C 9	ICER CAP	1000P F		1	
C 10	CC732CH102J	± 5% 50V		1	
C 11	ICER CAP	0.01μ F		1	
C 12	CC732BH103K (A 4)	± 10% 50V		1	
C 13	ICER CAP	1000P F		1	
C 14	CC732CH102J	± 5% 50V		1	
C 15	AL ELECTLY CAP	47μ F	25V	1	
C 16	ICER CAP	1000P F		1	
C 17	CC732CH102J	± 5% 50V		1	
C 18	ICER CAP	1000P F		1	
C 19	CC732CH102J	± 5% 50V		1	
C 20	ICER CAP	0.01μ F		1	
C 21	CC732BH103K (A 4)	± 10% 50V		1	
C 22	ICER CAP	1000P F		1	
C 23	CC732CH102J	± 5% 50V		1	

ANRITSU CORP.

Parts List of: A3-A2-A5 125/300/500MHZ REF

Ref No.	Part Code	Description	Rating	Qty	Note
C 24	ICER CAP	1000P F		1	
C 25	CC732CH102J (A b)	± 5% 50V		1	
C 26	ICER CAP	1000P F		1	
C 27	CC732CH102J (A b)	± 5% 50V		1	
C 28	ICER CAP	1000P F		1	
C 29	CC732CH102J	± 5% 50V		1	
C 30	ICER CAP	1000P F		1	
C 31	CC732CH102J	± 5% 50V		1	
C 32	ICER CAP	1000P F		1	
C 33	CC732CH102J (S b)	± 5% 50V		1	
C 34	ICER CAP	47P F	47P F	1	
J 1	PLUG	270P-LR-PC		1	
J 2	PLUG	270P-LR-PC		1	
L 1	INDUCTOR	0.15μ H ± 10%		2	
L 2	INDUCTOR	0.47μ H ± 10%		1	
L 3	INDUCTOR	6.8μ H ± 10%		1	
D 1	ZENER DIODE	RDS. 1MB2 (512)		1	
D 2	TRANSISTOR	2SC2351 (R2 OR R3)		1	
D 3	ZENER DIODE	RDS. 1MB2 (512)		1	

ANRITSU CORP.

Parts List of: A5 A2-A5 125/300/500MHZ REF

Ref No.	Part Code	Description	Rating	Qty	Note
R 4	TRANSISTOR	2SC2351 (R2 OR R3)		1	
R 5	NOT ASSIGNED			1	
R 6	DIODE	1SV54		1	
R 7	DIODE	1SV34		1	
R 8	IC	PC1654A		1	
R 9	IC	PC7504F		1	
R 10	TRANSISTOR	2SC3615		1	
R 11	ZENER DIODE	RDS. 1MB2 (512)		1	
R 12	TRANSISTOR	2SC2351 (R2 OR R3)		1	
R 13	IC	PC8610B		1	
R 14	IC	PC1654A		1	
R 15	TRANSISTOR	2SC2351 (R2 OR R3)		1	
R 16	ZENER DIODE	RDS. 1MB2 (512)		1	
R 17	NOT ASSIGNED			1	
R 18	TRANSISTOR	2SC2351 (R2 OR R3)		1	
R 19	ZENER DIODE	RDS. 1MB2 (512)		1	
R 20	DIODE	1SV59		1	
R 1	CERMET RESISTOR	47Ω		1	
R 2	CERMET RESISTOR	± 5% 1/10W		1	
R 3	CERMET RESISTOR	2.2KΩ		1	
R 4	CERMET RESISTOR	± 5% 1/10W		2	
R 5	CERMET RESISTOR	33Ω		1	
R 6	CERMET RESISTOR	± 5% 1/10W		1	
R 7	CERMET RESISTOR	47Ω		1	
R 8	CERMET RESISTOR	± 5% 1/10W		1	

ANRITSU CORP.

Parts List of: A5 A2-A5 125/300/500MHZ REF

Ref No.	Part Code	Description	Rating	Qty	Note
R 9	CERMET RESISTOR	2.2KΩ		1	
R 10	CERMET RESISTOR	± 5% 1/10W		1	
R 11	CERMET RESISTOR	33Ω		1	
R 12	CERMET RESISTOR	± 5% 1/10W		2	
R 13	CERMET RESISTOR	± 5% 1/10W		1	
R 14	CERMET RESISTOR	33Ω		1	
R 15	CERMET RESISTOR	± 5% 1/10W		1	
R 16	CERMET RESISTOR	18Ω		1	
R 17	CERMET RESISTOR	± 5% 1/10W		1	
R 18	CERMET RESISTOR	270Ω		1	
R 19	CERMET RESISTOR	± 5% 1/10W		1	
R 20	CERMET RESISTOR	270Ω		1	
R 21	CERMET RESISTOR	± 5% 1/10W		1	
R 22	CERMET RESISTOR	510Ω		1	
R 23	CERMET RESISTOR	± 5% 1/10W		1	
R 24	CERMET RESISTOR	39Ω		1	
R 25	CERMET RESISTOR	± 5% 1/10W		1	
R 26	CERMET RESISTOR	150Ω		1	
R 27	CERMET RESISTOR	± 5% 1/10W		1	
R 28	CERMET RESISTOR	150Ω		1	
R 29	CERMET RESISTOR	± 5% 1/10W		1	
R 30	CERMET RESISTOR	510Ω		1	
R 31	CERMET RESISTOR	± 5% 1/10W		1	
R 32	CERMET RESISTOR	5.3KΩ		1	
R 33	CERMET RESISTOR	± 5% 1/10W		1	
R 34	CERMET RESISTOR	3.3KΩ		1	
R 35	CERMET RESISTOR	± 5% 1/10W		1	
R 36	CARBON FILM RES	820Ω		1	
R 37	CERMET RESISTOR	± 5% 1/4W		2	
R 38	CERMET RESISTOR	33Ω		1	
R 39	CERMET RESISTOR	± 5% 1/10W		1	
R 40	CERMET RESISTOR	100Ω		1	
R 41	CERMET RESISTOR	± 5% 1/10W		1	
R 42	CERMET RESISTOR	560Ω		1	
R 43	CERMET RESISTOR	± 5% 1/10W		1	
R 44	CERMET RESISTOR	18Ω		1	
R 45	CERMET RESISTOR	± 5% 1/10W		1	

ANRITSU CORP.

Parts List of: A3-A2-A5 125/300/500MHZ REF

Parts List of: A3-A2-A5 125/300/500MHZ REF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 29		CERMET RESISTOR RK73M2A271J	270Ω ± 5% 1/10W	1	
R 30		CERMET RESISTOR RK73M2A271J	270Ω ± 5% 1/10W	1	
R 31		CERMET RESISTOR RK73M2A271J	68Ω ± 5% 1/10W	1	
R 32		CERMET RESISTOR RK73M2A600J	100Ω ± 5% 1/10W	1	
R 33		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 34		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 35		CERMET RESISTOR RK73M2A510J	51Ω ± 5% 1/10W	1	
R 36		METAL FILM RESISTOR RN75G2A512B	5.1KΩ ± 0.5% 1/10W	1	
R 37		CERMET RESISTOR RK73M2A220J	22Ω ± 5% 1/10W	1	
R 38		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	2	
R 39		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 40		CERMET RESISTOR RK73M2A181J	180Ω ± 5% 1/10W	1	
R 41		CERMET RESISTOR RK73M2A561J	560Ω ± 5% 1/10W	2	
R 42		CERMET RESISTOR RK73M2A220J	22Ω ± 5% 1/10W	1	
R 43		CERMET RESISTOR RK73M2A390J	39Ω ± 5% 1/10W	1	
R 44		CERMET RESISTOR RK73M2A220J	22Ω ± 5% 1/10W	1	
R 45		CERMET RESISTOR RK73M2A391J	390Ω ± 5% 1/10W	1	
R 46		CERMET RESISTOR RK73M2A561J	560Ω ± 5% 1/10W	2	
R 47		CERMET RESISTOR RK73M2A390J	39Ω ± 5% 1/10W	1	
R 48		CERMET RESISTOR RK73M2A100J	10Ω ± 5% 1/10W	1	
R 48		CERMET RESISTOR RK73M2A332J	3.3KΩ ± 5% 1/10W	1	
Z 1		BPF AHM-500MA-1	500MHZ	1	
Z 2		BPF AHM-500MA-1	500MHZ	1	

Ref. No.	Part Code	Description	Rating	Qty	Note
Z 3		BPF AHM-500MA-1	500MHZ	1	

Parts List of: A3-A2-A6 1HZ STEP SYNTHE

Parts List of: A3-A2-A6 1HZ STEP SYNTHE

Ref. No.	Part Code	Description	Rating	Qty	Note
C 2		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 3		CER CAP CK732B1H103J (A 4)	10nF ± 10% 50V	1	
C 4		CER CAP CK732B1H103J (A 4)	10nF ± 10% 50V	1	
C 5		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 6		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 7		CER CAP CK732B1H222K (J 3)	2200pF ± 10% 50V	1	
C 8		CER CAP CK732B1H100J (A b)	100pF ± 0.5% 50V	1	
C 9		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 10		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 11		CER CAP CK733B1H104K	0.1μF 50V	1	
C 12		CER CAP CK733B1H104K	0.1μF 50V	1	
C 13		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 14		CER CAP CK733B1H104K	0.1μF 50V	1	
C 15		AL ELECTLY CAP MA10V8-10D	100μF 10V	1	
C 16		CER CAP CK732B1H472K (S 3)	4700pF ± 10% 50V	1	
C 17		CER CAP CK732B1H102J	1000pF 50V	1	
C 18		CER CAP CK733B1H104K	0.1μF 50V	1	
C 19		CER CAP CK733B1H104K	0.1μF 50V	1	
C 20		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 21		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 22		CER CAP CK732B1H102J	1000pF 50V	1	
C 23		CER CAP CK733B1H104K	0.1μF 50V	1	

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 25		CER CAP CK732B1H102J	1000pF 50V	1	
C 26		CER CAP CK733B1H104K	0.1μF 50V	1	
C 27		CER CAP CK733B1H104K	0.1μF 50V	1	
C 28		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 29		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 30		CER CAP CK732B1H222K (J 3)	2200pF ± 10% 50V	1	
C 31		CER CAP CK732B1H101J (A b)	100pF ± 5% 50V	1	
C 32		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 33		CER CAP CK732B1H472K (S 3)	4700pF ± 10% 50V	1	
C 34		CER CAP CK732B1H472K (S 3)	4700pF ± 10% 50V	1	
C 35		CER CAP CK732B1H222K (J 3)	2200pF ± 10% 50V	1	
C 36		CER CAP CK733B1H104K	0.1μF 50V	1	
C 37		CER CAP CK733B1H104K	0.1μF 50V	1	
C 38		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 39		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 40		TA ELECTLY CAP CS735E1D226H	22nF ± 10% 50V	1	
C 41		CER CAP CK732B1H103K (A 4)	0.01μF ± 10% 50V	1	
C 42		CER CAP CK732B1H103K (A 4)	0.01μF ± 10% 50V	1	
C 43		CER CAP CK732B1H222K (J 3)	2200pF ± 10% 50V	1	
C 44		CER CAP CK732B1H222K (J 3)	2200pF ± 10% 50V	1	
C 45		CER CAP CK733B1H104K	0.1μF 50V	1	
C 46		CER CAP CK733B1H104K	0.1μF 50V	1	

Parts List of: A3-A2-A6 1HZ STEP SYNTH

Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
C 139		AL ELECTLT CAP KMA10VB-100	100µ F 10V	1	
C 140		CER CAP C0732CH1H080J (1 b)	± 0.5µ F 68P F	1	
C 141		CER CAP C0732CH1H080J (1W b)	± 5% .50V 68P F	1	
C 142		CER CAP C0732CH1H080J (1W b)	± 5% .50V 68P F	1	
C 143		CER CAP C0732CH1H220J (J b)	± 5% .50V 22P F	1	
C 144		CER CAP C0732CH1H47CJ (S b)	47P F ± 5% .50V	1	
C 145		TA ELECTLT CAP CS735E1D226M	22µ F 20V	1	
C 146		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 147		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 148		CER CAP CK732B1H222K (J 3)	± 10% .50V 2200P F	1	
C 149		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 150		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 151		AL ELECTLT CAP SXF16VB-120	120µ F 16V	1	
C 152		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 153		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 154		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 155		AL ELECTLT CAP KMA10VB-100	100µ F 10V	1	
C 156		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 157		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 158		CER CAP C0732CH1H820J (Y b)	± 5% .50V 82P F	1	
C 159		CER CAP C0732CH1H820J (Y b)	± 5% .50V 82P F	1	
C 160		PLSTC FILM CAP ECB-V1H334JW	0.33µ F ± 5% .50V	1	
C 161		PLSTC FILM CAP ECB-V1H334JW	0.33µ F ± 5% .50V	1	

Ref. No.	Part Code	Description	Rating	Qty	Note
C 162		TA ELECTLT CAP CS735E1D226M	22µ F 20V	1	
C 163		TA ELECTLT CAP CS735E1D226M	22µ F 20V	1	
C 164		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 165		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 166		TA ELECTLT CAP CS735E1D226M	22µ F 20V	1	
C 167		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 168		CER CAP C0732CH1H471J (S b)	± 5% .50V 47P F	1	
C 169		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 170		CER CAP C0732CH1H471J (S b)	± 5% .50V 47P F	1	
C 171		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 172		TA ELECTLT CAP CS735E1D226M	22µ F 20V	1	
C 173		CER CAP C0732CH1H470J (S b)	± 5% .50V 47P F	1	
C 174		CER CAP C0732CH1H100C (A b)	± 0.25µ F 1000P F .50V	1	
C 175		CER CAP C0732CH1H102J	± 0.5µ F 1000P F .50V	1	
C 176		CER CAP C0732CH1H102J	± 0.5µ F 1000P F .50V	1	
C 177		CER CAP C0732CH1H102J	± 0.5µ F 1000P F .50V	1	
C 178		CER CAP C0732CH1H102J	± 0.5µ F 1000P F .50V	1	
C 179		CER CAP C0732CH1H102J	± 0.5µ F 1000P F .50V	1	
C 180		TA ELECTLT CAP CS735E1D226M	22µ F 20V	1	
C 181		CER CAP C0732CH1H102J	± 0.5µ F 1000P F .50V	1	
C 182		AL ELECTLT CAP KMA10VB-100	100µ F 10V	1	
C 183		CER CAP C0732CH1H102J	± 0.5µ F 1000P F .50V	1	
C 184		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	

Parts List of: A3-A2-A6 1HZ STEP SYNTH

Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
C 185		CER CAP CK732B1H103K (A 4)	± 10% .50V 1000P F	1	
C 186		CER CAP CK732B1H102J	± 0.5µ F 1000P F	1	
C 187		CER CAP CK732B1H103K (A 4)	± 10% .50V 1000P F	1	
C 188		CER CAP CK732B1H102J	± 0.5µ F 1000P F	1	
C 189		CER CAP C0732CH1H040C (1 b)	± 0.5µ F 40P F	1	
C 190		CER CAP C0732CH1H102J (A b)	± 5% .50V 1000P F	1	
C 191		CER CAP C0732CH1H210J (1 b)	± 5% .50V 210P F	1	
C 192		CER CAP C0732CH1H220J (Y b)	± 5% .50V 220P F	1	
C 193		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 194		CER CAP C0732CH1H050D (1 b)	± 0.5µ F 50P F	1	
C 195		CER CAP CK732B1H103K (A 4)	± 10% .50V 0.1µ F	1	
C 196		CER CAP CK732B1H103K (A 4)	± 10% .50V 0.1µ F	1	
C 197		CER CAP CK733B1H104K	0.1µ F 50V	1	
C 198		CER CAP CK732B1H103K (A 4)	± 10% .50V 0.1µ F	1	
C 199		CER CAP CK733B1H104K	± 10% .50V 0.1µ F	1	
C 200		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 201		CER CAP CK733B1H104K	0.1µ F ± 10%	1	
C 202		CER CAP C0732CH1H471J (S b)	± 5% .50V 470P F	1	
C 203		CER CAP C0732CH1H102J	± 5% .50V 1000P F	1	
C 204		CER CAP C0732CH1H101J (A b)	± 5% .50V 1000P F	1	
C 205		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 206		AL ELECTLT CAP SXF16VB-120	120µ F 16V	1	
C 207		NOT ASSIGNED		1	

Ref. No.	Part Code	Description	Rating	Qty	Note
C 208		NOT ASSIGNED		1	
C 209		NOT ASSIGNED		1	
C 210		NOT ASSIGNED		1	
C 211		AL ELECTLT CAP KMA10VB-100	100µ F 10V	1	
C 212		CER CAP CK733B1H104K	0.1µ F ± 10% .50V	1	
C 213		CER CAP C0732CH1H102J	1000P F ± 5% .50V	1	
C 214		CER CAP C0732CH1H102J	± 5% .50V 1000P F	1	
C 215		CER CAP C0732CH1H102J	± 5% .50V 1000P F	1	
C 216		CER CAP C0732CH1H102J	± 5% .50V 1000P F	1	
C 217		CER CAP CK733B1H104K	0.1µ F ± 10% .50V	1	
C 218		CER CAP C0732CK1H0R5C (1 b)	0.5µ F .50V ± 0.25P F	1	
C 219		CER CAP CK733B1H104K	0.1µ F ± 10% .50V	1	
C 220		AL ELECTLT CAP SXF16VB-120	120µ F 16V	1	
C 221		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 222		NOT ASSIGNED		1	
C 223		PLSTC FILM CAP ECB-V1H105JW	1µ F ± 5% .50V	1	
C 224		PLSTC FILM CAP ECB-V1H105JW	1µ F ± 5% .50V	1	
C 225		NOT ASSIGNED		1	
C 226		CER CAP C0732E1E105Z	1µ F 25V	1	
C 227		CER CAP CK732B1H222K (J 3)	± 10% .50V 2200P F	1	
C 228		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% .50V	1	
C 229		AL ELECTLT CAP KMA10VB-100	100µ F 10V	1	
C 230		CER CAP C0732CH1H102J	± 5% .50V 1000P F	1	

Parts List of: A3-A2-A0 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
C 251		CER CAP CC732CH1N102J	1000 P ± 5% -50V	1	
J 1		PLUG DF1-8P2.50SA	8P	1	
J 2		PLUG DF1-3P2.50SA	3P	1	
J 3		PLUG 27DP-R-PC		1	
J 4		CONNECTOR OO 826102 4200 870		1	
J 5		CONNECTOR OO 826103 3311 852		1	
J 6		CONNECTOR OO 826102 4200 870		1	
J 7		CONNECTOR OO 826103 3311 852		1	
J 8		PLUG 27DP-R-PC-1		1	
J 9		CONNECTOR OO 826102 4200 870		1	
J 10		CONNECTOR OO 826103 3311 852		1	
J 11		CONNECTOR OO 826102 4200 870		1	
J 12		CONNECTOR OO 826103 3311 852		1	
J 13		CONNECTOR OO 826102 4200 870		1	
J 14		CONNECTOR OO 826103 3311 852		1	
J 15		PLUG 27DP-R-PC-1		1	
J 16		PLUG 27DP-R-PC-1		1	
L 1		INDUCTOR TSL0707-331KR36	330μ H ± 10%	1	
L 2		INDUCTOR 339Y20176F	56μ H	1	
L 3		INDUCTOR NL453232-470K	47μ H ± 10%	1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
L 4		INDUCTOR NL453232-100K	10μ H ± 10%	1	
L 5		INDUCTOR ELF1010SK1-472K	4.70μ H	1	
L 6		INDUCTOR ELF1010SK1-472K	4.70μ H	1	
L 7		INDUCTOR NL453232-100K	10μ H ± 10%	1	
L 8		INDUCTOR TSL0707-331KR36	330μ H ± 10%	1	
L 9		INDUCTOR NL453232-2R2K	2.2μ H ± 10%	1	
L 10		INDUCTOR E537MN-010006	300 H	1	
L 11		INDUCTOR SPD408-6R8K	6.8μ H ± 10%	1	
L 12		INDUCTOR 34L74452A	5.2μ H	1	
L 13		INDUCTOR NL453232-2R2K	2.2μ H ± 10%	1	
L 14		INDUCTOR NL453232-2R2K	2.2μ H ± 10%	1	
L 15		INDUCTOR NL453232-220K	22μ H ± 10%	1	
L 16		INDUCTOR TSL0707-331KR36	330μ H ± 10%	1	
L 17		INDUCTOR NL322522-R15K	0.15μ H ± 10%	1	
L 18		INDUCTOR NL322522-R15K	0.15μ H ± 10%	1	
L 19		INDUCTOR NL322522-R15K	0.15μ H ± 10%	1	
L 20		INDUCTOR NL453232-220K	22μ H ± 10%	1	
L 21		INDUCTOR SPD408-6R8K	6.8μ H ± 10%	1	
L 22		INDUCTOR E537MN-020019	700 H	1	
L 23		INDUCTOR NL453232-220K	22μ H ± 10%	1	
L 24		INDUCTOR NL322522-R15K	0.15μ H ± 10%	1	
L 25		INDUCTOR NL322522-R22K	0.22μ H ± 10%	1	
L 26		INDUCTOR NL322522-R10K	0.1μ H ± 10%	1	

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Parts List of: A3-A2-A0 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
L 27		INDUCTOR TSL0707-331KR36	330μ H ± 10%	1	
L 28		INDUCTOR SPD408-6R8K	6.8μ H ± 10%	1	
L 29		VAR INDUCTOR E537MN-020019	700 H	1	
L 30		INDUCTOR TSL0707-331KR36	330μ H ± 10%	1	
L 31		INDUCTOR NL322522-R22K	0.22μ H ± 10%	1	
L 32		INDUCTOR NL322522-R22K	0.22μ H ± 10%	1	
L 33		INDUCTOR NL322522-R22K	0.22μ H ± 10%	1	
L 34		INDUCTOR TSL0707-331KR36	330μ H ± 10%	1	
L 35		INDUCTOR TSL0707-331KR36	330μ H ± 10%	1	
L 36		INDUCTOR TSL0707-331KR36	330μ H ± 10%	1	
L 37		INDUCTOR NL453232-220K	22μ H ± 10%	1	
L 38		INDUCTOR NL322522-R47K	0.47μ H ± 10%	1	
L 39		NOF A3310N-P-0		1	
L 40		INDUCTOR 1.0μ -101K	100μ H ± 10%	1	
Q 1		IC AC162APP		1	
Q 2		IC AC162AIP		1	
Q 3		IC 74100F		1	
Q 4		IC 74196		1	
Q 5		IC 74LS290D		1	
Q 6		IC 74110F		1	
Q 7		GENER DIODE RDS, 1RM2 (5-12)		1	
Q 8		TRANSISTOR 2SC3735 (B3 OR B3)		1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 9		TRANSISTOR 2SC3735 (B3A OR B3)		1	
Q 10		DIODE A155123		1	
Q 11		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	
Q 12		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	
Q 13		IC 74F191F		1	
Q 14		IC 74F08F		1	
Q 15		DIODE 1S2835 (A3)		1	
Q 16		DIODE 1S253		1	
Q 17		IC PC4570G2		1	
Q 18		TRANSISTOR 2SC3735 (B3A OR B3)		1	
Q 19		IC PC4570G2		1	
Q 20		IC PC4570G2		1	
Q 21		GENER DIODE RDS, 2MBZ (622)		1	
Q 22		IC TC4053HF		1	
Q 23		IC PC4570G2		1	
Q 24		IC NJU8001M		1	
Q 25		IC NJU8001M		1	
Q 26		IC 74196		1	
Q 27		IC 74196		1	
Q 28		IC PLL2001		1	
Q 29		DIODE A155123		1	
Q 30		DIODE RDS, 5MBZ (752)		1	
Q 31		IC PC4570G2		1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 32		NOT ASSIGNED			
Q 33		IC		1	
Q 34	M PC398C	DIODE		1	
Q 35	15V50	DIODE		1	
Q 36	ZENER DIODE	RD3.9MB (39F)		1	
Q 37	ZENER DIODE	RD3.9MB (39F)		1	
Q 38	TRANSISTOR	2SK152-2		1	
Q 39	IC	M PC1654A		1	
Q 40	ZENER DIODE	RD9.1MB2 (912)		1	
Q 41	IC	M PC1658C		1	
Q 42	IC	74F08F		1	
Q 43	IC	M PC1651G		1	
Q 44	IC	11C90DC		1	
Q 45	IC	74196		1	
Q 46	IC	MC4044M		1	
Q 47	IC	74F08F		1	
Q 48	IC	NJMS532M		1	
Q 49	ZENER DIODE	A1SS123		1	
Q 50	ZENER DIODE	RD7.5MB2 (752)		1	
Q 51	DIODE	A1SS123		1	
Q 52	IC	M PC398C		1	
Q 53	DIODE	15V50		1	
Q 54	DIODE	15V50		1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 55		TRANSISTOR		1	
Q 56		2SK55E		1	
Q 57		TRANSISTOR		1	
Q 58		2SK55E		1	
Q 59	IC	M PC1658C		1	
Q 60		ZENER DIODE		1	
Q 61		RD9.1MB2 (912)		1	
Q 62		NOT ASSIGNED			
Q 63		IC		1	
Q 64		74F191F		1	
Q 65		IC		1	
Q 66		74LS164F		1	
Q 67		IC		1	
Q 68		MC4044M		1	
Q 69		IC		1	
Q 70		M PC1651G		1	
Q 71		IC		1	
Q 72		IC		1	
Q 73		IC		1	
Q 74		IC		1	
Q 75		IC		1	
Q 76		IC		1	
Q 77		IC		1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 78		ZENER DIODE		1	
Q 79		RD7.5MB2 (752)		1	
Q 80		TRANSISTOR		1	
Q 81		2SK2351 (K2 OR R3)		1	
Q 82		TRANSISTOR		1	
Q 83		25C3735 (M34 OR H3)		1	
Q 84		IC		1	
Q 85		M PC1651G		1	
Q 86		IC		1	
Q 87		IC		1	
Q 88		ZENER DIODE		1	
Q 89		RD3.9MB (39F)		1	
Q 90		IC		1	
Q 91		M PC1651G		1	
Q 92		IC		1	
Q 93		ZENER DIODE		1	
Q 94		RD3.9MB (39F)		1	
R 1		RES ARRAY	100KΩ	1	
R 2		KMS-4-104JA	± 5%	1	
R 3		CERMET RESISTOR	470Ω	1	
R 4		RK73M2A471J	± 5%, 1/10W	1	
R 5		CERMET RESISTOR	5.9KΩ	1	
R 6		RK73M2A392J	± 5%, 1/10W	1	
R 7		CERMET RESISTOR	100Ω	1	
R 8		RK73M2A101J	± 5%, 1/10W	1	
R 9		CERMET RESISTOR	1KΩ	1	
R 10		RK73M2A102J	± 5%, 1/10W	1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 6		CERMET RESISTOR	500Ω	1	
R 7		RK73M2A601J	± 5%, 1/10W	1	
R 8		CARBON FILM RES	820Ω	1	
R 9		ARD25T821J	± 5%, 1/4W	1	
R 10		CERMET RESISTOR	100Ω	1	
R 11		RK73M2A181J	± 5%, 1/10W	1	
R 12		CERMET RESISTOR	150Ω	1	
R 13		RK73M2A151J	± 5%, 1/10W	1	
R 14		CERMET RESISTOR	100Ω	1	
R 15		RK73M2A101J	± 5%, 1/10W	1	
R 16		CERMET RESISTOR	600Ω	1	
R 17		RK73M2A601J	± 5%, 1/10W	1	
R 18		CERMET RESISTOR	35KΩ	1	
R 19		RK73M2A333J	± 5%, 1/10W	1	
R 20		CERMET RESISTOR	470Ω	1	
R 21		RK73M2A471J	± 5%, 1/10W	1	
R 22		CERMET RESISTOR	1KΩ	1	
R 23		RK73M2A102J	± 5%, 1/10W	1	
R 24		CERMET RESISTOR	600Ω	1	
R 25		RK73M2A601J	± 5%, 1/10W	1	
R 26		METAL FILM RESISTOR	100Ω	1	
R 27		RN73G2A103D	± 0.5%, 1/10W	1	
R 28		VARIABLE RESISTOR	0-1KΩ	1	
R 29		RES 1/4W	1KΩ	1	
R 30		METAL FILM RESISTOR	15KΩ	1	
R 31		RN73G2A135D	± 0.5%, 1/10W	1	
R 32		CERMET RESISTOR	100Ω	1	
R 33		RK73M2A100J	± 5%, 1/10W	1	
R 34		CERMET RESISTOR	100Ω	1	
R 35		RK73M2A100J	± 5%, 1/10W	1	
R 36		METAL FILM RESISTOR	4.7KΩ	1	
R 37		RN73G2A472D	± 0.5%, 1/10W	1	
R 38		METAL FILM RESISTOR	4.7KΩ	1	
R 39		RN73G2A472D	± 0.5%, 1/10W	1	
R 40		METAL FILM RESISTOR	1.5KΩ	1	
R 41		RN73G2A152D	± 0.5%, 1/10W	1	
R 42		CERMET RESISTOR	470Ω	1	
R 43		RK73M2A471J	± 5%, 1/10W	1	
R 44		CERMET RESISTOR	3.9KΩ	1	
R 45		RK73M2A392J	± 5%, 1/10W	1	
R 46		CERMET RESISTOR	100Ω	1	
R 47		RK73M2A101J	± 5%, 1/10W	1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 29		METAL FILM RESISTOR	1.5K Ω	1	
R 30		RN73G2A152D	$\pm 0.5\%/10W$	1	
		METAL FILM RESISTOR	5.62K Ω	1	
R 31		RN14K2E5621D	$\pm 0.5\%/1/4W$	1	
		CERMET RESISTOR	100 Ω	1	
R 32		RK73M2A100J	$\pm 5\%/1/10W$	1	
		CERMET RESISTOR	100 Ω	1	
R 33		RK73M2A100J	$\pm 5\%/1/10W$	1	
		METAL FILM RESISTOR	4.87K Ω	1	
		RN14K2E4871D	$\pm 0.5\%/1/4W$	1	
R 34		CERMET RESISTOR	1K Ω	1	
R 35		RK73M2A102J	$\pm 5\%/1/10W$	1	
		CERMET RESISTOR	100 Ω	1	
R 36		RK73M2A100J	$\pm 5\%/1/10W$	1	
		CARBON FILM RES	510 Ω	1	
R 37		ARD25T11J	$\pm 5\%/1/4W$	1	
		CERMET RESISTOR	1K Ω	1	
R 38		RK73M2A102J	$\pm 5\%/1/10W$	1	
		METAL FILM RESISTOR	13K Ω	1	
		RN73G2A133D	$\pm 0.5\%/1/10W$	1	
R 39		VARIABLE RESISTOR	0-10K Ω	1	
		R6S4H10Z	1/4W	1	
R 40		METAL FILM RESISTOR	510 Ω	1	
		RN73G2A511D	$\pm 0.5\%/1/10W$	1	
R 41		METAL FILM RESISTOR	510 Ω	1	
		RN73G2A511D	$\pm 0.5\%/1/10W$	1	
R 42		METAL FILM RESISTOR	5.1K Ω	1	
		RN73G2A512D	$\pm 0.5\%/1/10W$	1	
R 43		METAL FILM RESISTOR	8.2K Ω	1	
		RN73G2A822D	$\pm 0.5\%/1/10W$	1	
R 44		METAL FILM RESISTOR	5.1K Ω	1	
		RN73G2A512D	$\pm 0.5\%/1/10W$	1	
R 45		METAL FILM RESISTOR	5.1K Ω	1	
		RN73G2A512D	$\pm 0.5\%/1/10W$	1	
R 46		METAL FILM RESISTOR	4.3K Ω	1	
		RN73G2A432D	$\pm 0.5\%/1/10W$	1	
R 47		METAL FILM RESISTOR	4.3K Ω	1	
		RN73G2A432D	$\pm 0.5\%/1/10W$	1	
R 48		CERMET RESISTOR	100 Ω	1	
		RK73M2A100J	$\pm 5\%/1/10W$	1	
R 49		CERMET RESISTOR	100 Ω	1	
		RK73M2A100J	$\pm 5\%/1/10W$	1	
R 50		METAL FILM RESISTOR	4.2K Ω	1	
		RN73G2A622D	$\pm 0.5\%/1/10W$	1	
R 51		METAL FILM RESISTOR	7.5K Ω	1	
		RN73G2A752D	$\pm 0.5\%/1/10W$	1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 52		CERMET RESISTOR	1.2K Ω	1	
		RK73M2A122J	$\pm 5\%/1/10W$	1	
R 53		CERMET RESISTOR	59H Ω	1	
		RK73M2A591J	$\pm 5\%/1/10W$	1	
R 54		CERMET RESISTOR	1K Ω	1	
		RK73M2A102J	$\pm 5\%/1/10W$	1	
R 55		CERMET RESISTOR	100 Ω	1	
		RK73M2A100J	$\pm 5\%/1/10W$	1	
R 56		NOT ASSIGNED		1	
R 57		METAL FILM RESISTOR	1.1K Ω	1	
		RN73G2A112D	$\pm 0.5\%/1/10W$	1	
R 58		METAL FILM RESISTOR	1.1K Ω	1	
		RN73G2A112D	$\pm 0.5\%/1/10W$	1	
R 59		METAL FILM RESISTOR	1.1K Ω	1	
		RN73G2A112D	$\pm 0.5\%/1/10W$	1	
R 60		METAL FILM RESISTOR	1.1K Ω	1	
		RN73G2A112D	$\pm 0.5\%/1/10W$	1	
R 61		CERMET RESISTOR	100 Ω	1	
		RK73M2A100J	$\pm 5\%/1/10W$	1	
R 62		CERMET RESISTOR	100 Ω	1	
		RK73M2A100J	$\pm 5\%/1/10W$	1	
R 63		METAL FILM RESISTOR	3K Ω	1	
		RN73G2A302D	$\pm 0.5\%/1/10W$	1	
R 64		NOT ASSIGNED		1	
R 65		NOT ASSIGNED		1	
R 66		METAL FILM RESISTOR	27K Ω	1	
		RN73G2A273D	$\pm 0.5\%/1/10W$	1	
R 67		METAL FILM RESISTOR	5.1K Ω	1	
		RN73G2A512D	$\pm 0.5\%/1/10W$	1	
R 68		METAL FILM RESISTOR	510 Ω	1	
		RN73G2A511D	$\pm 0.5\%/1/10W$	1	
R 69		METAL FILM RESISTOR	7.5K Ω	1	
		RN73G2A752D	$\pm 0.5\%/1/10W$	1	
R 70		METAL FILM RESISTOR	5.1K Ω	1	
		RN73G2A125D	$\pm 0.5\%/1/10W$	1	
R 71		METAL FILM RESISTOR	5.1K Ω	1	
		RN73G2A512D	$\pm 0.5\%/1/10W$	1	
R 72		CERMET RESISTOR	220 Ω	1	
		RK73M2A221J	$\pm 5\%/1/10W$	1	
R 73		CARBON FILM RES	1K Ω	1	
		ARD25T102J	$\pm 5\%/1/4W$	1	
R 74		CERMET RESISTOR	150 Ω	1	
		RK73M2A151J	$\pm 5\%/1/10W$	1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 75		CERMET RESISTOR	500 Ω	1	
		RK73M2A501J	$\pm 5\%/1/10W$	1	
R 76		CERMET RESISTOR	100 Ω	1	
		RK73M2A100J	$\pm 5\%/1/10W$	1	
R 77		CERMET RESISTOR	100 Ω	1	
		RK73M2A101J	$\pm 5\%/1/10W$	2	
R 78		CERMET RESISTOR	100 Ω	1	
		RK73M2A100J	$\pm 5\%/1/10W$	1	
R 79		CERMET RESISTOR	150 Ω	2	
		RK73M2A151J	$\pm 5\%/1/10W$	2	
R 80		CERMET RESISTOR	100 Ω	1	
		RK73M2A101J	$\pm 5\%/1/10W$	1	
R 81		CERMET RESISTOR	3.5K Ω	1	
		RK73M2A332J	$\pm 5\%/1/10W$	1	
R 82		CERMET RESISTOR	1.8K Ω	1	
		RK73M2A182J	$\pm 5\%/1/10W$	1	
R 83		CERMET RESISTOR	1.2K Ω	1	
		RK73M2A122J	$\pm 5\%/1/10W$	1	
R 84		CERMET RESISTOR	100 Ω	1	
		RK73M2A100J	$\pm 5\%/1/10W$	1	
R 85		CERMET RESISTOR	100 Ω	1	
		RK73M2A151J	$\pm 5\%/1/10W$	1	
R 86		CERMET RESISTOR	50 Ω	1	
		RK73M2A50J	$\pm 5\%/1/10W$	1	
R 87		CERMET RESISTOR	600 Ω	1	
		RK73M2A601J	$\pm 5\%/1/10W$	1	
R 88		CERMET RESISTOR	600 Ω	1	
		RK73M2A601J	$\pm 5\%/1/10W$	1	
R 89		CERMET RESISTOR	10K Ω	1	
		RK73M2A105J	$\pm 5\%/1/10W$	1	
R 90		CERMET RESISTOR	190 Ω	1	
		RK73M2A391J	$\pm 5\%/1/10W$	1	
R 91		CERMET RESISTOR	1K Ω	1	
		RK73M2A102J	$\pm 5\%/1/10W$	1	
R 92		METAL FILM RESISTOR	5.1K Ω	1	
		RN73G2A532D	$\pm 0.5\%/1/10W$	1	
R 93		METAL FILM RESISTOR	5.1K Ω	1	
		RN73G2A532D	$\pm 0.5\%/1/10W$	1	
R 94		METAL FILM RESISTOR	510 Ω	1	
		RN73G2A511D	$\pm 0.5\%/1/10W$	1	
R 95		METAL FILM RESISTOR	510 Ω	1	
		RN73G2A511D	$\pm 0.5\%/1/10W$	1	
R 96		METAL FILM RESISTOR	1K Ω	1	
		RN73G2A102D	$\pm 0.5\%/1/10W$	1	
R 97		METAL FILM RESISTOR	1K Ω	1	
		RN73G2A102D	$\pm 0.5\%/1/10W$	1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 98		METAL FILM RESISTOR	15K Ω	1	
		RN73G2A153D	$\pm 0.5\%/1/10W$	1	
R 99		METAL FILM RESISTOR	15K Ω	1	
		RN73G2A153D	$\pm 0.5\%/1/10W$	1	
R 100		CERMET RESISTOR	100 Ω	1	
		RK73M2A100J	$\pm 5\%/1/10W$	1	
R 101		CERMET RESISTOR	100 Ω	1	
		RK73M2A100J	$\pm 5\%/1/10W$	1	
R 102		METAL FILM RESISTOR	5.1K Ω	1	
		RN73G2A512D	$\pm 0.5\%/1/10W$	1	
P 103		METAL FILM RESISTOR	1K Ω	1	
		RN73G2A102D	$\pm 0.5\%/1/10W$	1	
R 104		METAL FILM RESISTOR	330 Ω	1	
		RN73G2A331D	$\pm 0.5\%/1/10W$	1	
R 105		METAL FILM RESISTOR	27K Ω	1	
		RN73G2A273D	$\pm 0.5\%/1/10W$	1	
R 106		METAL FILM RESISTOR	5.1K Ω	1	
		RN73G2A512D	$\pm 0.5\%/1/10W$	1	
R 107		METAL FILM RESISTOR	10K Ω	1	
		RN73G2A103D	$\pm 0.5\%/1/10W$	1	
R 108		METAL FILM RESISTOR	5.1K Ω	1	
		RN73G2A512D	$\pm 0.5\%/1/10W$	1	
R 109		METAL FILM RESISTOR	7.5K Ω	1	
		RN73G2A752D	$\pm 0.5\%/1/10W$	1	
R 110		METAL FILM RESISTOR	7.5K Ω	1	
		RN73G2A752D	$\pm 0.5\%/1/10W$	1	
R 111		CERMET RESISTOR	220 Ω	1	
		RK73M2A221J	$\pm 5\%/1/10W$	1	
R 112		CARBON FILM RES	1K Ω	1	
		ARD25T102J	$\pm 5\%/1/4W$	1	
R 113		CERMET RESISTOR	5.6K Ω	1	
		RK73M2A562J	$\pm 5\%/1/10W$	1	
R 114		CERMET RESISTOR	10K Ω	1	
		RK73M2A103J	$\pm 5\%/1/10W$	1	
R 115		CERMET RESISTOR	2.7K Ω	1	
		RK73M2A272J	$\pm 5\%/1/10W$	1	
R 116		CERMET RESISTOR	1.2K Ω	1	
		RK73M2A122J	$\pm 5\%/1/10W$	1	
R 117		CERMET RESISTOR	3.5K Ω	1	
		RK73M2A352J	$\pm 5\%/1/10W$	1	
R 118		CERMET RESISTOR	10K Ω	1	
		RK73M2A103J	$\pm 5\%/1/10W$	1	
R 119		CERMET RESISTOR	5.6K Ω	1	
		RK73M2A562J	$\pm 5\%/1/10W$	1	
R 120		CERMET RESISTOR	820 Ω	1	
		RK73M2A821J	$\pm 5\%/1/10W$	1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 121		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	1	
R 122		CERMET RESISTOR RK73M2A39DJ	39Ω ± 5% 1/10W	1	
R 123		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	1	
R 124		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	1	
R 125		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 126		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	2	
R 127		CERMET RESISTOR RK73M2A181J	180Ω ± 5% 1/10W	1	
R 128		CERMET RESISTOR RK73M2A32J	32Ω ± 5% 1/10W	1	
R 129		CERMET RESISTOR RK73M2A182J	180Ω ± 5% 1/10W	1	
R 130		CERMET RESISTOR RK73M2A122J	120Ω ± 5% 1/10W	1	
R 131		CERMET RESISTOR RK73M2A750J	75Ω ± 5% 1/10W	1	
R 132		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 133		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 134		CERMET RESISTOR RK73M2A391J	39Ω ± 5% 1/10W	1	
R 135		CERMET RESISTOR RK73M2A102J	100Ω ± 5% 1/10W	1	
R 136		CERMET RESISTOR RK73M2A32J	32Ω ± 5% 1/10W	1	
R 137		CERMET RESISTOR RK73M2A32J	32Ω ± 5% 1/10W	1	
R 138		METAL FILM RESISTOR RN73G2A511D	510Ω ± 0.5% 1/10W	1	
R 139		METAL FILM RESISTOR RN73G2A511D	510Ω ± 0.5% 1/10W	1	
R 140		METAL FILM RESISTOR RN73G2A563D	560Ω ± 0.5% 1/10W	1	
R 141		METAL FILM RESISTOR RN73G2A563D	560Ω ± 0.5% 1/10W	1	
R 142		METAL FILM RESISTOR RN73G2A332D	330Ω ± 0.5% 1/10W	1	
R 143		METAL FILM RESISTOR RN73G2A332D	330Ω ± 0.5% 1/10W	1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
R 144		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 145		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 146		METAL FILM RESISTOR RN73G2A752D	750Ω ± 0.5% 1/10W	1	
R 147		METAL FILM RESISTOR RN73G2A752D	750Ω ± 0.5% 1/10W	1	
R 148		METAL FILM RESISTOR RN73G2A123D	120Ω ± 0.5% 1/10W	1	
R 149		METAL FILM RESISTOR RN73G2A103D	100Ω ± 0.5% 1/10W	1	
R 150		METAL FILM RESISTOR RN73G2A622D	620Ω ± 0.5% 1/10W	1	
R 151		METAL FILM RESISTOR RN73G2A512D	510Ω ± 0.5% 1/10W	1	
R 152		METAL FILM RESISTOR RN73G2A103D	100Ω ± 0.5% 1/10W	1	
R 153		METAL FILM RESISTOR RN73G2A512D	510Ω ± 0.5% 1/10W	1	
R 154		METAL FILM RESISTOR RN73G2A331D	330Ω ± 0.5% 1/10W	1	
R 155		CERMET RESISTOR RK73M2A221J	220Ω ± 5% 1/10W	1	
R 156		CARBON FILM RES ARD25T102J	100Ω ± 5% 1/4W	1	
R 157		CERMET RESISTOR RK73M2A62J	62Ω ± 5% 1/10W	1	
R 158		CERMET RESISTOR RK73M2A103J	100Ω ± 5% 1/10W	1	
R 159		CERMET RESISTOR RK73M2A272J	270Ω ± 5% 1/10W	1	
R 160		CERMET RESISTOR RK73M2A122J	120Ω ± 5% 1/10W	1	
R 161		CERMET RESISTOR RK73M2A32J	32Ω ± 5% 1/10W	1	
R 162		CERMET RESISTOR RK73M2A103J	100Ω ± 5% 1/10W	1	
R 163		CERMET RESISTOR RK73M2A562J	560Ω ± 5% 1/10W	1	
R 164		CERMET RESISTOR RK73M2A821J	820Ω ± 5% 1/10W	1	
R 165		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	1	
R 166		CERMET RESISTOR RK73M2A510J	510Ω ± 5% 1/10W	1	

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No.	Part Code	Description	Rating	Qty	Note
R 167		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	2	
R 168		CERMET RESISTOR RK73M2A750J	75Ω ± 5% 1/10W	1	
R 169		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 170		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
M 171		CERMET RESISTOR RK73M2A470J	47Ω ± 5% 1/10W	1	
R 172		CERMET RESISTOR RK73M2A681J	680Ω ± 5% 1/10W	1	
R 173		CERMET RESISTOR RK73M2A470J	47Ω ± 5% 1/10W	1	
M 174		CARBON FILM RES ARD25T591J	590Ω ± 5% 1/4W	1	
M 175		CERMET RESISTOR RK73M2A470J	47Ω ± 5% 1/10W	1	
R 176		CERMET RESISTOR RK73M2A472J	470Ω ± 5% 1/10W	1	
R 177		CERMET RESISTOR RK73M2A111J	110Ω ± 5% 1/10W	1	
R 178		CERMET RESISTOR RK73M2A122J	120Ω ± 5% 1/10W	1	
M 179		CERMET RESISTOR RK73M2A510J	510Ω ± 5% 1/10W	1	
R 180		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	1	
M 181		CERMET RESISTOR RK73M2A160J	160Ω ± 5% 1/10W	1	
R 182		CERMET RESISTOR RK73M2A681J	680Ω ± 5% 1/10W	1	
R 183		CERMET RESISTOR RK73M2A102J	100Ω ± 5% 1/10W	1	
R 184		CERMET RESISTOR RK73M2A102J	100Ω ± 5% 1/10W	1	
R 185		METAL FILM RESISTOR RN73G2A271D	270Ω ± 0.5% 1/10W	1	
R 186		METAL FILM RESISTOR RN73G2A163D	160Ω ± 0.5% 1/10W	1	
R 187		METAL FILM RESISTOR RN73G2A363D	360Ω ± 0.5% 1/10W	1	
R 188		CERMET RESISTOR RK73M2A33J	33Ω ± 5% 1/10W	1	
R 189		CERMET RESISTOR RK73M2A33J	33Ω ± 5% 1/10W	1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
R 190		CERMET RESISTOR RK73M2A103J	100Ω ± 5% 1/10W	1	
R 191		METAL FILM RESISTOR RN73G2A302D	300Ω ± 0.5% 1/10W	1	
R 192		NOT ASSIGNED			
R 193		CERMET RESISTOR RK73M2A81J	800Ω ± 5% 1/10W	1	
R 194		NOT ASSIGNED			
R 195		NOT ASSIGNED			
R 196		CERMET RESISTOR RK73M2A181J	180Ω ± 5% 1/10W	1	
R 197		CERMET RESISTOR RK73M2A330J	33Ω ± 5% 1/10W	1	
R 198		CERMET RESISTOR RK73M2A181J	180Ω ± 5% 1/10W	1	
R 199		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 200		CERMET RESISTOR RK73M2A750J	75Ω ± 5% 1/10W	1	
R 201		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 202		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	1	
R 203		NOT ASSIGNED			
R 204		NOT ASSIGNED			
R 205		CERMET RESISTOR RK73M2A150J	150Ω ± 5% 1/10W	1	
R 206		NOT ASSIGNED			
R 207		NOT ASSIGNED			
R 208		NOT ASSIGNED			
R 209		NOT ASSIGNED			
R 210		NOT ASSIGNED			
R 211		NOT ASSIGNED			
R 212		NOT ASSIGNED			

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Parts List of: A3-A2-A6 1HZ STEP SYNTH

Ref. No	Part Code	Description	Rating	Qty	Note
R 213		NOT ASSIGNED			
R 214		NOT ASSIGNED			
R 215		NOT ASSIGNED			
R 216		NOT ASSIGNED			
R 217		NOT ASSIGNED			
R 218		NOT ASSIGNED			
R 219		NOT ASSIGNED			
R 220		METAL FILM RESISTOR RN73G2A620D	620 ± 0.5% 1/10W	1	
R 221		METAL FILM RESISTOR RN73G2A620D	100Ω ± 0.5% 1/10W	1	
R 222		NOT ASSIGNED			
R 223		METAL FILM RESISTOR RN73G2A620D	620 ± 0.5% 1/10W	1	
R 224		METAL FILM RESISTOR RN73G2A620D	620 ± 0.5% 1/10W	1	
R 225		METAL FILM RESISTOR RN73G2A241D	240Ω ± 0.5% 1/10W	1	
Z 1		MIXER M-8		1	
Z 2		MIXER M-8		1	
Z 3		MIXER M-8		1	
Z 4		POWER DIVIDER PD-2-8P		1	

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Parts List of: A4 1F BPF

Ref. No	Part Code	Description	Rating	Qty	Note
C 1	2387-02927	CER CAP CC732CH1H151J (E b)	150p F ± 5% 50V	1	
C 2	2387-02928	CER CAP CC732CH1H221J (J b)	220p F ± 5% 50V	1	
C 3	2387-02927	CER CAP CC732CH1H151J (E b)	150p F ± 5% 50V	1	
C 4	2387-10248	CER CAP CK732B1H103K (A 4)	0.1μ F ± 10% 50V	1	
C 5	2387-10248	CER CAP CK732B1H103K (A 4)	0.1μ F ± 10% 50V	1	
C 6	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 7	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 8	2387-02993	CER CAP CC732CH1H102J	1000p F ± 5% 50V	1	
C 9		CER CAP CK732B1H222K (J 3)	2200p F ± 10% 50V	1	
C 10	2387-02993	CER CAP CC732CH1H102J	1000p F ± 5% 50V	1	
C 11	2387-10264	CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 12	2678-M2225	TA ELECTLYT CAP CS732E1E225M	2.2μ F ± 20% 25V	1	
C 13	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 14	2387-10262	CER CAP CK733B1H104K (A 5)	0.1μ F 50V +80/-20%	1	
C 15	2387-10264	CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 16	2678-M2225	TA ELECTLYT CAP CS732E1E225M	2.2μ F ± 20% 25V	1	
C 17	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 18	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 19	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 20	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 21	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 22	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 23	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	

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Parts List of: A4 1F BPF

Ref. No	Part Code	Description	Rating	Qty	Note
C 24	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 25	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 26	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 27	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 28	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 29	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 30	2678-M2225	TA ELECTLYT CAP CS732E1E225M	2.2μ F ± 20% 25V	1	
C 31	2387-10264	CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 32		CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 33	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 34		CER CAP CC732CH1H330J (N b)	33p F ± 5% 50V	1	
C 35	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 36	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 37	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 38	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 39	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 40	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 41	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 42	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 43	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 44	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 45	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	
C 46	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% 50V	1	

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Parts List of: A4 1F BPF

Ref. No	Part Code	Description	Rating	Qty	Note
C 47	2678-M2225	TA ELECTLYT CAP CS732E1E225M	2.2μ F ± 20% 25V	1	
C 48	2387-07992	VAR CER CAP T203T110A	11p F 100V	1	
C 49		TA ELECTLYT CAP CS732E1E225M	2.2μ F 25V	1	
C 50	2387-07994	VAR CER CAP T203R300A	30p F 100V	1	
C 51	2387-02965	CER CAP CC732CH1H150J (E b)	150p F ± 5% 50V	1	
C 52	2387-07994	VAR CER CAP T203R300A	30p F 100V	1	
C 53		NOT ASSIGNED			
C 54	2387-07994	VAR CER CAP T203R300A	30p F 100V	1	
C 55	2357-G1821	CER CAP RPE111CHB21650	820p F ± 2% 50V	1	
C 56		CER CAP CC732CH1H50J	50p F ± 5% 50V	1	
C 57		CER CAP CC732CH1H50J (U b)	50p F ± 5% 50V	1	
C 58	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 59	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 60	2678-M2225	TA ELECTLYT CAP CS732E1E225M	2.2μ F ± 20% 25V	1	
C 61	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F 50V +80/-20%	1	
C 62	2678-M2225	TA ELECTLYT CAP CS732E1E225M	2.2μ F ± 20% 25V	1	
C 63	2387-10264	CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 64	2387-10264	CER CAP CK733B1H104K	0.1μ F ± 10% 50V	1	
C 65		NOT ASSIGNED			
C 66	2387-07994	VAR CER CAP T203T110A	11p F 100V	1	
C 67	2387-07994	VAR CER CAP T203R300A	30p F 100V	1	
C 68	2387-07994	VAR CER CAP T203R300A	30p F 100V	1	
C 69	2387-02965	CER CAP CC732CH1H150J (E b)	150p F ± 5% 50V	1	

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Parts List of: A4 JF 0PF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 70	2387-07994	VAR CER CAP T203R300A	30p F, 100V	1	
C 71		CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 72	2357-61821	RPE111CM821650	± 2%, 50V	1	
C 73		CER CAP CCT32CM1H050J	5p F ± 5%, 50V	1	
C 74		CER CAP CCT32CM1H560J (U b)	56p F ± 5%, 50V	1	
C 75	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 76	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 77	2678-M2225	TA ELECTLT CAP CS732E1E225M	2.2μ F ± 20%, 25V	1	
C 78	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 79	2678-M2225	TA ELECTLT CAP CS732E1E225M	2.2μ F ± 20%, 25V	1	
C 80	2387-10264	CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 81	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 82	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10%, 50V	1	
C 83	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 84	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10%, 50V	1	
C 85	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 86	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 87	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 88	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 89		NOT ASSIGNED		1	
C 90		NOT ASSIGNED		1	
C 91	2387-07992	VAR CER CAP T205T110A	11p F, 100V	1	
C 92	2387-07994	VAR CER CAP T203R300A	30p F, 100V	1	
<p>* Selected in factory Drawing No. 34U96357 6/75</p> <p>No D075-1000 II ANRITSU CORP.</p>					

Parts List of: A4 IF 0PF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 93	2387-07994	VAR CER CAP T203R300A	30p F, 100V	1	
C 94	2387-02965	CER CAP CC732CH1H150J (E b)	15p F ± 5%, 50V	1	
C 95	2387-10264	CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 96		NOT ASSIGNED		1	
C 97	2387-07994	VAR CER CAP T203R300A	30p F, 100V	1	
C 98		NOT ASSIGNED		1	
C 99	2357-61821	CER CAP RPE111CM821650	820p F ± 2%, 50V	1	
C 100		CER CAP CCT32CM1H050J	5p F ± 5%, 50V	1	
C 101		CER CAP CCT32CM1H560J (U b)	56p F ± 5%, 50V	1	
C 102	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 103	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 104	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 105	2678-M2225	TA ELECTLT CAP CS732E1E225M	2.2μ F ± 20%, 25V	1	
C 106	2678-M2225	TA ELECTLT CAP CS732E1E225M	2.2μ F ± 20%, 25V	1	
C 107	2387-10264	CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 108	2387-07992	VAR CER CAP T205T110A	11p F, 100V	1	
C 109	2387-07994	VAR CER CAP T203R300A	30p F, 100V	1	
C 110	2387-02965	CER CAP CC732CH1H150J (E b)	15p F ± 5%, 50V	1	
C 111	2387-07994	VAR CER CAP T203R300A	30p F, 100V	1	
C 112		NOT ASSIGNED		1	
C 113	2387-02965	VAR CER CAP T203R300A	30p F, 100V	1	
C 114	2357-61821	CER CAP RPE111CM821650	820p F ± 2%, 50V	1	
C 115		CER CAP CCT32CM1H050J	5p F ± 5%, 50V	1	
<p>* Selected in factory Drawing No. 34U96357 7/75</p> <p>No D075-1000 II ANRITSU CORP.</p>					

Parts List of: A4 JF 0PF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 117	2387-10262	CER CAP CCT32CM1H560J (U b)	56p F ± 5%, 50V	1	
C 118	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 119	2678-M2225	TA ELECTLT CAP CS732E1E225M	2.2μ F ± 20%, 25V	1	
C 120	2387-10264	CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 121	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 122	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 123	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 124	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 125	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 126	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 127	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 128		CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 129	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10%, 50V	1	
C 130	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 131	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 132	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10%, 50V	1	
C 133		NOT ASSIGNED		1	
C 134	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 135	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 136	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 137	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 138	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
<p>* Selected in factory Drawing No. 34U96357 6/75</p> <p>No D075-1000 II ANRITSU CORP.</p>					

Parts List of: A4 JF 0PF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 139	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 140	2678-M2225	TA ELECTLT CAP CS732E1E225M	2.2μ F ± 20%, 25V	1	
C 141	2678-M2225	TA ELECTLT CAP CS732E1E225M	2.2μ F ± 20%, 25V	1	
C 142	2678-M2225	TA ELECTLT CAP CS732E1E225M	2.2μ F ± 20%, 25V	1	
C 143		VAR CER CAP T203R300A	30p F, 100V	1	
C 144	2387-07992	VAR CER CAP T205T110A	11p F, 100V	1	
C 145	2387-02965	CER CAP CC732CH1H150J (E b)	15p F ± 5%, 50V	1	
C 146		VAR CER CAP T203R300A	30p F, 100V	1	
C 147		CER CAP CK732B1H103K (A 4)	0.01μ F ± 10%, 50V	1	
C 148	2357-61821	CER CAP RPE111CM821650	820p F ± 2%, 50V	1	
C 149		CER CAP CCT32CM1H050J	5p F ± 5%, 50V	1	
C 150		CER CAP CCT32CM1H560J (U b)	56p F ± 5%, 50V	1	
C 151	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 152	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 153	2678-M2225	TA ELECTLT CAP CS732E1E225M	2.2μ F ± 20%, 25V	1	
C 154		CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 155	2678-M2225	TA ELECTLT CAP CS732E1E225M	2.2μ F ± 20%, 25V	1	
C 156		CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 157	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 158	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10%, 50V	1	
C 159		CER CAP CK733B1H104K	0.1μ F ± 10%, 50V	1	
C 160	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
C 161	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1μ F, 50V +80/-20%	1	
<p>* Selected in factory Drawing No. 34U96357 7/75</p> <p>No D075-1000 II ANRITSU CORP.</p>					

Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 162	2387-10262	CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 163	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 164	2387-10262	CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 165	2387-10262	CER CAP CK733F1H104Z (A 5	+80/-20%	1	
C 166	2387-10262	CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 167	2387-10262	CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 168	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 169	2387-10262	CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 170	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 171	2387-10262	CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 172	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 173	2387-10248	VAR CER CAP TZ03Z070A	30p F .100V	1	
C 174	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 175	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 176	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 177	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 178	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 179	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 180	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 181	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 182	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 183	2387-10248	CER CAP CCT32CH1H221J (1 b	220p F ± 5% .50V	1	
C 184	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	

ANRITSU CORP.

Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 185	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 186	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 187	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 188	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 189	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 190	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 191	2387-10248	VAR CER CAP TZ03Z070A	30p F .100V	1	
C 192	2387-10248	CER CAP CCT32CH1H220C (1M b	30p F .50V ± 0.25p F ± 0.5p F	1	
C 193	2387-10248	CER CAP CC45CH1H060DY	NOT ASSIGNED	1	
C 194	2387-10248	CER CAP CCT32CH1H180J (1G b	18p F ± 5% .50V	1	
C 195	2387-10248	CER CAP CC45UJ1H180JY	18p F ± 5% .50V	1	
C 196	2387-10248	CER CAP CC45UJ1H180JY	18p F ± 5% .50V	1	
C 197	2387-10248	CER CAP NOT ASSIGNED		1	
C 198	2387-10248	CER CAP NOT ASSIGNED		1	
C 199	2387-10248	VAR CER CAP TZ03Z070A	7p F .100V	1	
C 200	2387-10248	CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 201	2387-10248	CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 202	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 203	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 204	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 205	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 206	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 207	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	

ANRITSU CORP.

Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 208	2387-10248	CER CAP NOT ASSIGNED		1	
C 209	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 210	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 211	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 212	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 213	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 214	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 215	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 216	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 217	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 218	2387-10248	VAR CER CAP TZ03Z070A	7p F .100V	1	
C 219	2387-10248	CER CAP CCT32CH1H220C (1M b	30p F .50V ± 0.25p F ± 0.5p F	1	
C 220	2387-10248	CER CAP CC45CH1H060DY	NOT ASSIGNED	1	
C 221	2387-10248	CER CAP CCT32CH1H180J (1G b	18p F ± 5% .50V	1	
C 222	2387-02956	CER CAP CCT32CH1H180J (1G b	18p F ± 5% .50V	1	
C 223	2387-01220	CER CAP CC45UJ1H180JY	18p F ± 5% .50V	1	
C 224	2387-10248	CER CAP NOT ASSIGNED		1	
C 225	2387-10248	CER CAP NOT ASSIGNED		1	
C 226	2387-07991	VAR CER CAP TZ03Z070A	7p F .100V	1	
C 227	2387-10248	CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 228	2387-10248	CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 229	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 230	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	

ANRITSU CORP.

Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 231	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 232	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 233	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 234	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 235	2387-10248	CER CAP NOT ASSIGNED		1	
C 236	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 237	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 238	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 239	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 240	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 241	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 242	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 243	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 244	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 245	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 246	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 247	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 248	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 249	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 250	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 251	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 252	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 253	2387-10248	CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	

ANRITSU CORP.

Parts List of: A4 1F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 254	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 255	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 256	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 257		NOT ASSIGNED			
C 258		NOT ASSIGNED			
C 259	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 260	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 261	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 262	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 263	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 264	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 265	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 266	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 267	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 268	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 269	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 270	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 271	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 272	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 273	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 274		NOT ASSIGNED			
C 275	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 276		CER CAP CC732CH1227 (1)	220 pF ± 5% .50V	1	

* Selected at factory Drawing No. 34M92357 14/56
 No. 0073-1088.11 ANRITSU CORP.

Parts List of: A4 1F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 277	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 278	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 279	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 280	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 281	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 282	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 283	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 284		VAR CER CAP T2032070A	7 pF .100V	1	
C 285		CER CAP CC732CH1030C (1M b)	30 pF .50V	1	
C 286		CER CAP CC45CM1060DY	60 pF .50V ± 0.5 pF	1	
C 287		NOT ASSIGNED			
C 288	2387-02956	CER CAP CC732CH180J (1G b)	18 pF ± 5% .50V	1	
C 289	2387-01220	CER CAP CC45UJ1H180JY	18 pF ± 5% .50V	1	
C 290	2387-07991	VAR CER CAP T2032070A	7 pF .100V	1	
C 291	2387-10248	CER CAP CK733F1H104Z (A 5)	0.1µF .50V +80/-20%	1	
C 292	2387-10248	CER CAP CK733F1H104Z (A 5)	0.1µF .50V +80/-20%	1	
C 293	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 294	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 295	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 296	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 297	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 298	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 299		NOT ASSIGNED			

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Parts List of: A4 1F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 300		NOT ASSIGNED			
C 301	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 302	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 303	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 304	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 305	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 306	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 307	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 308	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 309	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 310		VAR CER CAP T2032070A	7 pF .100V	1	
C 311		CER CAP CC732CH1030C (1M b)	30 pF .50V	1	
C 312		CER CAP CC45CM1060DY	60 pF .50V ± 0.5 pF	1	
C 313		NOT ASSIGNED			
C 314	2387-02956	CER CAP CC732CH180J (1G b)	18 pF ± 5% .50V	1	
C 315	2387-01220	CER CAP CC45UJ1H180JY	18 pF ± 5% .50V	1	
C 316	2387-07991	VAR CER CAP T2032070A	7 pF .100V	1	
C 317		CER CAP CK733F1H104Z (A 5)	0.1µF .50V +80/-20%	1	
C 318		CER CAP CK733F1H104Z (A 5)	0.1µF .50V +80/-20%	1	
C 319	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 320	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 321	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 322	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	

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Parts List of: A4 1F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 323	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 324	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 325	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 326	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 327	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 328	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 329	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 330	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 331	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 332	2387-10248	CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 333		CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 334		CER CAP CK732B1H103K (A 4)	0.01µF ± 10% .50V	1	
C 335	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µF .50V +80/-20%	1	
C 336	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µF .50V +80/-20%	1	
C 337	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µF .50V +80/-20%	1	
C 338	2192-Y0476	AL ELECTLY CAP CED4C1E470A	47 nF ± 20% .25V	1	
C 339	2192-Y0476	AL ELECTLY CAP CED4C1E470A	47 nF ± 20% .25V	1	
C 340	2192-Y0476	AL ELECTLY CAP CED4C1E470A	47 nF ± 20% .25V	1	
C 341	2192-Y0476	AL ELECTLY CAP CED4C1E470A	47 nF ± 20% .25V	1	
C 342	2192-Y0476	AL ELECTLY CAP CED4C1E470A	47 nF ± 20% .25V	1	
C 343		CER CAP CK733F1H104Z (A 5)	0.1µF .50V +80/-20%	1	
C 344		CER CAP CC732CH1000D (1 b)	8 pF .50V	1	
C 345		CER CAP CC732CH1000D (1 b)	8 pF .50V ± 0.5 pF	1	

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Parts List of: A4 [F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 346	CER CAP	18P F		1	
C 347	C6732CH1H80J (G b	± 5% .50V		1	
C 348	C6732CH1H80D (L b	± 0.5P F		1	
C 349	C6732CH1H103K (A 4	± 0.01µ F		1	
C 350	CER CAP	± 10% .50V		1	
C 351	CER CAP	± 0.5P F		1	
C 352	C6732CH1H80D (L b	± 0.5P F		1	
C 353	C6732CH1H80D (L b	± 0.5P F		1	
C 354	C6732CH1H15DJ (E b	± 5% .50V		1	
C 355	C6732CJ1H030C (M b	± 0.25P F		1	
C 356	NOT ASSIGNED				
C 357	CER CAP	3P F .50V		1	
C 358	C6732CJ1H030C (M b	± 0.25P F		1	
C 359	C6732B1H103K (A 4	± 10% .50V		1	
C 360	CER CAP	± 0.01µ F		1	
C 361	CER CAP	± 10% .50V		1	
C 362	C6732CJ1H030C (M b	± 0.25P F		1	
C 363	CER CAP	± 0.01µ F		1	
C 364	C6732B1H103K (A 4	± 10% .50V		1	
C 365	CER CAP	± 0.01µ F		1	
C 366	CER CAP	± 10% .50V		1	
C 367	C6732B1H103K (A 4	± 10% .50V		1	
C 368	CER CAP	± 0.01µ F		1	
C 368	C6732B1H103K (A 4	± 10% .50V		1	

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Parts List of: A4 [F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
C 369	CER CAP	0.01µ F		1	
C 369	C6732B1H103K (A 4	± 10% .50V		1	
J 1	8101-10341	270P-LR-PC		1	
J 2	8104-91597	008261-024200-870		1	
J 3	8104-91661	008261-033311-852		1	
J 4	8104-91597	008261-024200-870		1	
J 5	8104-91661	008261-033311-852		1	
J 6	8104-91597	008261-024200-870		1	
J 7	8104-91661	008261-033311-852		1	
J 8	8104-91597	008261-024200-870		1	
J 9	8104-91661	008261-033311-852		1	
J 10	8104-91597	008261-024200-870		1	
J 11	8104-91661	008261-033311-852		1	
J 12	8101-10341	270P-LR-PC		1	
J 13	8104-80058	D1N41612-32P8		1	
J 14		008261-024200-870		1	
J 15		008261-033311-852		1	
K 1	9037-00001	RELAY SV-5		1	
K 2	9037-00001	RELAY SV-5		1	
K 3	9037-00001	RELAY SV-5		1	
K 4	9037-00001	RELAY SV-5		1	
K 5	9037-00001	RELAY SV-5		1	

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Parts List of: A4 [F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
K 6	9037-00001	RELAY SV-5		1	
K 7	9037-00001	RELAY SV-5		1	
K 8	9037-00001	RELAY SV-5		1	
K 9	9037-00001	RELAY SV-5		1	
L 1	INDUCTOR	6.8µ H ± 10%		1	
L 2	8054-22452	INDUCTOR NL45232-6R8K	0.33µ H ± 10%	1	
L 3	8054-22452	INDUCTOR NL52252-833K	0.53µ H ± 10%	1	
L 4	INDUCTOR	6.8µ H ± 10%		1	
L 5	INDUCTOR	6.8µ H ± 10%		1	
L 6	INDUCTOR	2.2µ H ± 10%		1	
L 7	INDUCTOR	2.2µ H ± 10%		1	
L 8	INDUCTOR	6.8µ H ± 10%		1	
L 9	INDUCTOR	6.8µ H ± 10%		1	
L 10	INDUCTOR	154µ H		1	
L 11	INDUCTOR	154µ H		1	
L 12	INDUCTOR	154µ H		1	
L 13	INDUCTOR	154µ H		1	
L 14	INDUCTOR	154µ H		1	
L 15	INDUCTOR	6.8µ H ± 10%		1	
L 16	INDUCTOR	6.8µ H ± 10%		1	
L 17	INDUCTOR	6.8µ H ± 10%		1	
L 18	INDUCTOR	6.8µ H ± 10%		1	

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Parts List of: A4 [F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
L 19	8054-22294	INDUCTOR NL45232-101K	100µ H ± 10%	1	
L 20	INDUCTOR	339T13571		1	
L 21	8054-22294	INDUCTOR NL45232-101K	100µ H ± 10%	1	
L 22	NOT ASSIGNED				
L 23	8054-22294	INDUCTOR NL45232-101K	100µ H ± 10%	1	
L 24	INDUCTOR	339T13571		1	
L 25	8054-22294	INDUCTOR NL45232-101K	100µ H ± 10%	1	
L 26	INDUCTOR	NL45232-101K	100µ H ± 10%	1	
L 27	INDUCTOR	NL45232-101K	100µ H ± 10%	1	
L 28	INDUCTOR	NL45232-101K	100µ H ± 10%	1	
L 29	INDUCTOR	NL45232-101K	100µ H ± 10%	1	
L 30	INDUCTOR	NL45232-101K	100µ H ± 10%	1	
L 31	INDUCTOR	NL45232-6R8K	6.8µ H ± 10%	1	
L 32	INDUCTOR	NL45232-6R8K	6.8µ H ± 10%	1	
L 33	8054-22333	INDUCTOR NL45232-3R3K	3.3µ H ± 10%	1	
L 34	8054-22294	INDUCTOR NL45232-101K	100µ H ± 10%	1	
L 35	INDUCTOR	339T13571		1	
L 36	8054-22294	INDUCTOR NL45232-101K	100µ H ± 10%	1	
L 37	NOT ASSIGNED				
L 38	8054-22294	INDUCTOR NL45232-101K	100µ H ± 10%	1	
L 39	INDUCTOR	339T13571		1	
L 40	8054-22294	INDUCTOR NL45232-101K	100µ H ± 10%	1	
L 41	INDUCTOR	NL45232-6R8K	6.8µ H ± 10%	1	

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Parts List of: A4 1F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
L 42		INDUCTOR NL453232-4R7K	4.7μ H ± 10%	1	
L 43		INDUCTOR NL453232-4R7K	4.7μ H ± 10%	1	
L 44		INDUCTOR NL453232-4R7K	4.7μ H ± 10%	1	
L 45		INDUCTOR NL453232-4R7K	4.7μ H ± 10%	1	
L 46		INDUCTOR NL453232-4R7K	4.7μ H ± 10%	1	
L 47		INDUCTOR NL453232-4R7K	4.7μ H ± 10%	1	
L 48		INDUCTOR NL453232-4R7K	4.7μ H ± 10%	1	
Q 1		TRANSISTOR 2SA1402 (Y33 OR Y3)		1	
Q 2	1139-29010	TRANSISTOR 2SC2901		1	
Q 3	1229-01002	ZENER DIODE RDS.1MB2 (512)		1	
Q 4	1229-01002	ZENER DIODE RDS.1MB2 (512)		1	
Q 5		IC M PC4570G2		1	
Q 6		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 7	1139-29010	TRANSISTOR 2SC2901		1	
Q 8		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 9		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 10		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 11		TRANSISTOR 2SA811A (C16 OR C1)		1	
Q 12		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 13		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 14	1229-01002	ZENER DIODE RDS.1MB2 (512)		1	
Q 15		IC M PC4570G2		1	

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Parts List of: A4 1F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 16		THERMISTOR 31021		1	
Q 17	1359-03811	AD7541AKN		1	
Q 18		IC		1	
Q 19		M PC4570G2 NOT ASSIGNED		1	
Q 20		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 21		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 22	1219-10510	DIODE A1SS317		1	
Q 23	1219-10510	DIODE A1SS317		1	
Q 24		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 25	1139-29010	TRANSISTOR 2SC2901		1	
Q 26	1313-55007	IC M P052016		1	
Q 27	1313-55007	IC M P052016		1	
Q 28		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 29		TRANSISTOR 2SA811A (C16 OR C1)		1	
Q 30	1313-55007	IC M P052016		1	
Q 31		NOT ASSIGNED		1	
Q 32		NOT ASSIGNED		1	
Q 33		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 34		TRANSISTOR 2SA811A (C16 OR C1)		1	
Q 35		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 36	1313-55007	IC M P052016		1	
Q 37	1313-55007	IC M P052016		1	
Q 38		TRANSISTOR 2SC1622A (D16 OR D)		1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
Q 39		TRANSISTOR 2SA811A (C16 OR C1)		1	
Q 40		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 41	1313-55007	IC M P052016		1	
Q 42		THERMISTOR 05-05-300-1		1	
Q 43	1313-55007	IC M P052016		1	
Q 44	1313-55007	IC M P052016		1	
Q 45		THERMISTOR 05-05-300-1		1	
Q 46	1313-55007	IC M P052016		1	
Q 47	1313-55007	IC M P052016		1	
Q 48	1313-55007	IC M P052016		1	
Q 49		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 50		TRANSISTOR 2SA811A (C16 OR C1)		1	
Q 51		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 52		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 53		TRANSISTOR 2SA811A (C16 OR C1)		1	
Q 54		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 55		TRANSISTOR 2SA811A (C16 OR C1)		1	
Q 56	1313-55007	IC M P052016		1	
Q 57	1313-55007	IC M P052016		1	
Q 58	1313-55007	IC M P052016		1	
Q 59	1313-55007	IC M P052016		1	
Q 60	1313-55007	IC M P052016		1	
Q 61		TRANSISTOR 2SC2351 (R2 OR R3)		1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
Q 62		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 63		THERMISTOR 05-05-300-1		1	
Q 64		THERMISTOR 31021		1	
Q 65		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 66		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 67		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 68		THERMISTOR 05-05-300-1		1	
Q 69		THERMISTOR 05-05-300-1		1	
Q 70	1313-55007	IC M P052016		1	
Q 71	1313-55007	IC M P052016		1	
Q 72		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 73		TRANSISTOR 2SA811A (C16 OR C1)		1	
Q 74	1313-55007	IC M P052016		1	
Q 75		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 76		TRANSISTOR 2SA811A (C16 OR C1)		1	
Q 77		TRANSISTOR 2SC1622A (D16 OR D)		1	
Q 78		NOT ASSIGNED		1	
Q 79		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 80	1119-12040	TRANSISTOR 2SA1206		1	
Q 81	1229-01002	ZENER DIODE RDS.1MB2 (512)		1	
Q 82	1229-01002	ZENER DIODE RDS.1MB2 (512)		1	
Q 83	1313-55007	IC M P052016		1	
Q 84		THERMISTOR 05-05-300-1		1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
Q 85		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 86		DIODE A1SS317		1	
Q 87	1119-1200	TRANSISTOR 2SA1206		1	
Q 88		NOT ASSIGNED			
Q 89		NOT ASSIGNED			
Q 90		DIODE A1SS317		1	
Q 91		DIODE A1SS317		1	
Q 92		DIODE A1SS317		1	
Q 93		DIODE A1SS317		1	
Q 94		DIODE A1SS317		1	
Q 95		DIODE A1SS317		1	
Q 96		DIODE A1SS317		1	
Q 97		DIODE A1SS317		1	
Q 98		DIODE A1SS317		1	
Q 99		THERMISTOR 05-05-300-1		1	
Q 100		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 101		DIODE A1SS317		1	
Q 102		DIODE A1SS317		1	
Q 103		DIODE A1SS317		1	
Q 104		DIODE A1SS317		1	
Q 105		DIODE A1SS317		1	
Q 106		DIODE A1SS317		1	
Q 107		DIODE A1SS317		1	

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Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 108		DIODE A1SS317		1	
Q 109		DIODE A1SS317		1	
Q 110		THERMISTOR 05-05-300-1		1	
Q 111		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 112		NOT ASSIGNED			
Q 113		NOT ASSIGNED			
Q 114		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	
Q 115		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 116		DIODE A1SS317		1	
Q 117		DIODE A1SS317		1	
Q 118		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	
Q 119		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 120		DIODE A1SS317		1	
Q 121		DIODE A1SS317		1	
Q 122		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	
Q 123		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 124		DIODE A1SS317		1	
Q 125		DIODE A1SS317		1	
Q 126		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	
Q 127		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 128		DIODE A1SS317		1	
Q 129		DIODE A1SS317		1	
Q 130		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
Q 131		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 132		DIODE A1SS317		1	
Q 133		DIODE A1SS317		1	
Q 134		DIODE A1SS317		1	
Q 135		NOT ASSIGNED			
Q 136		NOT ASSIGNED			
Q 137		DIODE A1SS317		1	
Q 138		DIODE A1SS317		1	
Q 139		DIODE A1SS317		1	
Q 140		DIODE A1SS317		1	
Q 141		DIODE A1SS317		1	
Q 142		DIODE A1SS317		1	
Q 143		DIODE A1SS317		1	
Q 144		DIODE A1SS317		1	
Q 145		DIODE A1SS317		1	
Q 146		THERMISTOR 05-05-300-1		1	
Q 147		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 148		NOT ASSIGNED			
Q 149		NOT ASSIGNED			
Q 150		DIODE A1SS317		1	
Q 151		DIODE A1SS317		1	
Q 152		DIODE A1SS317		1	
Q 153		DIODE A1SS317		1	

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Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 154		DIODE A1SS317		1	
Q 155		DIODE A1SS317		1	
Q 156		DIODE A1SS317		1	
Q 157		DIODE A1SS317		1	
Q 158		DIODE A1SS317		1	
Q 159		THERMISTOR 05-05-300-1		1	
Q 160		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 161		TRANSISTOR 2SA1462 (Y33 OR Y3)		1	
Q 162		TRANSISTOR 2SC2901		1	
Q 163		DIODE A1SS317		1	
Q 164		NOT ASSIGNED			
Q 165		NOT ASSIGNED			
Q 166		NOT ASSIGNED			
Q 167		NOT ASSIGNED			
Q 168		NOT ASSIGNED			
Q 169	1381-20022	IC M PA79C		1	
Q 170		NOT ASSIGNED			
Q 171		NOT ASSIGNED			
Q 172		NOT ASSIGNED			
Q 173		TRANSISTOR 2SC1622A (B16 OR D)		1	
Q 174		IC M PC4570G2		1	
Q 175		IC SI-3050C		1	
Q 176		IC SI-3150C		1	

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Parts List of: A4 IF 8PF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 177		IC			
	25C3735	(834 OR 83		1	
R 178		IC			
	25A1462	(Y33 OR Y3		1	
R 1		CERMET RESISTOR	100KΩ	1	
	RK73M2A104J		± 5% -1/10W		
R 2		CERMET RESISTOR	4.7KΩ	1	
	RK73M2A472J		± 5% -1/10W		
R 3		CERMET RESISTOR	22KΩ	1	
	RK73M2A223J		± 5% -1/10W		
R 4		CERMET RESISTOR	5.1Ω	1	
	RK73M2A510J		± 5% -1/10W		
R 5		CERMET RESISTOR	6.8KΩ	1	
	RK73M2A682J		± 5% -1/10W		
R 6		CERMET RESISTOR	2.2KΩ	1	
	RK73M2A222J		± 5% -1/10W		
R 7	4171-J0221	CARBON FILM RES	270Ω	1	
	AR025T221J		± 5% -1/4W		
R 8	4171-J0221	CARBON FILM RES	270Ω	1	
	AR025T221J		± 5% -1/4W		
R 9		CERMET RESISTOR	33Ω	1	
	RK73M2A330J		± 5% -1/10W		
R 10		CERMET RESISTOR	680Ω	1	
	RK73M2A681J		± 5% -1/10W		
R 11		METAL FILM RESISTOR	170Ω	1	
	RN73G2A131J		± 0.5% -1/10W		
R 12	6652-M1000	VARIABLE RESISTOR	100Ω	1	
	RJ-651000		100Ω		
R 13		CERMET RESISTOR	1.2KΩ	1	
	RK73M2A122J		± 5% -1/10W		
R 14		CERMET RESISTOR	110Ω	1	
	RK73M2A101J		± 5% -1/10W		
R 15		CERMET RESISTOR	300Ω	1	
	RK73M2A301J		± 5% -1/10W		
R 16		CERMET RESISTOR	5.1Ω	1	
	RK73M2A510J		± 5% -1/10W		
R 17		CERMET RESISTOR	8.0Ω	1	
	RK73M2A801J		± 5% -1/10W		
R 18		CERMET RESISTOR	4.7Ω	1	
	RK73M2A470J		± 5% -1/10W		
R 19		CERMET RESISTOR	11KΩ	1	
	RK73M2A103J		± 5% -1/10W		
R 20		CERMET RESISTOR	1.0Ω	1	
	RK73M2A510J		± 5% -1/10W		

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Parts List of: A4 IF 8PF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 21	4171-J0221	CARBON FILM RES	270Ω	1	
	AR025T221J		± 5% -1/4W		
R 22	4171-J0221	CARBON FILM RES	270Ω	1	
	AR025T221J		± 5% -1/4W		
R 23		CERMET RESISTOR	100KΩ	1	
	RK73M2A104J		± 5% -1/10W		
R 24		CERMET RESISTOR	150Ω	1	
	RK73M2A151J		± 5% -1/10W		
R 25		CERMET RESISTOR	5.1Ω	1	
	RK73M2A510J		± 5% -1/10W		
R 26		METAL FILM RESISTOR	75Ω	1	
	RN73G2A750J		± 0.5% -1/10W		
R 27		METAL FILM RESISTOR	200Ω	1	
	RN73G2A201J		± 0.5% -1/10W		
H 28		METAL FILM RESISTOR	82Ω	1	
	RN73G2A820J		± 0.5% -1/10W		
R 29		METAL FILM RESISTOR	360Ω	1	
	RN73G2A360J		± 0.5% -1/10W		
R 30		CERMET RESISTOR	1.5KΩ	1	
	RK73M2A152J		± 5% -1/10W		
R 31		CERMET RESISTOR	22Ω	1	
	RK73M2A220J		± 5% -1/10W		
R 32		CERMET RESISTOR	150Ω	1	
	RK73M2A151J		± 5% -1/10W		
R 33		CERMET RESISTOR	100KΩ	1	
	RK73M2A104J		± 5% -1/10W		
R 34		CERMET RESISTOR	1KΩ	1	
	RK73M2A102J		± 5% -1/10W		
R 35		CERMET RESISTOR	68Ω	1	
	RK73M2A680J		± 5% -1/10W		
R 36		CERMET RESISTOR	6.8KΩ	1	
	RK73M2A682J		± 5% -1/10W		
R 37		CERMET RESISTOR	680Ω	1	
	RK73M2A681J		± 5% -1/10W		
R 38		METAL FILM RESISTOR	2KΩ	1	
	RN73G2A202J		± 0.5% -1/10W		
R 39		METAL FILM RESISTOR	910Ω	1	
	RN73G2A910J		± 0.5% -1/10W		
R 40		CERMET RESISTOR	820Ω	1	
	RK73M2A821J		± 5% -1/10W		
R 41		CERMET RESISTOR	270Ω	1	
	RK73M2A271J		± 5% -1/10W		
R 42		CERMET RESISTOR	1.5KΩ	1	
	RK73M2A152J		± 5% -1/10W		
R 43		CERMET RESISTOR	100KΩ	1	
	RK73M2A104J		± 5% -1/10W		

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Parts List of: A4 IF 8PF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 44		CERMET RESISTOR	1KΩ	1	
	RK73M2A102J		± 5% -1/10W		
R 45		CERMET RESISTOR	100KΩ	1	
	RK73M2A104J		± 5% -1/10W		
R 46		CERMET RESISTOR	3.9KΩ	1	
	RK73M2A392J		± 5% -1/10W		
R 47		METAL FILM RESISTOR	8.2KΩ	1	
	RN73G2A822J		± 0.5% -1/10W		
R 48		METAL FILM RESISTOR	4.7KΩ	1	
	RN73G2A472J		± 0.5% -1/10W		
R 49		CERMET RESISTOR	1.8KΩ	1	
	RK73M2A182J		± 5% -1/10W		
R 50		METAL FILM RESISTOR	16KΩ	1	
	RN73G2A163J		± 0.5% -1/10W		
R 51		METAL FILM RESISTOR	16KΩ	1	
	RN73G2A163J		± 0.5% -1/10W		
R 52		CERMET RESISTOR	8.2KΩ	1	
	RK73M2A822J		± 5% -1/10W		
R 53		CERMET RESISTOR	4.7Ω	1	
	RK73M2A470J		± 5% -1/10W		
R 54		CERMET RESISTOR	100Ω	1	
	RK73M2A101J		± 5% -1/10W		
R 55		CERMET RESISTOR	100Ω	1	
	RK73M2A101J		± 5% -1/10W		
R 56		CERMET RESISTOR	100Ω	1	
	RK73M2A101J		± 5% -1/10W		
R 57		VARIABLE RESISTOR	20KΩ	1	
	RG54H203		1/4W		
R 58		METAL FILM RESISTOR	15KΩ	1	
	RN73G2A153J		± 0.5% -1/10W		
R 59		METAL FILM RESISTOR	4.5KΩ	1	
	RN73G2A452J		± 0.5% -1/10W		
R 60		VARIABLE RESISTOR	10KΩ	1	
	RG54H103		1/4W		
R 61		METAL FILM RESISTOR	33KΩ	1	
	RN73G2A333J		± 0.5% -1/10W		
R 62		CERMET RESISTOR	2.7KΩ	1	
	RK73M2A272J		± 5% -1/10W		
R 63		CERMET RESISTOR	330Ω	1	
	RK73M2A331J		± 5% -1/10W		
R 64		CERMET RESISTOR	100KΩ	1	
	RK73M2A104J		± 5% -1/10W		
R 65		CERMET RESISTOR	3.9KΩ	1	
	RK73M2A392J		± 5% -1/10W		
R 66		CERMET RESISTOR	2.2KΩ	1	
	RK73M2A222J		± 5% -1/10W		

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Parts List of: A4 IF 8PF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 67		CERMET RESISTOR	270Ω	1	
	RK73M2A271J		± 5% -1/10W		
R 68		CERMET RESISTOR	4.7Ω	1	
	RK73M2A470J		± 5% -1/10W		
R 69		CERMET RESISTOR	160Ω	1	
	RK73M2A161J		± 5% -1/10W		
R 70		NOT ASSIGNED			
R 71		CERMET RESISTOR	120Ω	1	
	RK73M2A121J		± 5% -1/10W		
R 72		CERMET RESISTOR	1KΩ	1	
	RK73M2A102J		± 5% -1/10W		
R 73		CERMET RESISTOR	3.9KΩ	1	
	RK73M2A392J		± 5% -1/10W		
R 74		CERMET RESISTOR	100Ω	1	
	RK73M2A101J		± 5% -1/10W		
R 75		CERMET RESISTOR	300Ω	1	
	RK73M2A301J		± 5% -1/10W		
R 76		CERMET RESISTOR	10KΩ	1	
	RK73M2A103J		± 5% -1/10W		
R 77		CERMET RESISTOR	4.7Ω	1	
	RK73M2A470J		± 5% -1/10W		
R 78		CERMET RESISTOR	100Ω	1	
	RK73M2A101J		± 5% -1/10W		
R 79		CERMET RESISTOR	100Ω	1	
	RK73M2A101J		± 5% -1/10W		
R 80		CERMET RESISTOR	820Ω	1	
	RK73M2A821J		± 5% -1/10W		
R 81	4171-J0221	CARBON FILM RES	220Ω	1	
	AR025T221J		± 5% -1/4W		
R 82	4171-J0221	CARBON FILM RES	220Ω	1	
	AR025T221J		± 5% -1/4W		
R 83		CERMET RESISTOR	150Ω	1	
	RK73M2A151J		± 5% -1/10W		
R 84		CERMET RESISTOR	1.5KΩ	1	
	RK73M2A152J		± 5% -1/10W		
R 85		CERMET RESISTOR	150Ω	1	
	RK73M2A151J		± 5% -1/10W		
R 86		METAL FILM RESISTOR	1.3KΩ	1	
	RN73G2A132J		± 0.5% -1/10W		
R 87		CERMET RESISTOR	390Ω	1	
	RK73M2A391J		± 5% -1/10W		
R 88		CERMET RESISTOR	10KΩ	1	
	RK73M2A103J		± 5% -1/10W		
R 89		CERMET RESISTOR	390Ω	1	
	RK73M2A391J		± 5% -1/10W		

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Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 90		CERMET RESISTOR	1.5KΩ	1	
R 91		RK73M2A152J	± 5%, 1/10W	1	
R 92		CERMET RESISTOR	1.5KΩ	1	
R 93		RK73M2A152J	± 5%, 1/10W	1	
R 94		METAL FILM RESISTOR	100KΩ	1	
R 95		RN73G2A104D	± 0.5%, 1/10W	1	
R 96		METAL FILM RESISTOR	30KΩ	1	
R 97		RN73G2A303D	± 0.5%, 1/10W	1	
R 98		METAL FILM RESISTOR	10KΩ	1	
R 99		RN73G2A183D	± 0.5%, 1/10W	1	
R 100		CERMET RESISTOR	100KΩ	1	
R 101		RK73M2A104J	± 5%, 1/10W	1	
R 102		CERMET RESISTOR	1.5KΩ	1	
R 103		RK73M2A152J	± 5%, 1/10W	1	
R 104		METAL FILM RESISTOR	100KΩ	1	
R 105		RN73G2A104D	± 0.5%, 1/10W	1	
R 106		METAL FILM RESISTOR	5.1KΩ	1	
R 107		RN73G2A512D	± 0.5%, 1/10W	1	
R 108		CERMET RESISTOR	100Ω	1	
R 109		RK73M2A122J	± 5%, 1/10W	1	
R 110		CERMET RESISTOR	1KΩ	1	
R 111		RK73M2A102J	± 5%, 1/10W	1	
R 112		CERMET RESISTOR	330Ω	1	
R 113		RK73M2A392J	± 5%, 1/10W	1	
R 114		CERMET RESISTOR	500Ω	1	
R 115		RK73M2A331J	± 5%, 1/10W	1	
R 116		CERMET RESISTOR	150Ω	1	
R 117		RK73M2A151J	± 5%, 1/10W	1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
R 113		METAL FILM RESISTOR	7.5KΩ	1	
R 114		RN73G2A752D	± 0.5%, 1/10W	1	
R 115		CERMET RESISTOR	100Ω	1	
R 116		RK73M2A101J	± 5%, 1/10W	1	
R 117		CERMET RESISTOR	600Ω	1	
R 118		RK73M2A081J	± 5%, 1/10W	1	
R 119		CERMET RESISTOR	600Ω	1	
R 120		RK73M2A081J	± 5%, 1/10W	1	
R 121		CERMET RESISTOR	150Ω	1	
R 122		RK73M2A151J	± 5%, 1/10W	1	
R 123		METAL FILM RESISTOR	1.3KΩ	1	
R 124		RN73G2A132D	± 0.5%, 1/10W	1	
R 125		METAL FILM RESISTOR	100KΩ	1	
R 126		RN73G2A104D	± 0.5%, 1/10W	1	
R 127		METAL FILM RESISTOR	30KΩ	1	
R 128		RN73G2A303D	± 0.5%, 1/10W	1	
R 129		METAL FILM RESISTOR	10KΩ	1	
R 130		RN73G2A183D	± 0.5%, 1/10W	1	
R 131		CERMET RESISTOR	3.9KΩ	1	
R 132		RK73M2A222J	± 5%, 1/10W	1	
R 133		CERMET RESISTOR	1.2KΩ	1	
R 134		RK73M2A122J	± 5%, 1/10W	1	
R 135		CERMET RESISTOR	47KΩ	1	
R 136		RK73M2A473J	± 5%, 1/10W	1	
R 137		CERMET RESISTOR	1.5KΩ	1	
R 138		RK73M2A152J	± 5%, 1/10W	1	
R 139		CERMET RESISTOR	2.2KΩ	1	
R 140		RK73M2A222J	± 5%, 1/10W	1	
R 141		CERMET RESISTOR	1.2KΩ	1	
R 142		RK73M2A122J	± 5%, 1/10W	1	
R 143		CERMET RESISTOR	100Ω	1	
R 144		RK73M2A101J	± 5%, 1/10W	1	
R 145		CERMET RESISTOR	33KΩ	1	
R 146		RK73M2A333J	± 5%, 1/10W	1	
R 147		CERMET RESISTOR	150Ω	1	
R 148		RK73M2A151J	± 5%, 1/10W	1	
R 149		CERMET RESISTOR	5.9KΩ	1	
R 150		RK73M2A392J	± 5%, 1/10W	1	
R 151		CERMET RESISTOR	500Ω	1	
R 152		RK73M2A331J	± 5%, 1/10W	1	
R 153		CERMET RESISTOR	150Ω	1	
R 154		RK73M2A151J	± 5%, 1/10W	1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
R 135		CERMET RESISTOR	150Ω	1	
R 137		RK73M2A151J	± 5%, 1/10W	1	
R 138		CERMET RESISTOR	600Ω	1	
R 139		RK73M2A081J	± 5%, 1/10W	1	
R 140		CERMET RESISTOR	600Ω	1	
R 141		RK73M2A081J	± 5%, 1/10W	1	
R 142		METAL FILM RESISTOR	5.1KΩ	1	
R 143		RN73G2A512D	± 0.5%, 1/10W	1	
R 144		CERMET RESISTOR	1.2KΩ	1	
R 145		RK73M2A122J	± 5%, 1/10W	1	
R 146		CERMET RESISTOR	270Ω	1	
R 147		RK73M2A271J	± 5%, 1/10W	1	
R 148		CERMET RESISTOR	6.8KΩ	1	
R 149		RK73M2A681J	± 5%, 1/10W	1	
R 150		CERMET RESISTOR	330Ω	1	
R 151		RN73G2A331D	± 5%, 1/10W	1	
R 152		METAL FILM RESISTOR	7.5KΩ	1	
R 153		RN73G2A752D	± 0.5%, 1/10W	1	
R 154		CERMET RESISTOR	50Ω	1	
R 155		RK73M2A503J	± 5%, 1/10W	1	
R 156		CARBON FILM RES	470Ω	1	
R 157		RD25T471J	± 5%, 1/4W	1	
R 158		CERMET RESISTOR	1.2KΩ	1	
R 159		RK73M2A122J	± 5%, 1/10W	1	
R 160		CERMET RESISTOR	270Ω	1	
R 161		RK73M2A271J	± 5%, 1/10W	1	
R 162		CERMET RESISTOR	470Ω	1	
R 163		RK73M2A471J	± 5%, 1/10W	1	
R 164		CERMET RESISTOR	220Ω	1	
R 165		RK73M2A221J	± 5%, 1/10W	1	
R 166		CERMET RESISTOR	590Ω	1	
R 167		RK73M2A590J	± 5%, 1/10W	1	
R 168		METAL FILM RESISTOR	15KΩ	1	
R 169		RN73G2A153D	± 0.5%, 1/10W	1	
R 170		METAL FILM RESISTOR	5.1KΩ	1	
R 171		RN73G2A512D	± 0.5%, 1/10W	1	
R 172		METAL FILM RESISTOR	2.2KΩ	1	
R 173		RN73G2A222D	± 0.5%, 1/10W	1	
R 174		METAL FILM RESISTOR	1.3KΩ	1	
R 175		RN73G2A132D	± 0.5%, 1/10W	1	
R 176		METAL FILM RESISTOR	390Ω	1	
R 177		RN73G2A390J	± 0.5%, 1/10W	1	
R 178		CERMET RESISTOR	100Ω	1	
R 179		RK73M2A101J	± 5%, 1/10W	1	
R 180		CERMET RESISTOR	100Ω	1	
R 181		RK73M2A101J	± 5%, 1/10W	1	
R 182		CERMET RESISTOR	150Ω	1	
R 183		RK73M2A151J	± 5%, 1/10W	1	
R 184		METAL FILM RESISTOR	1.3KΩ	1	
R 185		RN73G2A132D	± 0.5%, 1/10W	1	
R 186		METAL FILM RESISTOR	100KΩ	1	
R 187		RN73G2A104D	± 0.5%, 1/10W	1	
R 188		METAL FILM RESISTOR	30KΩ	1	
R 189		RN73G2A303D	± 0.5%, 1/10W	1	
R 190		METAL FILM RESISTOR	16KΩ	1	
R 191		RN73G2A183D	± 0.5%, 1/10W	1	
R 192		METAL FILM RESISTOR	3.9KΩ	1	
R 193		RN73G2A392D	± 0.5%, 1/10W	1	
R 194		CERMET RESISTOR	47KΩ	1	
R 195		RK73M2A473J	± 5%, 1/10W	1	
R 196		CERMET RESISTOR	1.5KΩ	1	
R 197		RK73M2A152J	± 5%, 1/10W	1	
R 198		CERMET RESISTOR	2.2KΩ	1	
R 199		RK73M2A222J	± 5%, 1/10W	1	

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Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 159		NOT ASSIGNED			
R 160		NOT ASSIGNED			
R 161		CERMET RESISTOR	1.2KΩ	1	
R 162		RK73M2A122J	± 5%, 1/10W	1	
R 163		CERMET RESISTOR	270Ω	1	
R 164		RK73M2A271J	± 5%, 1/10W	1	
R 165		CERMET RESISTOR	470Ω	1	
R 166		RK73M2A471J	± 5%, 1/10W	1	
R 167		CERMET RESISTOR	220Ω	1	
R 168		RK73M2A221J	± 5%, 1/10W	1	
R 169		CERMET RESISTOR	590Ω	1	
R 170		RK73M2A590J	± 5%, 1/10W	1	
R 171		METAL FILM RESISTOR	15KΩ	1	
R 172		RN73G2A153D	± 0.5%, 1/10W	1	
R 173		METAL FILM RESISTOR	5.1KΩ	1	
R 174		RN73G2A512D	± 0.5%, 1/10W	1	
R 175		METAL FILM RESISTOR	2.2KΩ	1	
R 176		RN73G2A222D	± 0.5%, 1/10W	1	
R 177		METAL FILM RESISTOR	1.3KΩ	1	
R 178		RN73G2A132D	± 0.5%, 1/10W	1	
R 179		METAL FILM RESISTOR	390Ω	1	
R 180		RN73G2A390J	± 0.5%, 1/10W	1	
R 181		CERMET RESISTOR	100Ω	1	
R 182		RK73M2A101J	± 5%, 1/10W	1	
R 183		CERMET RESISTOR	100Ω	1	
R 184		RK73M2A101J	± 5%, 1/10W	1	
R 185		METAL FILM RESISTOR	1.3KΩ	1	
R 186		RN73G2A132D	± 0.5%, 1/10W	1	
R 187		METAL FILM RESISTOR	100KΩ	1	
R 188		RN73G2A104D	± 0.5%, 1/10W	1	
R 189		METAL FILM RESISTOR	30KΩ	1	
R 190		RN73G2A303D	± 0.5%, 1/10W	1	
R 191		METAL FILM RESISTOR	16KΩ	1	
R 192		RN73G2A183D	± 0.5%, 1/10W	1	
R 193		METAL FILM RESISTOR	3.9KΩ	1	
R 194		RN73G2A392D	± 0.5%, 1/10W	1	
R 195		CERMET RESISTOR	47KΩ	1	
R 196		RK73M2A473J	± 5%, 1/10W	1	
R 197		CERMET RESISTOR	1.5KΩ	1	
R 198		RK73M2A152J	± 5%, 1/10W	1	
R 199		CERMET RESISTOR	2.2KΩ	1	
R 200		RK73M2A222J	± 5%, 1/10W	1	

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 Drawing No. 34996357
 34756
 No. D072-9888 H
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Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 182		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5%/1/10W	1	
R 183		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 184		CERMET RESISTOR RK73M2A333J	330Ω ± 5%/1/10W	1	
R 185		CERMET RESISTOR RK73M2A392J	390Ω ± 5%/1/10W	1	
R 186		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 187		METAL FILM RESISTOR RN73G2A104D	100KΩ ± 0.5%/1/10W	1	
R 188		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 189		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 190		METAL FILM RESISTOR RN73G2A512H	5.1KΩ ± 0.5%/1/10W	1	
R 191		NOT ASSIGNED			
R 192		NOT ASSIGNED			
R 193		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%/1/10W	1	
R 194		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5%/1/10W	1	
R 195		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/1/10W	1	
R 196		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 197		METAL FILM RESISTOR RN73G2A752D	7.5KΩ ± 0.5%/1/10W	1	
R 198		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 199		CERMET RESISTOR RK73M2A601J	600Ω ± 5%/1/10W	1	
R 200		CERMET RESISTOR RK73M2A601J	600Ω ± 5%/1/10W	1	
R 201		CERMET RESISTOR RK73M2A601J	600Ω ± 5%/1/10W	1	
R 202		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 203		METAL FILM RESISTOR RN73G2A152D	1.5KΩ ± 0.5%/1/10W	1	
R 204		METAL FILM RESISTOR RN73G2A101J	100Ω ± 0.5%/1/10W	1	

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Parts List of: A4 II BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 205		METAL FILM RESISTOR RN73G2A303H	300KΩ ± 0.5%/1/10W	1	
R 206		METAL FILM RESISTOR RN73G2A183D	180KΩ ± 0.5%/1/10W	1	
R 207		METAL FILM RESISTOR RN73G2A392D	390KΩ ± 0.5%/1/10W	1	
R 208		CERMET RESISTOR RK73M2A473J	47KΩ ± 5%/1/10W	1	
R 209		CERMET RESISTOR RK73M2A152J	1.5KΩ ± 5%/1/10W	1	
R 210		CERMET RESISTOR RK73M2A222J	2.2KΩ ± 5%/1/10W	1	
R 211		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5%/1/10W	1	
R 212		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 213		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 214		METAL FILM RESISTOR RN73G2A104H	100KΩ ± 0.5%/1/10W	1	
R 215		METAL FILM RESISTOR RN73G2A512D	5.1KΩ ± 0.5%/1/10W	1	
R 216		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5%/1/10W	1	
R 217		CERMET RESISTOR RK73M2A601J	600Ω ± 5%/1/10W	1	
R 218		CERMET RESISTOR RK73M2A152J	1.5KΩ ± 5%/1/10W	1	
R 219		CERMET RESISTOR RK73M2A333J	330Ω ± 5%/1/10W	1	
R 220		CERMET RESISTOR RK73M2A392J	390Ω ± 5%/1/10W	1	
R 221		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 222		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 223		NOT ASSIGNED			
R 224		NOT ASSIGNED			
R 225		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 226		METAL FILM RESISTOR RN73G2A752D	7.5KΩ ± 0.5%/1/10W	1	
R 227		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	

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Parts List of: A4 I BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 228		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 229		METAL FILM RESISTOR RN73G2A202D	2.0KΩ ± 0.5%/1/10W	1	
R 230		CERMET RESISTOR RK73M2A601J	600Ω ± 5%/1/10W	1	
R 231		CERMET RESISTOR RK73M2A821J	820Ω ± 5%/1/10W	1	
R 232		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 233		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5%/1/10W	1	
R 234		CERMET RESISTOR RK73M2A271J	270Ω ± 5%/1/10W	1	
R 235		CERMET RESISTOR RK73M2A471J	470Ω ± 5%/1/10W	1	
R 236		CERMET RESISTOR RK73M2A221J	220Ω ± 5%/1/10W	1	
R 237		CERMET RESISTOR RK73M2A391J	390Ω ± 5%/1/10W	1	
R 238		METAL FILM RESISTOR RN73G2A153D	15KΩ ± 0.5%/1/10W	1	
R 239		METAL FILM RESISTOR RN73G2A512D	5.1KΩ ± 0.5%/1/10W	1	
R 240		METAL FILM RESISTOR RN73G2A222D	2.2KΩ ± 0.5%/1/10W	1	
R 241		METAL FILM RESISTOR RN73G2A132D	1.3KΩ ± 0.5%/1/10W	1	
R 242		METAL FILM RESISTOR RN73G2A391D	390Ω ± 0.5%/1/10W	1	
R 243		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 244		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 245		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5%/1/10W	1	
R 246		CERMET RESISTOR RK73M2A271J	270Ω ± 5%/1/10W	1	
R 247		CERMET RESISTOR RK73M2A471J	470Ω ± 5%/1/10W	1	
R 248		CERMET RESISTOR RK73M2A221J	220Ω ± 5%/1/10W	1	
R 249		CERMET RESISTOR RK73M2A391J	390Ω ± 5%/1/10W	1	
R 250		METAL FILM RESISTOR RN73G2A133D	13KΩ ± 0.5%/1/10W	1	

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Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 251		METAL FILM RESISTOR RN73G2A512D	5.1KΩ ± 0.5%/1/10W	1	
R 252		METAL FILM RESISTOR RN73G2A222D	2.2KΩ ± 0.5%/1/10W	1	
R 253		METAL FILM RESISTOR RN73G2A132D	1.3KΩ ± 0.5%/1/10W	1	
R 254		METAL FILM RESISTOR RN73G2A391D	390Ω ± 0.5%/1/10W	1	
R 255		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%/1/10W	1	
R 256		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%/1/10W	1	
R 257		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 258		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 259		METAL FILM RESISTOR RN73G2A560D	560Ω ± 0.5%/1/10W	1	
R 260		METAL FILM RESISTOR RN73G2A821D	820Ω ± 0.5%/1/10W	1	
R 261		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%/1/10W	1	
R 262		CERMET RESISTOR RK73M2A152J	1.5KΩ ± 5%/1/10W	1	
R 263		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%/1/10W	1	
R 264		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/1/10W	1	
R 265		METAL FILM RESISTOR RN73G2A200D	200Ω ± 0.5%/1/10W	1	
R 266		METAL FILM RESISTOR RN73G2A181D	180Ω ± 0.5%/1/10W	1	
R 267		CERMET RESISTOR RK73M2A152J	1.5KΩ ± 5%/1/10W	1	
R 268		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%/1/10W	1	
R 269		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%/1/10W	1	
R 270		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/1/10W	1	
R 271		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 272		METAL FILM RESISTOR RN73G2A132D	1.3KΩ ± 0.5%/1/10W	1	
R 273		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	

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Parts List of: A4 1F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 274		CERMET RESISTOR RK73M2A123J	12KΩ ± 5% 1/10W	1	
R 275		CERMET RESISTOR RK73M2A511J	510Ω ± 5% 1/10W	1	
R 276		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 277		CERMET RESISTOR RK73M2A511J	510Ω ± 5% 1/10W	1	
R 278		CERMET RESISTOR RK73M2A821J	820Ω ± 5% 1/10W	1	
R 279		METAL FILM RESISTOR RN73G2A104D	100KΩ ± 0.5% 1/10W	1	
R 280		METAL FILM RESISTOR RN73G2A303D	30KΩ ± 0.5% 1/10W	1	
R 281		METAL FILM RESISTOR RN73G2A183D	18KΩ ± 0.5% 1/10W	1	
R 282		METAL FILM RESISTOR RN73G2A392D	3.9KΩ ± 0.5% 1/10W	1	
R 283		CERMET RESISTOR RK73M2A473J	47KΩ ± 5% 1/10W	1	
R 284		CERMET RESISTOR RK73M2A152J	1.5KΩ ± 5% 1/10W	1	
R 285		CERMET RESISTOR RK73M2A222J	2.2KΩ ± 5% 1/10W	1	
R 286		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5% 1/10W	1	
R 287		METAL FILM RESISTOR RN73G2A681D	680Ω ± 0.5% 1/10W	1	
R 288		NOT ASSIGNED			
R 289		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 290		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	1	
R 291		METAL FILM RESISTOR RN73G2A104D	100KΩ ± 0.5% 1/10W	1	
R 292		METAL FILM RESISTOR RN73G2A512D	5.1KΩ ± 0.5% 1/10W	1	
R 293		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5% 1/10W	1	
R 294		CERMET RESISTOR RK73M2A333J	33KΩ ± 5% 1/10W	1	
R 295		CERMET RESISTOR RK73M2A392J	3.9KΩ ± 5% 1/10W	1	
R 296		CERMET RESISTOR RK73M2A333J	330Ω ± 5% 1/10W	1	

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No. 0079-0084
 DRAWING NO. 3490357
 4/27/56
 ANRITSU CORP.

Parts List of: A4 1F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 297		CERMET RESISTOR RK73M2A153J	15KΩ ± 5% 1/10W	1	
R 298		CERMET RESISTOR RK73M2A331J	330Ω ± 5% 1/10W	1	
R 299		METAL FILM RESISTOR RN73G2A752D	7.5KΩ ± 0.5% 1/10W	1	
R 300		CERMET RESISTOR RK73M2A560J	560Ω ± 5% 1/10W	1	
R 301		CERMET RESISTOR RK73M2A591J	590Ω ± 5% 1/10W	1	
R 302		CERMET RESISTOR RK73M2A750J	75Ω ± 5% 1/10W	1	
R 303		CERMET RESISTOR RK73M2A181J	180Ω ± 5% 1/10W	1	
R 304		METAL FILM RESISTOR RN73G2A213D	210Ω ± 0.5% 1/10W	1	
R 305		CERMET RESISTOR RK73M2A271J	270Ω ± 5% 1/10W	1	
R 306		CERMET RESISTOR RK73M2A271J	270Ω ± 5% 1/10W	1	
R 307		CERMET RESISTOR RK73M2A510J	51Ω ± 5% 1/10W	1	
R 308		CERMET RESISTOR RK73M2A602J	600Ω ± 5% 1/10W	1	
R 309		CERMET RESISTOR RK73M2A681J	680Ω ± 5% 1/10W	1	
R 310		CERMET RESISTOR RK73M2A560J	560Ω ± 5% 1/10W	1	
R 311		CERMET RESISTOR RK73M2A601J	600Ω ± 5% 1/10W	1	
R 312		CERMET RESISTOR RK73M2A510J	51Ω ± 5% 1/10W	1	
R 313		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5% 1/10W	1	
R 314		CERMET RESISTOR RK73M2A271J	270Ω ± 5% 1/10W	1	
R 315		CERMET RESISTOR RK73M2A711J	710Ω ± 5% 1/10W	1	
R 316		CERMET RESISTOR RK73M2A221J	220Ω ± 5% 1/10W	1	
R 317		CERMET RESISTOR RK73M2A290J	290Ω ± 5% 1/10W	1	
R 318		METAL FILM RESISTOR RN73G2A153D	15KΩ ± 0.5% 1/10W	1	
R 319		METAL FILM RESISTOR RN73G2A121D	12KΩ ± 0.5% 1/10W	1	

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Parts List of: A4 1F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 320		METAL FILM RESISTOR RN73G2A222D	2.2KΩ ± 0.5% 1/10W	1	
R 321		METAL FILM RESISTOR RN73G2A132D	1.3KΩ ± 0.5% 1/10W	1	
R 322		METAL FILM RESISTOR RN73G2A391D	390Ω ± 0.5% 1/10W	1	
R 323		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 324		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 325		CERMET RESISTOR RK73M2A560J	560Ω ± 5% 1/10W	1	
R 326		CERMET RESISTOR RK73M2A152J	1.5KΩ ± 5% 1/10W	1	
R 327		CERMET RESISTOR RK73M2A510J	51Ω ± 5% 1/10W	1	
R 328		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 329		NOT ASSIGNED			
R 330		NOT ASSIGNED			
R 331		METAL FILM RESISTOR RN73G2A301D	300Ω ± 0.5% 1/10W	1	
R 332		CERMET RESISTOR RK73M2A220J	220Ω ± 5% 1/10W	1	
R 333		VARIABLE RESISTOR RG54H101	100Ω 1/4W	1	
R 334		CERMET RESISTOR RK73M2A562J	5.6KΩ ± 5% 1/10W	1	
R 335		METAL FILM RESISTOR RN73G2A301D	300Ω ± 0.5% 1/10W	1	
R 336	4171-J0221	CARBON FILM RES AR025T221J	220Ω ± 5% 1/4W	1	
R 337	4171-J0621	CARBON FILM RES AR025T621J	620Ω ± 5% 1/4W	1	
R 338	4171-J0621	CARBON FILM RES AR025T621J	620Ω ± 5% 1/4W	1	
R 339		CERMET RESISTOR RK73M2A560J	560Ω ± 5% 1/10W	1	
R 340		CERMET RESISTOR RK73M2A330J	33Ω ± 5% 1/10W	1	
R 341		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5% 1/10W	1	
R 342		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5% 1/10W	1	

Checked at factory
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 Checked at test
 Checked at customer

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Parts List of: A4 1F BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 343		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5% 1/10W	1	
R 344		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5% 1/10W	1	
R 345		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5% 1/10W	1	
R 346		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 347		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 348		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 349		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 350		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 351		METAL FILM RESISTOR RN73G2A161D	160Ω ± 0.5% 1/10W	1	
R 352		CERMET RESISTOR RK73M2A390J	390Ω ± 5% 1/10W	1	
R 353		CERMET RESISTOR RK73M2A150J	15Ω ± 5% 1/10W	1	
R 354		METAL FILM RESISTOR RN73G2A100D	100Ω ± 0.5% 1/10W	1	
R 355		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 356		CERMET RESISTOR RK73M2A334J	330KΩ ± 5% 1/10W	1	
R 357		METAL FILM RESISTOR RN73G2A222D	2.2KΩ ± 0.5% 1/10W	1	
R 358		METAL FILM RESISTOR RN73G2A621D	620Ω ± 0.5% 1/10W	1	
R 359		METAL FILM RESISTOR RN73G2A161D	160Ω ± 0.5% 1/10W	1	
R 360		METAL FILM RESISTOR RN73G2A390D	390Ω ± 0.5% 1/10W	1	
R 361		CERMET RESISTOR RK73M2A822J	8.2KΩ ± 5% 1/10W	1	
R 362		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5% 1/10W	1	
R 363		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 364		CERMET RESISTOR RK73M2A151J	150Ω ± 5% 1/10W	1	
R 365		METAL FILM RESISTOR RN73G2A331D	330Ω ± 0.5% 1/10W	1	

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Parts List of: A4 IF BPF

Parts List of: A4 IF BPF

Ref. No	Part Code	Description	Rating	Qty	Note
R 366		CERMET RESISTOR RK73M2A471J	4700 ± 5%/1/10W	1	
R 367		CERMET RESISTOR RK73M2A681J	6800 ± 5%/1/10W	1	
R 368		CERMET RESISTOR RK73M2A681J	6800 ± 5%/1/10W	1	
R 369		CERMET RESISTOR RK73M2A681J	6800 ± 5%/1/10W	1	
R 370		CERMET RESISTOR RK73M2A681J	6800 ± 5%/1/10W	1	
R 371		NOT ASSIGNED			
R 372		NOT ASSIGNED			
R 373		NOT ASSIGNED			
R 374		NOT ASSIGNED			
R 375		NOT ASSIGNED			
R 376		NOT ASSIGNED			
R 377		NOT ASSIGNED			
R 378		CERMET RESISTOR RK73M2A82J	8.2K ± 5%/1/10W	1	
R 379		CERMET RESISTOR RK73M2A82J	8.2K ± 5%/1/10W	1	
P 380		CERMET RESISTOR RK73M2A82J	8.2K ± 5%/1/10W	1	
R 381		CERMET RESISTOR RK73M2A82J	8.2K ± 5%/1/10W	1	
R 382		CERMET RESISTOR RK73M2A82J	8.2K ± 5%/1/10W	1	
R 383		CERMET RESISTOR RK73M2A102J	10K ± 5%/1/10W	1	
R 384		CERMET RESISTOR RK73M2A102J	10K ± 5%/1/10W	1	
R 385		CERMET RESISTOR RK73M2A102J	10K ± 5%/1/10W	1	
R 386		CERMET RESISTOR RK73M2A102J	10K ± 5%/1/10W	1	
R 387		CERMET RESISTOR RK73M2A102J	10K ± 5%/1/10W	1	
R 388		METAL FILM RESISTOR RN73G2A161D	1600 ± 0.5%/1/10W	1	

Ref. No	Part Code	Description	Rating	Qty	Note
R 389		CERMET RESISTOR RK73M2A390J	390 ± 5%/1/10W	1	
R 390		CERMET RESISTOR RK73M2A150J	150 ± 5%/1/10W	1	
R 391		METAL FILM RESISTOR RN73G2A100H	100 ± 0.5%/1/10W	1	
R 392		CERMET RESISTOR RK73M2A101J	100 ± 5%/1/10W	1	
R 393		CERMET RESISTOR RK73M2A334J	330K ± 5%/1/10W	1	
R 394		METAL FILM RESISTOR RN73G2A222H	2.2K ± 0.5%/1/10W	1	
R 395		METAL FILM RESISTOR RN73G2A621H	620 ± 0.5%/1/10W	1	
R 396		METAL FILM RESISTOR RN73G2A161H	1600 ± 0.5%/1/10W	1	
R 397		METAL FILM RESISTOR RN73G2A300H	300 ± 0.5%/1/10W	1	
R 398		CERMET RESISTOR RK73M2A82J	8.2K ± 5%/1/10W	1	
R 399		CERMET RESISTOR RK73M2A68J	6.8K ± 5%/1/10W	1	
H 400		CERMET RESISTOR RK73M2A102J	10K ± 5%/1/10W	1	
R 401		CERMET RESISTOR RK73M2A151J	1500 ± 5%/1/10W	1	
R 402		METAL FILM RESISTOR RN73G2A331D	330 ± 0.5%/1/10W	1	
R 403		CERMET RESISTOR RK73M2A471J	4700 ± 5%/1/10W	1	
R 404		CERMET RESISTOR RK73M2A81J	8000 ± 5%/1/10W	1	
R 405		CERMET RESISTOR RK73M2A80J	6000 ± 5%/1/10W	1	
R 406		CERMET RESISTOR RK73M2A601J	6000 ± 5%/1/10W	1	
R 407		CERMET RESISTOR RK73M2A21J	2700 ± 5%/1/10W	1	
R 408		NOT ASSIGNED			
P 409		NOT ASSIGNED			
R 410		NOT ASSIGNED			
R 411		NOT ASSIGNED			

Parts List of: A4 IF BPF

Parts List of: A4 IF BPF

Ref. No	Part Code	Description	Rating	Qty	Note
R 412		CERMET RESISTOR RK73M2A107J	10K ± 5%/1/10W	1	
R 413		CERMET RESISTOR RK73M2A473J	4700 ± 5%/1/10W	1	
R 414		CERMET RESISTOR RK73M2A82J	8.2K ± 5%/1/10W	1	
R 415		CERMET RESISTOR RK73M2A151J	1500 ± 5%/1/10W	1	
R 416		CERMET RESISTOR RK73M2A152J	1.5K ± 5%/1/10W	1	
R 417		CERMET RESISTOR RK73M2A151J	1500 ± 5%/1/10W	1	
R 418		CERMET RESISTOR RK73M2A102J	10K ± 5%/1/10W	1	
R 419		METAL FILM RESISTOR RN73G2A301D	300 ± 0.5%/1/10W	1	
R 420		METAL FILM RESISTOR RN73G2A202H	2K ± 0.5%/1/10W	1	
P 421		METAL FILM RESISTOR RN73G2A910D	910 ± 0.5%/1/10W	1	
R 422		METAL FILM RESISTOR RN73G2A240D	240 ± 0.5%/1/10W	1	
R 423		METAL FILM RESISTOR RN73G2A160D	160 ± 0.5%/1/10W	1	
R 424		METAL FILM RESISTOR RN73G2A100D	100 ± 0.5%/1/10W	1	
R 425		CERMET RESISTOR RK73M2A472J	4.7K ± 5%/1/10W	1	
R 426		CERMET RESISTOR RK73M2A472J	4.7K ± 5%/1/10W	1	
R 427		CERMET RESISTOR RK73M2A750J	750 ± 5%/1/10W	1	
R 428		CERMET RESISTOR RK73M2A391J	390 ± 5%/1/10W	1	
R 429		CERMET RESISTOR RK73M2A330J	330 ± 5%/1/10W	1	
R 430		CERMET RESISTOR RK73M2A271J	270 ± 5%/1/10W	1	
R 431		CERMET RESISTOR RK73M2A822J	8.2K ± 5%/1/10W	1	
R 432		CERMET RESISTOR RK73M2A123J	12K ± 5%/1/10W	1	
R 433		CERMET RESISTOR RK73M2A151J	1500 ± 5%/1/10W	1	
R 434		CERMET RESISTOR RK73M2A102J	10K ± 5%/1/10W	1	

Ref. No	Part Code	Description	Rating	Qty	Note
R 435		METAL FILM RESISTOR RN73G2A501D	500 ± 0.5%/1/10W	1	
R 436		METAL FILM RESISTOR RN73G2A202D	2K ± 0.5%/1/10W	1	
R 437		METAL FILM RESISTOR RN73G2A331D	330 ± 0.5%/1/10W	1	
R 438		METAL FILM RESISTOR RN73G2A820D	820 ± 0.5%/1/10W	1	
R 439		METAL FILM RESISTOR RN73G2A131D	130 ± 0.5%/1/10W	1	
R 440		METAL FILM RESISTOR RN73G2A330D	330 ± 0.5%/1/10W	1	
R 441		CERMET RESISTOR RK73M2A472J	4.7K ± 5%/1/10W	1	
R 442		CERMET RESISTOR RK73M2A472J	4.7K ± 5%/1/10W	1	
R 443		CERMET RESISTOR RK73M2A101J	100 ± 5%/1/10W	1	
R 444		CERMET RESISTOR RK73M2A391J	390 ± 5%/1/10W	1	
R 445		CERMET RESISTOR RK73M2A330J	330 ± 5%/1/10W	1	
R 446		CERMET RESISTOR RK73M2A271J	270 ± 5%/1/10W	1	
R 447		NOT ASSIGNED			
R 448		NOT ASSIGNED			
R 449		CERMET RESISTOR RK73M2A822J	8.2K ± 5%/1/10W	1	
R 450		CERMET RESISTOR RK73M2A123J	12K ± 5%/1/10W	1	
R 451		CERMET RESISTOR RK73M2A151J	1500 ± 5%/1/10W	1	
R 452		CERMET RESISTOR RK73M2A102J	10K ± 5%/1/10W	1	
R 453		METAL FILM RESISTOR RN73G2A301D	300 ± 0.5%/1/10W	1	
R 454		METAL FILM RESISTOR RN73G2A202D	2K ± 0.5%/1/10W	1	
R 455		METAL FILM RESISTOR RN73G2A910D	910 ± 0.5%/1/10W	1	
R 456		METAL FILM RESISTOR RN73G2A240D	240 ± 0.5%/1/10W	1	
R 457		METAL FILM RESISTOR RN73G2A160D	160 ± 0.5%/1/10W	1	

Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 458		METAL FILM RESISTOR RN73G2A120J	120 ± 0.5%/10W	1	
R 459		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%/10W	1	
R 460		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%/10W	1	
R 461		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/10W	1	
R 462		CERMET RESISTOR RK73M2A391J	390Ω ± 5%/10W	1	
R 463		CERMET RESISTOR RK73M2A330J	330 ± 5%/10W	1	
R 464		CERMET RESISTOR RK73M2A271J	270Ω ± 5%/10W	1	
R 465		CERMET RESISTOR RK73M2A822J	8.2KΩ ± 5%/10W	1	
R 466		CERMET RESISTOR RK73M2A123J	12KΩ ± 5%/10W	1	
R 467		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/10W	1	
R 468		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 469		METAL FILM RESISTOR RN73G2A301J	300Ω ± 0.5%/10W	1	
R 470		METAL FILM RESISTOR RN73G2A202J	200Ω ± 0.5%/10W	1	
R 471		METAL FILM RESISTOR RN73G2A112J	1.1KΩ ± 0.5%/10W	1	
R 472		METAL FILM RESISTOR RN73G2A391J	390Ω ± 0.5%/10W	1	
R 473		METAL FILM RESISTOR RN73G2A751J	750Ω ± 0.5%/10W	1	
R 474		METAL FILM RESISTOR RN73G2A101J	100Ω ± 0.5%/10W	1	
R 475		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%/10W	1	
R 476		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%/10W	1	
R 477		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/10W	1	
R 478		CERMET RESISTOR RK73M2A391J	390Ω ± 5%/10W	1	
R 479		CERMET RESISTOR RK73M2A330J	330 ± 5%/10W	1	
R 480		CERMET RESISTOR RK73M2A271J	270Ω ± 5%/10W	1	

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Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 481		NOT ASSIGNED			
R 482		CERMET RESISTOR RK73M2A822J	8.2KΩ ± 5%/10W	1	
R 483		CERMET RESISTOR RK73M2A123J	12KΩ ± 5%/10W	1	
R 484		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/10W	1	
R 485		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 486		METAL FILM RESISTOR RN73G2A301J	300Ω ± 0.5%/10W	1	
R 487		METAL FILM RESISTOR RN73G2A202J	200Ω ± 0.5%/10W	1	
R 488		METAL FILM RESISTOR RN73G2A910J	910Ω ± 0.5%/10W	1	
R 489		METAL FILM RESISTOR RN73G2A240J	240Ω ± 0.5%/10W	1	
R 490		METAL FILM RESISTOR RN73G2A160J	160Ω ± 0.5%/10W	1	
R 491		METAL FILM RESISTOR RN73G2A110J	110Ω ± 0.5%/10W	1	
R 492		METAL FILM RESISTOR RN73G2A511J	510Ω ± 0.5%/10W	1	
R 493		METAL FILM RESISTOR RN73G2A750J	750Ω ± 0.5%/10W	1	
R 494		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%/10W	1	
R 495		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%/10W	1	
R 496		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%/10W	1	
R 497		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/10W	1	
R 498		CERMET RESISTOR RK73M2A911J	910Ω ± 5%/10W	1	
R 499		CERMET RESISTOR RK73M2A330J	330Ω ± 5%/10W	1	
R 500		CERMET RESISTOR RK73M2A271J	270Ω ± 5%/10W	1	
R 501		NOT ASSIGNED			
R 502		NOT ASSIGNED			
R 503		CERMET RESISTOR RK73M2A822J	8.2KΩ ± 5%/10W	1	

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Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 504		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5%/10W	1	
R 505		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5%/10W	1	
R 506		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5%/10W	1	
R 507		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5%/10W	1	
R 508		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 509		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 510		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 511		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 512		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 513		METAL FILM RESISTOR RN73G2A161J	160Ω ± 0.5%/10W	1	
R 514		CERMET RESISTOR RK73M2A390J	390Ω ± 5%/10W	1	
R 515		CERMET RESISTOR RK73M2A150J	150Ω ± 5%/10W	1	
R 516		METAL FILM RESISTOR RN73G2A100J	100Ω ± 0.5%/10W	1	
R 517		METAL FILM RESISTOR RN73G2A222J	2.2KΩ ± 0.5%/10W	1	
R 518		METAL FILM RESISTOR RN73G2A621J	620Ω ± 0.5%/10W	1	
R 519		METAL FILM RESISTOR RN73G2A161J	160Ω ± 0.5%/10W	1	
R 520		METAL FILM RESISTOR RN73G2A390J	390Ω ± 0.5%/10W	1	
R 521		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/10W	1	
R 522		CERMET RESISTOR RK73M2A334J	330KΩ ± 5%/10W	1	
R 523		CERMET RESISTOR RK73M2A822J	8.2KΩ ± 5%/10W	1	
R 524		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5%/10W	1	
R 525		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 526		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/10W	1	

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Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 527		METAL FILM RESISTOR RN73G2A331J	330Ω ± 0.5%/10W	1	
R 528		CERMET RESISTOR RK73M2A471J	470Ω ± 5%/10W	1	
R 529		CERMET RESISTOR RK73M2A681J	680Ω ± 5%/10W	1	
R 530		CERMET RESISTOR RK73M2A601J	600Ω ± 5%/10W	1	
R 531		CERMET RESISTOR RK73M2A601J	600Ω ± 5%/10W	1	
R 532		CERMET RESISTOR RK73M2A221J	220Ω ± 5%/10W	1	
R 533		NOT ASSIGNED			
R 534		NOT ASSIGNED			
R 535		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5%/10W	1	
R 536		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5%/10W	1	
R 537		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5%/10W	1	
R 538		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5%/10W	1	
R 539		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5%/10W	1	
R 540		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 541		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 542		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 543		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 544		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/10W	1	
R 545		METAL FILM RESISTOR RN73G2A161J	160Ω ± 0.5%/10W	1	
R 546		CERMET RESISTOR RK73M2A390J	390Ω ± 5%/10W	1	
R 547		CERMET RESISTOR RK73M2A150J	150Ω ± 5%/10W	1	
R 548		METAL FILM RESISTOR RN73G2A100J	100Ω ± 0.5%/10W	1	
R 549		METAL FILM RESISTOR RN73G2A222J	2.2KΩ ± 0.5%/10W	1	

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Parts List of: A4 1F 8PF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 550		METAL FILM RESISTOR RN73G2A621D	0.20Ω ± 0.5%/1/10W	1	
R 551		METAL FILM RESISTOR RN73G2A161D	100Ω ± 0.5%/1/10W	1	
R 552		METAL FILM RESISTOR RN73G2A390D	390Ω ± 0.5%/1/10W	1	
R 553		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 554		CERMET RESISTOR RK73M2A334J	330Ω ± 5%/1/10W	1	
R 555		CERMET RESISTOR RK73M2A822J	8.2kΩ ± 5%/1/10W	1	
R 556		CERMET RESISTOR RK73M2A882J	8.8kΩ ± 5%/1/10W	1	
R 557		CERMET RESISTOR RK73M2A102J	100Ω ± 5%/1/10W	1	
R 558		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 559		METAL FILM RESISTOR RN73G2A331D	330Ω ± 0.5%/1/10W	1	
R 560		CERMET RESISTOR RK73M2A471J	470Ω ± 5%/1/10W	1	
R 561		CERMET RESISTOR RK73M2A681J	680Ω ± 5%/1/10W	1	
R 562		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 563		CERMET RESISTOR RK73M2A601J	600Ω ± 5%/1/10W	1	
R 564		CERMET RESISTOR RK73M2A511J	510Ω ± 5%/1/10W	1	
R 565		NOT ASSIGNED			
R 566		NOT ASSIGNED			
R 567		CERMET RESISTOR RK73M2A681J	6.8kΩ ± 5%/1/10W	1	
R 568		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 569		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 570		CERMET RESISTOR RK73M2A821J	8.2kΩ ± 5%/1/10W	1	
R 571		CERMET RESISTOR RK73M2A122J	1.2kΩ ± 5%/1/10W	1	
R 572		METAL FILM RESISTOR RN73G2A201D	200Ω ± 0.5%/1/10W	1	

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Parts List of: A4 1F 8PF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 573		CERMET RESISTOR RK73M2A221J	220Ω ± 5%/1/10W	1	
R 574		CERMET RESISTOR RK73M2A560J	560Ω ± 5%/1/10W	1	
R 575		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 576		CERMET RESISTOR RK73M2A330J	330Ω ± 5%/1/10W	1	
R 577		CERMET RESISTOR RK73M2A510J	510Ω ± 5%/1/10W	1	
R 578		CERMET RESISTOR RK73M2A222J	2.2kΩ ± 5%/1/10W	1	
R 579		CERMET RESISTOR RK73M2A222J	2.2kΩ ± 5%/1/10W	1	
R 580		CERMET RESISTOR RK73M2A682J	6.8kΩ ± 5%/1/10W	1	
R 581		NOT ASSIGNED			
R 582		NOT ASSIGNED			
R 583		NOT ASSIGNED			
R 584		NOT ASSIGNED			
R 585		NOT ASSIGNED			
R 586		NOT ASSIGNED			
R 587		NOT ASSIGNED			
R 588		NOT ASSIGNED			
R 589		NOT ASSIGNED			
R 590		NOT ASSIGNED			
R 591		NOT ASSIGNED			
R 592		NOT ASSIGNED			
R 593		NOT ASSIGNED			
R 594		NOT ASSIGNED			
R 595		NOT ASSIGNED			

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Parts List of: A4 1F 8PF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 596		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/1/10W	1	
R 597		CERMET RESISTOR RK73M2A104J	100kΩ ± 5%/1/10W	1	
R 598		CERMET RESISTOR RK73M2A104J	100kΩ ± 5%/1/10W	1	
R 599		CERMET RESISTOR RK73M2A223J	2.2kΩ ± 5%/1/10W	1	
R 600		CERMET RESISTOR RK73M2A472J	4.7kΩ ± 5%/1/10W	1	
R 601		CERMET RESISTOR RK73M2A102J	1kΩ ± 5%/1/10W	1	
R 602		CERMET RESISTOR RK73M2A61J	560Ω ± 5%/1/10W	1	
R 603		METAL FILM RESISTOR RN73G2A122D	1.2kΩ ± 0.5%/1/10W	1	
R 604		CERMET RESISTOR RK73M2A471J	470Ω ± 5%/1/10W	1	
R 605		METAL FILM RESISTOR RN73G2A103D	10kΩ ± 0.5%/1/10W	1	
R 606		CERMET RESISTOR RK73M2A671J	470Ω ± 5%/1/10W	1	
R 607		CERMET RESISTOR RK73M2A153J	150Ω ± 5%/1/10W	1	
R 608		CERMET RESISTOR RK73M2A102J	1kΩ ± 5%/1/10W	1	
R 609		CERMET RESISTOR RK73M2A104J	100kΩ ± 5%/1/10W	1	
R 610		NOT ASSIGNED			
R 611		CERMET RESISTOR RK73M2A104J	100kΩ ± 5%/1/10W	1	
R 612		NOT ASSIGNED			
R 613		CERMET RESISTOR RK73M2A103J	10kΩ ± 5%/1/10W	1	
R 614		NOT ASSIGNED			
R 615		NOT ASSIGNED			
R 616		NOT ASSIGNED			
R 617		NOT ASSIGNED			
R 618		NOT ASSIGNED			

Selected at factory. Drawing No. 34U96357 53756
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Parts List of: A4 1F 8PF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 619		NOT ASSIGNED			
R 620		CERMET RESISTOR RK73M2A681J	680Ω ± 5%/1/10W	1	
R 621		CERMET RESISTOR RK73M2A71J	470Ω ± 5%/1/10W	1	
R 622		CERMET RESISTOR RK73M2A561J	560Ω ± 5%/1/10W	1	
R 623		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 624		NOT ASSIGNED			
R 625		CERMET RESISTOR RK73M2A221J	220Ω ± 5%/1/10W	1	
R 626		CERMET RESISTOR RK73M2A681J	680Ω ± 5%/1/10W	1	
R 627		CERMET RESISTOR RK73M2A151J	150Ω ± 5%/1/10W	1	
R 628		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 629		CERMET RESISTOR RK73M2A221J	220Ω ± 5%/1/10W	1	
R 630		NOT ASSIGNED			
R 631		CERMET RESISTOR RK73M2A331J	330Ω ± 5%/1/10W	1	
R 632		CERMET RESISTOR RK73M2A104J	100kΩ ± 5%/1/10W	1	
R 633		NOT ASSIGNED			
R 634		CERMET RESISTOR RK73M2A103J	10kΩ ± 5%/1/10W	1	
R 635		CERMET RESISTOR RK73M2A104J	100kΩ ± 5%/1/10W	1	
R 636		NOT ASSIGNED			
R 637		CERMET RESISTOR RK73M2A103J	10kΩ ± 5%/1/10W	1	
R 638		NOT ASSIGNED			
R 639		CERMET RESISTOR RK73M2A102J	1kΩ ± 5%/1/10W	1	
R 640		CERMET RESISTOR RK73M2A102J	1kΩ ± 5%/1/10W	1	
R 641		CERMET RESISTOR RK73M2A102J	1kΩ ± 5%/1/10W	1	

Selected at factory. Drawing No. 34U96357 53756
ANRITSU CORP.

Parts List of: A4 IF BPF

Ref. No.	Part Code	Description	Rating	Qty	Note
R 042		CERMET RESISTOR RK73N2A103J	10% ± 5k. 1/10w	1	
X 1		CRYSTAL RESONATOR 34X96532		1	
X 2		CRYSTAL RESONATOR 34X96532		1	
X 3		CRYSTAL RESONATOR 34X96532		1	
X 4		CRYSTAL RESONATOR 34X96532		1	
X 5		CRYSTAL RESONATOR 34X96532		1	
Z 1		CRYSTAL FILTER 34X96688		1	
Z 2		MIXER M-0		1	
Z 3		CRYSTAL OSC 34X79248		1	
Z 4		MIXER M-0		1	
Z 5		CRYSTAL FILTER 34X96533		1	
Z 6		MIC PC21342U96652-B)		1	
Z 7		MIC PC21342U96652-B)		1	
Z 8		MIC PC11342U96652-A)		1	
Z 9		MIC PC11342U96652-A)		1	
Z 10		MIC PC11342U96652-A)		1	
Z 11		MIC PC11342U96652-A)		1	
Z 12		MIC PC11342U96652-A)		1	

ANRITSU CORP.

Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
C		NOT ASSIGNED			
C 2		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 3		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 4		CER CAP CCT32CH1N330J (N B)	33p F ± 5%. 50V	1	
C 5		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 6		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 7		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 8		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 9		PLAST CAP EC9E1475JF	4.7μ F ± 5%. 100V	1	
C 10		PLAST CAP EC9E1475JF	4.7μ F ± 5%. 100V	1	
C 11		PLAST CAP EC9E1475JF	0.047μ F ± 5%. 100V	1	
C 12		PLAST CAP EC9E1475JF	0.047μ F ± 5%. 100V	1	
C 13		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 14		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 15		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 16		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 17		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 18		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 19		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 20		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 21		NOT ASSIGNED			
C 22		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 23		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	

ANRITSU CORP.

Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 25		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 26		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 27		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 28		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 29		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 30		CER CAP CCT32CH1N330J (N B)	33p F ± 5%. 50V	1	
C 31		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 32		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 33		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 34		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 35		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 36		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 37		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 38		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 39		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 40		NOT ASSIGNED			
C 41		NOT ASSIGNED			
C 42		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 43		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 44		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 45		CER CAP CCT32CH1N330J (N B)	33p F ± 5%. 50V	1	
C 46		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
C 47		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 48		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 49		CER CAP CCT32CH1N101J (A B)	100p F ± 5%. 50V	1	
C 50		CER CAP CCT32CH1N21J (L B)	270p F ± 5%. 50V	1	
C 51		CER CAP CCT32CH1N21J (J B)	220p F ± 5%. 50V	1	
C 52		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 53		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 54		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 55		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 56		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 57		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 58		CER CAP CCT32CH1N181J (G B)	180p F ± 5%. 50V	1	
C 59		CER CAP CCT32CH1N102J	100p F ± 10%. 50V	1	
C 60		CER CAP CK732B1H222K (J B)	2200p F ± 10%. 50V	1	
C 61		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 62		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 63		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 64		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 65		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 66		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 67		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 68		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	
C 69		CER CAP CK733F1H104Z (A B)	0.1μ F. 50V +80/-20%	1	

ANRITSU CORP.

Parts List of: AS SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
C 70		AL ELECTLY CAP KMA25VB-22	22u F ± 20% . 25V	1	
C 71		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 72		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 73		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 74		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 75		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 76		AL ELECTLY CAP KMA25VB-22	22u F ± 20% . 25V	1	
C 77		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 78		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 79		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 80		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 81		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 82		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 83		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 84		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 85		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 86		CER CAP CC732CH1M71J (S M)	470p F ± 5% .50V	1	
C 87		CER CAP CC732CH1M101J (A B)	100p F ± 5% .50V	1	
C 88		NOT ASSIGNED			
C 89		CER CAP CC732CH1M101J (A B)	100p F ± 5% .50V	1	
C 90		CER CAP CC732CH1M101J (A B)	100p F ± 5% .50V	1	
C 91		CER CAP CC732CH1M101J (A B)	100p F ± 5% .50V	1	
C 92		CER CAP CC732CH1M101J (A B)	100p F ± 5% .50V	1	

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Parts List of: AS SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
C 93		CER CAP CC732CH1M101J (A B)	100p F ± 5% .50V	1	
C 94		AL ELECTLY CAP KMA25VB-47	47u F ± 20% . 25V	1	
C 95		AL ELECTLY CAP KMA25VB-47	47u F ± 20% . 25V	1	
C 96		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 97		AL ELECTLY CAP KMA25VB-47	47u F ± 20% . 25V	1	
C 98		AL ELECTLY CAP KMA25VB-47	47u F ± 20% . 25V	1	
C 99		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 100		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 101		AL ELECTLY CAP KMA25VB-47	47u F ± 20% . 25V	1	
C 102		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 103		NOT ASSIGNED			
C 104		NOT ASSIGNED			
C 105		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 106		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 107		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 108		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 109		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 110		AL ELECTLY CAP KMA25VB-22	22u F ± 20% .25V	1	
C 111		CER CAP CC732CH1M101J (A B)	100p F ± 5% .50V	1	
C 112		CER CAP CC732CH1M101J (A B)	100p F ± 5% .50V	1	
C 113		CER CAP CK733F1M224K (I J)	0.22u F ± 10% .50V	1	
C 114		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 115		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	

ANRITSU CORP.

Parts List of: AS SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
C 116		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 117		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 118		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 119		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 120		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 121		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 122		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 123		NOT ASSIGNED			
C 124		NOT ASSIGNED			
C 125		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 126		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 127		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 128		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 129		CER CAP CK733F1H104Z (A 5)	0.1u F .50V +80/-20%	1	
C 130		NOT ASSIGNED			
C 131		CER CAP CC732CH1M101J (A B)	100p F ± 5% .50V	1	
C 132		CER CAP CC732CH1M391J (Q M)	390p F ± 5% .50V	1	
C 133		CER CAP CC732CH1M391J (Q M)	390p F ± 5% .50V	1	
C 134		CER CAP CC732CH1M180J (G N)	18p F ± 5% .50V	1	
C 135		CER CAP CC732CH1M180J (G N)	18p F ± 5% .50V	1	
C 136		CER CAP CC732CH1M102J	1000p F ± 5% .50V	1	
C 137		CER CAP CC732CH1M1000	10p F ± 0.5% .50V	1	
C 138		CER CAP CC732CH1M1000 (A M)	10p F ± 0.5% .50V	1	

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Parts List of: AS SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
C 139		CER CAP CK732B1M103K (A 4)	0.01u F ± 10% .50V	1	
C 140		CER CAP CK732B1M102K (A 3)	1000p F ± 10% .50V	1	
C 141		CER CAP CK733B1H104K	0.1u F ± 10% .50V	1	
C 142		CER CAP CK733B1H104K	0.1u F ± 10% .50V	1	
J 1		JACK 27DP-LR-PC		1	
J 2		CONNECTOR 008261-033311-852	3P	1	
J 3		CONNECTOR 008261-024200-870	2P	1	
J 4		PLUG DF18-5P2.5DS(01)	32P	1	
J 5		SOCKET U-5A15D1	15P	1	
J 6		SOCKET U-5A1D01	10P	1	
J 7		PLUG DF18-5P2.5DS(01)	5P	1	
J 8		JACK 27DP-LR-PC		1	
J 9		NOT ASSIGNED			
J 10		CONNECTOR 008261-033311-852	3P	1	
J 11		CONNECTOR 008261-024200-870	2P	1	
J 12		PLUG DF18-5P2.5DS(01)	5P	1	
K 1		RELAY DTP-5V		1	
K 2		RELAY UPR-13505K		1	
L 1		INDUCTOR NL453232-101K	100u H ± 10%	1	

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
L 2		INDUCTOR NL453232-101K	100M H ± 10%	1	
L 3		INDUCTOR NL453232-101K	100M H ± 10%	1	
L 4		INDUCTOR NL453232-101K	100M H ± 10%	1	
L 5		INDUCTOR NL453232-101K	100M H ± 10%	1	
L 6		INDUCTOR NL453232-101K	100M H ± 10%	1	
Q 1		NOT ASSIGNED			
Q 2		IC AL162AFP		1	
Q 3		IC DAC7541AKU		1	
Q 4		IC M PC657D62		1	
Q 5		IC M P052016		1	
Q 6		IC M P180362		1	
Q 7		IC M P1152D16		1	
Q 8		IC M PC272G2		1	
Q 9		DIODE 1S52835 (A3)		1	
Q 10		TRANSISTOR 2SC3735 (B34 OR B5)		1	
Q 11		TRANSISTOR 2SC3735 (B34 OR B5)		1	
Q 12		IC M PC271G2		1	
Q 13		IC M P1152D16		1	
Q 14		IC TC4569F		1	
Q 15		IC TC4569F		1	
Q 16		IC M PC457D62		1	
Q 17		IC 74HC4052F		1	

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 18		IC TC74HC221AF		1	
Q 19		IC AC162AFP		1	
Q 20		IC DAC7541AKU		1	
Q 21		IC M PC457D62		1	
Q 22		IC AC162AFP		1	
Q 23		IC 74HC298F		1	
Q 24		IC 74HC161F		1	
Q 25		IC 74HC161F		1	
Q 26		IC 74HC161F		1	
Q 27		IC 74HC139F		1	
Q 28		IC 74HC283F		1	
Q 29		IC DAC7541AKU		1	
Q 30		IC M PC457D62		1	
Q 31		IC AC162AFP		1	
Q 32		IC 74HC688F		1	
Q 33		IC 74HC688F		1	
Q 34		IC TC74HC423AF		1	
Q 35		IC TC74HC423AF		1	
Q 36		IC 74HC74F		1	
Q 37		IC 74HC74F		1	
Q 38		IC 74HC32F		1	
Q 39		IC 74HC32F		1	
Q 40		IC TC74HC21AF		1	

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 41		IC 74HC04F		1	
Q 42		IC 74HC08F		1	
Q 43		IC AC162AFP		1	
Q 44		IC 74HC04F		1	
Q 45		IC 74HC08F		1	
Q 46		IC 74HC574F		1	
Q 47		IC 74HC574F		1	
Q 48		IC 74HC4066F		1	
Q 49		IC AC162AFP		1	
Q 50		IC 74HC74F		1	
Q 51		IC 74HC00F		1	
Q 52		IC 74HC191F		1	
Q 53		IC M P052016		1	
Q 54		NOT ASSIGNED			
Q 55		IC M P052016		1	
Q 56		IC LM6361M		1	
Q 57		ZENER DIODE RD11M83		2	
Q 58		IC M PC27142		1	
Q 59		IC TC74HC423AF		1	
Q 60		IC TC74HC423AF		1	
Q 61		IC TC4571F		1	
Q 62		IC 74HC86F		1	
Q 63		IC 74HC74F		1	

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 64		NOT ASSIGNED			
Q 65		IC AC162AFP		1	
Q 66		IC DAC7541AKU		1	
Q 67		IC M PC457D62		1	
Q 68		IC SN74LS196NS		1	
Q 69		IC AC162AFP		1	
Q 70		IC M PD71D5468-384		1	
Q 71		IC SN74LS151NS		1	
Q 72		IC AC162AFP		1	
Q 73		IC TC74AC163F		1	
Q 74		IC TC74AC163F		1	
Q 75		IC TC74AC163F		1	
Q 76		IC TC74AC04F		1	
Q 77		IC TC74AC04F		1	
Q 78		IC TC74AC04F		1	
Q 79		IC TC74AC163F		1	
Q 80		IC TC74AC163F		1	
Q 81		IC TC74AC163F		1	
Q 82		IC TC74AC08F		1	
Q 83		IC SN74ALS1D9ANS		1	
Q 84		IC TC74AC74F		1	
Q 85		IC TC74AC04F		1	
Q 86		IC TC74AC23AF		1	

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 87		IC 74HC74F		1	
Q 88		IC 74HC00F		1	
Q 89		IC 74HC04F		1	
Q 90		IC 74HC161F		1	
Q 91		IC 74HC161F		1	
Q 92		IC 74HC02F		1	
Q 93		NOT ASSIGNED			
Q 94		IC 74HC452F		1	
Q 95		IC 74HC74F		1	
Q 96		IC 74HC08F		1	
Q 97		IC TC74HC423AF		1	
Q 98		IC LM2940CT-15		1	
Q 99		IC LM2940CT-5.0		1	
Q 100		AD689JB		1	
Q 101		IC M PC4570G2		1	
Q 102		IC AC162AFP		1	
Q 103		IC AC162AFP		1	
Q 104		IC AC162AFP		1	
Q 105		IC 74HC74F		1	
Q 106		IC 74HC04F		1	
Q 107		IC TC74HC423AF		1	
Q 108		IC 74HC452F		1	
Q 109		IC M PC4570G2		1	

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 110		IC LM6361N		1	
Q 111		IC LM6321N		1	
Q 112		IC M PC4570G2		1	
Q 113		NOT ASSIGNED			
Q 114		IC 74HC00F		1	
Q 115		NOT ASSIGNED			
Q 116		IC 74HC32F		1	
Q 117		IC TC74HC123AF		1	
Q 118		IC TC7504F		1	
Q 119		IC M P05201G		1	
Q 120		IC M PC4570G2		1	
Q 121		ZENER DIODE RD11MB3		1	
Q 122		IC TC74HC123AF		1	
Q 123		IC TC7532F		1	
Q 124		IC 74HC74F		1	
Q 125		DIODE A152836		1	
Q 126		IC TC7508F		1	
P 1		NOT ASSIGNED			
P 2		NOT ASSIGNED			
R 3		NOT ASSIGNED			
R 4		NOT ASSIGNED			
R 5		METAL FILM RESISTOR RN05E264991B	4.99KΩ ± 0.1%	1	

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
R 0		METAL FILM RESISTOR RN05E2B5110B	511Ω ± 0.1%	1	
R 7		METAL FILM RESISTOR RN14K2E43R27	43.2Ω ± 0.5%/1/4W	1	
R 8		METAL FILM RESISTOR RN73G2A183D	18KΩ ± 0.5%/1/10W	1	
R 9		METAL FILM RESISTOR RN05C2E1004D	100Ω ± 0.5%	1	
R 10		METAL FILM RESISTOR RN73G2A182D	1.8KΩ ± 0.5%/1/10W	1	
R 11		METAL FILM RESISTOR RN14K2E1003D	100KΩ ± 0.5%/1/4W	1	
R 12		CARBON FILM RES ARD25T104J	100KΩ ± 5%/1/4W	1	
R 13		CARBON FILM RES ARD25T103J	10KΩ ± 5%/1/4W	1	
R 14		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 15		CERMET RESISTOR RK73M2A222J	2.2KΩ ± 5%/1/10W	1	
R 16		CERMET RESISTOR RK73M2A222J	2.2KΩ ± 5%/1/10W	1	
R 17		METAL FILM RESISTOR RN73G2A153D	15KΩ ± 0.5%/1/10W	1	
R 18		METAL FILM RESISTOR RN73G2A510D	51Ω ± 0.5%/1/10W	1	
R 19		CERMET RESISTOR RK73M2A511J	51Ω ± 5%/1/10W	1	
R 20		METAL FILM RESISTOR RN73G2A622D	6.2KΩ ± 0.5%/1/10W	1	
R 21		METAL FILM RESISTOR RN73G2A822D	8.2KΩ ± 0.5%/1/10W	1	
R 22		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%/1/10W	1	
R 23		CERMET RESISTOR RK73M2A271J	27Ω ± 5%/1/10W	1	
R 24		CERMET RESISTOR RK73M2A684J	680KΩ ± 5%/1/10W	1	
R 25		CERMET RESISTOR RK73M2A511J	51Ω ± 5%/1/10W	1	
R 26		METAL FILM RESISTOR RN73G2A103D	10KΩ ± 0.5%/1/10W	1	
R 27		METAL FILM RESISTOR RN73G2A242D	2.4KΩ ± 0.5%/1/10W	1	
R 28		METAL FILM RESISTOR RN73G2A100D	10Ω ± 0.5%/1/10W	1	

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
R 29		METAL FILM RESISTOR RN73G2A363D	36KΩ ± 0.5%/1/10W	1	
R 30		NOT ASSIGNED			
R 31		METAL FILM RESISTOR RN05E2B4991B	4.99KΩ ± 0.1%	1	
R 32		METAL FILM RESISTOR RN05E2B5110B	51Ω ± 0.1%/1/8W	1	
R 33		METAL FILM RESISTOR RN14K2E43R2D	43.2Ω ± 0.5%/1/4W	1	
R 34		NOT ASSIGNED			
R 35		CERMET RESISTOR RK73M2A153J	15KΩ ± 5%/1/10W	1	
R 36		CERMET RESISTOR RK73M2A473J	47KΩ ± 5%/1/10W	1	
R 37		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%/1/10W	1	
R 38		CERMET RESISTOR RK73M2A473J	47KΩ ± 5%/1/10W	1	
R 39		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 40		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 41		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 42		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 43		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 44		CERMET RESISTOR RK73M2A473J	47KΩ ± 5%/1/10W	1	
R 45		CERMET RESISTOR RK73M2A473J	47KΩ ± 5%/1/10W	1	
R 46		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%/1/10W	1	
R 47		NOT ASSIGNED			
R 48		CERMET RESISTOR RK73M2A562J	5.6KΩ ± 5%/1/10W	1	
R 49		CERMET RESISTOR RK73M2A562J	5.6KΩ ± 5%/1/10W	1	
R 50		NOT ASSIGNED			
R 51		NOT ASSIGNED			

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
R 52		NOT ASSIGNED			
R 53		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 54		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 55		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%, 1/10W	1	
R 56		NOT ASSIGNED			
R 57		NOT ASSIGNED			
R 58		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%, 1/10W	1	
R 59		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%, 1/10W	1	
R 60		NOT ASSIGNED			
R 61		NOT ASSIGNED			
R 62		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%, 1/10W	1	
R 63		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%, 1/10W	1	
R 64		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%, 1/10W	1	
R 65		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%, 1/10W	1	
R 66		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%, 1/10W	1	
R 67		NOT ASSIGNED			
R 68		NOT ASSIGNED			
R 69		NOT ASSIGNED			
R 70		NOT ASSIGNED			
R 71		NOT ASSIGNED			
R 72		NOT ASSIGNED			
R 73		NOT ASSIGNED			
R 74		CERMET RESISTOR RK73M2A473J	47KΩ ± 5%, 1/10W	1	

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
R 75		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%, 1/10W	1	
R 76		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5%, 1/10W	1	
R 77		CERMET RESISTOR RK73M2A473J	47KΩ ± 5%, 1/10W	1	
R 78		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 79		CERMET RESISTOR RK73M2A474J	470KΩ ± 5%, 1/10W	1	
R 80		CERMET RESISTOR RK73M2A511J	510Ω ± 5%, 1/10W	1	
R 81		CERMET RESISTOR RK73M2A104J	100KΩ ± 5%, 1/10W	1	
R 82		METAL FILM RESISTOR RN75G2A103D	10KΩ ± 0.5%, 1/10W	1	
R 83		METAL FILM RESISTOR RN75G2A203D	20KΩ ± 0.5%, 1/10W	1	
R 84		METAL FILM RESISTOR RN75G2A203D	20KΩ ± 0.5%, 1/10W	1	
R 85		METAL FILM RESISTOR RN75G2A512D	5.1KΩ ± 0.5%, 1/10W	1	
R 86		CERMET RESISTOR RK73M2A332J	33KΩ ± 5%, 1/10W	1	
R 87		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 88		CERMET RESISTOR RK73M2A750J	75Ω ± 5%, 1/10W	1	
R 89		CERMET RESISTOR RK73M2A532J	53KΩ ± 5%, 1/10W	1	
R 90		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 91		CERMET RESISTOR RK73M2A750J	75Ω ± 5%, 1/10W	1	
R 92		NOT ASSIGNED			
R 93		NOT ASSIGNED			
R 94		NOT ASSIGNED			
R 95		NOT ASSIGNED			
R 96		NOT ASSIGNED			
R 97		NOT ASSIGNED			

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
R 98		METAL FILM RESISTOR RN75G2A103D	10KΩ ± 0.5%, 1/10W	1	
R 99		METAL FILM RESISTOR RN75G2A512D	5.1KΩ ± 0.5%, 1/10W	1	
R 100		METAL FILM RESISTOR RN75G2A103D	10KΩ ± 0.5%, 1/10W	1	
R 101		CERMET RESISTOR RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 102		CERMET RESISTOR RK73M2A331J	330Ω ± 5%, 1/10W	1	
R 103		CERMET RESISTOR RK73M2A393J	39KΩ ± 5%, 1/10W	1	
R 104		CERMET RESISTOR RK73M2A393J	39KΩ ± 5%, 1/10W	1	
R 105		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 106		CERMET RESISTOR RK73M2A331J	330Ω ± 5%, 1/10W	1	
R 107		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 108		CERMET RESISTOR RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 109		NOT ASSIGNED			
R 110		CERMET RESISTOR RK73M2A152J	1.5KΩ ± 5%, 1/10W	1	
R 111		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 112		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 113		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 114		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 115		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 116		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 117		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 118		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 119		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 120		METAL FILM RESISTOR RN75G2A103D	10KΩ ± 0.5%, 1/10W	1	

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Parts List of: A5 SCAN

Ref. No.	Part Code	Description	Rating	Qty	Note
R 121		METAL FILM RESISTOR RN75G2A103D	10KΩ ± 0.5%, 1/10W	1	
R 122		METAL FILM RESISTOR RN75G2A103D	10KΩ ± 0.5%, 1/10W	1	
R 123		METAL FILM RESISTOR RN75G2A103D	10KΩ ± 0.5%, 1/10W	1	
R 124		METAL FILM RESISTOR RN75G2A103D	10KΩ ± 0.5%, 1/10W	1	
R 125		METAL FILM RESISTOR RN75G2A103D	10KΩ ± 0.5%, 1/10W	1	
R 126		METAL FILM RESISTOR RN75G2A512D	5.1KΩ ± 0.5%, 1/10W	1	
R 127		CERMET RESISTOR RK73M2A334J	330KΩ ± 5%, 1/10W	1	
R 128		CERMET RESISTOR RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 129		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
Z 1		CRYSTAL OSC EXO-3C 20MHZ			

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Parts List of: A6 IF LOG/DET

Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		NOT ASSIGNED			
C 2		CER CAP CC732CH102J NOT ASSIGNED	1000p F ± 5% .50V	1	
C 3					
C 4	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 5	2192-Y0107	AL. ELECTLY CAP CE04CTE101A	100μ F ± 20% .25V	1	
C 6	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 7	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 8	2192-Y0107	AL. ELECTLY CAP CE04CTE101A	100μ F ± 20% .25V	1	
C 9	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 10	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 11	2192-Y0107	AL. ELECTLY CAP CE04CTE101A	100μ F ± 20% .25V	1	
C 12	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 13		CER CAP CC732CH102J	1000p F ± 5% .50V	1	
C 14	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 15		NOT ASSIGNED			
C 16	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 17	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 18	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 19	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 20		CER CAP CC732CH102J	1000p F ± 5% .50V	1	
C 21		NOT ASSIGNED			
C 22	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 23	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 25	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 26	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 27		CER CAP CC732CH102J	1000p F ± 5% .50V	1	
C 28		NOT ASSIGNED			
C 29	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 30	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 31	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 32	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 33	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 34		CER CAP CC732CH102J	1000p F ± 5% .50V	1	
C 35	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 36		NOT ASSIGNED			
C 37	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 38	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 39	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 40		CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 41		CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 42	2387-10250	CER CAP CK732B1H223K	22000p F ± 10% .50V	1	
C 43	2192-Y0107	AL. ELECTLY CAP CE04CTE101A	100μ F ± 20% .25V	1	
C 44	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 45	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 46	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	

Parts List of: A5 IF LOG/DET

Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
C 47	2387-10250	CER CAP CK732B1H223K	22000p F ± 10% .50V	1	
C 48	2192-Y0107	AL. ELECTLY CAP CE04CTE101A	100μ F ± 20% .25V	1	
C 49	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 50	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 51	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 52	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 53	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 54	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 55		NOT ASSIGNED			
C 56		NOT ASSIGNED			
C 57		CER CAP RPE113CM221650	220p F ± 2% .50V	1	
C 58	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 59		CER CAP CC45UJ1H220J	220p F ± 5% .50V	1	
C 60		NOT ASSIGNED			
C 61		NOT ASSIGNED			
C 62	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 63	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 64	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 65	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 66		CER CAP CC732CH102J	1000p F ± 5% .50V	1	
C 67		NOT ASSIGNED			
C 68	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 69	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	

Ref. No.	Part Code	Description	Rating	Qty	Note
C 70	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 71		CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 72		CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 73	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 74	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 75		CER CAP CC732CH102J	1000p F ± 5% .50V	1	
C 76		NOT ASSIGNED			
C 77	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 78	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 79	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 80	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 81	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 82	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 83		CER CAP CC732CH102J	1000p F ± 5% .50V	1	
C 84	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 85		NOT ASSIGNED			
C 86	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 87	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 88	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 89	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 90	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	
C 91	2387-0298A	CER CAP CC732CH1471J (S b)	470p F ± 5% .50V	1	
C 92	2387-10248	CER CAP CK732B1H103K (A 4)	0.01μ F ± 10% .50V	1	

Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
C 93		NOT ASSIGNED			
C 94	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 95		CER CAP CC732CH1H102J	1000p F ± 5% .50V	1	
C 96	2387-02984	CER CAP CC732CH1H471J (S b	470p F ± 5% .50V	1	
C 97	2387-02984	CER CAP CC732CH1H471J (S b	470p F ± 5% .50V	1	
C 98	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 99	2387-02984	CER CAP CC732CH1H471J (S b	470p F ± 5% .50V	1	
C 100	2192-Y0107	AL ELECTLYT CAP CE04C1E101A	100µ F ± 20% .25V	1	
C 101	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 102	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 103	2192-Y0107	AL ELECTLYT CAP CE04C1E101A	100µ F ± 20% .25V	1	
C 104	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 105	2387-02984	CER CAP CC732CH1H471J (S b	470p F ± 5% .50V	1	
C 106	2387-02984	CER CAP CC732CH1H471J (S b	470p F ± 5% .50V	1	
C 107		CER CAP CK733B1H473K (I S	0.047µ F ± 10% .50V	1	
C 108		CER CAP CK733B1H473K (I S	0.047µ F ± 10% .50V	1	
C 109		CER CAP CK733B1H473K (I S	0.047µ F ± 10% .50V	1	
C 110	2387-10262	CER CAP CK733F1H104Z (A 5	0.1µ F .50V +80/-20%	1	
C 111	2387-02922	CER CAP CC732CH1H560J (U b	56p F ± 5% .50V	1	
C 112	2387-02975	CER CAP CC732CH1H101J (A b	100p F ± 5% .50V	1	
C 113	2387-02922	CER CAP CC732CH1H560J (U b	56p F ± 5% .50V	1	
C 114		CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 115		CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
C 110	2387-02984	CER CAP CC732CH1H471J (S b	470p F ± 5% .50V	1	
C 117	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 118	2387-02993	CER CAP CC732CH1H102J	1000p F ± 5% .50V	1	
C 119	2387-02932	CER CAP CC732CH1H331J (N b	330p F ± 5% .50V	1	
C 120	2387-02984	CER CAP CC732CH1H471J (S b	470p F ± 5% .50V	1	
C 121	2387-02932	CER CAP CC732CH1H331J (N b	330p F ± 5% .50V	1	
C 122	2387-02993	CER CAP CC732CH1H102J	1000p F ± 5% .50V	1	
C 123	2387-02932	CER CAP CC732CH1H331J (N b	330p F ± 5% .50V	1	
C 124		NOT ASSIGNED			
C 125		NOT ASSIGNED			
C 126	2387-02993	CER CAP CC732CH1H102J	1000p F ± 5% .50V	1	
C 127	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 128	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 129		NOT ASSIGNED			
C 130	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 131	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 132	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 133	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 134	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 135	2387-10262	CER CAP CK733F1H104Z (A 5	0.1µ F .50V +80/-20%	1	
C 136		NOT ASSIGNED			
C 137		NOT ASSIGNED			
C 138		PLSTC FILM CAP CE0-V1H104JW	0.1µ F ± 5% .50V	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
C 139		PLSTC FILM CAP CE0-V1H104JW	0.1µ F ± 5% .50V	1	
C 140		PLSTC FILM CAP CE0-V103FZ	0.03µ F ± 1% .100V	1	
C 141		NOT ASSIGNED			
C 142		NOT ASSIGNED			
C 143		PLSTC FILM CAP CE0-V1103FZ	0.01µ F ± 1% .100V	1	
C 144		NOT ASSIGNED			
C 145		PLSTC FILM CAP CE0-V132FZ	3300p F ± 1% .100V	1	
C 146		PLSTC FILM CAP CE0-V1102FZ	1000p F ± 1% .100V	1	
C 147	2387-02929	CER CAP CC732CH1H221J (J b	220p F ± 5% .50V	1	
C 148	2387-02975	CER CAP CC732CH1H101J (A b	100p F ± 5% .50V	1	
C 149		CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 150		CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 151		NOT ASSIGNED			
C 152		NOT ASSIGNED			
C 153	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 154	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 155	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 156	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 157	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	
C 158	2387-10262	CER CAP CK733F1H104Z (A 5	0.1µ F .50V +80/-20%	1	
C 159	2387-10262	CER CAP CK733F1H104Z (A 5	0.1µ F .50V +80/-20%	1	
C 160	2387-10262	CER CAP CK733F1H104Z (A 5	0.1µ F .50V +80/-20%	1	
C 161	2387-10248	CER CAP CK732B1H103K (A 4	0.01µ F ± 10% .50V	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
C 162	2387-10262	CER CAP CK733F1H104Z (A 5	0.1µ F .50V +80/-20%	1	
C 163	2192-Y0227	AL ELECTLYT CAP CE04C1E221A	220µ F ± 20% .25V	1	
C 164	2387-02965	CER CAP CC732CH1H471J (S b	470p F ± 5% .50V	1	
C 165		NOT ASSIGNED			
C 166	2387-02929	CER CAP CC732CH1H221J (J b	220p F ± 5% .50V	1	
C 167	2387-02932	CER CAP CC732CH1H331J (N b	330p F ± 5% .50V	1	
C 168	2387-10262	CER CAP CK733F1H104Z (A 5	0.1µ F .50V +80/-20%	1	
C 169	2387-10262	CER CAP CK733F1H104Z (A 5	0.1µ F .50V +80/-20%	1	
C 170		NOT ASSIGNED			
C 171		NOT ASSIGNED			
C 172		NOT ASSIGNED			
C 173		NOT ASSIGNED			
C 174		NOT ASSIGNED			
C 175		NOT ASSIGNED			
C 176		NOT ASSIGNED			
C 177		NOT ASSIGNED			
C 178		NOT ASSIGNED			
C 179		NOT ASSIGNED			
C 180		NOT ASSIGNED			
C 181		NOT ASSIGNED			
C 182		NOT ASSIGNED			
C 183		NOT ASSIGNED			
C 184		NOT ASSIGNED			

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Parts List of: A6 IF LOG/DET

Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
C 185		NOT ASSIGNED			
C 186		NOT ASSIGNED			
C 187	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 188	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 189	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 190	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 191		NOT ASSIGNED			
C 192		NOT ASSIGNED			
C 193		NOT ASSIGNED			
C 194		NOT ASSIGNED			
C 195		NOT ASSIGNED			
C 196		NOT ASSIGNED			
C 197	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 198	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 199	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 200	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 201	2387-10262	CER CAP CK732B1H102K (A 3)	1000P F ± 10% 50V	1	
C 202	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 203	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 204	2387-10262	CER CAP CK732B1H102K (A 3)	1000P F ± 10% 50V	1	
C 205	2387-02931	CER CAP CC732CH1H181J (G b)	100P F ± 5% 50V	1	
C 206		CER CAP CC45UJ1H101JY	100P F ± 5% 50V	1	
C 207	2387-02931	CER CAP CC732CH1H181J (G b)	100P F ± 5% 50V	1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
C 208		CER CAP CC45UJ1H101JY	100P F ± 5% 50V	1	
C 209	2387-02993	CER CAP CC732CH1H102J	1000P F ± 5% 50V	1	
C 210	2387-02993	CER CAP CC732CH1H102J	1000P F ± 5% 50V	1	
C 211	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 212	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 213	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 214	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 215	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 216	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 217	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 218	2387-02987	CER CAP CC732CH1M100D (A b)	100P F ± 0.5% 50V	1	
C 219	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 220	2387-02984	CER CAP CC732CH1H471J (S b)	470P F ± 5% 50V	1	
C 221	2387-02984	CER CAP CC732CH1H471J (S b)	470P F ± 5% 50V	1	
C 222	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 223	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 224	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 225	2387-02993	CER CAP CC732CH1H150J (F b)	150P F ± 5% 50V	1	
C 226	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 227	2387-10233	CER CAP CK737F1H105Z (A 6)	1µ F. 50V +80/-20%	1	
C 228	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 229	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 230	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	

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Parts List of: A6 IF LOG/DET

Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
C 231	2192-Y0227	AL ELECTRLT CAP CE04C1E221A	22µ F ± 20% 25V	1	
C 232	2387-02963	CER CAP CC732CH1H050D (F b)	50P F. 50V ± 0.5% F	1	
C 233		CER CAP CC732CH1H102J	1000P F ± 5% 50V	1	
C 234		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 235		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 236		CER CAP CC732CH1H050D (F b)	50P F. 50V ± 0.5% F	1	
C 237		CER CAP CC732CH1H102J	1000P F ± 5% 50V	1	
C 238	2193-Y0336	AL ELECTRLT CAP CE04C1V33DA	33µ F ± 20% 35V	1	
C 239	2193-Y0336	AL ELECTRLT CAP CE04C1V33DA	33µ F ± 20% 35V	1	
C 240		NOT ASSIGNED			
C 241		NOT ASSIGNED			
C 242		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 243		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 244		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 245		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 246		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 247		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 248		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 249		CER CAP CK732B1H103K (A 4)	0.01µ F ± 10% 50V	1	
C 250		CER CAP CC732CH1H221J (J b)	220P F ± 5% 50V	1	
C 251		NOT ASSIGNED			
C 252		NOT ASSIGNED			
C 253	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
C 254	2387-02921	CER CAP CC732CH1H470J (S b)	470P F ± 5% 50V	1	
C 255	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 256	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 257		AL ELECTRLT CAP CS734E1E106M	10µ F ± 20% 25V	1	
C 258	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 259	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 260	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 261	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 262	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 263	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 264	2387-02975	CER CAP CC732CH1H101J (A b)	100P F ± 5% 50V	1	
C 265	2387-02993	CER CAP CC732CH1H102J	1000P F ± 5% 50V	1	
C 266	2387-02975	CER CAP CC732CH1H101J (A b)	100P F ± 5% 50V	1	
C 267	2387-02975	CER CAP CC732CH1H101J (A b)	100P F ± 5% 50V	1	
C 268	2387-02975	CER CAP CC732CH1H101J (A b)	100P F ± 5% 50V	1	
C 269	2387-02975	CER CAP CC732CH1H101J (A b)	100P F ± 5% 50V	1	
C 270	2387-02975	CER CAP CC732CH1H101J (A b)	100P F ± 5% 50V	1	
C 271	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 272	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 273	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 274	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 275	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	
C 276	2387-10262	CER CAP CK733F1H104Z (A 5)	0.1µ F. 50V +80/-20%	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
C 277		NOT ASSIGNED			
C 278		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 279		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 280	2387-02987	CER CAP CC732CM1H220J (J b	22p F ± 5% .50V	1	
C 281	2387-02993	CER CAP CC732CM1H102J	1000p F ± 5% .50V	1	
C 282		CER CAP CK733B1H473K (I S	47000p F ± 10% .50V	1	
C 283		NOT ASSIGNED			
C 284		NOT ASSIGNED			
C 285		NOT ASSIGNED			
C 286		NOT ASSIGNED			
C 287		AL ELECTLYT CAP 5XF25VB39PH15X11.5L	39μ F ± 20% .25V	1	
C 288		AL ELECTLYT CAP 5XF25VB39PH15X11.5L	39μ F ± 20% .25V	1	
C 289		AL ELECTLYT CAP 5XF25VB39PH15X11.5L	39μ F ± 20% .25V	1	
C 290		AL ELECTLYT CAP 5XF25VB39PH15X11.5L	39μ F ± 20% .25V	1	
C 291		AL ELECTLYT CAP 5XF25VB39PH15X11.5L	39μ F ± 20% .25V	1	
C 292		AL ELECTLYT CAP 5XF25VB39PH15X11.5L	39μ F ± 20% .25V	1	
C 293		AL ELECTLYT CAP 5XF25VB39PH15X11.5L	39μ F ± 20% .25V	1	
C 294		AL ELECTLYT CAP 5XF25VB39PH15X11.5L	39μ F ± 20% .25V	1	
C 295		AL ELECTLYT CAP 5XF25VB39PH15X11.5L	39μ F ± 20% .25V	1	
C 296		CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 297		CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 298		CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 299		CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
C 300		CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 301		CER CAP CC732CM1H102J	1000p F ± 5% .50V	1	
C 302		CER CAP CK732B1H472K (S 3	4700p F ± 10% .50V	1	
C 303		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 304		NOT ASSIGNED			
C 305		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 306		NOT ASSIGNED			
C 307		CER CAP CK732B1H222K (J 3	2200p F ± 10% .50V	1	
C 308		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 309		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 310		NOT ASSIGNED			
C 311		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 312		NOT ASSIGNED			
C 313		CER CAP CC732CH1H040D (I b	4p F .50V ± 0.5p F	1	
C 314		CER CAP CC732CH1H220J (J b	22p F ± 5% .50V	1	
C 315		CER CAP CK732CH1H101J (A b	100p F ± 5% .50V	1	
C 316		CER CAP CC732CH1H040D (I b	4p F .50V ± 0.5p F	1	
C 317		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 318		NOT ASSIGNED			
C 319		CER CAP CC732CH1H221J (J b	220p F ± 5% .50V	1	
C 320		CER CAP CK733F1H104Z (A 5	0.1μ F .50V +80/-20%	1	
C 321		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 322		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
C 323		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 324		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 325		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 326		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 327		CER CAP CC732CH1H471J (S b	470p F ± 5% .50V	1	
C 328		CER CAP CC732CH1H220J (J b	22p F ± 5% .50V	1	
C 329		CER CAP CC732CH1H220J (J b	22p F ± 5% .50V	1	
C 330		CER CAP CC732CH1H470J (S b	47p F ± 5% .50V	1	
C 331		CER CAP CC732CH1H471J (S b	470p F ± 5% .50V	1	
C 332		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 333		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 334		CER CAP CC45CH1H330JY	33p F ± 5% .50V	1	
C 335		CER CAP CC45CH1H330JY	33p F ± 5% .50V	1	
C 336		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
C 337		CER CAP CC732CH1H471J (S b	470p F ± 5% .50V	1	
C 338		CER CAP CC732CH1H101J (A b	100p F ± 5% .50V	1	
C 339		CER CAP CK733B1H104K	0.1μ F ± 10% .50V	1	
C 340		CER CAP CC732CH1H050D (I f b	5p F .50V ± 0.5p F	1	
C 341		CER CAP CC732CH1H100D (A b	10p F ± 0.5% .50V	1	
C 342		NOT ASSIGNED			
C 343		CER CAP CK732B1H222K (J 3	2200p F ± 10% .50V	1	
C 344		CER CAP CK733B1H104K	0.1μ F ± 10% .50V	1	
C 345		CER CAP CK733B1H104K	0.1μ F ± 10% .50V	1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
C 346		CER CAP CC732CH1H050D (I f b	5p F .50V ± 0.5p F	1	
C 347		CER CAP CC732CH1H100D (A b	10p F ± 0.5% .50V	1	
C 348		NOT ASSIGNED			
C 349		CER CAP CK732B1H222K (J 3	2200p F ± 10% .50V	1	
C 350		CER CAP CK733B1H104K	0.1μ F ± 10% .50V	1	
C 351		PLSTC FILM CAP E00-V1H105JW	1μ F ± 5% .50V	1	
C 352		CER CAP CK732B1H103K (A 4	0.01μ F ± 10% .50V	1	
J 1	8101-10341	PLUG 27DP-LR-PC		1	
J 2	8101-10341	PLUG 27DP-LR-PC		1	
J 3		NOT ASSIGNED			
J 4		NOT ASSIGNED			
J 5	8101-10341	PLUG 27DP-LR-PC		1	
J 6		NOT ASSIGNED			
J 7		PLUG DF1-10P2.50S	10P	1	
J 8	8104-80483	PLUG U-PA1521	15P	1	
J 9	8104-80422	PLUG U-PA1021	10P	1	
J 10	8101-10341	PLUG 27DP-LR-PC		1	
J 11		PLUG 27DP-LR-PC		1	
K 1	8052-90501	RELAY DIP-5V		1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
L 1		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 2		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 3		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 4		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 5		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 6		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 7		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 8		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 9		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 10		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 11		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 12		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 13		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 14		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 15		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 16		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 17		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 18		INDUCTOR 10K13-55T NOT ASSIGNED	0 21MYUN	1	
L 19		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 20		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 21		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 22		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 23		INDUCTOR NL453232-100K	10μ H. ± 10%	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
L 24	8054-4020	INDUCTOR 1F8-100K	10μ H. ± 10%	1	
L 25	8054-4020	INDUCTOR 1F8-100K	10μ H. ± 10%	1	
L 26		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 27		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 28		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 29		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 30		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 31		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 32		INDUCTOR NL453232-221K	220μ H. ± 10%	1	
L 33	8054-4020	INDUCTOR 1F8-220K	22μ H. ± 10%	1	
L 34		INDUCTOR NL453232-4R7K	4.7μ H. ± 10%	1	
L 35		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 36		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
L 37		INDUCTOR NL453232-4R7K	4.7μ H. ± 10%	1	
L 38		INDUCTOR NL453232-1R0K	1.0μ H. ± 10%	1	
L 39		INDUCTOR NL453232-4R7K	4.7μ H. ± 10%	1	
L 40		INDUCTOR NL453232-1R0K	1.0μ H. ± 10%	1	
L 41		INDUCTOR NL453232-101K	100μ H. ± 10%	1	
L 42		INDUCTOR NL453232-471K	470μ H. ± 10%	1	
L 43		INDUCTOR NL453232-101K	100μ H. ± 10%	1	
L 44		INDUCTOR NL453232-101K	100μ H. ± 10%	1	
L 45		INDUCTOR 330T20198B		1	
L 46		INDUCTOR 330T20198B		1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
L 47		INDUCTOR NL453232-101K	100μ H. ± 10%	1	
L 48		INDUCTOR 1M1-471F	470μ H. ± 10%	1	
L 49	8054-4020	INDUCTOR 1F8-220K	22μ H. ± 10%	1	
L 50		NOT ASSIGNED		1	
L 51		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 52		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 53		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 54		INDUCTOR NL453232-100K	10μ H. ± 10%	1	
L 55		INDUCTOR NL453232-220K	22μ H. ± 10%	1	
Q 1		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 2		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 3		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 4		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 5		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 6		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 7		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 8		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 9		DIODE AT55123		1	
Q 10		DIODE AT55123		1	
Q 11		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 12		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 13		TRANSISTOR 2SC3735 (B34 OR B3)		1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 14		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 15		DIODE AT55123		1	
Q 16		DIODE AT55123		1	
Q 17		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 18		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 19		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 20		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 21		DIODE AT55123		1	
Q 22		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 23		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 24		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 25		TRANSISTOR 2SA1151		1	
Q 26		TRANSISTOR 2SC1023 (L5 OR L6)		1	
Q 27	1313-55007	IC M PDS2016		1	
Q 28		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 29		DIODE 1SS153		1	
Q 30		DIODE 1SS153		1	
Q 31		DIODE 1SS153		1	
Q 32		NOT ASSIGNED		1	
Q 33		NOT ASSIGNED		1	
Q 34		NOT ASSIGNED		1	
Q 35		TRANSISTOR 2SC2351 (R2 OR R3)		1	
Q 36		TRANSISTOR 2SC2351 (R2 OR R3)		1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
Q 129		IC PM7524MS		1	
Q 130		IC AP654JN-0		1	
Q 131	1353-14263	IC # PC457D62		1	
Q 132		IC DAC-08CS		1	
Q 133	1353-14263	IC # PC457D62		1	
Q 134		IC LM386N-1		1	
Q 135		NOT ASSIGNED			
Q 136		IC HT3-201MS-5		1	
Q 137		IC HT3-201MS-5		1	
Q 138		IC # PCB1462		1	
Q 139		DIODE ND4126-2		1	
Q 140		DIODE 1SS149H		1	
Q 141		IC HA15330-5		1	
Q 142		IC # PCB1462		1	
Q 143		DIODE ND4126-2		1	
Q 144		DIODE 1SS149H		1	
Q 145		IC HT3-201MS-5		1	
Q 146	1313-95007	IC # PDS201G		1	
Q 147		NOT ASSIGNED			
Q 148		IC 74HC159F		1	
Q 149	1324-00008	IC 74HC08F		1	
Q 150	1324-00004	74HC04F		1	
Q 151	1219-02043	DIODE 1S2835 (A3)		1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
Q 152	1324-00004	IC 74HC04F		1	
Q 153		IC LT1019CNB-4.5		1	
Q 154		IC CS5014-KD14		1	
Q 155		NOT ASSIGNED			
Q 156	1324-00008	IC 74HC08F		1	
Q 157	1324-00008	IC 74HC08F		1	
Q 158		IC TCT74HC221AF		1	
Q 159		IC TCT74HC221AF		1	
Q 160		IC TCT74HC221AF		1	
Q 161		IC TCT74HC221AF		1	
Q 162	1324-00074	IC 74HC74F		1	
Q 163		IC AC162AFP		1	
Q 164		IC AC162AFP		1	
Q 165		IC AC162AFP		1	
Q 166		IC AC162AFP		1	
Q 167		IC LM2940CT-15		1	
Q 168		IC LM2940CT-5.0		1	
Q 169		IC NUM2930L-05		1	
Q 170	1353-17020	IC # PC79L05J		1	
Q 171		IC TC4569F		1	
Q 172		NOT ASSIGNED			
Q 173		IC LM6361M		1	
Q 174		THERMISTOR OS-DS-300-1		1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 175		DIODE ND4126-2		1	
Q 176		ZENER DIODE R05.1MB2 (512)		1	
Q 177		ZENER DIODE R05.1MB2 (512)		1	
Q 178		ZENER DIODE R05.1MB2 (512)		1	
Q 179		NOT ASSIGNED			
Q 180		IC TC4571F		1	
Q 181		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 182		ZENER DIODE R05.1MB2 (512)		1	
Q 183		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 184		DIODE A1S2836		1	
Q 185		DIODE A1S2836		1	
Q 186		DIODE ND4126-2		1	
Q 187		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 188		DIODE ND4126-2		1	
Q 189		TRANSISTOR 2SA1226 (E3 OR E4)		1	
Q 190		TRANSISTOR 2SC3735 (B34 OR B3)		1	
R 1		METAL FILM RESISTOR RN7362A121D	120Ω ± 0.5%/10W	1	
R 2		METAL FILM RESISTOR RN7362A151D	150Ω ± 0.5%/10W	1	
R 3		NOT ASSIGNED			
R 4		METAL FILM RESISTOR RN7362A151D	150Ω ± 0.5%/10W	1	
R 5	4282-03070	METAL FILM RESISTOR LP1/8 150Ω J T51	150Ω ± 5%/10W	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 6		METAL FILM RESISTOR RN7362A201D	200Ω ± 0.5%/10W	1	
R 7		METAL FILM RESISTOR RN7362A202D	2KΩ ± 0.5%/10W	1	
R 8		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/10W	1	
R 9		CERMET RESISTOR RK73M2A471J	470Ω ± 5%/10W	1	
R 10		METAL FILM RESISTOR RN7362A201D	200Ω ± 0.5%/10W	1	
R 11		METAL FILM RESISTOR RN7362A152D	1.5KΩ ± 0.5%/10W	1	
R 12	4242-06600	METAL FILM RESISTOR RM14K2E0660D	866Ω ± 0.5%/4W	1	
R 13		METAL FILM RESISTOR RN7362A751D	750Ω ± 0.5%/10W	1	
R 14		METAL FILM RESISTOR RN7362A242D	2.4KΩ ± 0.5%/10W	1	
R 15		METAL FILM RESISTOR RN7362A202D	2KΩ ± 0.5%/10W	1	
R 16		CERMET RESISTOR RK73M2A153J	150Ω ± 5%/10W	1	
R 17		CERMET RESISTOR RK73M2A122J	1.2KΩ ± 5%/10W	1	
R 18		METAL FILM RESISTOR RN7362A471D	470Ω ± 0.5%/10W	1	
R 19		METAL FILM RESISTOR RN7362A162D	1.6KΩ ± 0.5%/10W	1	
R 20		METAL FILM RESISTOR RN7362A620D	620Ω ± 0.5%/10W	1	
R 21		METAL FILM RESISTOR RN7362A271D	270Ω ± 0.5%/10W	1	
R 22		METAL FILM RESISTOR RN7362A620D	620Ω ± 0.5%/10W	1	
R 23	4282-03070	METAL FILM RESISTOR LP1/8 150Ω J T51	150Ω ± 5%/10W	1	
R 24		METAL FILM RESISTOR RN7362A201D	200Ω ± 0.5%/10W	1	
R 25		CERMET RESISTOR RK73M2A101J	100Ω ± 5%/10W	1	
R 26		METAL FILM RESISTOR RN7362A202D	2KΩ ± 0.5%/10W	1	
R 27		CERMET RESISTOR RN73M2A101J	100Ω ± 5%/10W	1	
R 28		CERMET RESISTOR RK73M2A471J	470Ω ± 5%/10W	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 29		METAL FILM RESISTOR RN73G2A2010	20KQ ± 0.5%/10W	1	
R 30		METAL FILM RESISTOR RN73G2A132D	1.5KQ ± 0.5%/10W	1	
R 31	4242-D8660	METAL FILM RESISTOR RN14K2E8660D	866Q ± 0.5%/1/4W	1	
R 32		METAL FILM RESISTOR RN73G2A561D	560Q ± 0.5%/10W	1	
R 33		METAL FILM RESISTOR RN73G2A202D	2KQ ± 0.5%/10W	1	
R 34		METAL FILM RESISTOR RN73G2A02D	62Q ± 0.5%/10W	1	
R 35		NOT ASSIGNED			
R 36		METAL FILM RESISTOR RN73G2A62D	62Q ± 0.5%/10W	1	
R 37		METAL FILM RESISTOR RN73G2A361D	360Q ± 0.5%/10W	1	
R 38		CERMET RESISTOR RK73M2A101J	100Q ± 5%/10W	1	
R 39		METAL FILM RESISTOR RN73G2A202D	2KQ ± 0.5%/10W	1	
R 40		CERMET RESISTOR RK73M2A101J	100Q ± 5%/10W	1	
R 41		CERMET RESISTOR RK73M2A71J	470Q ± 5%/10W	1	
R 42		METAL FILM RESISTOR RN73G2A241D	240Q ± 0.5%/10W	1	
R 43		METAL FILM RESISTOR RN73G2A152D	1.5KQ ± 0.5%/10W	1	
R 44	4242-D8660	METAL FILM RESISTOR RN14K2E8660D	866Q ± 0.5%/1/4W	1	
R 45		METAL FILM RESISTOR RN73G2A511D	510Q ± 0.5%/10W	1	
R 46		METAL FILM RESISTOR RN73G2A222D	2.2KQ ± 0.5%/10W	1	
R 47		METAL FILM RESISTOR RN73G2A430D	43Q ± 0.5%/10W	1	
R 48		METAL FILM RESISTOR RN73G2A471D	470Q ± 0.5%/10W	1	
R 49		METAL FILM RESISTOR RN73G2A430D	43Q ± 0.5%/10W	1	
R 50		METAL FILM RESISTOR RN73G2A361D	360Q ± 0.5%/10W	1	
R 51		CERMET RESISTOR RK73M2A101J	100Q ± 5%/10W	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 52		METAL FILM RESISTOR RN73G2A202D	2KQ ± 0.5%/10W	1	
R 53		CERMET RESISTOR RK73M2A101J	100Q ± 5%/10W	1	
R 54		CERMET RESISTOR RK73M2A71J	470Q ± 5%/10W	1	
R 55		METAL FILM RESISTOR RN73G2A241D	240Q ± 0.5%/10W	1	
R 56		METAL FILM RESISTOR RN73G2A182D	1.8KQ ± 0.5%/10W	1	
R 57	4242-D8660	METAL FILM RESISTOR RN14K2E8660D	866Q ± 0.5%	1	
R 58		METAL FILM RESISTOR RN73G2A511D	510Q ± 0.5%/10W	1	
R 59		METAL FILM RESISTOR RN73G2A222D	2.2KQ ± 0.5%/10W	1	
R 60		METAL FILM RESISTOR RN73G2A430D	43Q ± 0.5%/10W	1	
R 61		METAL FILM RESISTOR RN73G2A361D	360Q ± 0.5%/10W	1	
R 62		METAL FILM RESISTOR RN73G2A430D	43Q ± 0.5%/10W	1	
R 63		METAL FILM RESISTOR RN73G2A361D	360Q ± 0.5%/10W	1	
R 64		CERMET RESISTOR RK73M2A101J	100Q ± 5%/10W	1	
R 65		CERMET RESISTOR RK73M2A71J	470Q ± 5%/10W	1	
R 66		METAL FILM RESISTOR RN73G2A361D	360Q ± 0.5%/10W	1	
R 67		METAL FILM RESISTOR RN73G2A202D	2KQ ± 0.5%/10W	1	
R 68		METAL FILM RESISTOR RN73G2A202D	2KQ ± 0.5%/10W	1	
R 69		CERMET RESISTOR RK73M2A101J	100Q ± 5%/10W	1	
R 70	4242-D8660	METAL FILM RESISTOR RN14K2E8660D	866Q ± 0.5%/1/4W	1	
R 71		CERMET RESISTOR RK73M2A100J	10Q ± 5%/10W	1	
R 72		CERMET RESISTOR RK73M2A081J	80Q ± 5%/10W	1	
R 73		CERMET RESISTOR RK73M2A331J	330Q ± 5%/10W	1	
R 74		CERMET RESISTOR RK73M2A701J	47Q ± 5%/10W	1	

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Ref. No.	Part Code	Description	Rating	Qty	Note
R 75		CERMET RESISTOR RK73M2A082J	80.8KQ ± 5%/10W	1	
R 76		CERMET RESISTOR RK73M2A082J	80.8KQ ± 5%/10W	1	
R 77		CERMET RESISTOR RK73M2A082J	80.8KQ ± 5%/10W	1	
R 78		CERMET RESISTOR RK73M2A102J	1.0KQ ± 5%/10W	1	
R 79		CERMET RESISTOR RK73M2A102J	1.0KQ ± 5%/10W	1	
R 80		CERMET RESISTOR RK73M2A102J	1.0KQ ± 5%/10W	1	
R 81		CERMET RESISTOR RK73M2A100J	10Q ± 5%/10W	1	
R 82		NOT ASSIGNED			
R 83		NOT ASSIGNED			
R 84		NOT ASSIGNED			
R 85		CERMET RESISTOR RK73M2A104J	100Q ± 5%/10W	1	
R 86		CERMET RESISTOR RK73M2A104J	100Q ± 5%/10W	1	
R 87		CERMET RESISTOR RK73M2A104J	100Q ± 5%/10W	1	
R 88		CERMET RESISTOR RK73M2A104J	100Q ± 5%/10W	1	
R 89		VARIABLE RESISTOR R6S4H10Z	1KQ ± 20%/1/4W	1	
R 90		CERMET RESISTOR RK73M2A221J	220Q ± 5%/10W	1	
R 91		CERMET RESISTOR RK73M2A100J	10Q ± 5%/10W	1	
R 92		CERMET RESISTOR RK73M2A101J	100Q ± 5%/10W	1	
R 93		CARBON FILM RES AR025110Z	1KQ ± 5%/1/4W	1	
R 94		CERMET RESISTOR RK73M2A470J	47Q ± 5%/10W	1	
R 95	4242-D8660	METAL FILM RESISTOR RN14K2E8660D	866Q ± 0.5%/1/4W	1	
R 96		METAL FILM RESISTOR RN73G2A511D	510Q ± 0.5%/10W	1	
R 97		METAL FILM RESISTOR RN73G2A222D	2.2KQ ± 0.5%/10W	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 98		CERMET RESISTOR RK73M2A100J	10Q ± 5%/10W	1	
R 99		METAL FILM RESISTOR RN73G2A430D	43Q ± 0.5%/10W	1	
R 100		METAL FILM RESISTOR RN73G2A470D	47Q ± 0.5%/10W	1	
R 101		METAL FILM RESISTOR RN73G2A430D	43Q ± 0.5%/10W	1	
R 102		CERMET RESISTOR RK73M2A471J	470Q ± 5%/10W	1	
R 103		METAL FILM RESISTOR RN73G2A202D	2KQ ± 0.5%/10W	1	
R 104		METAL FILM RESISTOR RN73G2A331D	330Q ± 0.5%/10W	1	
R 105		CERMET RESISTOR RK73M2A100J	10Q ± 5%/10W	1	
R 106		METAL FILM RESISTOR RN73G2A501D	500Q ± 0.5%/10W	1	
R 107		CERMET RESISTOR RK73M2A101J	100Q ± 5%/10W	1	
R 108		METAL FILM RESISTOR RN73G2A512D	5.1KQ ± 0.5%/10W	1	
R 109		CERMET RESISTOR RK73M2A101J	100Q ± 5%/10W	1	
R 110	4242-D8660	METAL FILM RESISTOR RN14K2E8660D	866Q ± 0.5%/1/4W	1	
R 111		METAL FILM RESISTOR RN73G2A511D	510Q ± 0.5%/10W	1	
R 112		METAL FILM RESISTOR RN73G2A222D	2.2KQ ± 0.5%/10W	1	
R 113		METAL FILM RESISTOR RN73G2A430D	43Q ± 0.5%/10W	1	
R 114		METAL FILM RESISTOR RN73G2A100D	10Q ± 0.5%/10W	1	
R 115		METAL FILM RESISTOR RN73G2A430D	43Q ± 0.5%/10W	1	
R 116		CERMET RESISTOR RK73M2A671J	470Q ± 5%/10W	1	
R 117		METAL FILM RESISTOR RN73G2A202D	2KQ ± 0.5%/10W	1	
R 118		METAL FILM RESISTOR RN73G2A331D	330Q ± 0.5%/10W	1	
R 119		CERMET RESISTOR RK73M2A100J	10Q ± 5%/10W	1	
R 120		CERMET RESISTOR RK73M2A101J	100Q ± 5%/10W	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 213		NOT ASSIGNED			
R 214		NOT ASSIGNED			
R 215		NOT ASSIGNED			
R 216		CERMET RESISTOR RK73M2A750J	75Ω	1	
R 217		CERMET RESISTOR RK73M2A123J	± 5% 1/10W 12kΩ	1	
R 218		CERMET RESISTOR RK73M2A332J	3.3kΩ	1	
R 219		CERMET RESISTOR RK73M2A152J	± 5% 1/10W 1.5kΩ	1	
R 220		CERMET RESISTOR RK73M2A471J	± 5% 1/10W 470Ω	1	
R 221		CERMET RESISTOR RK73M2A123J	± 5% 1/10W 12kΩ	1	
R 222		CERMET RESISTOR RK73M2A272J	± 5% 1/10W 2.7kΩ	1	
R 223		CERMET RESISTOR RK73M2A102J	1kΩ	1	
R 224		CERMET RESISTOR RK73M2A391J	± 5% 1/10W 390Ω	1	
R 225		CARBON FILM RES AR025T391J	390Ω	1	
R 226		CERMET RESISTOR RK73M2A560J	± 5% 1/10W 560Ω	1	
R 227		CERMET RESISTOR RK73M2A682J	± 5% 1/10W 6.8kΩ	1	
R 228		CERMET RESISTOR RK73M2A103J	10kΩ	1	
R 229		CERMET RESISTOR RK73M2A822J	± 5% 1/10W 8.2kΩ	1	
R 230		CERMET RESISTOR RK73M2A102J	± 5% 1/10W 1kΩ	1	
R 231		CERMET RESISTOR RK73M2A152J	± 5% 1/10W 1.5kΩ	1	
R 232		CERMET RESISTOR RK73M2A821J	± 5% 1/10W 820Ω	1	
R 233	4242-D1691	CARBON FILM RES AR025T122J	1.2kΩ	1	
R 234		CERMET RESISTOR RK73M2A331J	± 5% 1/10W 330Ω	1	
R 235		CERMET RESISTOR RK73M2A331J	± 5% 1/10W 330Ω	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 236		CERMET RESISTOR RK73M2A181J	± 5% 1/10W 180Ω	1	
R 237		CERMET RESISTOR RK73M2A472J	± 5% 1/10W 4.7kΩ	1	
R 238		CERMET RESISTOR RK73M2A472J	± 5% 1/10W 4.7kΩ	1	
R 239		CERMET RESISTOR RK73M2A223J	± 5% 1/10W 22kΩ	1	
R 240		VARIABLE RESISTOR RGS4H502	± 20% 1/4W 5kΩ	1	
R 241		CERMET RESISTOR RK73M2A822J	± 5% 1/10W 8.2kΩ	1	
R 242		CERMET RESISTOR RK73M2A102J	± 5% 1/10W 1kΩ	1	
R 243		NOT ASSIGNED			
R 244		NOT ASSIGNED			
R 245		NOT ASSIGNED			
R 246		NOT ASSIGNED			
R 247		NOT ASSIGNED			
R 248		NOT ASSIGNED			
R 249		NOT ASSIGNED			
R 250		NOT ASSIGNED			
R 251		NOT ASSIGNED			
R 252		NOT ASSIGNED			
R 253		NOT ASSIGNED			
R 254		NOT ASSIGNED			
R 255		NOT ASSIGNED			
R 256		NOT ASSIGNED			
R 257		NOT ASSIGNED			
R 258		NOT ASSIGNED			

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 259		NOT ASSIGNED			
R 260		NOT ASSIGNED			
R 261		NOT ASSIGNED			
R 262		NOT ASSIGNED			
R 263		NOT ASSIGNED			
R 264		NOT ASSIGNED			
R 265		NOT ASSIGNED			
R 266		NOT ASSIGNED			
R 267		NOT ASSIGNED			
R 268		NOT ASSIGNED			
R 269		NOT ASSIGNED			
R 270		NOT ASSIGNED			
R 271		NOT ASSIGNED			
R 272		NOT ASSIGNED			
R 273		NOT ASSIGNED			
R 274		NOT ASSIGNED			
R 275		NOT ASSIGNED			
R 276		NOT ASSIGNED			
R 277		NOT ASSIGNED			
R 278		NOT ASSIGNED			
R 279		NOT ASSIGNED			
R 280		NOT ASSIGNED			
R 281		NOT ASSIGNED			

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 282		NOT ASSIGNED			
R 283		NOT ASSIGNED			
R 284		NOT ASSIGNED			
R 285		NOT ASSIGNED			
R 286		NOT ASSIGNED			
R 287		NOT ASSIGNED			
R 288		NOT ASSIGNED			
R 289		NOT ASSIGNED			
R 290		NOT ASSIGNED			
R 291		NOT ASSIGNED			
R 292		NOT ASSIGNED			
R 293		NOT ASSIGNED			
R 294		NOT ASSIGNED			
R 295		NOT ASSIGNED			
R 296		NOT ASSIGNED			
R 297		NOT ASSIGNED			
R 298		NOT ASSIGNED			
R 299		NOT ASSIGNED			
R 300		NOT ASSIGNED			
R 301		NOT ASSIGNED			
R 302		NOT ASSIGNED			
R 303		NOT ASSIGNED			
R 304		CERMET RESISTOR RK73M2A101J	± 5% 1/10W 100Ω	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 305		CERMET RESISTOR RK73M2A224J	220K ± 5% 1/10W	1	
R 306		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 307		CERMET RESISTOR RK73M2A472J	4.7K ± 5% 1/10W	1	
R 308		CERMET RESISTOR RK73M2A472J	4.7K ± 5% 1/10W	1	
R 309		CERMET RESISTOR RK73M2A682J	6.8K ± 5% 1/10W	1	
R 310		CERMET RESISTOR RK73M2A682J	6.8K ± 5% 1/10W	1	
R 311		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 312		CERMET RESISTOR RK73M2A183J	18.3K ± 5% 1/10W	1	
R 313		CERMET RESISTOR RK73M2A152J	15K ± 5% 1/10W	1	
R 314		VARIABLE RESISTOR RGS4H103	10K ± 20% 1/4W	1	
R 315		CERMET RESISTOR RK73M2A681J	680Ω ± 5% 1/10W	1	
R 316		VARIABLE RESISTOR RGS4H102	10K ± 20% 1/4W	1	
R 317		CERMET RESISTOR RK73M2A822J	8.2K ± 5% 1/10W	1	
R 318		CERMET RESISTOR RK73M2A103J	10K ± 5% 1/10W	1	
R 319		CERMET RESISTOR RK73M2A103J	10K ± 5% 1/10W	1	
R 320		CERMET RESISTOR RK73M2A103J	10K ± 5% 1/10W	1	
R 321		CERMET RESISTOR RK73M2A103J	10K ± 5% 1/10W	1	
R 322		CERMET RESISTOR RK73M2A153J	15K ± 5% 1/10W	1	
R 323		CERMET RESISTOR RK73M2A472J	4.7K ± 5% 1/10W	1	
R 324		CERMET RESISTOR RK73M2A472J	4.7K ± 5% 1/10W	1	
R 325		CERMET RESISTOR RK73M2A153J	15K ± 5% 1/10W	1	
R 326		CERMET RESISTOR RK73M2A153J	15K ± 5% 1/10W	1	
R 327		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 328		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 329		CERMET RESISTOR RK73M2A472J	4.7K ± 5% 1/10W	1	
R 330		CERMET RESISTOR RK73M2A472J	4.7K ± 5% 1/10W	1	
R 331		CERMET RESISTOR RK73M2A472J	4.7K ± 5% 1/10W	1	
R 332		CERMET RESISTOR RK73M2A472J	4.7K ± 5% 1/10W	1	
R 333		CERMET RESISTOR RK73M2A152J	15K ± 5% 1/10W	1	
R 334		CERMET RESISTOR RK73M2A472J	4.7K ± 5% 1/10W	1	
R 335		METAL FILM RESISTOR RN73G2A5120	5.1KΩ ± 0.5% 1/10W	1	
R 336		CERMET RESISTOR RK73M2A103J	10K ± 5% 1/10W	1	
R 337		CERMET RESISTOR RK73M2A820J	820Ω ± 5% 1/10W	1	
R 338		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5% 1/10W	1	
R 339		METAL FILM RESISTOR RN73G2A512H	5.1KΩ ± 0.5% 1/10W	1	
R 340		CERMET RESISTOR RK73M2A103J	10K ± 5% 1/10W	1	
R 341		CERMET RESISTOR RK73M2A820J	820Ω ± 5% 1/10W	1	
R 342		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 343		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5% 1/10W	1	
R 344		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 345		NOT ASSIGNED			
R 346		NOT ASSIGNED			
R 347		NOT ASSIGNED			
R 348		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 349		CERMET RESISTOR RK73M2A100J	10Ω ± 5% 1/10W	1	
R 350		NOT ASSIGNED			

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 351		CERMET RESISTOR RK73M2A47J	4.7K ± 5% 1/10W	1	
R 352		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 353		CERMET RESISTOR RK73M2A225J	22K ± 5% 1/10W	1	
R 354		CERMET RESISTOR RK73M2A592J	59K ± 5% 1/10W	1	
R 355		CERMET RESISTOR RK73M2A682J	6.8K ± 5% 1/10W	1	
R 356		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5% 1/10W	1	
R 357		CERMET RESISTOR RK73M2A223J	22KΩ ± 5% 1/10W	1	
R 358		CERMET RESISTOR RK73M2A682J	6.8KΩ ± 5% 1/10W	1	
R 359		CERMET RESISTOR RK73M2A472J	4.7KΩ ± 5% 1/10W	1	
R 360		NOT ASSIGNED			
R 361		CERMET RESISTOR RK73M2A223J	22KΩ ± 5% 1/10W	1	
R 362		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 363		CERMET RESISTOR RK73M2A750J	75Ω ± 5% 1/10W	1	
R 364		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 365		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 366		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 367		METAL FILM RESISTOR RN14K2E9530D	301Ω ± 0.5% 1/4W	1	
R 368		METAL FILM RESISTOR RN73G2A2020	20KΩ ± 0.5% 1/10W	1	
R 369		CERMET RESISTOR RK73M2A121J	120Ω ± 5% 1/10W	1	
R 370		CERMET RESISTOR RK73M2A511J	510Ω ± 5% 1/10W	1	
R 371		CERMET RESISTOR RK73M2A511J	510Ω ± 5% 1/10W	1	
R 372		VARIABLE RESISTOR RGS4H101	100Ω ± 20% 1/4W	1	
R 373		CERMET RESISTOR RK73M2A222J	2.2KΩ ± 5% 1/10W	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 374		CERMET RESISTOR RK73M2A222J	2.2KΩ ± 5% 1/10W	1	
R 375		VARIABLE RESISTOR RGS4M203	20KΩ ± 20% 1/4W	1	
R 376		CERMET RESISTOR RK73M2A152J	15KΩ ± 5% 1/10W	1	
R 377		CERMET RESISTOR RK73M2A152J	15KΩ ± 5% 1/10W	1	
R 378		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 379		CERMET RESISTOR RK73M2A681J	680Ω ± 5% 1/10W	1	
R 380		CERMET RESISTOR RK73M2A104J	100KΩ ± 5% 1/10W	1	
R 381		NOT ASSIGNED			
R 382		NOT ASSIGNED			
R 383		CERMET RESISTOR RK73M2A103J	10K ± 5% 1/10W	1	
R 384		CERMET RESISTOR RK73M2A103J	10K ± 5% 1/10W	1	
R 385		CERMET RESISTOR RK73M2A100J	100Ω ± 5% 1/10W	1	
R 386		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 387		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 388		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 389		CERMET RESISTOR RK73M2A750J	75Ω ± 5% 1/10W	1	
R 390		CERMET RESISTOR RK73M2A560J	56Ω ± 5% 1/10W	1	
R 391		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 392		CERMET RESISTOR RK73M2A100J	10Ω ± 5% 1/10W	1	
R 393		METAL FILM RESISTOR RN14K2E9530D	953Ω ± 0.5% 1/4W	1	
R 394		NOT ASSIGNED			
R 395		CERMET RESISTOR RK73M2A271J	270Ω ± 5% 1/10W	1	
R 396		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 397		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 398		CERMET RESISTOR RK73M2A332J	5.5KΩ ± 5% 1/10W	1	
R 399		CERMET RESISTOR RK73M2A221J	220Ω ± 5% 1/10W	1	
R 400		NOT ASSIGNED			
R 401		NOT ASSIGNED			
R 402		NOT ASSIGNED			
R 403		CERMET RESISTOR RK73M2A750J	75Ω ± 5% 1/10W	1	
R 404		NOT ASSIGNED			
R 405		NOT ASSIGNED			
R 406		NOT ASSIGNED			
R 407		NOT ASSIGNED			
R 408		NOT ASSIGNED			
R 409		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 410		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 411		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 412		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 413		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 414		NOT ASSIGNED			
R 415		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 416		CERMET RESISTOR RK73M2A272J	2.7KΩ ± 5% 1/10W	1	
R 417		CERMET RESISTOR RK73M2A501J	500Ω ± 5% 1/10W	1	
R 418		CERMET RESISTOR RK73M2A680J	68Ω ± 5% 1/10W	1	
R 419		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 420		CERMET RESISTOR RK73M2A102J	1KΩ ± 5% 1/10W	1	
R 421		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 422		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 423		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 424		CERMET RESISTOR RK73M2A221J	220Ω ± 5% 1/10W	1	
R 425		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 426		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
R 427		METAL FILM RESISTOR RN73G2A1020	10KΩ ± 0.5% 1/10W	1	
R 428		METAL FILM RESISTOR RN73G2A2020	2KΩ ± 0.5% 1/10W	1	
R 429		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 430		VARIABLE RESISTOR RGS4H501	500Ω ± 20% 1/4W	1	
R 431		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
R 432		METAL FILM RESISTOR RN73G2A1010	100Ω ± 0.5% 1/10W	1	
R 433		NOT ASSIGNED			
R 434		METAL FILM RESISTOR RN73G2A2230	22KΩ ± 0.5% 1/10W	1	
R 435		METAL FILM RESISTOR RN73G2A5620	5.6KΩ ± 0.5% 1/10W	1	
R 436		METAL FILM RESISTOR RN73G2A4710	470Ω ± 0.5% 1/10W	1	
R 437		METAL FILM RESISTOR RN73G2A1010	100Ω ± 0.5% 1/10W	1	
R 438		CERMET RESISTOR RK73M2A104J	100Ω ± 5% 1/10W	1	
R 439		METAL FILM RESISTOR RN73G2A1010	100Ω ± 0.5% 1/10W	1	
R 440		CERMET RESISTOR RK73M2A153J	15KΩ ± 5% 1/10W	1	
R 441		METAL FILM RESISTOR RN73G2A1020	1KΩ ± 0.5% 1/10W	1	
R 442		CERMET RESISTOR RK73M2A474J	470Ω ± 5% 1/10W	1	

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Parts List of: A6 IF LOG/DET

Ref. No.	Part Code	Description	Rating	Qty	Note
R 443		METAL FILM RESISTOR RN73G2A4710	470Ω ± 0.5% 1/10W	1	
R 444		METAL FILM RESISTOR RN73G2A4720	4.7KΩ ± 0.5% 1/10W	1	
R 445		CERMET RESISTOR RK73M2A474J	470Ω ± 5% 1/10W	1	
R 446		METAL FILM RESISTOR RN73G2A4710	470Ω ± 0.5% 1/10W	1	
R 447		METAL FILM RESISTOR RN73G2A4720	4.7KΩ ± 0.5% 1/10W	1	
R 448		CERMET RESISTOR RK73M2A222J	2.2KΩ ± 5% 1/10W	1	
R 449		CERMET RESISTOR RK73M2A471J	470Ω ± 5% 1/10W	1	
R 450		CERMET RESISTOR RK73M2A101J	100Ω ± 5% 1/10W	1	
Z 1		MIXER M-O		1	
Z 2		CRYSTAL OSC EXD-SC-16MHZ		1	

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Parts List of: A7 INTERFACE (1)

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 2		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 3		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 4		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 5		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 6		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 7		AL. ELECTLY CAP KMA35V0-22	22μF 35V	1	
C 8		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 9		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 10		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 11		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 12		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 13		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
C 14		CER CAP CK924F1H1042	0.1μF 50V +80/-20%	1	
J 1		CONNECTOR CNPD2FD204DL		1	
J 2		CONNECTOR 57LE-6P18		1	
J 3		PLUG CNF3-26P-2.540S	26P	1	
B 1		IC 74HC1541		1	
B 2		IC TC74HC07AP		1	
B 3		IC 74HC1540		1	
B 4		IC TMS916ANL		1	

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Parts List of: A7 INTERFACE(1)

Parts List of: A7 INTERFACE(1)

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 5	IC				
Q 6	SN75160AN	IC		1	
Q 7	74HCT245	IC		1	
Q 8	74HCT158	IC		1	
Q 9	74HCT540	IC		1	
Q 10	74HCT541	IC		1	
Q 11	IC				
Q 12	SN75162BN	IC		1	
Q 13	74HCT541	IC		1	
Q 14	74HCT158	IC		1	
Q 15	74HC32	IC		1	
Q 16	74HC74	IC		1	
Q 17	IC				
Q 18	1MS9014ANL	IC		1	
Q 19	SN75160AN	IC		1	
Q 20	NOT ASSIGNED				
Q 21	IC				
Q 22	74HCT04	IC		1	
Q 23	74HCT74	IC		1	
Q 24	IC				
Q 25	SN75162BN	IC		1	
Q 26	74HC08	IC		1	
R 1	RES ARRAY		10KΩ		
R 2	RRS-8-104JA		± 5%	1	
R 3	RES ARRAY		100KΩ		
R 4	RRS-8-104JA		± 5%	1	
R 5	CARBON FILM RES		10KΩ		
R 6	ARD25T103J		± 5%, 1/4W	1	
R 7	CARBON FILM RES		10KΩ		
R 8	ARD25T103J		± 5%, 1/4W	1	
R 9	CARBON FILM RES		10KΩ		
R 10	ARD25T103J		± 5%, 1/4W	1	

Ref. No.	Part Code	Description	Rating	Qty	Note
R 0	CARBON FILM RES		10KΩ		
R 1	ARD25T103J		± 5%, 1/4W	1	
R 2	RES ARRAY		100KΩ		
R 3	RRS-8-104JA		± 5%	1	
R 4	RES ARRAY		100KΩ		
R 5	RRS-8-104JA		± 5%	1	
R 6	CARBON FILM RES		10KΩ		
R 7	ARD25T103J		± 5%, 1/4W	1	
R 8	CARBON FILM RES		10KΩ		
R 9	ARD25T103J		± 5%, 1/4W	1	
S 1	DIP SWITCH				
S 2	DISPBA-75			1	
Z 1	CRYSTAL OSC				
Z 2	EXO-3(20M)			1	

Parts List of: A8 MEAS CPU

Parts List of: A8 MEAS CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1	2387-02906	CER CAP	5P F, 50V	1	
C 2	2387-02906	ICCT32CH1050D	± 0.5%	1	
C 3	2387-02929	CER CAP	50 F, 50V	1	
C 4	2387-02929	ICCT32CH1050D	± 0.5%	1	
C 5	2387-02929	CER CAP	220P F	1	
C 6	2387-02929	ICCT32CH1221J	± 5%, 50V	1	
C 7	2387-02929	CER CAP	220P F	1	
C 8	2387-10218	CER CAP	± 5%, 50V	1	
C 9	2387-10218	CER CAP	0.1μ F, 50V	1	
C 10	2387-10218	CER CAP	± 10%, 50V	1	
C 11	2387-10218	CER CAP	0.1μ F	1	
C 12	2387-10218	CER CAP	± 10%, 50V	1	
C 13	2387-10218	CER CAP	0.1μ F	1	
C 14	2387-10218	CER CAP	± 10%, 50V	1	
C 15	2387-10218	CER CAP	0.1μ F	1	
C 16	2387-10218	CER CAP	± 10%, 50V	1	
C 17	2387-10218	CER CAP	0.1μ F	1	
C 18	2387-10218	CER CAP	± 10%, 50V	1	
C 19	2387-10218	CER CAP	0.1μ F	1	
C 20	2387-10218	CER CAP	± 10%, 50V	1	
C 21	2387-10218	CER CAP	0.1μ F	1	
C 22	2387-10218	CER CAP	± 10%, 50V	1	
C 23	2387-10218	CER CAP	0.1μ F	1	
C 24	2387-10218	CER CAP	± 10%, 50V	1	

Ref. No.	Part Code	Description	Rating	Qty	Note
C 25	2387-10218	CER CAP	0.1μ F, 50V	1	
C 26	2387-10218	CER CAP	± 10%, 50V	1	
C 27	2387-10218	CER CAP	0.1μ F, 50V	1	
C 28	2387-10218	CER CAP	± 10%, 50V	1	
C 29	2387-10218	CER CAP	0.1μ F, 50V	1	
C 30	2387-10218	CER CAP	± 10%, 50V	1	
C 31	2387-10218	CER CAP	0.1μ F, 50V	1	
C 32	2387-10218	CER CAP	± 10%, 50V	1	
C 33	2387-10218	CER CAP	0.1μ F, 50V	1	
C 34	2387-10218	CER CAP	± 10%, 50V	1	
C 35	2387-10218	CER CAP	0.1μ F, 50V	1	
C 36	2387-10218	CER CAP	± 10%, 50V	1	
C 37	2387-10218	CER CAP	0.1μ F, 50V	1	
C 38	2387-10218	CER CAP	± 10%, 50V	1	
C 39	2387-10218	CER CAP	0.1μ F, 50V	1	
C 40	2387-10218	CER CAP	± 10%, 50V	1	
C 41	2387-10218	CER CAP	0.1μ F, 50V	1	
C 42	2387-10218	CER CAP	± 10%, 50V	1	
J 1	8101-10341	CONNECTOR		1	
J 2	8101-10341	CONNECTOR		1	
J 3	8104-02259	CONNECTOR	10P	1	

Parts List of: AB MEAS CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
J 4	8104-00152	SOCKET ICMPD2F0204DL		1	
J 5	8104-00150	SOCKET ICMPD2F0210DL		1	
J 6	8102-90389	CONNECTOR FFC-3AMEP		1	
Q 1		IC ACT10TAFP		1	34P97584
Q 2	1313-68321	IC M PD71054C		1	
Q 3	1313-68321	IC M PD71054C		1	
Q 4	1319-19129	IC 74ALS74F		1	
Q 5	1326-00138	IC 74HCT138F		1	
Q 6	1319-19129	IC 74ALS74F		1	
Q 7	1319-19129	IC 74ALS74F		1	
Q 8	1316-04748	IC 74HCT123AF		1	
Q 9	1319-19042	IC 74ALS16AF		1	
Q 10	1319-19042	IC 74ALS16AF		1	
Q 11	1326-00138	IC 74HCT138F		1	
Q 12	1319-19055	IC 74ALS08F		1	
Q 13	1326-00541	IC 74HCT541F		1	
Q 14	1326-00374	IC 74HCT374F		1	
Q 15	1326-00374	IC 74HCT374F		1	
Q 16	1326-00541	IC 74HCT541F		1	
Q 17		IC MC68000RC12		1	W/SOCKET
Q 18	1326-00541	IC 74HCT541F		1	
Q 19	1314-31043	IC HM27C101AG-17		1	W/SOCKET

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Parts List of: AB MEAS CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 20		NOT ASSIGNED			
Q 21	1314-43331	IC HM628128LFF-B		1	
Q 22	1326-00541	IC 74HCT541F		1	
Q 23	1326-00138	IC 74HCT138F		1	
Q 24	1319-19129	IC 74ALS74F		1	
Q 25	1326-00541	IC 74HCT541F		1	
Q 26	1319-19055	IC 74ALS08F		1	
Q 27	1326-00541	IC 74HCT541F		1	
Q 28	1319-19129	IC 74ALS74F		1	
Q 29	1314-31043	IC HM27C101AG-17		1	W/SOCKET
Q 30		NOT ASSIGNED			
Q 31	1314-43331	IC HM628128LFF-B		1	
Q 32	1326-00245	IC 74HCT245F		1	
Q 33		IC AB168AFP		1	34P97586
Q 34	1326-00245	IC 74HCT245F		1	
Q 35	1319-19129	IC 74ALS74F		1	
Q 36	1326-00541	IC 74HCT541F		1	
Q 37		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 38		TRANSISTOR 2SC3735 (B34 OR B3)		1	
Q 39	1326-00541	IC 74HCT541F		1	
Q 40	1324-00014	IC 74HC14F		1	
Q 41	1319-19065	IC 74ALS10W		1	
Q 42	1319-19054	IC 74ALS32F		1	

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Parts List of: AB MEAS CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 43	1319-19129	IC 74ALS74F		1	
Q 44	1324-00014	IC 74HC14F		1	
Q 45		IC 74ALS11F		1	
Q 46	1319-19055	IC 74ALS08F		1	
Q 47	1319-19129	IC 74ALS74F		1	
Q 48	1319-19054	IC 74ALS32F		1	
Q 49	1326-00004	IC 74HCT04F		1	
Q 50	1326-00374	IC 74HCT374F		1	
Q 51	1326-00374	IC 74HCT374F		1	
Q 52	1319-19054	IC 74ALS32F		1	
Q 53	1326-00541	IC 74HCT541F		1	
Q 54	1326-00541	IC 74HCT541F		1	
Q 55	1326-00541	IC 74HCT541F		1	
Q 56	1326-00541	IC 74HCT541F		1	
Q 57	1326-00245	IC 74HCT245F		1	
Q 58	1319-19129	IC 74ALS74F		1	
Q 59	1326-00245	IC 74HCT245F		1	
Q 60		IC 74HCT16DF		1	
Q 61	1326-00541	IC 74HCT541F		1	
R 1	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 2	4435-00821	METAL FILM RESISTOR RW73G2A8210	820Ω ± 0.5% 1/10W	1	
R 3	4435-00821	METAL FILM RESISTOR RW73G2A821P	820Ω ± 0.5% 1/10W	1	

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Parts List of: AB MEAS CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
R 4	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 5	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 6	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 7	4435-00104	METAL FILM RESISTOR RW73G2A104D	100KΩ ± 0.5% 1/10W	1	
R 8	4435-00103	METAL FILM RESISTOR RW73G2A103D	10KΩ ± 0.5% 1/10W	1	
R 9	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 10	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 11	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 12	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 13	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 14	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 15	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 16	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 17	4415-J0103	RES ARRAY RRS-B-103JA	10KΩ ± 5%	1	
R 18	4415-J0104	RES ARRAY RRS-B-104JA	100KΩ ± 5%	1	
R 19	4435-00122	METAL FILM RESISTOR RW73G2A122D	1.2KΩ ± 0.5% 1/10W	1	
R 20	4435-00822	METAL FILM RESISTOR RW73G2A822D	8.2KΩ ± 0.5% 1/10W	1	
R 21	4435-00122	METAL FILM RESISTOR RW73G2A122D	1.2KΩ ± 0.5% 1/10W	1	
R 22	4435-00822	METAL FILM RESISTOR RW73G2A822D	8.2KΩ ± 0.5% 1/10W	1	
R 23	4431-J0392	CERMET RESISTOR RK73H2A392J	3.9KΩ ± 5% 1/10W	1	
R 24	4431-J0103	CERMET RESISTOR RK73H2A103J	10KΩ ± 5% 1/10W	1	
R 25	4431-J0103	CERMET RESISTOR RK73H2A103J	10KΩ ± 5% 1/10W	1	
R 26	4431-J0392	CERMET RESISTOR RK73H2A392J	3.9KΩ ± 5% 1/10W	1	

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Parts List of: A8 MEAS CPU

Parts List of: A9 DISP CPU

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Ref. No.	Part Code	Description	Rating	Qty	Note
R 27	4431-J0103	CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 28	4431-J0103	CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 29	4431-J0103	CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 30		CARBON FILM RES ARD25T501J	500Ω ± 5%, 1/4W	1	
Z 1		CRYSTAL OSC EXO-3(12M)	12MHZ	1	

ANRITSU CORP.

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 2		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 3		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 4		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 5		CER CAP ICK732B1H103K (A 4)	0.01μF ± 10%, .50V	1	
C 6		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 7		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 8		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 9		AL ELECTLY CAP KMA35V8-22	22μF 35V	1	
C 10		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 11		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 12		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 13		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 14		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 15		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 16		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 17		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 18		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 19		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 20		TA ELECTLY CAP CS731E1C225H	2.2μF 16V	1	
C 21		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 22		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 23		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	

ANRITSU CORP.

Parts List of: A9 DISP CPU

Parts List of: A9 DISP CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 25		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 26		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 27		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 28		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 29		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 30		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 31		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 32		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 33		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 34		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 35		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 36		AL ELECTLY CAP SR10V8-220	220μF 10V	1	
C 37		CER CAP ICK732B1H103K (A 4)	0.01μF ± 10%, .50V	1	
C 38		CER CAP CK733F1H104Z (A 5)	0.1μF .50V +80/-20%	1	
C 39		CER CAP CK732CH101J (A 5)	100pF ± 5%, .50V	1	
C 40		AL ELECTLY CAP KMA50V8-1	50V 1μF	1	
C 41		AL ELECTLY CAP KMA50V8-1	50V 1μF	1	
C 42		AL ELECTLY CAP KMA50V8-1	50V 1μF	1	
C 43		AL ELECTLY CAP KMA50V8-1	50V 1μF	1	
C 44		AL ELECTLY CAP KMA50V8-1	50V 1μF	1	
C 45		AL ELECTLY CAP KMA50V8-1	50V 1μF	1	

ANRITSU CORP.

Ref. No.	Part Code	Description	Rating	Qty	Note
J 1		SOCKET CNP02F0210CL		1	
J 2		CONNECTOR DF1-2P2.5DS	2P	1	
J 3		PLUG DF1B-8P2.5DS(D11)	8P	1	
J 4		PLUG DF1-8P2.5DS	8P	1	
J 5		CONNECTOR FFC-3CH1		1	
Q 1		IC 74HCT245F		1	
Q 2		IC HN27C1014G-17		1	W/SOCKET
Q 3		NOT ASSIGNED		1	
Q 4		IC HD63484CP8		1	
Q 5		IC HD63484CP8		1	
Q 6		IC 74HCT541F		1	
Q 7		IC HN27C1014G-17		1	W/SOCKET
Q 8		IC HD68HC00CP12		1	
Q 9		IC 74ALS74F		1	
Q 10		IC TC74AC20F		1	
Q 11		IC 74HC163F		1	
Q 12		NOT ASSIGNED		1	
Q 13		IC 74HCT541F		1	
Q 14		IC HM62256LFP-BT		1	
Q 15		IC HM62256LFP-BT		1	
Q 16		IC 74HCT540F		1	
Q 17		IC 74HCT540F		1	

ANRITSU CORP.

Parts List of: A9 DISP CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
18	IC	74HCT245F		1	
19	IC	MM62256LFP-BT		1	
20	IC	MM62256LFP-BT		1	
21	IC	74HCT573F		1	
22	IC	74HCT573F		1	
23	IC	74HCT245F		1	
24	IC	74HCT245F		1	
25	IC	MM62256LFP-BT		1	
26	IC	74HCT245F		1	
27	IC	74HCT245F		1	36P97586
28	IC	MM62256LFP-BT		1	
29	IC	MM62256LFP-BT		1	
30	IC	74HCT245F		1	
31	IC	74HCT245F		1	
32	IC	74HCT245F		1	
33	IC	74LS166F		1	
34	IC	74LS166F		1	
35	IC	74HCT244F		1	
36	IC	74HCT245F		1	
37	IC	MM62256LFP-BT		1	
38	IC	74HCT541F		1	
39	IC	74ALS74F		1	
40	IC	74HCT04F		1	

ANRITSU CORP. 47/10

Parts List of: A9 DISP CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
41	IC	74ALS32F		1	
42	IC	74LS166F		1	
43	IC	74LS166F		1	
44	IC	74LS166F		1	
45	IC	74ALS374F		1	
46	IC	74HCT138F		1	
47	IC	74HCT245F		1	
48	IC	MM62256LFP-BT		1	
49	IC	MM62256LFP-BT		1	
50	IC	7407		1	
51		NOT ASSIGNED			
52		NOT ASSIGNED			
53	IC	74ALS32F		1	
54	IC	74LS166F		1	
55	IC	74LS166F		1	
56	IC	74LS166F		1	
57	IC	MM6716P-25		1	
58	IC	74128		1	DTP
59	IC	74HCT245F		1	
60	IC	74HCT541F		1	
61	IC	74HCT04F		1	
62	IC	74ALS32F		1	
63	IC	74ALS74F		1	

ANRITSU CORP. 57/10

Parts List of: A9 DISP CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
64	IC	74HCT541F		1	
65	IC	MM62256LFP-BT		1	
66	IC	MM62256LFP-BT		1	
67	IC	74ALS139F		1	
68	IC	74ALS139F		1	
69	IC	74HCT245F		1	
70	IC	MM62256LFP-BT		1	
71	IC	MM62256LFP-BT		1	
72	IC	74HCT573F		1	
73	IC	74HCT573F		1	
74	IC	74ALS10F		1	
75	IC	74HCT245F		1	
76	IC	74HCT245F		1	
77	IC	MM62256LFP-BT		1	
78	IC	74ALS00F		1	
79	IC	74HCT245F		1	
80	IC	MM62256LFP-BT		1	
81	IC	MM62256LFP-BT		1	
82	IC	74HCT245F		1	
83	IC	74HCT123F		1	
84	IC	74HCT245F		1	
85	IC	74LS166F		1	
86	IC	74LS166F		1	

ANRITSU CORP. 67/10

Parts List of: A9 DISP CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
87	IC	74HCT1374F		1	
88	IC	74HCT245F		1	
89	IC	MM62256LFP-BT		1	
90	IC	74ALS374F		1	
91	IC	74ALS02F		1	
92	IC	74ALS21F		1	
93	IC	74ALS08F		1	
94	IC	74LS166F		1	
95	IC	74LS166F		1	
96	IC	74LS166F		1	
97	IC	74HCT541F		1	
98	IC	74ALS74F		1	
99	IC	74HCT245F		1	
100	IC	MM62256LFP-BT		1	
101	IC	MM62256LFP-BT		1	
102	IC	7407		1	
103	IC	74HCT138F		1	
104	IC	74LS166F		1	
105	IC	74LS166F		1	
106	IC	74LS166F		1	
107	IC	74HCT245F		1	
108	IC	74ALS374F		1	
109	IC	74ALS74F		1	

ANRITSU CORP. 77/10

Parts List of: A9 DTSP CPU

Ref No	Part Code	Description	Rating	Qty	Note
R 1		RES ARRAY RRS-8-104JA	100KΩ ± 5%	1	
R 2		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 3		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 4		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 5		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 6		RES ARRAY RRS-8-104JA	100KΩ ± 5%	1	
R 7		RES ARRAY RRS-8-104JA	100KΩ ± 5%	1	
R 8		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 9		RES ARRAY RRS-8-104JA	100KΩ ± 5%	1	
R 10		RES ARRAY RRS-8-104JA	100KΩ ± 5%	1	
R 11		RES ARRAY RRS-8-104JA	100KΩ ± 5%	1	
R 12		RES ARRAY RRS-8-103JA	10KΩ ± 5%	1	
R 13		RES ARRAY RRS-8-103JA	10KΩ ± 5%	1	
R 14		NOT ASSIGNED			
R 15		RES ARRAY RRS-8-104JA	100KΩ ± 5%	1	
R 16		RES ARRAY RRS-8-104JA	100KΩ ± 5%	1	
R 17		METAL FILM RESISTOR RN73G2A104D	100KΩ ± 0.5%, 1/10W	1	
R 18		NOT ASSIGNED			
R 19		NOT ASSIGNED			
R 20		NOT ASSIGNED			
R 21		NOT ASSIGNED			
R 22		CARBON FILM RES ARD25T103J	10KΩ ± 5%, 1/4W	1	
R 23		CARBON FILM RES ARD25T103J	10KΩ ± 5%, 1/4W	1	

Parts List of: A9 DTSP CPU

Ref No	Part Code	Description	Rating	Qty	Note
R 24		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 25		NOT ASSIGNED			
R 26		NOT ASSIGNED			
R 27		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 28		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 29		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 30		METAL FILM RESISTOR RN73G2A472D	4.7KΩ ± 0.5%, 1/10W	1	
R 31		METAL FILM RESISTOR RN73G2A103D	10KΩ ± 0.5%, 1/10W	1	
R 32		METAL FILM RESISTOR RN73G2A103D	10KΩ ± 0.5%, 1/10W	1	
R 33		METAL FILM RESISTOR RN73G2A103D	10KΩ ± 0.5%, 1/10W	1	
R 34		METAL FILM RESISTOR RN73G2A104D	100KΩ ± 0.5%, 1/10W	1	
R 35		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 36		CERMET RESISTOR RK73M2A103J	10KΩ ± 5%, 1/10W	1	
R 37		CARBON FILM RES ARD25T101J	100Ω ± 5%, 1/4W	1	
R 38		CARBON FILM RES ARD25T391J	390Ω ± 5%, 1/4W	1	
R 39		METAL FILM RESISTOR RN73G2A162D	1.6KΩ ± 0.5%, 1/10W	1	
R 40		METAL FILM RESISTOR RN73G2A162D	1.6KΩ ± 0.5%, 1/10W	1	
R 41		METAL FILM RESISTOR RN73G2A821D	820Ω ± 0.5%, 1/10W	1	
R 42		METAL FILM RESISTOR RN73G2A821D	820Ω ± 0.5%, 1/10W	1	
R 43		METAL FILM RESISTOR RN73G2A391D	390Ω ± 0.5%, 1/10W	1	
R 44		METAL FILM RESISTOR RN73G2A391D	390Ω ± 0.5%, 1/10W	1	
R 45		METAL FILM RESISTOR RN73G2A201D	200Ω ± 0.5%, 1/10W	1	
R 46		METAL FILM RESISTOR RN73G2A201D	200Ω ± 0.5%, 1/10W	1	

Parts List of: A9 DTSP CPU

Ref No	Part Code	Description	Rating	Qty	Note
R 48		METAL FILM RESISTOR RN73G2A430D	430Ω ± 0.5%, 1/10W	1	
R 49		METAL FILM RESISTOR RN73G2A104D	100KΩ ± 0.5%, 1/10W	1	
R 50		METAL FILM RESISTOR RN73G2A104D	100KΩ ± 0.5%, 1/10W	1	
R 51		CARBON FILM RES ARD25T561J	560Ω ± 5%, 1/4W	1	
Z 1		CRYSTAL OSC TCO-7115(42.1M)	42MHz	1	
Z 2		CRYSTAL OSC EXD-3(12M)	12MHz	1	

Parts List of: A10 MAIN CPU

Ref No	Part Code	Description	Rating	Qty	Note
C 1		AL ELECTLYT CAP KMA35VB-22	22μF 35V	1	
C 2		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 3		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 4		AL ELECTLYT CAP KMA35VB-22	22μF 35V	1	
C 5		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 6		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 7		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 8		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 9		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 10		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 11		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 12		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 13		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 14		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 15		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 16		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 17		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 18		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 19		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 20		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 21		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 22		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	
C 23		CER CAP CK733F1H104Z (A B)	0.1μF .50V +80/-20%	1	

Parts List of: A10 MAIN CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 25	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 26	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 27	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 28	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 29	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 30	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 31	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 32	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 33	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 34	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 35	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 36	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 37	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 38	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 39	CK733F1M104Z	CER CAP (A 5)	0.1μF .50V +80/-20%	1	
C 40	AL ELECTLT CAP	22μF		1	
C 41	KMA35VB-22	35V		1	
C 43	CK732B1M103K	CER CAP (A 4)	0.01μF ±10% .50V	1	
J 1	SOCKET	CNP02F0210DL		1	
J 2	SOCKET	CNP02F0204DL		1	
J 3	CONNECTOR	FFC-3AHEP		1	
J 4	CONNECTOR	FFC-3AHEP		1	

DRAWING No. 34W968U 2/6
ANRITSU CORP.

Parts List of: A10 MAIN CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 1	74HCT245F	IC		1	
Q 2	74HCT245F	IC		1	
Q 3	74HCT245F	IC		1	W/SOCKET
Q 4	74HCT245F	IC		1	W/SOCKET
Q 5	74HCT245F	IC		1	W/SOCKET
Q 6	74HCT245F	IC		1	W/SOCKET
Q 7	74HCT245F	IC		1	W/SOCKET
Q 8	74HCT245F	IC		1	
Q 9	74HCT541F	IC		1	
Q 10	74HCT541F	IC		1	
Q 11	74HCT541F	IC		1	
Q 12	74HCT541F	IC		1	
Q 13	74HCT541F	IC		1	W/SOCKET
Q 14	74HCT541F	IC		1	W/SOCKET
Q 15	74HCT541F	IC		1	
Q 16	74ALS74F	IC		1	
Q 17	74ALS74F	IC		1	
Q 18	74ALS32F	IC		1	
Q 19	74ALS74F	IC		1	
Q 20	74ALS74F	IC		1	54P9750e
Q 21	74ALS74F	IC		1	
Q 22	74ALS32F	IC		1	
Q 23	74ALS32F	IC		1	

DRAWING No. 34W968U 3/6
ANRITSU CORP.

Parts List of: A10 MAIN CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 24	74ALS74F	IC		1	
Q 25	74ALS74F	IC		1	
Q 26	74ALS74F	IC		1	
Q 27	74ALS74F	IC		1	
Q 28	74ALS74F	IC		1	
Q 29	74ALS74F	IC		1	
Q 30	74ALS74F	IC		1	
Q 31	74ALS74F	IC		1	
Q 32	74ALS74F	IC		1	
Q 33	74ALS74F	IC		1	
Q 34	74ALS74F	IC		1	
Q 35	74ALS32F	IC		1	
Q 36	74ALS32F	IC		1	
Q 37	74ALS74F	IC		1	
Q 38	74ALS74F	IC		1	
Q 39	74ALS74F	IC		1	
Q 40	74ALS74F	IC		1	
Q 41	74ALS74F	IC		1	
Q 42	74ALS74F	IC		1	
Q 43	74ALS74F	IC		1	
Q 44	74ALS74F	IC		1	
Q 45	74ALS74F	IC		1	
Q 46	74ALS74F	IC		1	

DRAWING No. 34W968U 4/6
ANRITSU CORP.

Parts List of: A10 MAIN CPU

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 47	74ALS74F	IC		1	
Q 48	74ALS74F	IC		1	
Q 49	74ALS74F	IC		1	
Q 50	74ALS74F	IC		1	
R 1	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 2	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 3	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 4	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 5	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 6	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 7	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 8	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 9	RES ARRAY	RRS-0-103JA	10KΩ ±5%	1	
R 10	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 11	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 12	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 13	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 14	RES ARRAY	RRS-0-104JA	100KΩ ±5%	1	
R 15	CERMET RESISTOR	RR73M2A822J	8.2KΩ ±5% 1/10W	1	
R 16	CERMET RESISTOR	RR73M2A272J	2.7KΩ ±5% 1/10W	1	
R 17	CERMET RESISTOR	RR73M2A104J	100KΩ ±5% 1/10W	1	
R 18	CERMET RESISTOR	RR73M2A102J	1KΩ ±5% 1/10W	1	

DRAWING No. 34W968U 5/6
ANRITSU CORP.

Parts List of: A10 MAIN CPU

Parts List of: A11 COMMON BOARD

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Ref. No.	Part Code	Description	Rating	Qty	Note
R 19		METAL FILM RESISTOR 05174810MΩ F	10MΩ ± 1% 1/4W	1	
R 20		CERMET RESISTOR RK73M2A10J	10KΩ ± 5% 1/10W	1	
R 21		CERMET RESISTOR RK73M2A10J	10KΩ ± 5% 1/10W	1	
R 22		METAL FILM RESISTOR RN73G2A3010	300Ω ± 0.5% 1/10W	1	
R 23		METAL FILM RESISTOR RN73G2A1230	12KΩ ± 0.5% 1/10W	1	
R 24		METAL FILM RESISTOR RN73G2A1030	10KΩ ± 0.5% 1/10W	1	
R 25		CERMET RESISTOR RK73M2A10J	10KΩ ± 5% 1/10W	1	
R 26		CARBON FILM RES MRD25T561J	560Ω ± 5% 1/4W	1	
Z 1		BATTERY BR3032-16FR	3V	1	
Z 2		CRYSTAL OSC IEX0-3112M1	12MHZ	1	

ANRITSU CORP.

Ref. No.	Part Code	Description	Rating	Qty	Note
J 1		PLUG CNP02HD2100S		1	
J 2		PLUG CNP02HD2100S		1	
J 3		PLUG CNP02HD2100S		1	
J 4		RECEPTACLE CNP02FO2100L		1	
J 5		PLUG CNP02HD2040S		1	
J 6		RECEPTACLE CNP02FO2040L		1	
J 7		PLUG CNP02HD2040S		1	
J 8		PLUG CNP02HD2040S		1	
J 9		PLUG DFN41612-2058		1	
J 10		PLUG DF18-5P2.5DS(01)		1	

ANRITSU CORP.

Parts List of: A14 PMC BOARD

Parts List of: A14 PMC BOARD

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		AL ELECTLY CAP KMA35VR-100	100μ F. 16V	1	
C 2		AL ELECTLY CAP KMA35VR-22	22μ F. 35V	1	
C 3		AL ELECTLY CAP KMA35VR-22	22μ F. 35V	1	
C 4		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 5		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 6		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 7		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 8		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 9		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 10		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 11		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 12		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 13		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 14		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 15		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 16		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 17		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 18		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 19		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 20		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 21		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 22		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 23		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	

ANRITSU CORP.

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 25		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 26		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 27		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 28		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 29		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 30		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 31		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 32		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 33		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 34		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 35		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 36		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 37		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 38		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 39		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 40		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 41		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
C 42		CER CAP CK733F1H104Z (A 5)	0.1μ F. 50V +80/-20%	1	
J 1		CONNECTOR CNP02HD2100S		1	
J 2		CONNECTOR IB01R		1	
J 3		PLUG DF18-8P2.5DS(01)		1	

ANRITSU CORP.

Parts List of: A14 PMC BOARD

Ref. No.	Part Code	Description	Rating	Qty	Note
J 1		CONNECTOR FFC-3LAMEP		1	
J 5		CONNECTOR FFC-3LAMEP		1	
J 6		CONNECTOR FFC-3LAMEP		1	
J 7		CONNECTOR FFC-3LAMEP CABLE 34J97768		1	
K 1		RELAY 782-L2-12V		1	
Q 1		IC 74NCT541F		1	
Q 2		IC 74ALS139F		1	
Q 3		IC 74ALS139F		1	
Q 4		IC 74ALS139F		1	
Q 5		IC 74ALS139F		1	
Q 6		IC 74ALS139F		1	
Q 7		IC 74ALS139F		1	
Q 8		IC 74ALS139F		1	
Q 9		IC 74ALS139F		1	
Q 10		IC 74ALS139F		1	
Q 11		IC 74ALS139F		1	
Q 12		IC 74ALS139F		1	
Q 13		IC 74ALS139F		1	
Q 14		IC 74ALS139F		1	
Q 15		IC 74ALS139F		1	

ANRITSU CORP. 5/8

Parts List of: A14 PMC BOARD

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 16		IC 74ALS139F		1	
Q 17		IC 74ALS139F		1	
Q 18		IC 74ALS139F		1	
Q 19		IC 74ALS139F		1	
Q 20		IC 74ALS139F		1	
Q 21		IC 74ALS139F		1	
Q 22		IC 74ALS139F		1	
Q 23		IC 74ALS139F		1	
Q 24		IC 74ALS139F		1	
Q 25		IC 74ALS139F		1	
Q 26		IC 74ALS139F		1	
Q 27		IC 74ALS139F		1	
Q 28		IC 74ALS139F		1	
Q 29		IC 74ALS139F		1	
Q 30		IC 74ALS139F		1	
Q 31		IC 74ALS139F		1	
Q 32		IC 74ALS139F		1	
Q 33		IC 74ALS139F		1	
Q 34		IC 74ALS139F		1	
Q 35		IC 74ALS139F		1	
Q 36		IC 74ALS139F		1	
Q 37		IC 74ALS139F		1	
Q 38		IC 74ALS139F		1	

ANRITSU CORP. 6/8

Parts List of: A14 PMC BOARD

Ref. No.	Part Code	Description	Rating	Qty	Note
R 39		IC 74ALS112F		1	
R 40		IC 74ALS112F		1	
R 41		IC 74ALS112F		1	
R 1		CERMET RESISTOR RK73M2A103J	10KΩ	1	
R 2		CERMET RESISTOR RK73M2A223J	22KΩ	1	
R 3		METAL FILM RESISTOR RN73M2A471J	470Ω	1	
R 4		METAL FILM RESISTOR RN73M2A471J	470Ω	1	
R 5		METAL FILM RESISTOR RN73M2A103D	10KΩ	1	
R 6		METAL FILM RESISTOR RN73M2A123D	12KΩ	1	
R 7		METAL FILM RESISTOR RN73M2A391D	390Ω	1	
R 8		CERMET RESISTOR RK73M2A471J	470Ω	1	
R 9		CERMET RESISTOR RK73M2A471J	470Ω	1	
R 10		CERMET RESISTOR RK73M2A471J	470Ω	1	
R 11		CERMET RESISTOR RK73M2A471J	470Ω	1	
R 12		CARBON FILM RES ARD25T561J	560Ω	1	
R 13		CARBON FILM RES ARD25T561J	560Ω	1	
R 14		CARBON FILM RES ARD25T221J	220Ω	1	
R 15		CERMET RESISTOR RK73M2A104J	100KΩ	1	
R 16		CERMET RESISTOR RK73M2A331J	330Ω	1	
R 17		CERMET RESISTOR RK73M2A331J	330Ω	1	
R 18		CERMET RESISTOR RK73M2A331J	330Ω	1	
R 19		CERMET RESISTOR RK73M2A331J	330Ω	1	

ANRITSU CORP. 5/8

Parts List of: A14 PMC BOARD

Ref. No.	Part Code	Description	Rating	Qty	Note
R 20		CERMET RESISTOR RK73M2A104J	100KΩ	1	
R 21		RES ARRAY EXB-M16P104J	± 5% / 1/10W 3KΩ / 6.2KΩ	1	
R 22		CERMET RESISTOR RK73M2A103J	10KΩ	1	
R 23		CERMET RESISTOR RK73M2A122J	1.2KΩ	1	
R 24		CERMET RESISTOR RK73M2A102J	1KΩ	1	
R 25		CERMET RESISTOR RK73M2A223J	22KΩ	1	
R 26		RES ARRAY EXB-M16P104J	100KΩ	1	
R 27		RES ARRAY EXB-M16P104J	3KΩ / 6.2KΩ	1	
R 28		RES ARRAY EXB-M16P104J	100KΩ	1	
R 29		RES ARRAY EXB-M16P104J	3KΩ / 6.2KΩ	1	
R 30		RES ARRAY EXB-M16P104J	100KΩ	1	
R 31		RES ARRAY EXB-M16P104J	3KΩ / 6.2KΩ	1	
R 32		CERMET RESISTOR RK73M2A102J	1KΩ	1	
R 33		CERMET RESISTOR RK73M2A103J	± 5% / 1/10W 10KΩ	1	
R 34		CERMET RESISTOR RK73M2A102J	1KΩ	1	
R 35		CERMET RESISTOR RK73M2A104J	100KΩ	1	
R 36		CERMET RESISTOR RK73M2A103J	10KΩ	1	
R 37		CERMET RESISTOR RK73M2A103J	± 5% / 1/10W 10KΩ	1	
R 38		CERMET RESISTOR RK73M2A102J	1KΩ	1	
R 39		METAL FILM RESISTOR RN73G2A103D	10KΩ	1	
R 40		METAL FILM RESISTOR RN73G2A391D	390Ω	1	
R 41		METAL FILM RESISTOR RN73G2A123D	12KΩ	1	
R 42		CERMET RESISTOR RK73M2A103J	± 5% / 1/10W 10KΩ	1	

ANRITSU CORP. 6/8

Parts List of: A14 PNC BOARD

Parts List of: A14 PNC BOARD

Ref. No.	Part Code	Description	Rating	Qty	Note
R 43		METAL FILM RESISTOR	8.2KΩ	1	
R 44		METAL FILM RESISTOR	2.7KΩ	1	
R 45		CERMET RESISTOR	± 0.5% 1/10W	1	
R 46		CERMET RESISTOR	± 5% 1/10W	1	
R 47		CERMET RESISTOR	± 5% 1/10W	1	
R 48		METAL FILM RESISTOR	2.7KΩ	1	
R 49		METAL FILM RESISTOR	8.2KΩ	1	
R 50		CERMET RESISTOR	± 0.5% 1/10W	1	
R 51		CERMET RESISTOR	± 5% 1/10W	1	
R 52		CERMET RESISTOR	± 5% 1/10W	1	
R 53		CERMET RESISTOR	± 5% 1/10W	1	
R 54		CERMET RESISTOR	± 5% 1/10W	1	
R 55		CERMET RESISTOR	± 5% 1/10W	1	
R 56		CERMET RESISTOR	± 5% 1/10W	1	
R 57		CERMET RESISTOR	± 5% 1/10W	1	
R 58		CERMET RESISTOR	± 5% 1/10W	1	
R 59		CERMET RESISTOR	± 5% 1/10W	1	
R 60		CERMET RESISTOR	± 5% 1/10W	1	
R 61		CERMET RESISTOR	± 5% 1/10W	1	
R 62		CERMET RESISTOR	± 5% 1/10W	1	
R 63		CERMET RESISTOR	± 5% 1/10W	1	
R 64		CERMET RESISTOR	± 5% 1/10W	1	
R 65		CERMET RESISTOR	± 5% 1/10W	1	

Ref. No.	Part Code	Description	Rating	Qty	Note
R 67		CERMET RESISTOR	± 5% 1/10W	1	
R 68		CERMET RESISTOR	± 5% 1/10W	1	
R 69		CERMET RESISTOR	± 5% 1/10W	1	
R 70		CERMET RESISTOR	± 5% 1/10W	1	
R 71		CERMET RESISTOR	± 5% 1/10W	1	
R 72		CERMET RESISTOR	± 5% 1/10W	1	
R 73		CERMET RESISTOR	± 5% 1/10W	1	
R 74		CERMET RESISTOR	± 5% 1/10W	1	
1		POWER BUTTON SWITCH		1	
2		BATTERY	1V	1	
2		CRYSTAL OSC	12MHz	1	
2		BATTERY	1V	1	

Parts List of: A15 FRONT PANEL

Parts List of: A15 FRONT PANEL

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		AL ELECTLY CAP	32μ F	1	
C 2		AL ELECTLY CAP	33μ F	1	
C 3		AL ELECTLY CAP	33μ F	1	
C 4		AL ELECTLY CAP	6.8μ F	1	
C 5		CER CAP	± 5% 50V	1	
C 6		CER CAP	± 5% 50V	1	
C 7		CER CAP	± 5% 50V	1	
C 8		CER CAP	± 5% 50V	1	
C 9		CER CAP	± 5% 50V	1	
C 10		CER CAP	± 5% 50V	1	
C 11		CER CAP	± 5% 50V	1	
C 12		CER CAP	± 5% 50V	1	
C 13		CER CAP	± 5% 50V	1	
C 14		CER CAP	± 5% 50V	1	
C 15		CER CAP	± 5% 50V	1	
C 16		CER CAP	± 5% 50V	1	
C 17		CER CAP	± 5% 50V	1	
C 18		CER CAP	± 5% 50V	1	
C 19		CER CAP	± 5% 50V	1	
C 20		CER CAP	± 5% 50V	1	
C 21		CER CAP	± 5% 50V	1	
C 22		CER CAP	± 5% 50V	1	
C 23		CER CAP	± 5% 50V	1	

Ref. No.	Part Code	Description	Rating	Qty	Note
C 24		CER CAP	0.1μ F 50V	1	
C 25		CER CAP	± 5% 50V	1	
C 26		CER CAP	± 5% 50V	1	
C 27		CER CAP	± 5% 50V	1	
C 28		CER CAP	± 5% 50V	1	
C 29		CER CAP	± 5% 50V	1	
C 30		CER CAP	± 5% 50V	1	
C 31		CER CAP	± 5% 50V	1	
C 32		CER CAP	± 5% 50V	1	
C 33		CER CAP	± 5% 50V	1	
C 34		CER CAP	± 5% 50V	1	
C 35		CER CAP	± 5% 50V	1	
C 36		CER CAP	± 5% 50V	1	
J 1		CONNECTOR		1	
J 2		PLUG		1	
L 1		INDUCTOR	3.3μ H ± 10%	1	
L 2		INDUCTOR	3.3μ H ± 10%	1	
IC 1		IC		1	
IC 2		IC		1	

Parts List of: A15 FRONT PANEL

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 3	IC	74ALS534F		1	
Q 4	IC	74HC1541F		1	
Q 5	IC	74HC1541F		1	
Q 6	IC	74HC32F		1	
Q 7	IC	74HC32F		1	
Q 8	IC	74HC00F		1	
Q 9	IC	74HC14F		1	
Q 10	IC	74HC04F		1	
Q 11	IC	74HC04F		1	
Q 12	IC	74HC10F		1	
Q 13	IC	74AC74F		1	
Q 14	IC	74AC74F		1	
Q 15	IC	74HC123AF		1	
Q 16	IC	74HC553F		1	
Q 17	IC	74HC148F		1	
Q 18	IC	74HC148F		1	
Q 19	IC	74HC148F		1	
Q 20	IC	74HC148F		1	
Q 21	IC	74HC148F		1	
Q 22	IC	74HC148F		1	
Q 23	IC	74HC148F		1	
Q 24	IC	74HC148F		1	
Q 25	IC	74HC148F		1	

ANRITSU CORP.

Parts List of: A15 FRONT PANEL

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 26	IC	74HC148F		1	
Q 27	IC	74HC30F		1	
Q 28	IC	74HC30F		1	
Q 29	IC	74HC30F		1	
Q 30	LED	HL6480M		1	W/LED HOLDER
Q 31	PHOTO TRANSISTOR	PT480M		1	
Q 32	PHOTO TRANSISTOR	PT480M		1	
Q 33	LED	HL6480M		1	
Q 34	LED	HL6480M		1	
Q 35	IC	PM4701AC		1	
Q 36	IC	74HC56F		1	
Q 37	LED	TL6226		1	W/LED HOLDER
Q 38	LED	TL6226		1	W/LED HOLDER
Q 39	LED	TL6226		1	W/LED HOLDER
Q 40	LED	TL6226		1	W/LED HOLDER
R 1	RES ARRAY	RRS-B-104JA	100KΩ ± 5%	1	
R 2	RES ARRAY	RRS-B-104JA	100KΩ ± 5%	1	
R 3	RES ARRAY	RRS-B-104JA	100KΩ ± 5%	1	
R 4	RES ARRAY	RRS-B-104JA	100KΩ ± 5%	1	
R 5	RES ARRAY	RRS-B-104JA	100KΩ ± 5%	1	
R 6	RES ARRAY	RRS-B-104JA	100KΩ ± 5%	1	
R 7	RES ARRAY	RRS-B-104JA	100KΩ ± 5%	1	

ANRITSU CORP.

Parts List of: A15 FRONT PANEL

Ref. No.	Part Code	Description	Rating	Qty	Note
R 8	RES ARRAY	RRS-B-104JA	100KΩ ± 5%	1	
R 9	RES ARRAY	RRS-B-104JA	100KΩ ± 5%	1	
R 10	RES ARRAY	RRS-B-104JA	100KΩ ± 5%	1	
R 11	RES ARRAY	RRS-B-104JA	100KΩ ± 5%	1	
R 12	CERMET RESISTOR	RK73M2A223J	22KΩ ± 5%, 1/10W	1	
R 13	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5%, 1/10W	1	
R 14	CERMET RESISTOR	RK73M2A104J	100KΩ ± 5%, 1/10W	1	
R 15	CERMET RESISTOR	RK73M2A562J	5.6KΩ ± 5%, 1/10W	1	
R 16	CERMET RESISTOR	RK73M2A502J	5.0KΩ ± 5%, 1/10W	1	
R 17	CERMET RESISTOR	RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 18	CERMET RESISTOR	RK73M2A102J	1KΩ ± 5%, 1/10W	1	
R 19	CERMET RESISTOR	RK73M2A332J	3.3KΩ ± 5%, 1/10W	1	
R 20	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 21	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 22	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 23	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 24	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 25	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 26	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 27	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 28	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 29	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 30	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	

ANRITSU CORP.

Parts List of: A15 FRONT PANEL

Ref. No.	Part Code	Description	Rating	Qty	Note
R 31	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 32	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 33	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 34	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 35	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 36	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 37	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 38	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 39	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 40	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 41	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 42	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 43	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 44	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 45	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 46	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
R 47	CERMET RESISTOR	RK73M2A101J	100Ω ± 5%, 1/10W	1	
S 1	SWITCH	B3F-1100		1	
S 2	SWITCH	B3F-1100		1	
S 3	SWITCH	B3F-1100		1	
S 4	SWITCH	B3F-1100		1	
S 5	SWITCH	B3F-1100		1	

ANRITSU CORP.

Parts List of: A17 MOTHER BOARD

Ref. No.	Part Code	Description	Rating	Qty	Note
J 1		PLUG DF1B-5P2.5DS(O1)		1	
J 2		PLUG DF1B-8P2.5DS(O1)		1	
J 3		PLUG DF1B-10P2.5DS(O1)		1	
J 4		PLUG DF1B-5P2.5DS(O1)		1	
J 5		PLUG DF1B-2P2.5DS(O1)		1	
J 6		JACK CNP02H020A05		1	
J 7		JACK D1N41612-325B		1	
J 8		JACK D1N41612-325B		1	
J 9		JACK D1N41612-325B		1	
J 10		JACK D1N41612-325B		1	
J 11		CABLE 34J98005		1	
J 12		PLUG DF1B-5P2.5DS(O1)		1	
J 13		PLUG DF1B-8P2.5DS(O1)		1	

No. 0073-1088 11
 Drawing No. 34U97269 1/1
 ANRITSU CORP.

Parts List of: A18 LPF65W UNIT

Ref. No.	Part Code	Description	Rating	Qty	Note
A 1		ISOL. AMP		1	34W97067
A 2		10MHZ XTAL OSC		1	34W97065
A 3		LPF65W CONT		1	34W98423
AT 1		10DB PAD		1	439H32078G
AT 2		20DB PAD		1	439H32078J
C 1		CER CAP TSP040CXR1H102Y	1000p F 50V	1	
C 2		CER CAP ISF040CXR1H102Y	1000p F 50V	1	
J 1		JACK HRM-3105		1	
J 2		PLUG HRM-304B		1	
J 3		CABLE 342W98700(A)		1	
J 4		CABLE 342W98700(B)		1	
J 5		NOT ASSIGNED			
J 6		CABLE 342W98699(A)		1	
J 7		CABLE 342W98699(B)		1	
S 1		SW1			429H14682B
S 2		SW2			429H14682B

No. 0073-1088 11
 Drawing No. 34U97969 1/2
 ANRITSU CORP.

Parts List of: A19 LPF65W UNIT

Ref. No.	Part Code	Description	Rating	Qty	Note
U 1		SEMI-RIGID CABLE		1	
U 2		SEMI-RIGID CABLE		1	
U 3		SEMI-RIGID CABLE		1	
U 4		SEMI-RIGID CABLE		1	
U 5		SEMI-RIGID CABLE		1	
U 6		SEMI-RIGID CABLE		1	
Z 1		8.66HZ LPF		1	439H38093E
Z 2		4.26HZ LPF		1	439H38093G

No. 0073-1088 11
 Drawing No. 34U97969 2/2
 ANRITSU CORP.

Parts List of: A18-A1 ISOL AMP

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP C0732CJ1H030C (M b)	5p F, 50V ± 0.25p F	1	
C 2		CER CAP C0732CJ1H030C (M b)	5p F, 50V ± 0.25p F	1	
C 3		CER CAP C0732B1K222K (J 3)	2200p F ± 10%, 50V	1	
C 4		CER CAP C0732CJ1H030C (M b)	5p F, 50V ± 0.25p F	1	
C 5		CER CAP C0732CJ1H030C (M b)	5p F, 50V ± 0.25p F	1	
P 1		IC µ PC110B(H)		1	

No. 0073-1088 11
 Drawing No. 34U97067 1/1
 ANRITSU CORP.

Parts List of: A18-A2 10MHz REF. STANDARD

Parts List of: A18-A3 LPF&SM CONT

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		AL ELECTLY CAP KMA16VB-100	100µ F 10V	1	
C 2		CER CAP CK73301H104K	0.1µ F ± 10% 50V	1	
J 1		CONNECTOR 270P-0J		1	
L 1		INDUCTOR LF8-220K	22µ H ± 10%	1	
Z 1		CRYSTAL OSC TCO-6276(10MHZ)		1	

No. 007-988 H
 DRAWING No. 340971105
 ANRITSU CORP.

Ref. No.	Part Code	Description	Rating	Qty	Note
J 1		CABLE DF18-5S-2.5R24-40C-	5P	1	
J 2		PLUG DF18-2P-2.5DS	2P	1	
J 3		PLUG DF18-2P-2.5DS	2P	1	
R 1		IC 74LS04F		1	
Z 1		IC UL2		1	

No. 007-988 H
 DRAWING No. 34098623
 ANRITSU CORP.

Parts List of: A20 LED

Parts List of: A21 FILTER BOARD

Ref. No.	Part Code	Description	Rating	Qty	Note
J 1		PLUG DF18-8P2.5DSA		1	
R 1		LED LN342GPH		1	W/LED HOLDER
R 2		LED LN442YPH		1	W/LED HOLDER
R 3		LED LN242RPH		1	W/LED HOLDER
R 1		VARIABLE RESISTOR RG161P1538500K	500KΩ	1	

No. 007-988 H
 DRAWING No. 34095807
 ANRITSU CORP.

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		AL ELECTLY CAP SXF16VB120	120µ F 16V	1	
C 2		AL ELECTLY CAP SXF25VB39	39µ F 25V	1	
C 3		CER CAP CK733F1H104Z (A 5)	0.1µ F 50V +80/-20%	1	
C 4		AL ELECTLY CAP SXF25VB39	39µ F 25V	1	
C 5		NOT ASSIGNED			
C 6		CER CAP CK733F1H104Z (A 5)	0.1µ F 50V +80/-20%	1	
C 7		AL ELECTLY CAP SXF25VB39	39µ F 25V	1	
C 8		NOT ASSIGNED			
C 9		NOT ASSIGNED			
C 10		CER CAP CK733F1H104Z (A 5)	0.1µ F 50V +80/-20%	1	
C 11		AL ELECTLY CAP SXF25VB39	39µ F 25V	1	
C 12		NOT ASSIGNED			
C 13		CER CAP CK733F1H104Z (A 5)	0.1µ F 50V +80/-20%	1	
C 14		AL ELECTLY CAP SXF25VB39	39µ F 25V	1	
J 1		PLUG DF18-5P2.50S	5P	1	
J 2		PLUG DF18-8P2.50S	8P	1	
L 1		INDUCTOR SP0408-4R7K	4.7µ H ± 10%	1	
L 2		INDUCTOR SP0408-3R3K	3.3µ H ± 10%	1	
R 1		TRANSISTOR 2SA1008		1	

No. 007-988 H
 DRAWING No. 34095514
 ANRITSU CORP.

Parts List of: A21 FILTER BOARD

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 2		TRANSISTOR 2SA1008		1	
Q 3		IC LM2940CT15		1	
Q 4		IC LM2940CT05		1	
H 1		CARBON FILM RES ARD25T101J	100Ω ± 5%, 1/4W	1	
R 2		CARBON FILM RES ARD25T101J	100Ω ± 5%, 1/4W	1	

Checked by: [Signature]
Approved by: [Signature]
Dep. [Signature]

Selected at factory
Drawing No. 3449516 2/2
ANRITSU CORP.

Parts List of: A12 INTERFACE(2):OPT(03)

Ref. No.	Part Code	Description	Rating	Qty	Note
C 1		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 2		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 3		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 4		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 5		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 6		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 7		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 8		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 9		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 10		AL ELECTLY CAP KMA35VB-22	22μ F 35V	1	
C 11		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 12		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 13		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 14		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 15		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 16		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 17		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
C 18		CER CAP CK924F1H104Z	0.1μ F, 50V +80/-20%	1	
J 1		JACK CMP02F0204BL		1	
J 2		CABLE 57LE-6P18		1	
J 3		PLUG CNF3-40P-2.54US	40P	1	

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Dep. [Signature]

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Parts List of: A12 INTERFACE(2):OPT(03)

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 1		IC 74NCT541		1	
Q 2		IC TC74HCD7AP		1	
Q 3		IC 74NCT540		1	
Q 4		IC 74ALS175		1	
Q 5		IC 74ALS175		1	
Q 6		IC 74NCT540		1	
Q 7		IC 78L05		1	
Q 8		DIODE 1S953		1	
Q 9		IC 74ALS374		1	
Q 10		IC 74NCT561		1	
Q 11		IC 74NCT245		1	
Q 12		IC 74NCT541		1	
Q 13		IC 74LS74		1	
Q 14		IC 74ALS244		1	
Q 15		IC 74ALS244		1	
Q 16		IC 74NCT138		1	
Q 17		IC 74NCT138		1	
Q 18		IC 74LS74		1	
Q 19		IC 74NCT04		1	
Q 20		IC 74ALS374		1	
Q 21		IC 74NCT138		1	
Q 22		IC 74LS541		1	
Q 23		IC 74LS08		1	

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Parts List of: A12 INTERFACE(2):OPT(03)

Ref. No.	Part Code	Description	Rating	Qty	Note
Q 24		IC 74LS74		1	
Q 25		IC TMS9914ANL		1	
Q 26		IC SN75160AN		1	
Q 27		IC 74NCT138		1	
Q 28		IC 74HC32		1	
Q 29		IC 74HC74		1	
Q 30		IC SN75162BN		1	
R 1		RES ARRAY RRS-8-104JA	100KΩ ± 5%	1	
R 2		CARBON FILM RES ARD25T103J	10KΩ ± 5%, 1/4W	1	
R 3		RES ARRAY RRS-8-103JA	10KΩ ± 5%	1	
R 4		RES ARRAY RRS-8-104JA	100KΩ ± 5%	1	
R 5		RES ARRAY RRS-8-104JA	100KΩ ± 5%	1	
R 6		RES ARRAY RRS-8-103JA	10KΩ ± 5%	1	
R 7		CARBON FILM RES ARD25T103J	10KΩ ± 5%, 1/4W	1	
R 8		CARBON FILM RES ARD25T103J	10KΩ ± 5%, 1/4W	1	
R 9		CARBON FILM RES ARD25T103J	10KΩ ± 5%, 1/4W	1	
R 10		CARBON FILM RES ARD25T103J	10KΩ ± 5%, 1/4W	1	
R 11		CARBON FILM RES ARD25T103J	10KΩ ± 5%, 1/4W	1	
R 12		CARBON FILM RES ARD25T820J	82Ω ± 5%, 1/4W	1	
R 13		CARBON FILM RES ARD25T820J	82Ω ± 5%, 1/4W	1	

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Approved by: [Signature]
Dep. [Signature]

Selected at factory
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Parts List of: A12 INTERFACE(2):OPT(03)

Ref. No.	Part Code	Description	Rating	Qty	Note
1	RIP SMT1:W R15PGA-75			1	
2		CRYSTAL OSC EXO-3(20M)		1	

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Parts List of: A13 INTERFACE(3):OPT(02)

Ref. No.	Part Code	Description	Rating	Qty	Note
1		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
2		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
3		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
4		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
5		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
6		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
7		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
8		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
9		AL ELECTLY CAP KMA35VB-22	22μ F 35V	1	
10		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
11		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
12		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
13		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
14		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
15		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
16		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
17		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
18		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
19		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
20		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
21		AL ELECTLY CAP KMA35VB-4R7	4.7μ F 35V	1	
22		AL ELECTLY CAP KMA35VB-10	10μ F 35V	1	
23		AL ELECTLY CAP KMA35VB-4R7	4.7μ F 35V	1	

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Parts List of: A13 INTERFACE(3):OPT(02)

Ref. No.	Part Code	Description	Rating	Qty	Note
24		AL ELECTLY CAP KMA35VB-10	10μ F 35V	1	
25		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
26		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
27		CER CAP CK733F1H104Z (A 5)	0.1μ F.50V +80/-20%	1	
J 1		JACK CNP02F0204DL		1	
J 2		PLUG CNP3-26P-2.540S	26P	1	
J 3		CABLE 57LR-GP1B		1	
Q 1		IC 74HC1541F		1	
Q 2		IC 74HC1374F		1	
Q 3		IC 74HC1374F		1	
Q 4		IC 74HC1540F		1	
Q 5		IC 74HC1541F		1	
Q 6		IC 74HC74F		1	
Q 7		IC 74HC08F		1	
Q 8		IC 74HC1541F		1	
Q 9		IC 74HC1374F		1	
Q 10		IC 74HC1374F		1	
Q 11		IC 74HC138F		1	
Q 12		IC 74HC1540F		1	
Q 13		IC 74HC07AF		1	
Q 14		IC 74HC08F		1	

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Parts List of: A13 INTERFACE(3):OPT(02)

Ref. No.	Part Code	Description	Rating	Qty	Note
15		IC 74HC124F		1	
16		IC 74HC158F		1	
17		IC 74HC138F		1	
18		IC 74HC104F		1	
19		IC 74HC174F		1	
20		IC 74HC125F		1	
21		IC N PDB185AHC-2		1	W/SOCKET
22		IC 74HC1374F		1	
23		IC CK2605		1	
24		IC SON26B1ACIN40		1	
25		IC 74HC125F		1	
26		IC IM59914ANL		1	
27		IC SN75100AN		1	
28		IC HM77C256G-20		1	W/SOCKET
29		IC MAX238CWG		1	
30		IC SN75162BN		1	
31		IC HM62256LP-81		1	
32		IC 74HC104F		1	

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Parts List of: A13 INTERFACE(3):OPT(D2)

Parts List of: A12 INTERFACE(3):OPT(D2)

Ref. No.	Part Code	Description	Rating	Qty	Note
33		74HC74F		1	
34		74HC32F		1	
35		74HC138F		1	
1		RES ARRAY RNS-B-104JA	100KΩ ± 5%	1	
2		RES ARRAY RNS-B-103JA	10KΩ ± 5%	1	
3		RES ARRAY RNS-B-104JA	100KΩ ± 5%	1	
4		RES ARRAY RNS-B-104JA	100KΩ ± 5%	1	
5		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
6		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
7		RES ARRAY RNS-B-103JA	10KΩ ± 5%	1	
8		RES ARRAY RNS-B-103JA	10KΩ ± 5%	1	
9		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
10		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
11		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
12		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
13		CERMET RESISTOR RK73M2A221J	220Ω ± 5% 1/10W	1	
14		CERMET RESISTOR RK73M2A332J	330Ω ± 5% 1/10W	1	
15		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
16		CERMET RESISTOR RK73M2A103J	10KΩ ± 5% 1/10W	1	
1		REP SWITCH S1C8RA-72		1	

Ref. No.	Part Code	Description	Rating	Qty	Note
2		CRYSTAL OSC FXD-3414-7450M1		1	
2		CRYSTAL OSC FXD-3420M1		1	

Parts List of: A16 A: 10MHz REF-OPT(D2)

Ref. No.	Part Code	Description	Rating	Qty	Note
1		AL ELECTLYT CAP KPR10V-100	100μF 16V	1	
2		TEMP CAP C6755M3H104K	± 10% 50V	1	
3		CABLE 270Y-70		1	
4		INDUCTOR LFB-220K	22μH ± 10%	1	
5		CRYSTAL OSC 1C0-6320(10MHz)		1	

