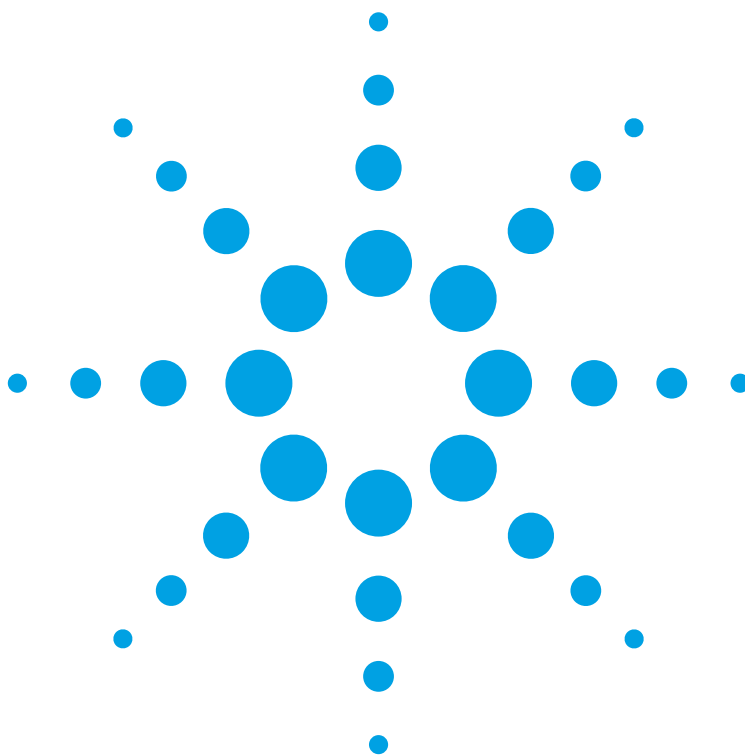


Agilent 3499A/B/C

Switch/Control System



Service Manual
(Schematics Only)



Agilent Technologies

Legal and Safety Information

AGILENT TECHNOLOGIES WARRANTY STATEMENT

PRODUCT: Agilent 3499A/B/C Switch/Control System

DURATION OF WARRANTY: 1 year

1. Agilent Technologies warrants Agilent hardware, accessories and supplies against defects in materials and workmanship for the period specified above. If Agilent receives notice of such defects during the warranty period, Agilent will, at its option, either repair or replace products which prove to be defective. Replacement products may be either new or like-new.

2. Agilent Technologies warrants that Agilent software will not fail to execute its programming instructions, for the period specified above, due to defects in material and workmanship when properly installed and used. If Agilent receives notice of such defects during the warranty period, Agilent will replace software media which does not execute its programming instructions due to such defects.

3. Agilent Technologies does not warrant that the operation of Agilent products will be interrupted or error free. If Agilent is unable, within a reasonable time, to repair or replace any product to a condition as warranted, customer will be entitled to a refund of the purchase price upon prompt return of the product.

4. Agilent Technologies products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.

5. The warranty period begins on the date of delivery or on the date of installation if installed by Agilent. If customer schedules or delays Agilent installation more than 30 days after delivery, warranty begins on the 31st day from delivery.

6. Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by Agilent, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.

7. TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTIES ARE EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND AGILENT SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE.

8. Agilent Technologies will be liable for damage to tangible property per incident up to the greater of \$300,000 or the actual amount paid for the product that is the subject of the claim, and for damages for bodily injury or death, to the extent that all such damages are determined by a court of competent jurisdiction to have been directly caused by a defective Agilent product.

9. TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL AGILENT OR ITS SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE.

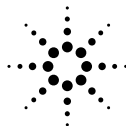
FOR CONSUMER TRANSACTIONS IN AUSTRALIA AND NEW ZEALAND: THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

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Agilent Technologies

Agilent 3499A/B/C Switch/Control System Service Manual
Rev. E

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Documentation History

All Editions and Updates of this manual and their creation date are listed below. The first Edition of the manual is Edition 1. The Edition number increments by 1 whenever the manual is revised. Updates, which are issued between Editions, contain replacement pages to correct or add additional information to the current Edition of the manual. Whenever a new Edition is created, it will contain all of the Update information for the previous Edition. Each new Edition or Update also includes a revised copy of this documentation history page.

Rev. A January 2000
Rev. B December 2000
Rev. C April 2002
Rev. D March 2003
Rev. E March 2009

Safety Symbols



Instruction manual symbol affixed to product. Indicates that the user must refer to the manual for specific **WARNING** or **CAUTION** information to avoid personal injury or damage to the product.



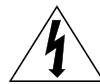
Alternating current (AC)



Direct current (DC).



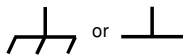
Indicates the field wiring terminal that must be connected to earth ground before operating the equipment—protects against electrical shock in case of fault.



Indicates hazardous voltages.

WARNING

Calls attention to a procedure, practice, or condition that could cause bodily injury or death.



Frame or chassis ground terminal—typically connects to the equipment's metal frame.

CAUTION

Calls attention to a procedure, practice, or condition that could possibly cause damage to equipment or permanent loss of data.

WARNINGS

The following general safety precautions must be observed during all phases of operation, service, and repair of this product. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the product. Agilent Technologies Company assumes no liability for the customer's failure to comply with these requirements.

Ground the equipment: For Safety Class 1 equipment (equipment having a protective earth terminal), an uninterruptible safety earth ground must be provided from the mains power source to the product input wiring terminals or supplied power cable.

DO NOT operate the product in an explosive atmosphere or in the presence of flammable gases or fumes.

For continued protection against fire, replace the line fuse(s) only with fuse(s) of the same voltage and current rating and type. DO NOT use repaired fuses or short-circuited fuse holders.

Keep away from live circuits: Operating personnel must not remove equipment covers or shields. Procedures involving the removal of covers or shields are for use by service-trained personnel only. Under certain conditions, dangerous voltages may exist even with the equipment switched off. To avoid dangerous electrical shock, DO NOT perform procedures involving cover or shield removal unless you are qualified to do so.

DO NOT operate damaged equipment: Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until safe operation can be verified by service-trained personnel. If necessary, return the product to an Agilent Technologies Sales and Service Office for service and repair to ensure that safety features are maintained.

DO NOT service or adjust alone: Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.

DO NOT substitute parts or modify equipment: Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification to the product. Return the product to an Agilent Technologies Sales and Service Office for service and repair to ensure that safety features are maintained.

Operating Location: Sheltered location where air temperature and humidity are controlled within this product's specifications and the product is protected against direct exposure to climatic conditions such as direct sunlight, wind, rain, snow, sleet, and icing, water spray or splash, hoarfrost or dew. Pollution environment for which this product may be operated is IEC 664 Pollution degree 2.

WARNINGS (Cont.)

The Agilent 3499A/B/C can have modules that are capable of switching voltages up to 250V maximum. Voltage levels above the levels specified for accessible connectors or cable ends could cause bodily injury or death to an operator. Special precautions must be adhered to (discussed below) when applying voltages in excess of 60 Vdc, 30 Vac rms or 42.4 Vac peak.

Module connectors and test signal cables connected to them cannot be operator accessible. Cables and connectors are considered inaccessible if a tool (e.g., screwdriver, wrench, socket, etc.) or a key (equipment in a locked cabinet) is required to gain access to them. Additionally, the operator cannot have access to a conductive surface connected to any cable conductor (High, Low or Guard).

Assure the equipment under test has adequate insulation between the cable connections and any operator-accessible parts (doors, covers, panels, shields, cases, cabinets, etc.). Verify there are multiple and sufficient protective means (rated for the voltages you are applying) to assure the operator will NOT come into contact with any energized conductor even if one of the protective means fails to work as intended. For example, the inner side of a case, cabinet, door, cover or panel can be covered with an insulating material as well as routing the test cables to the module's front panel connectors through non-conductive, flexible conduit such as that used in electrical power distribution.

This ISM device complies with Canadian CES-001
Cet appareil ISM est conforme à la norme NMB-001 du Canada

CLEANING INFORMATION

The instrument should only be cleaned by wiping it with a soft damp cloth.

Appendix C

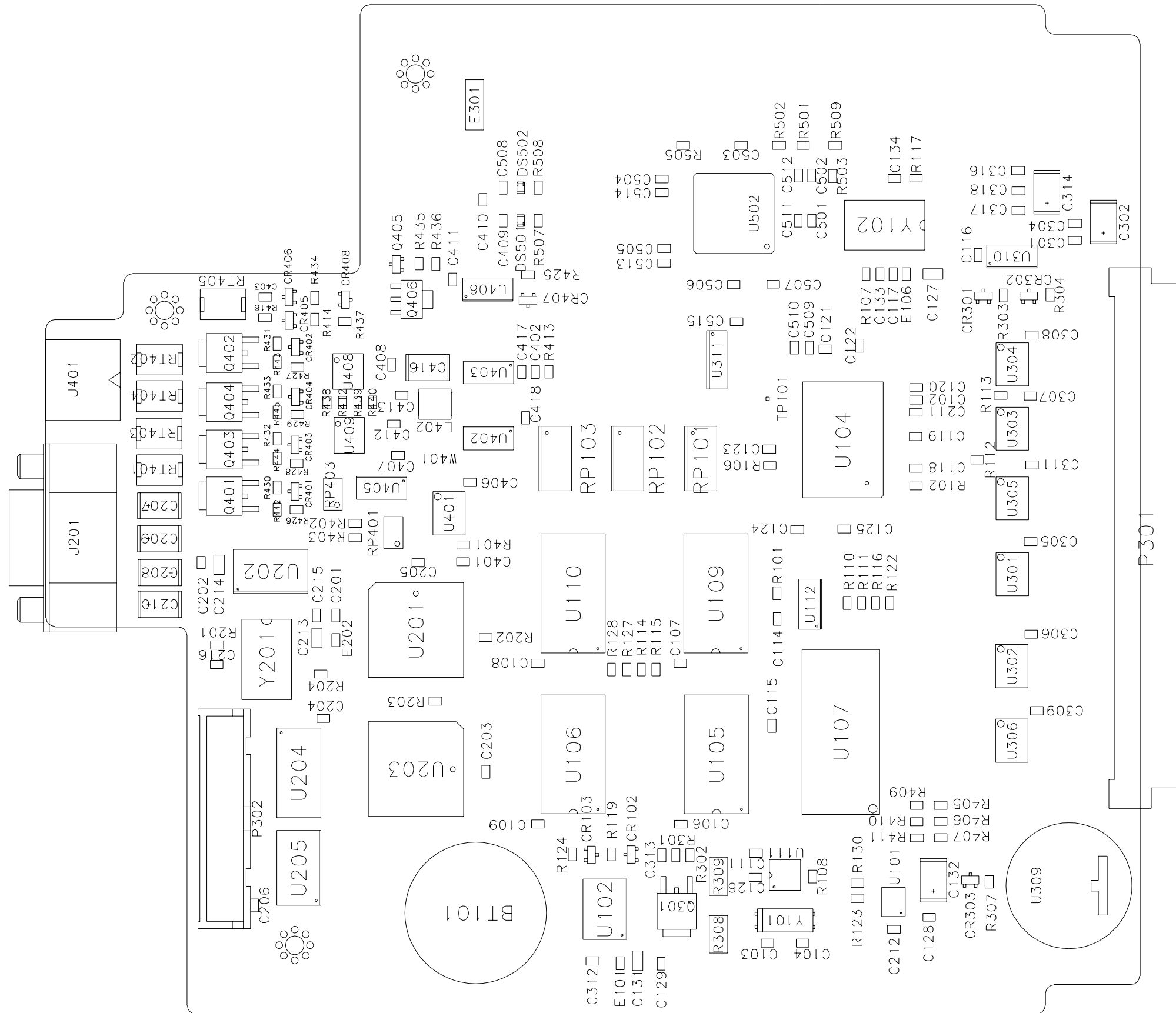
Schematics

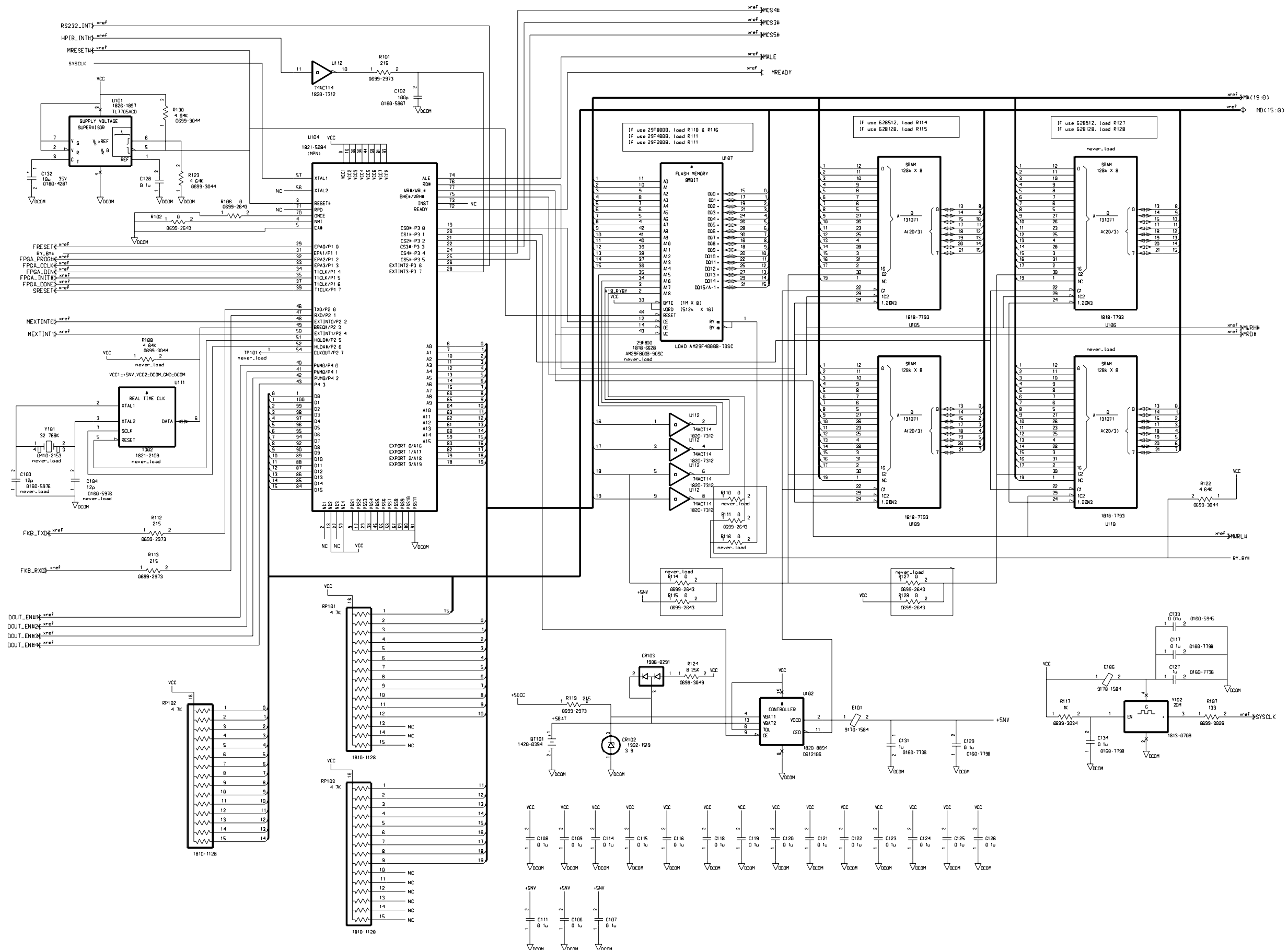
This chapter contains the schematics for the Agilent 3499A/B/C mainframes and the plug-in modules designed for Agilent 3499A/B/C Switch/Control System. For the schematics of the existing 3488A plug-in modules, you can refer to *Agilent 3488A Switch/Control System Service Manual*.

The schematics in this chapter include:

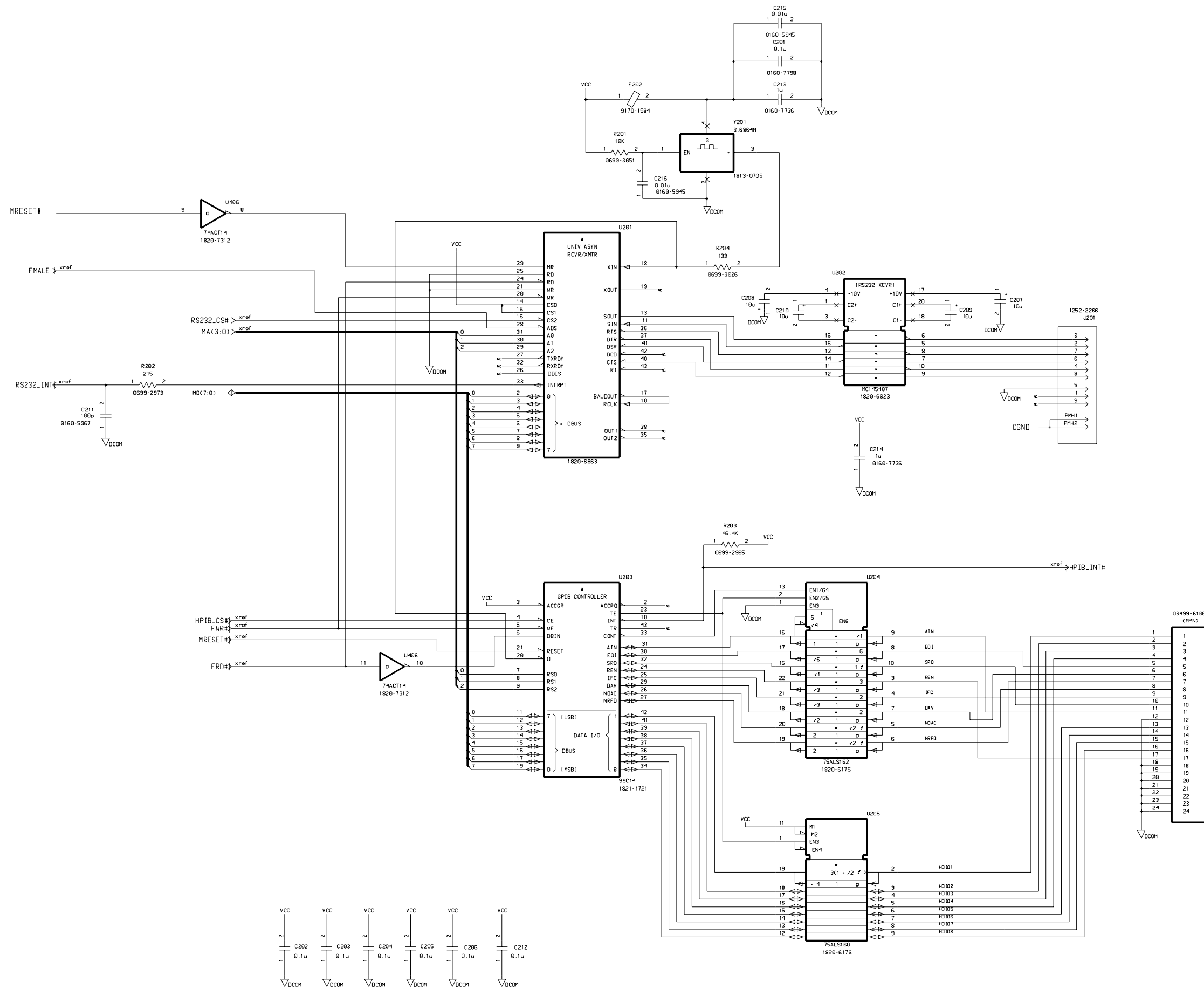
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- Agilent 3499A/B/C Controller Board 1.0 Schematics Page 132
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- Agilent N2261A Schematics Page 156
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- Agilent N2270A Components Locator Page 210
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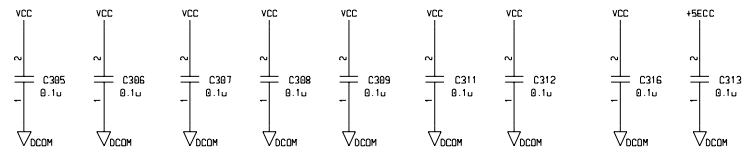
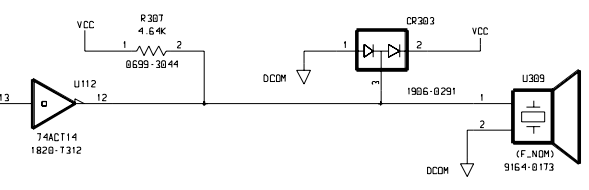
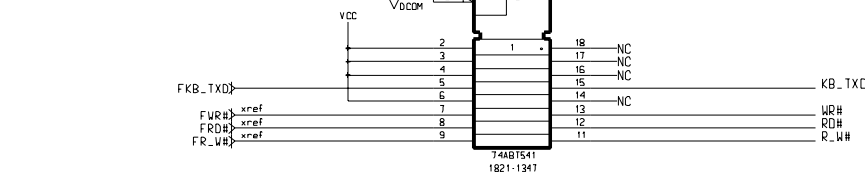
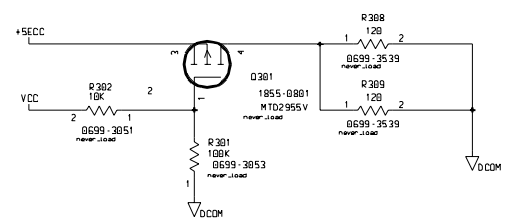
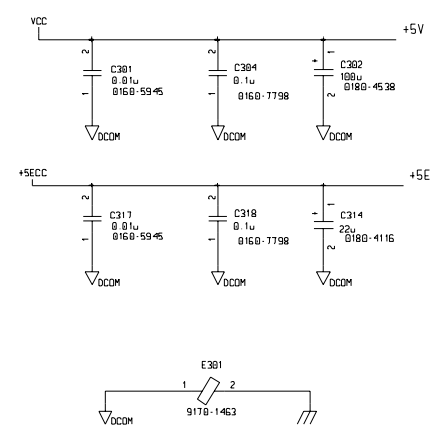
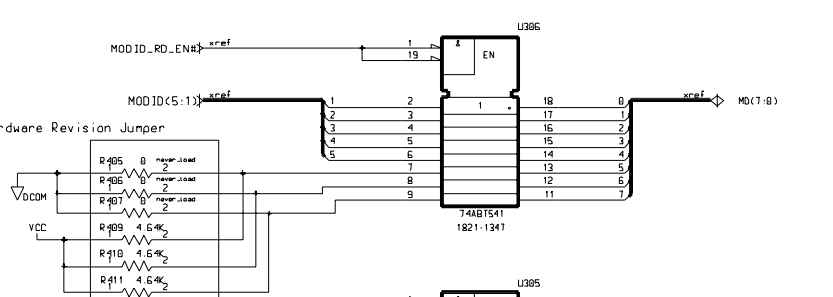
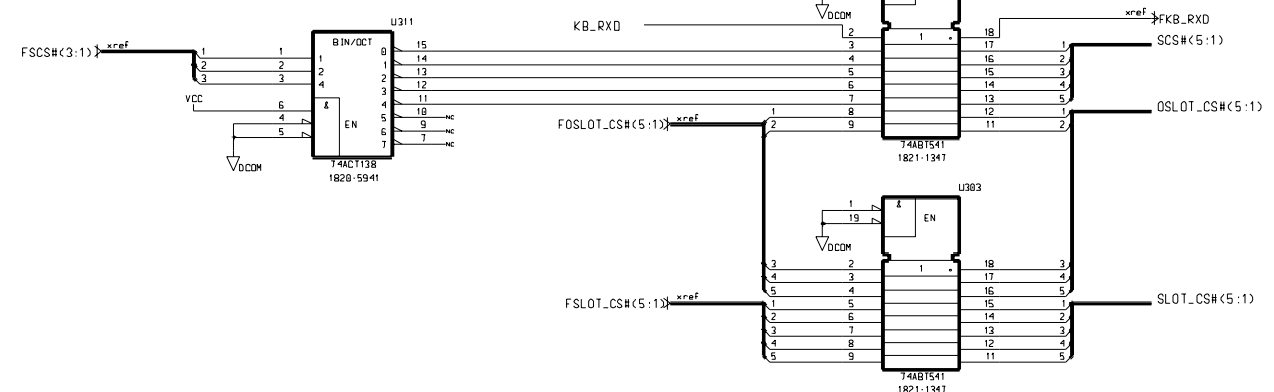
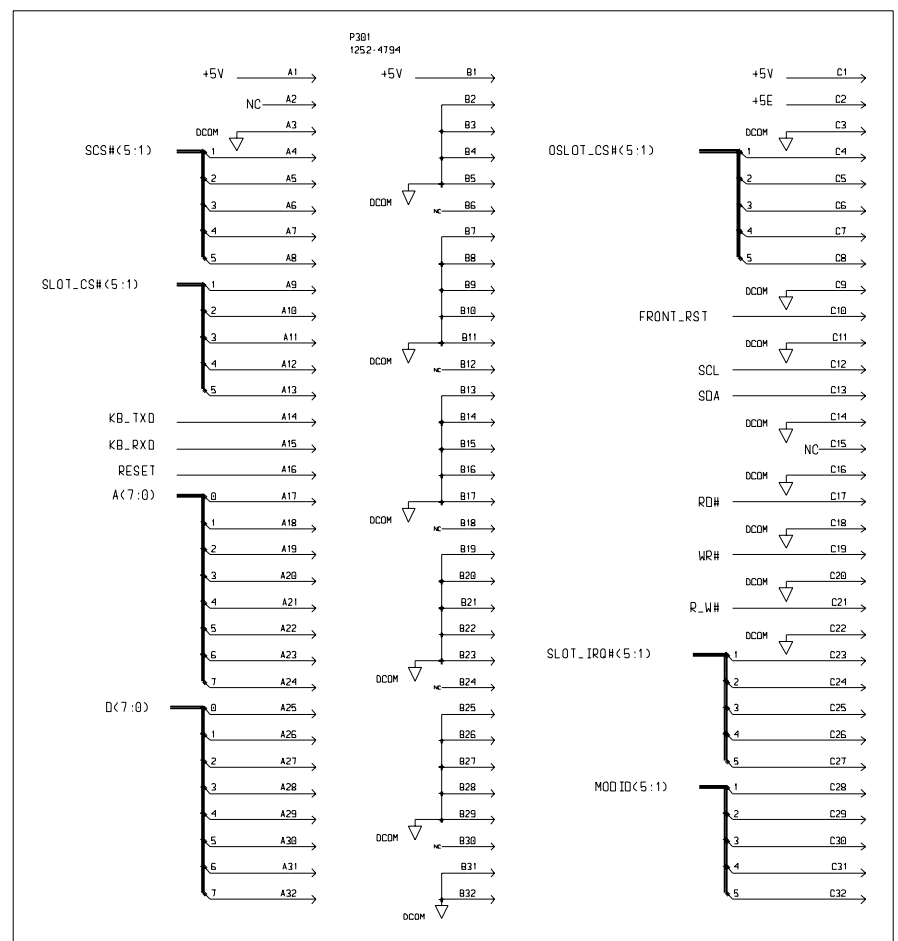
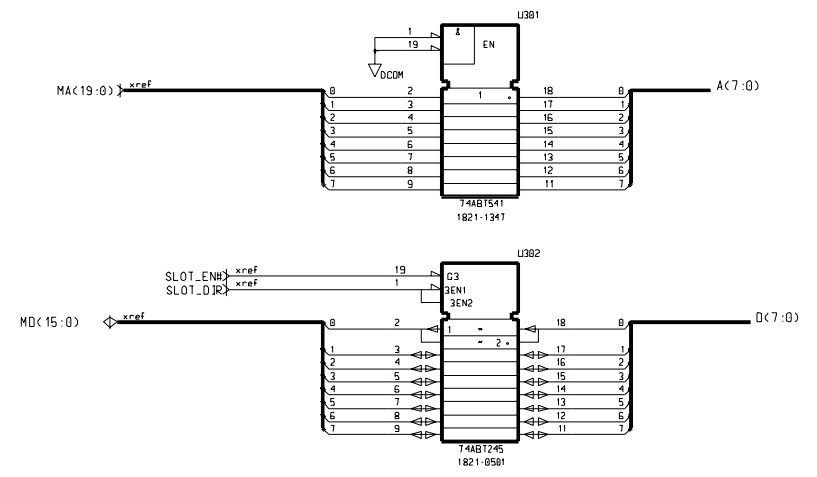
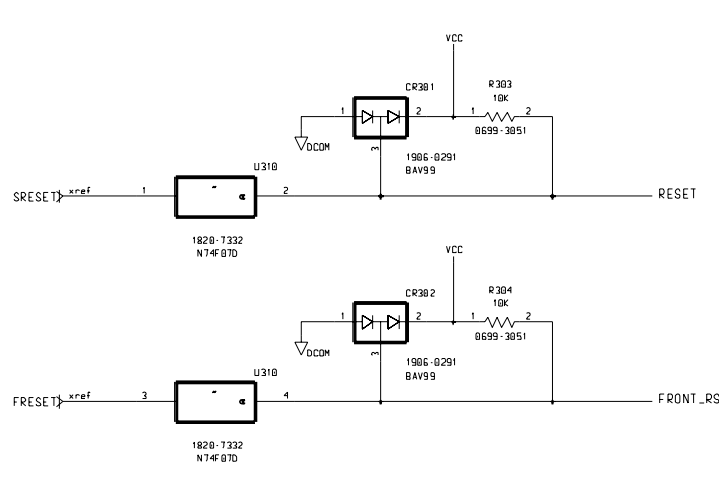
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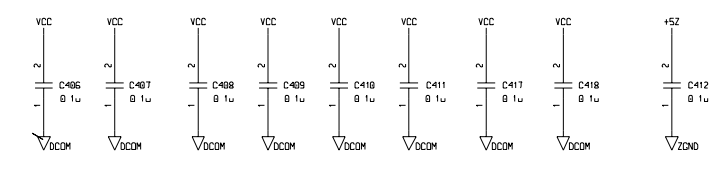
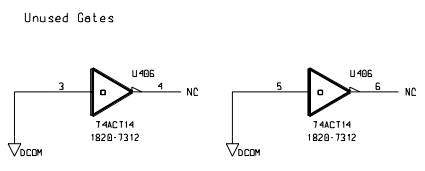
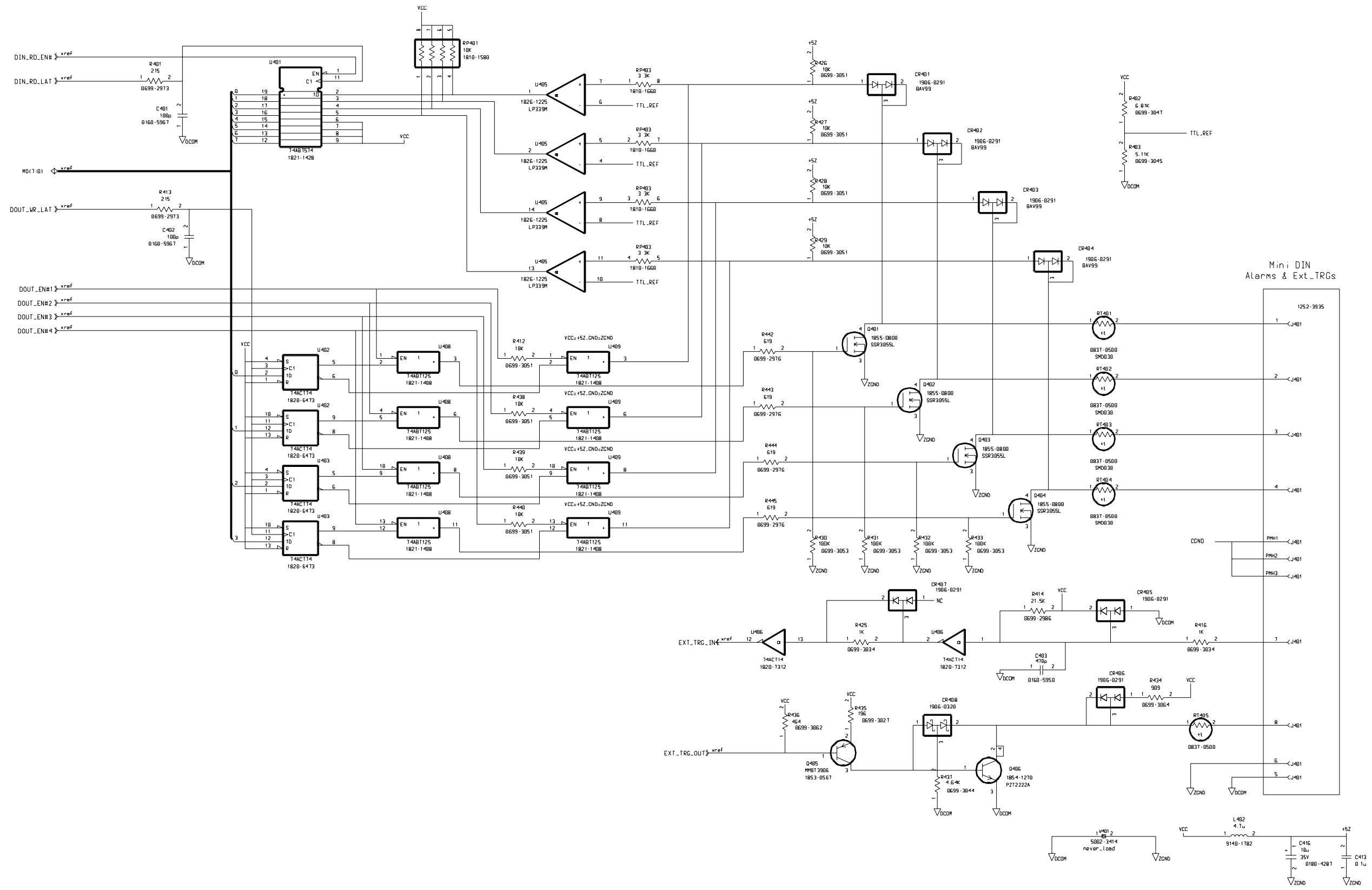


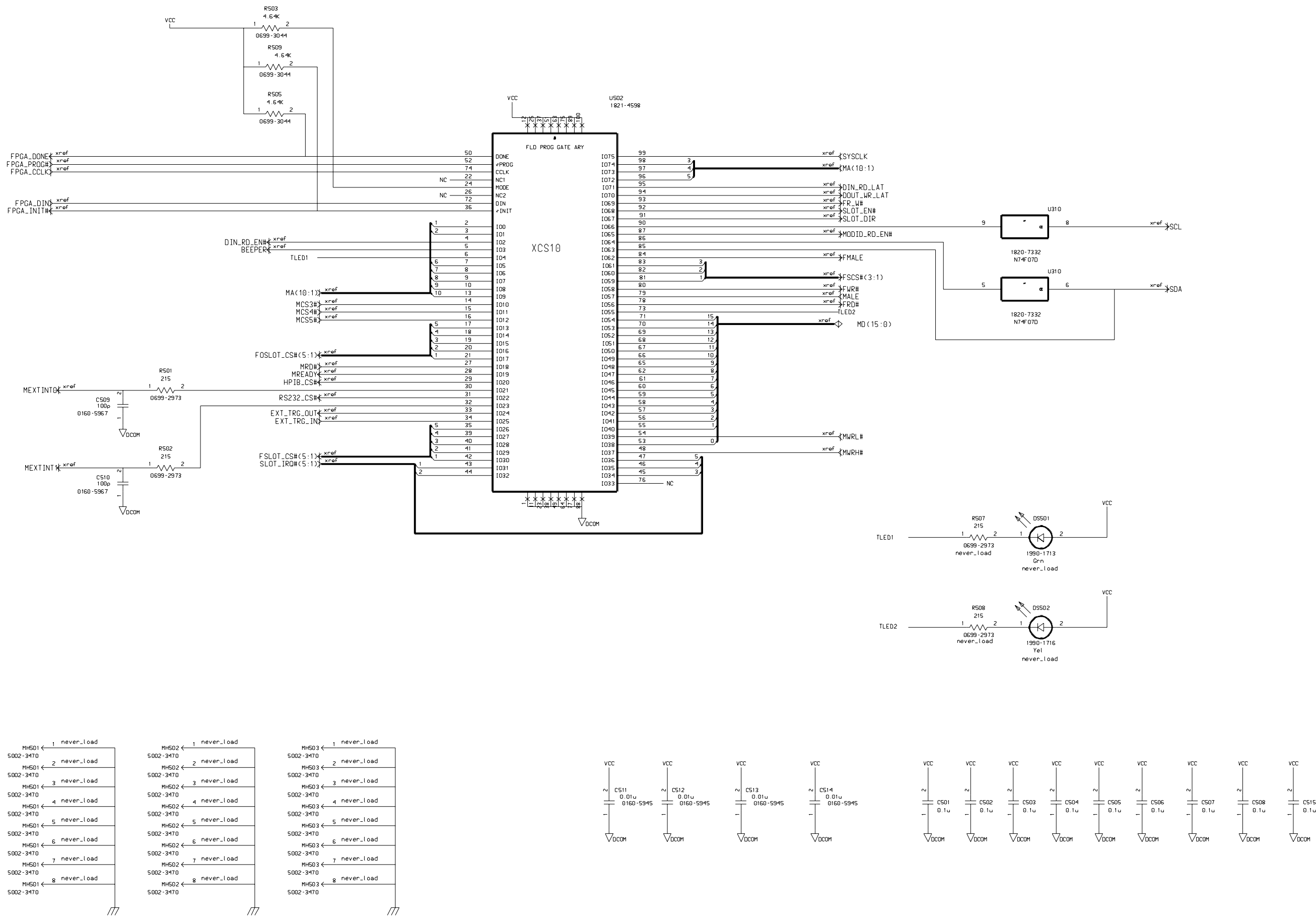


Agilent 3499A/B/C Controller Board 1.0
 Schematic (Sheet 1 of 5)
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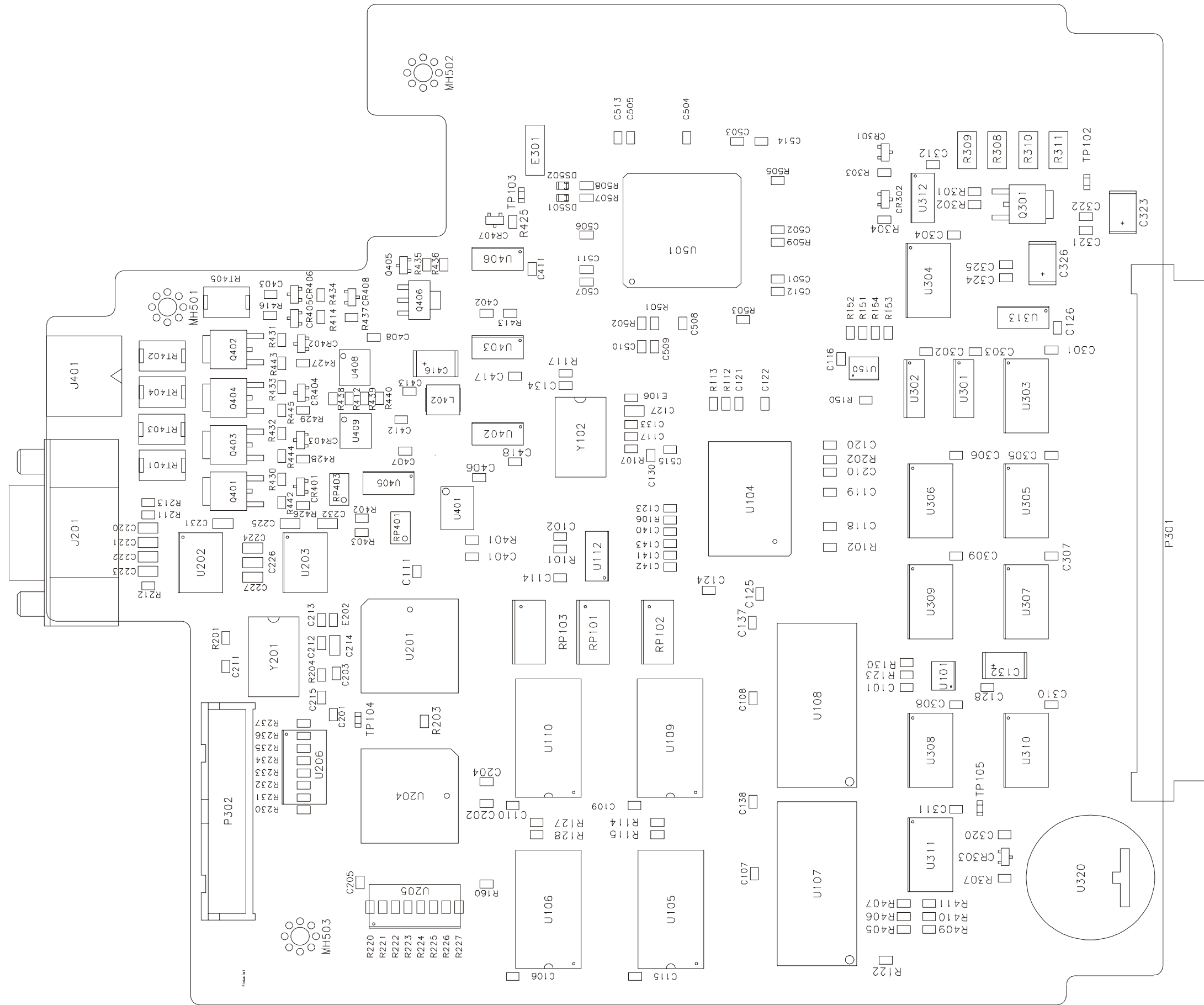


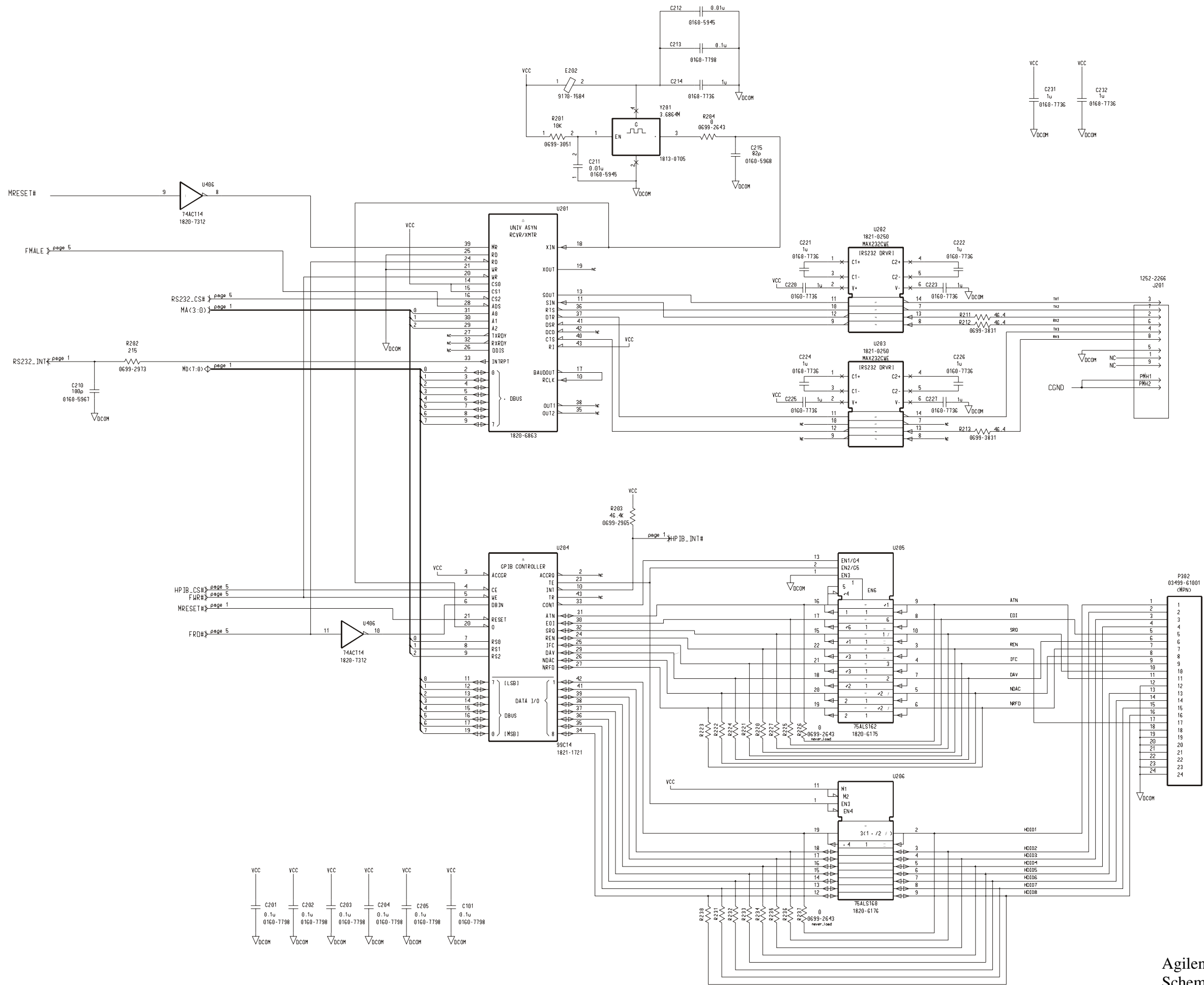




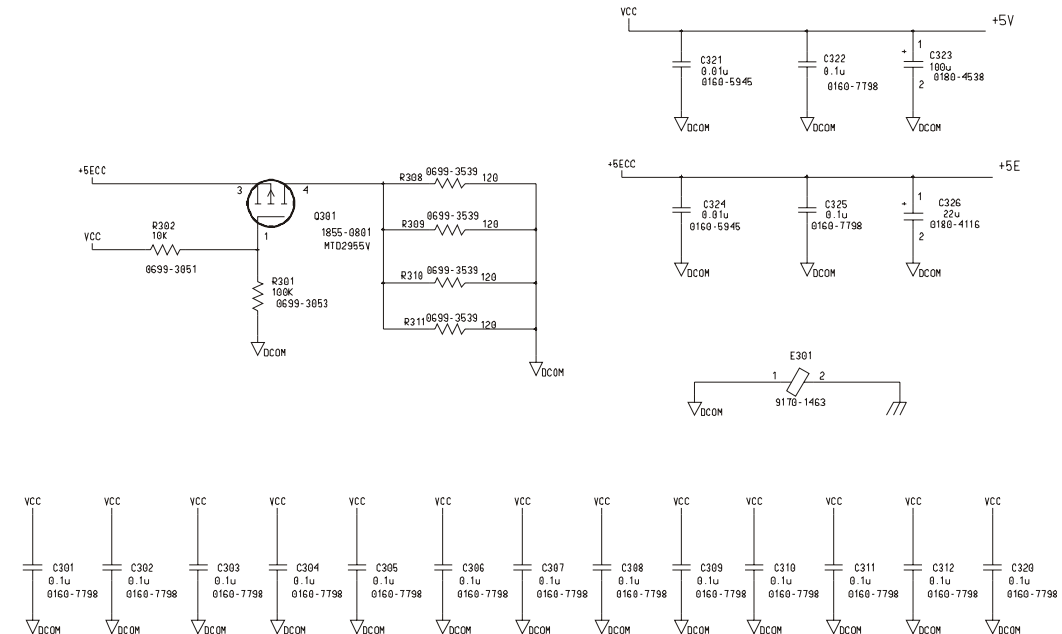
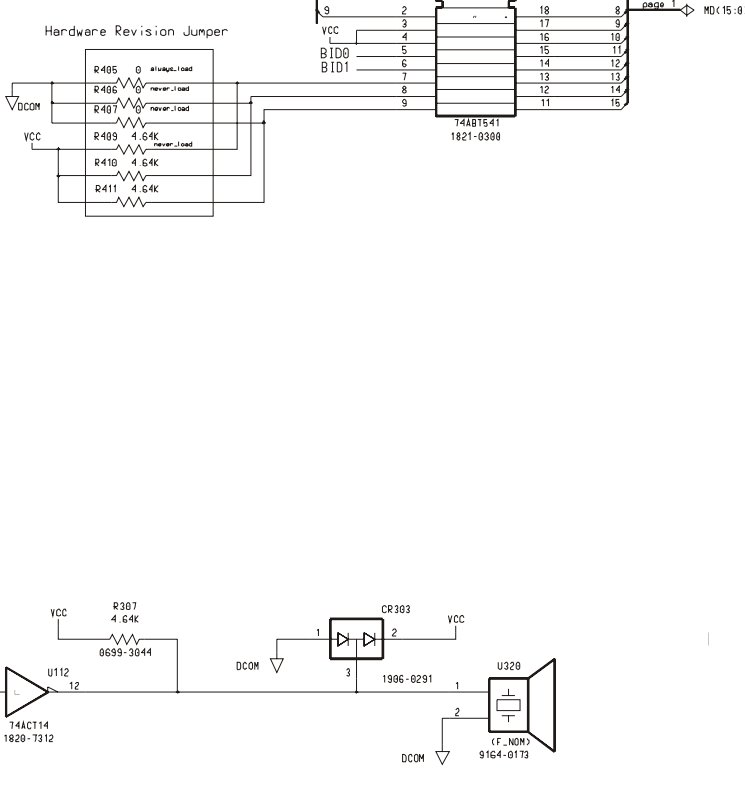
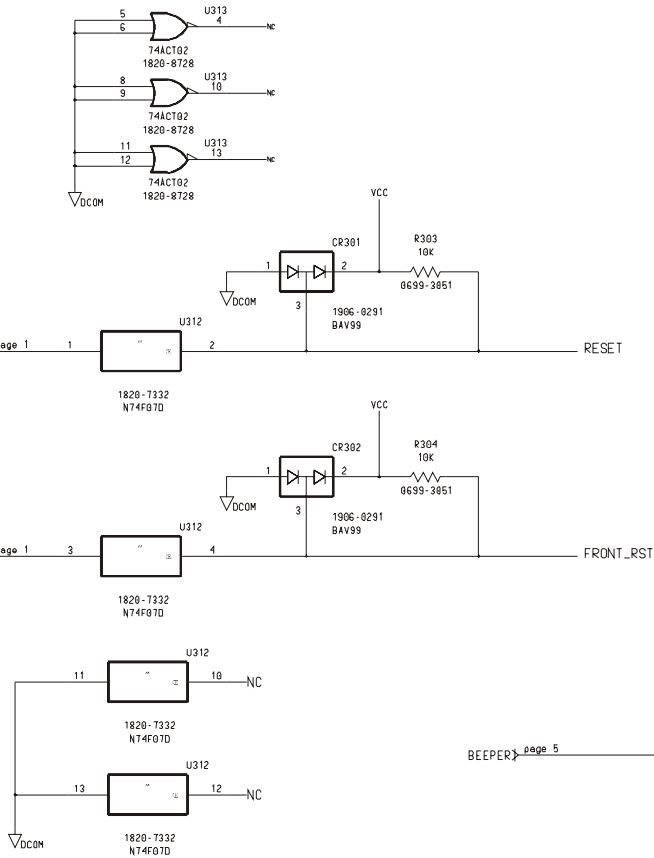
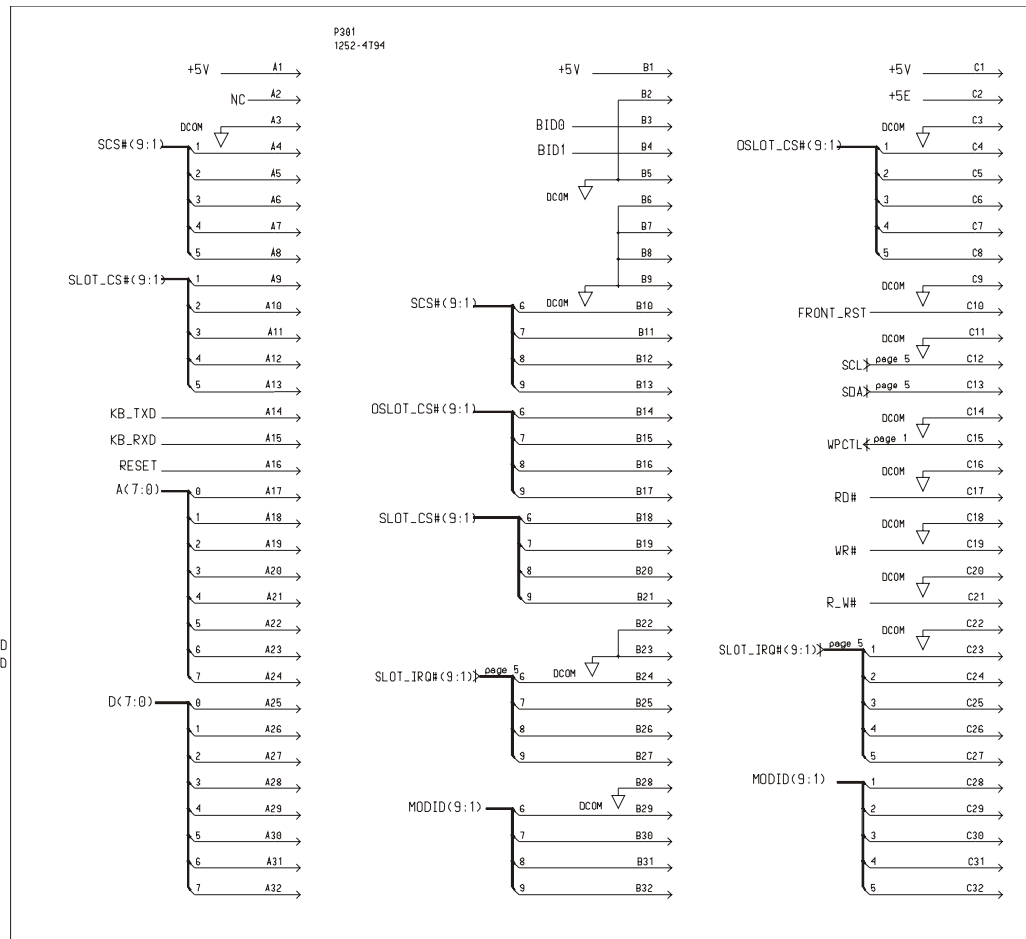
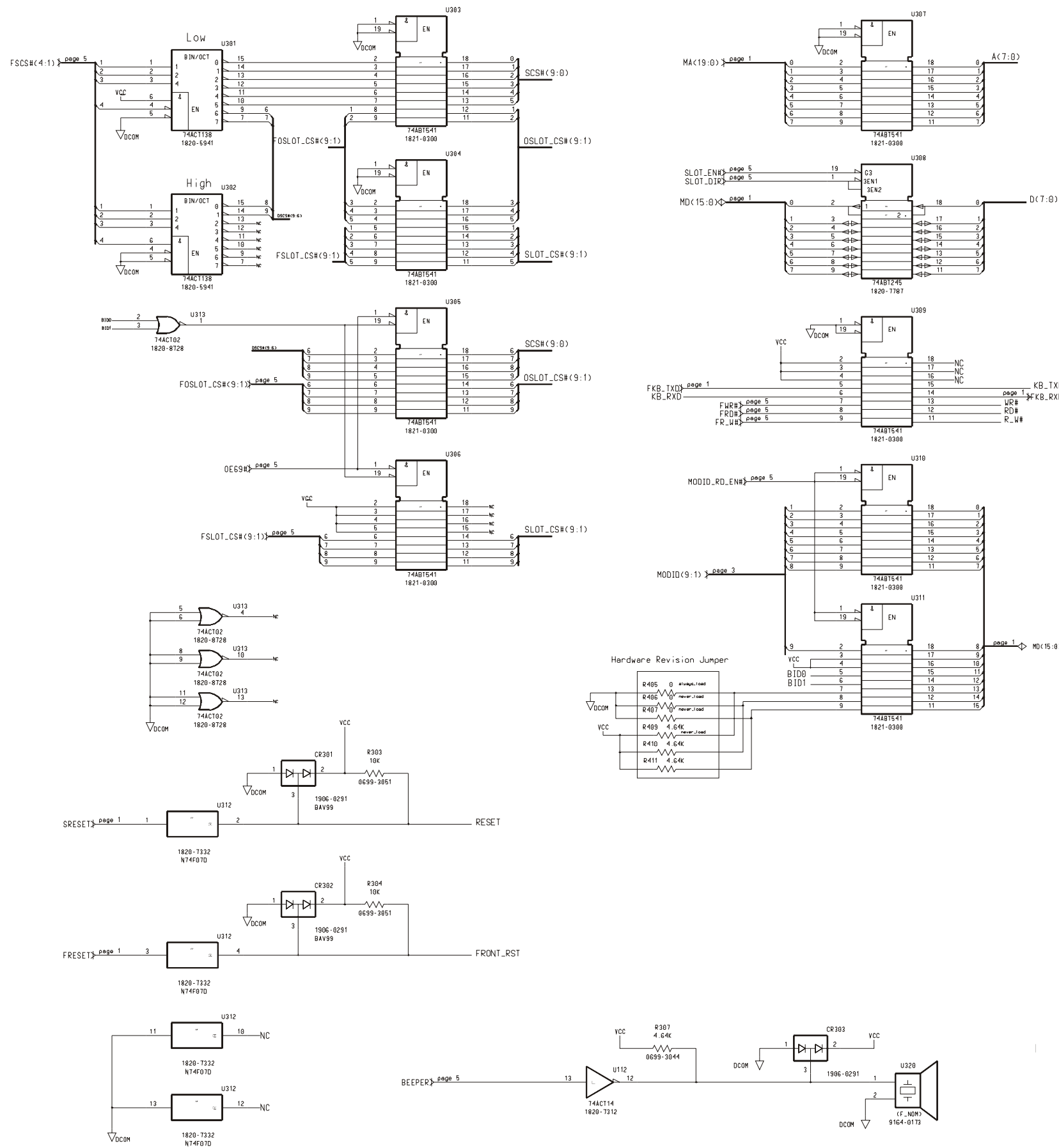


Agilent 3499A/B/C Controller Board 1.0
 Schematic (Sheet 5 of 5)
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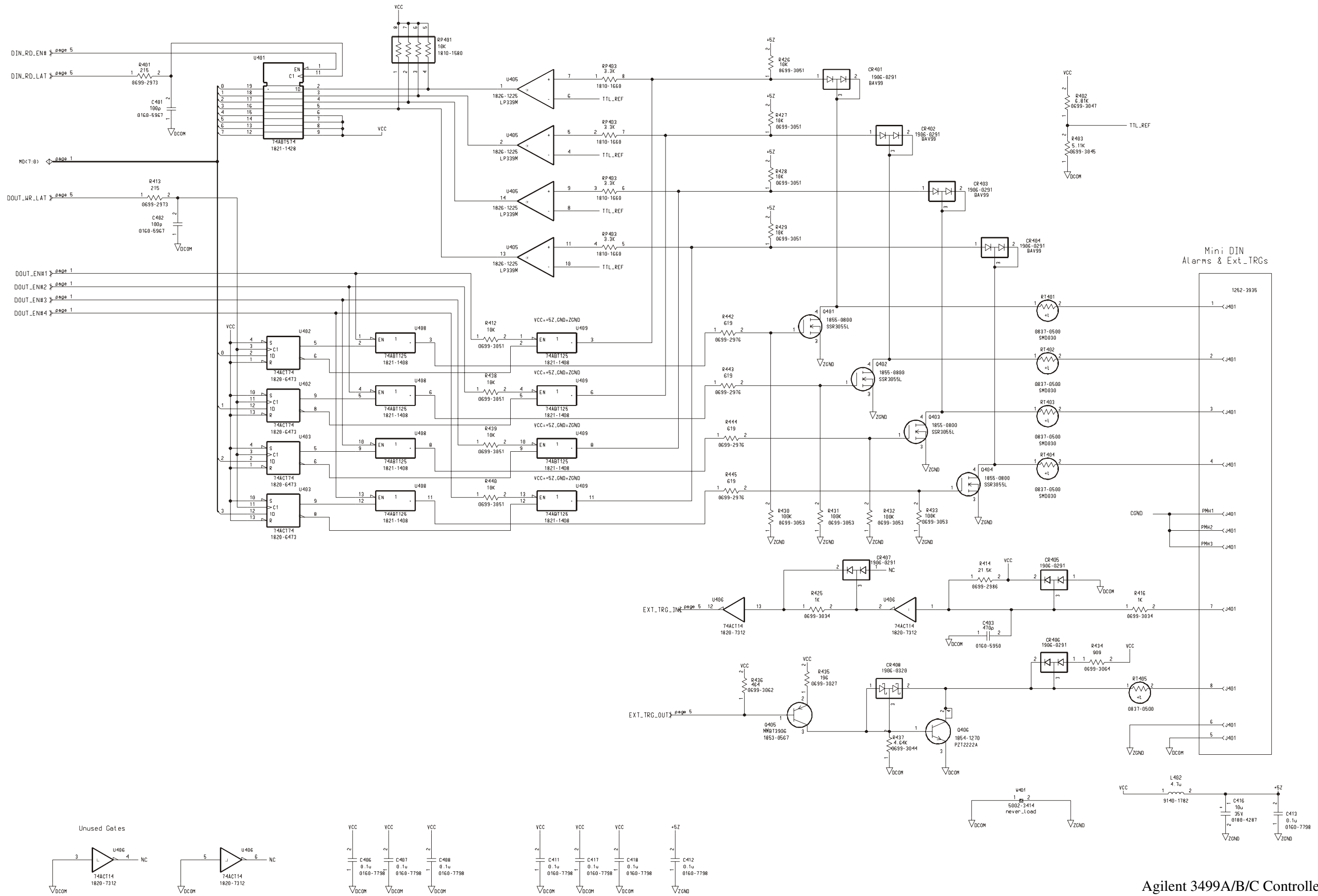




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Schematic (Sheet 2 of 5)
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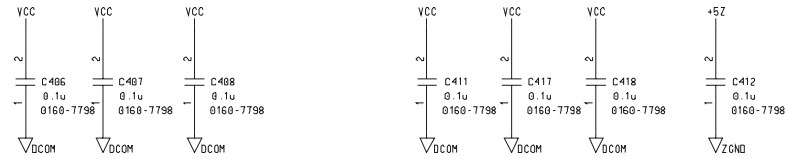
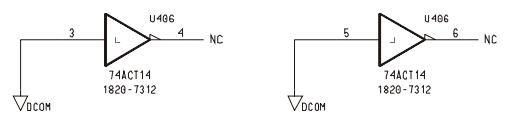
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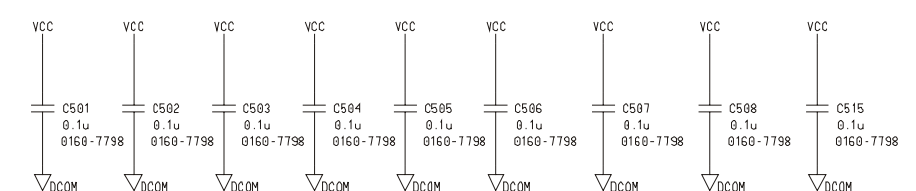
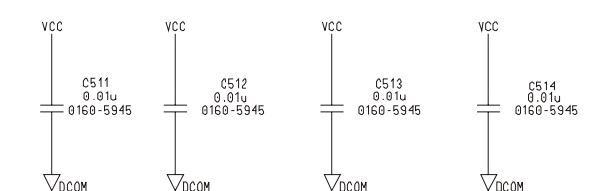
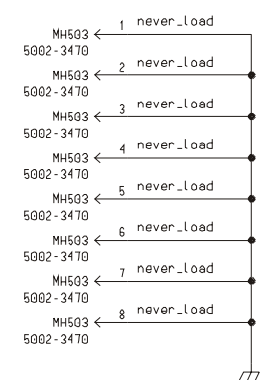
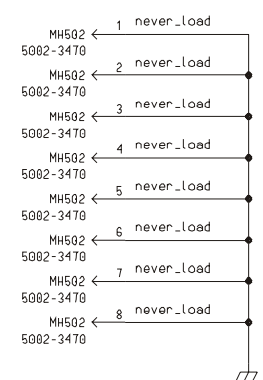
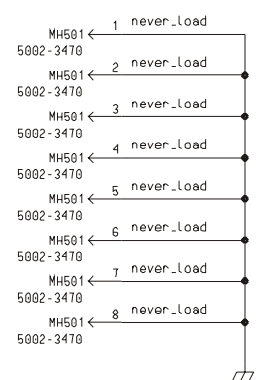
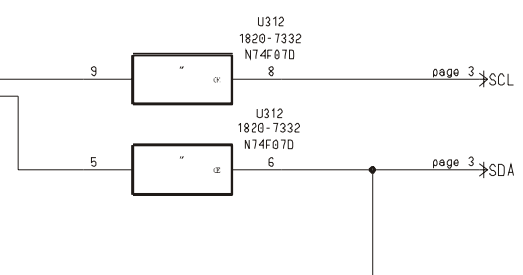
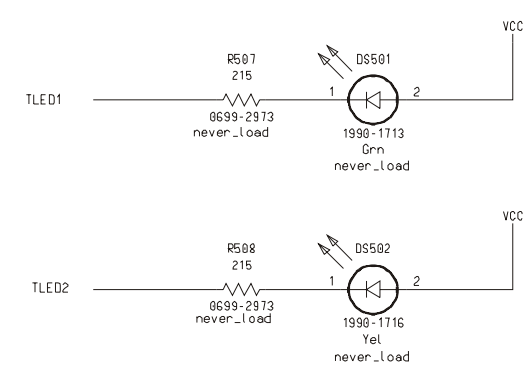
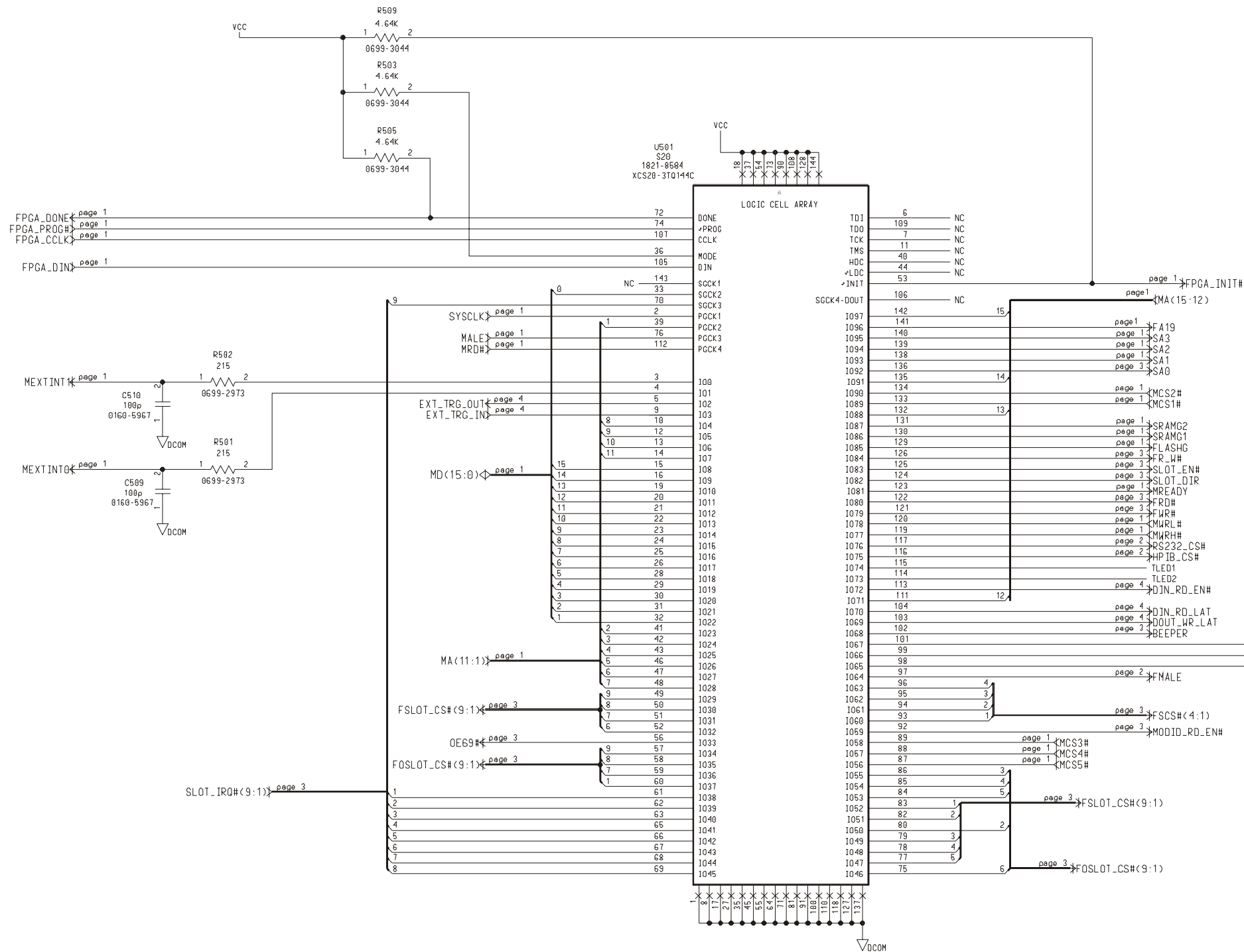


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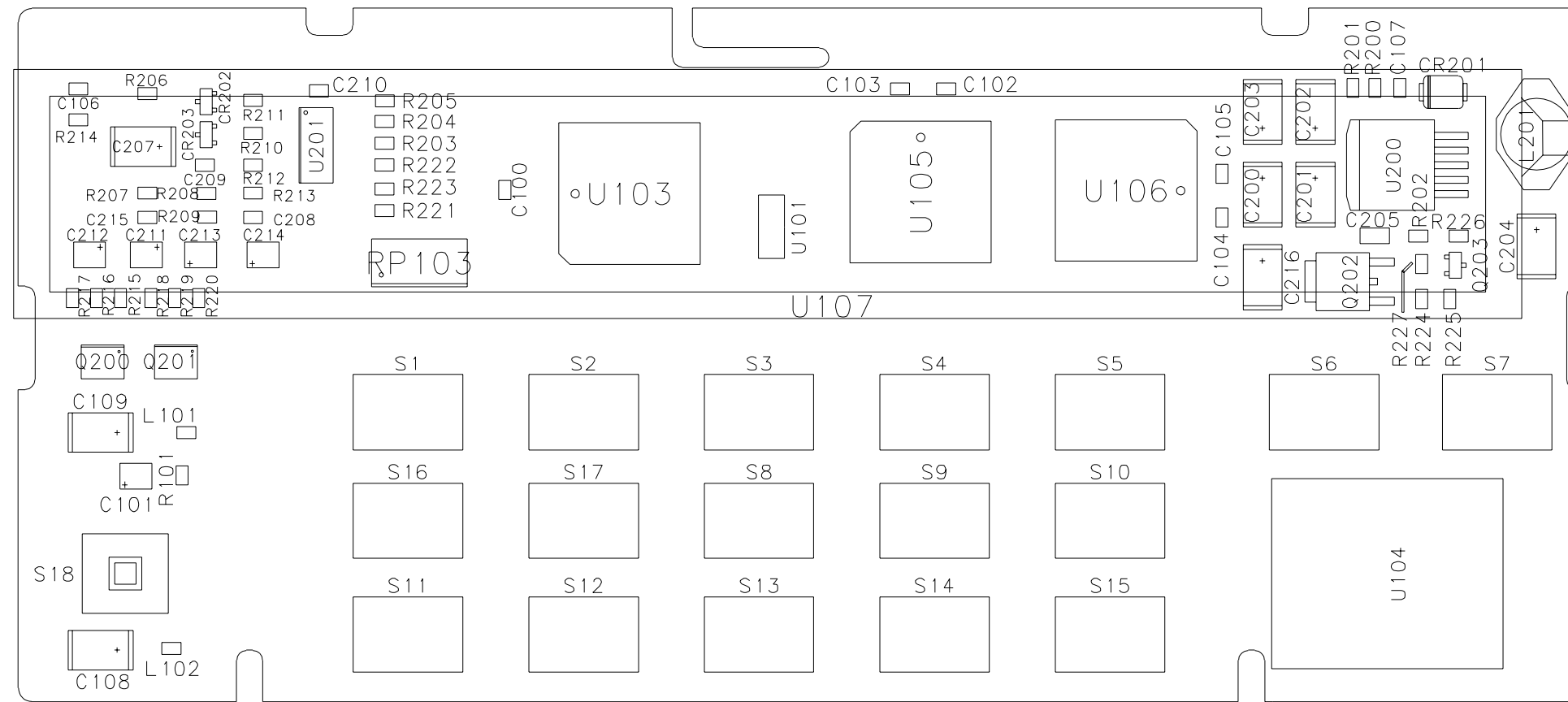
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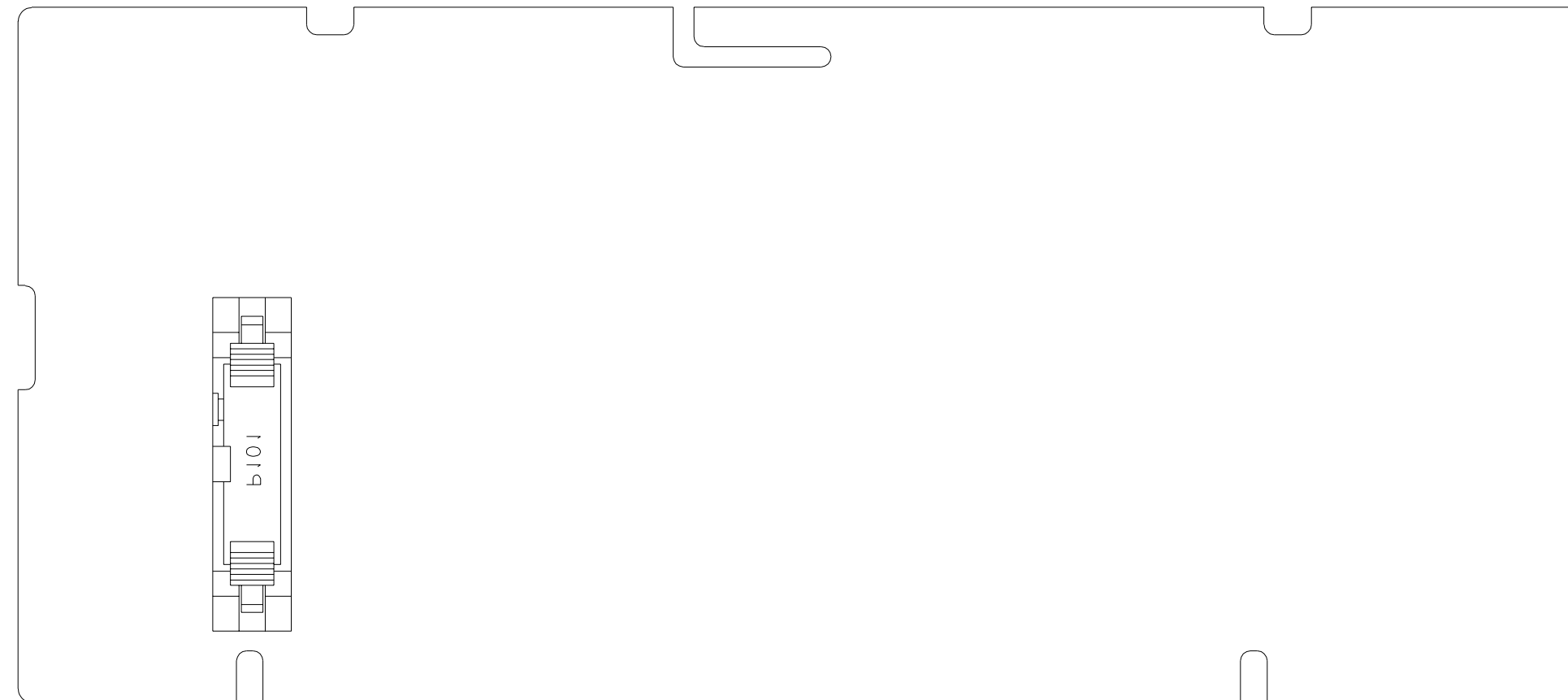


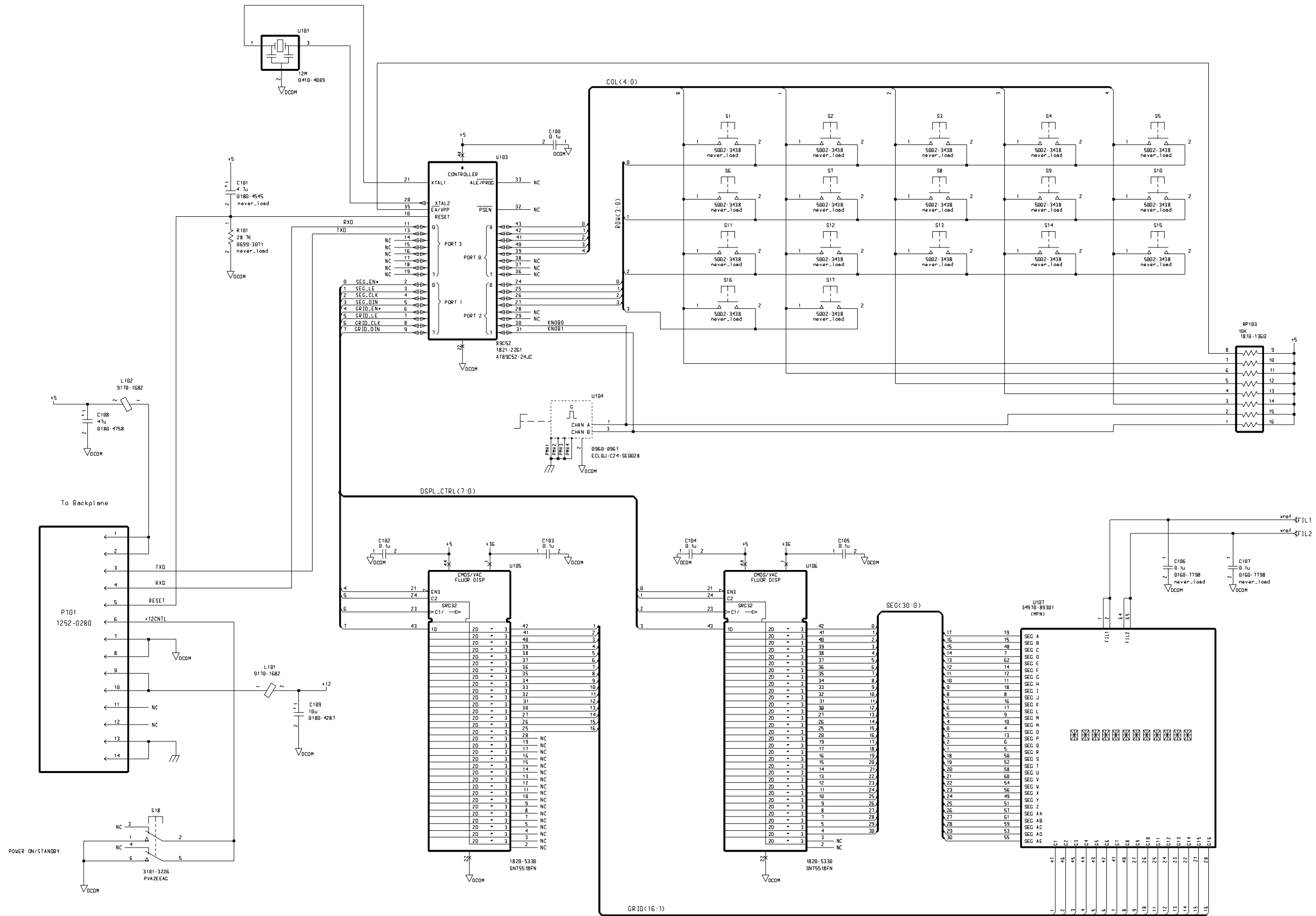


Top Locator



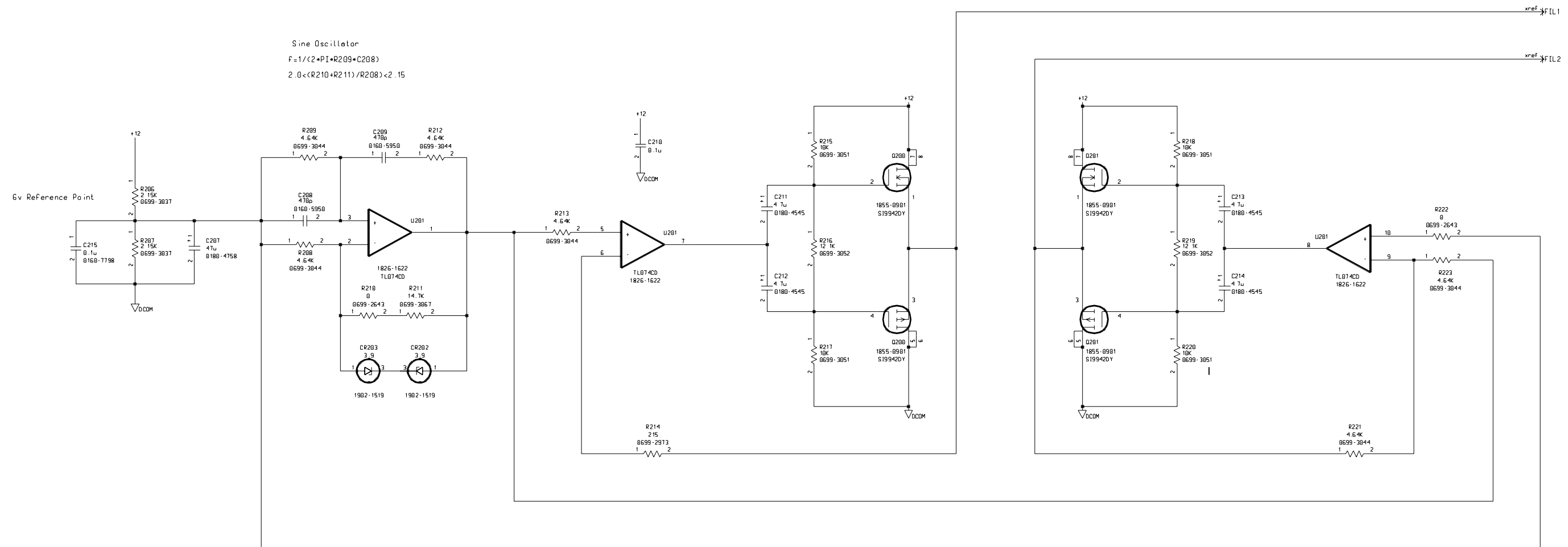
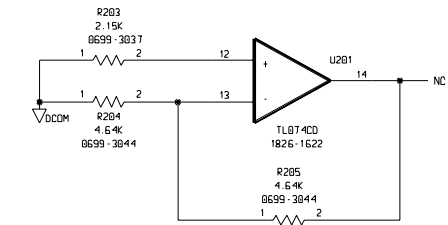
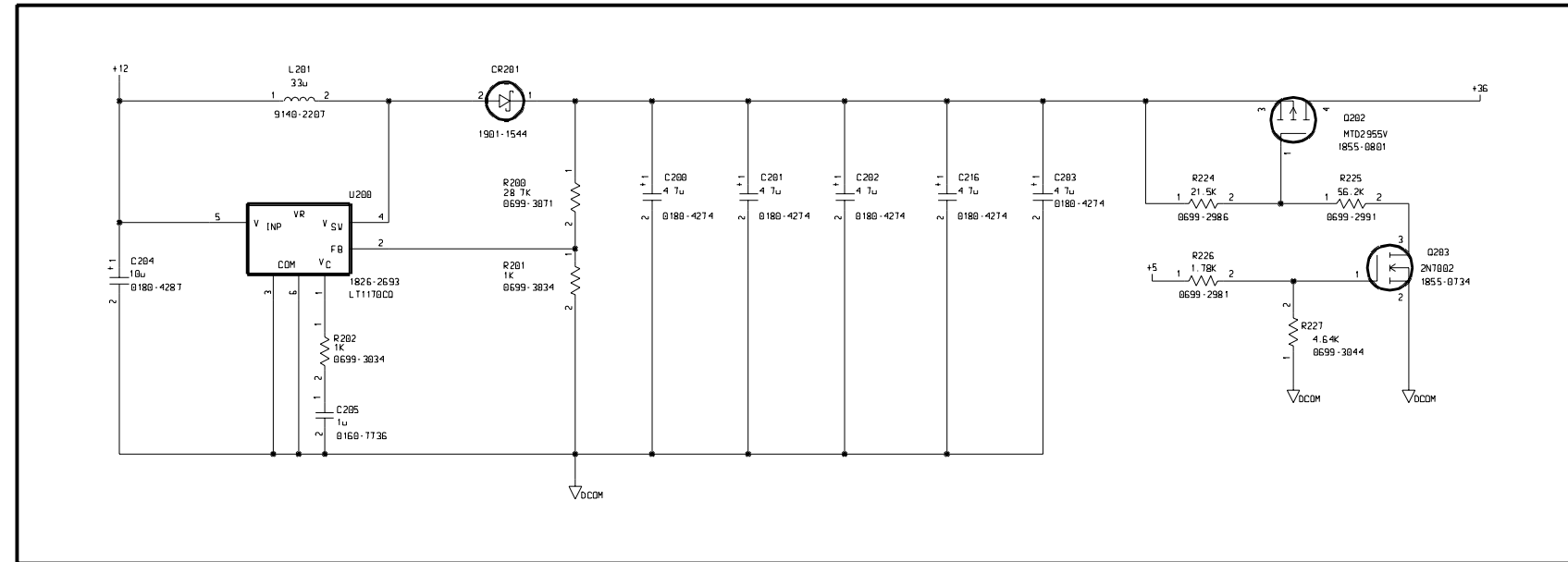
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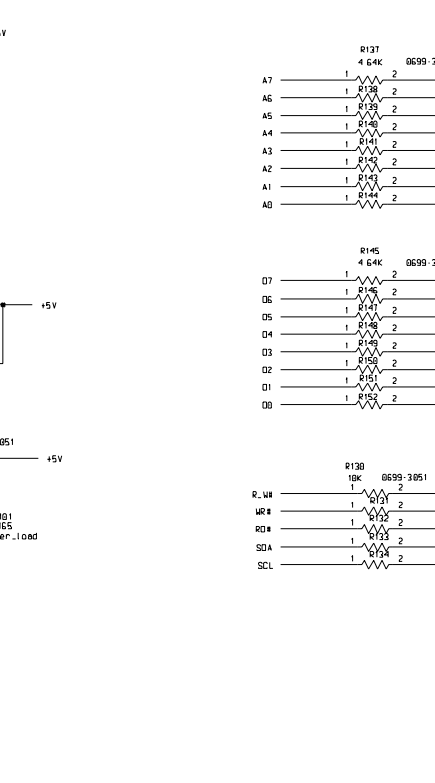
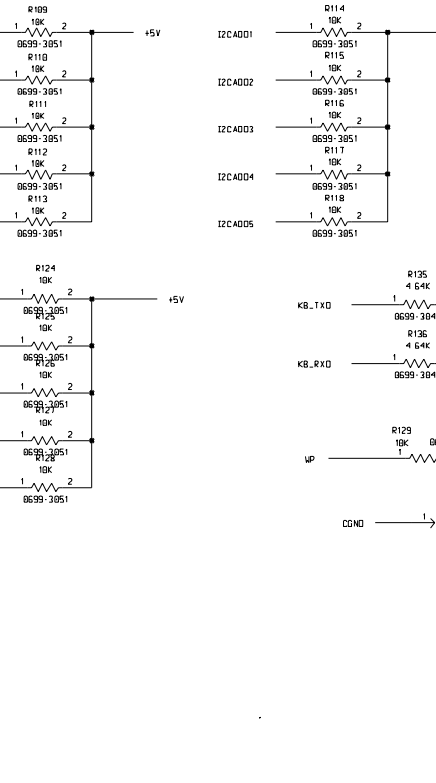
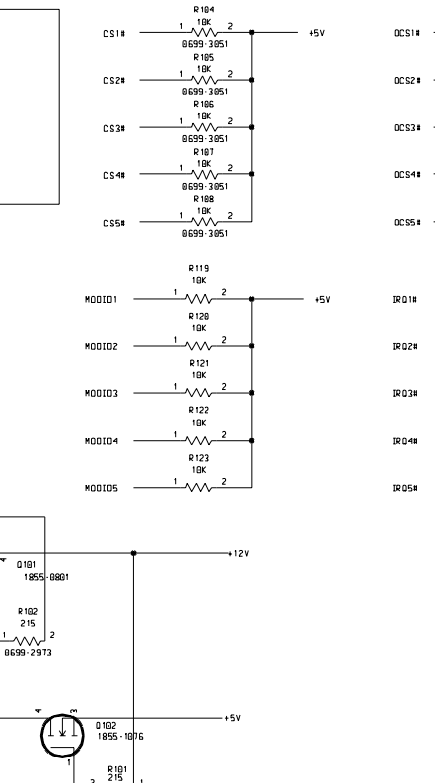
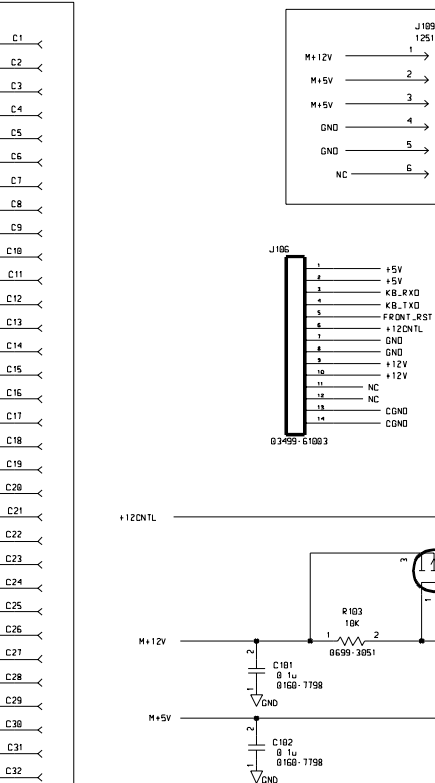
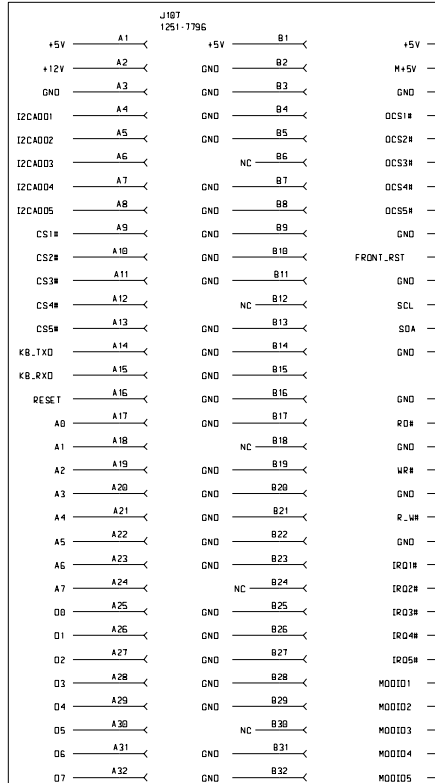
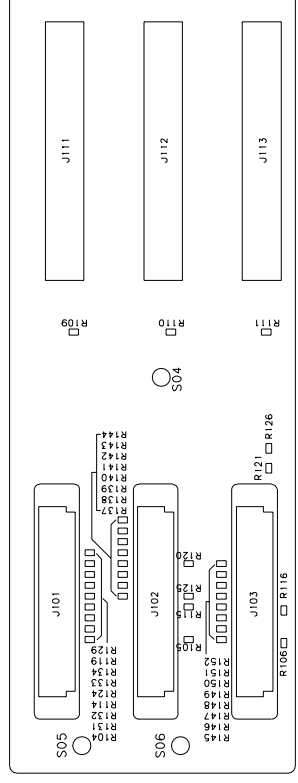
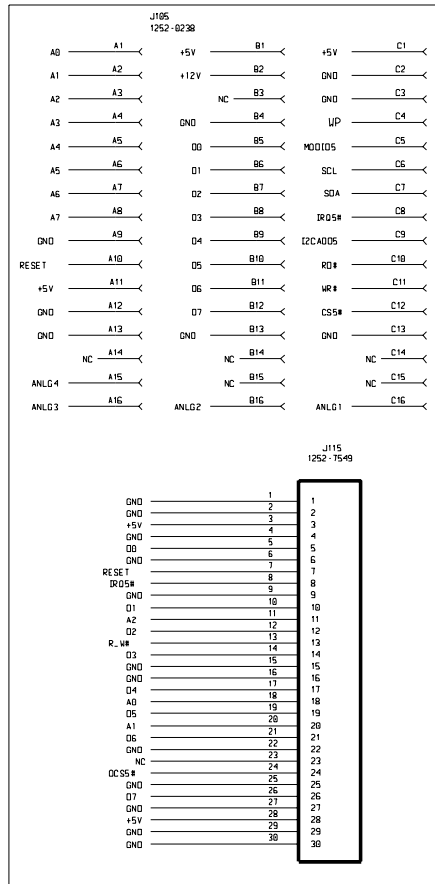
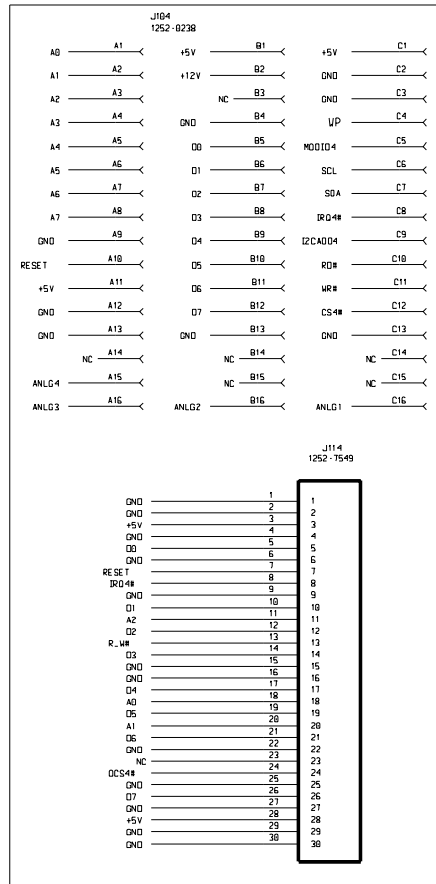
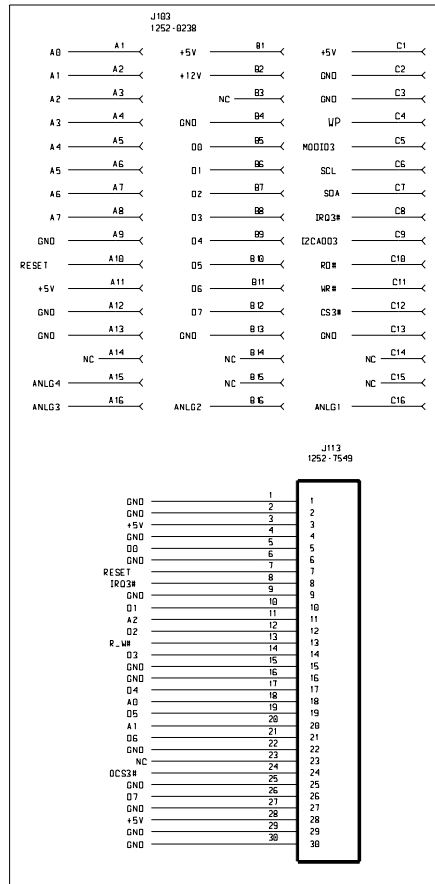
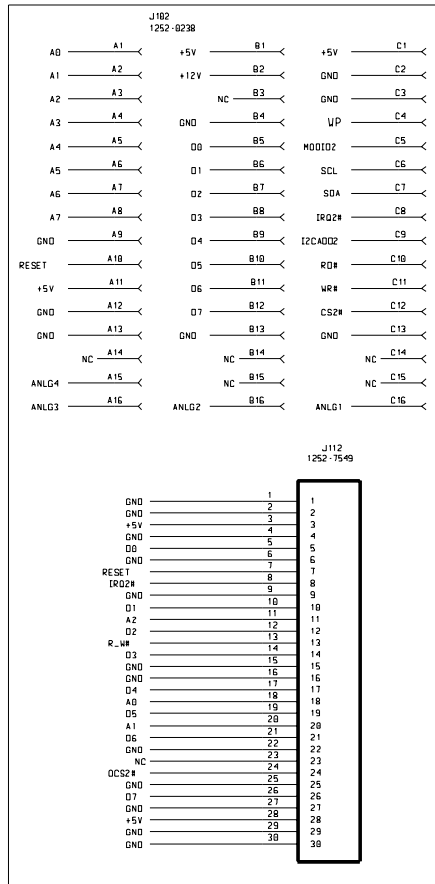
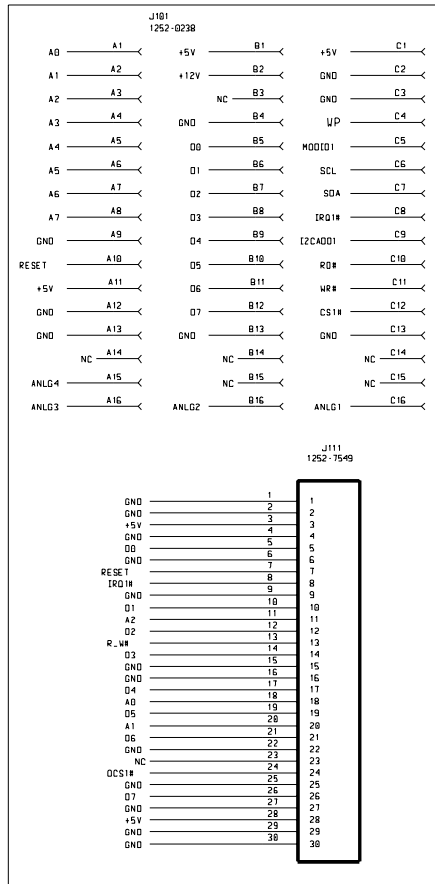
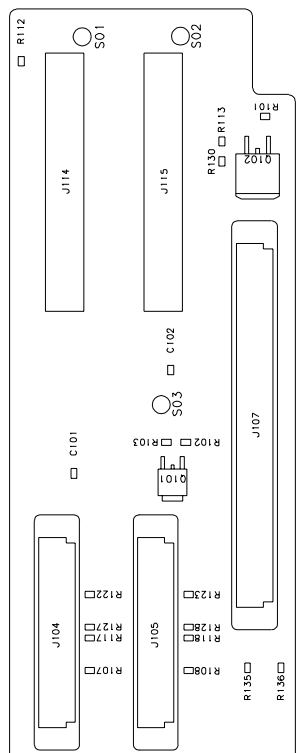


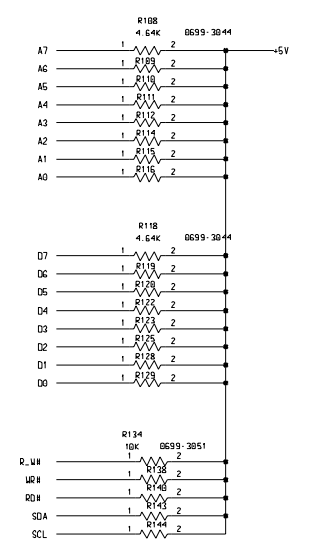
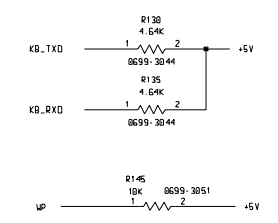
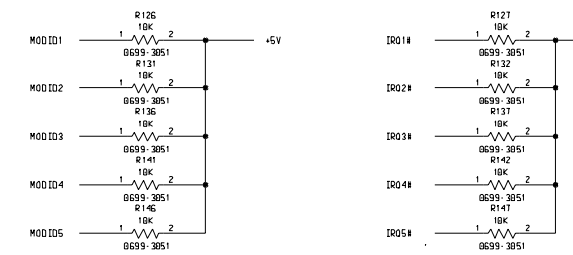
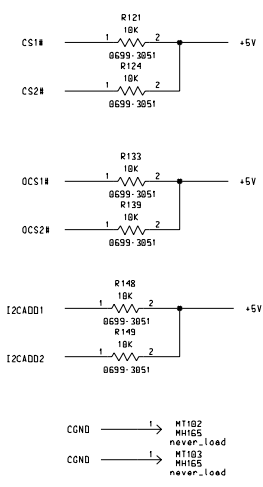
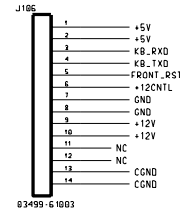
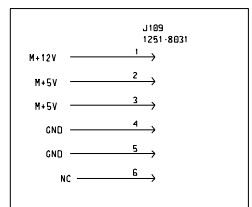
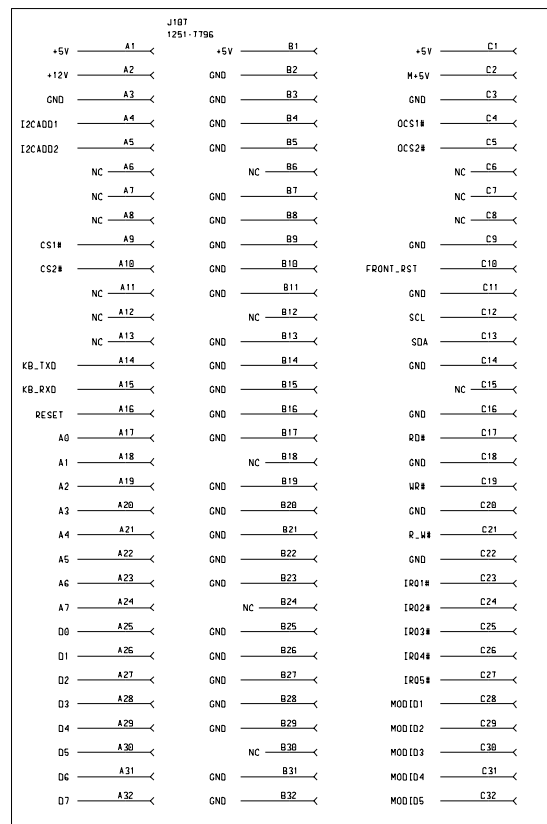
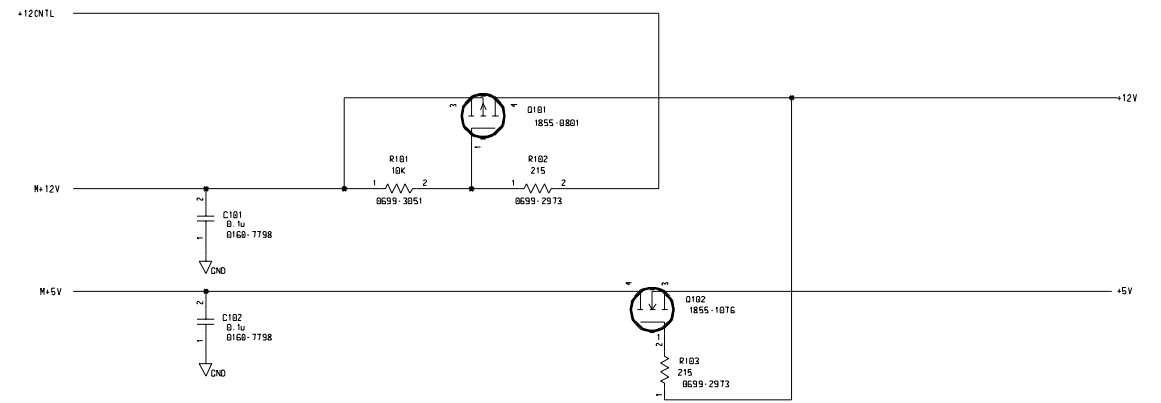
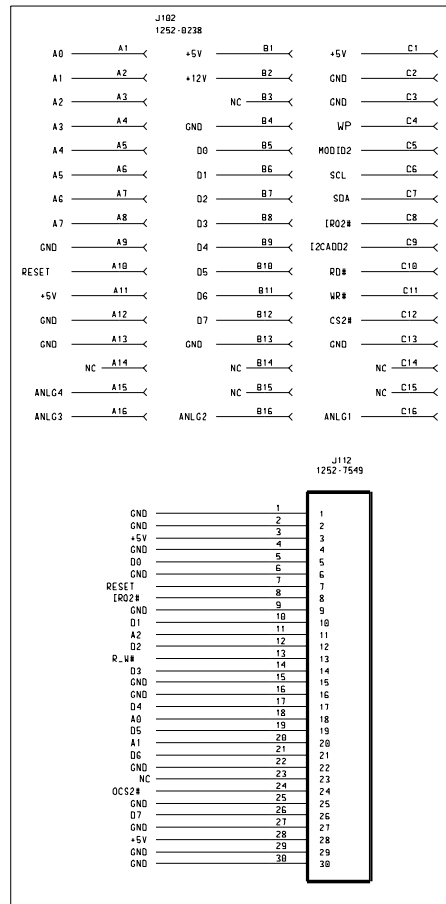
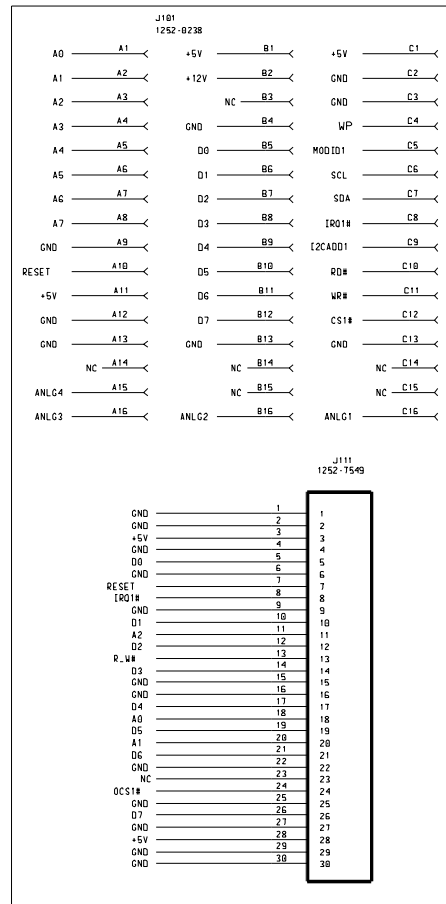
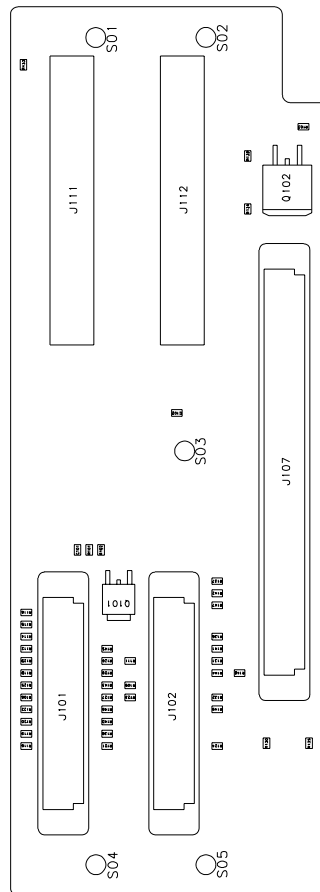
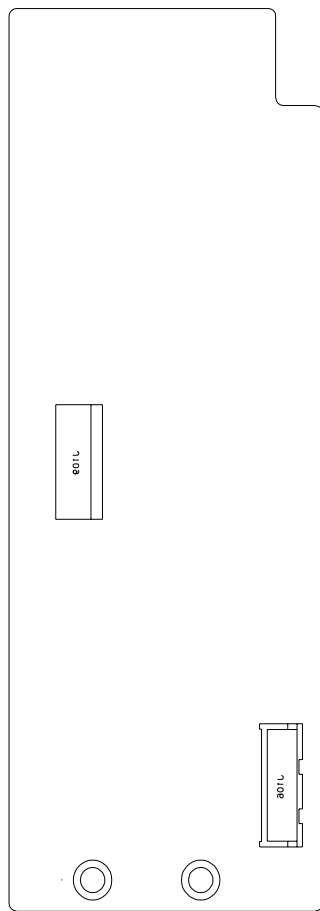


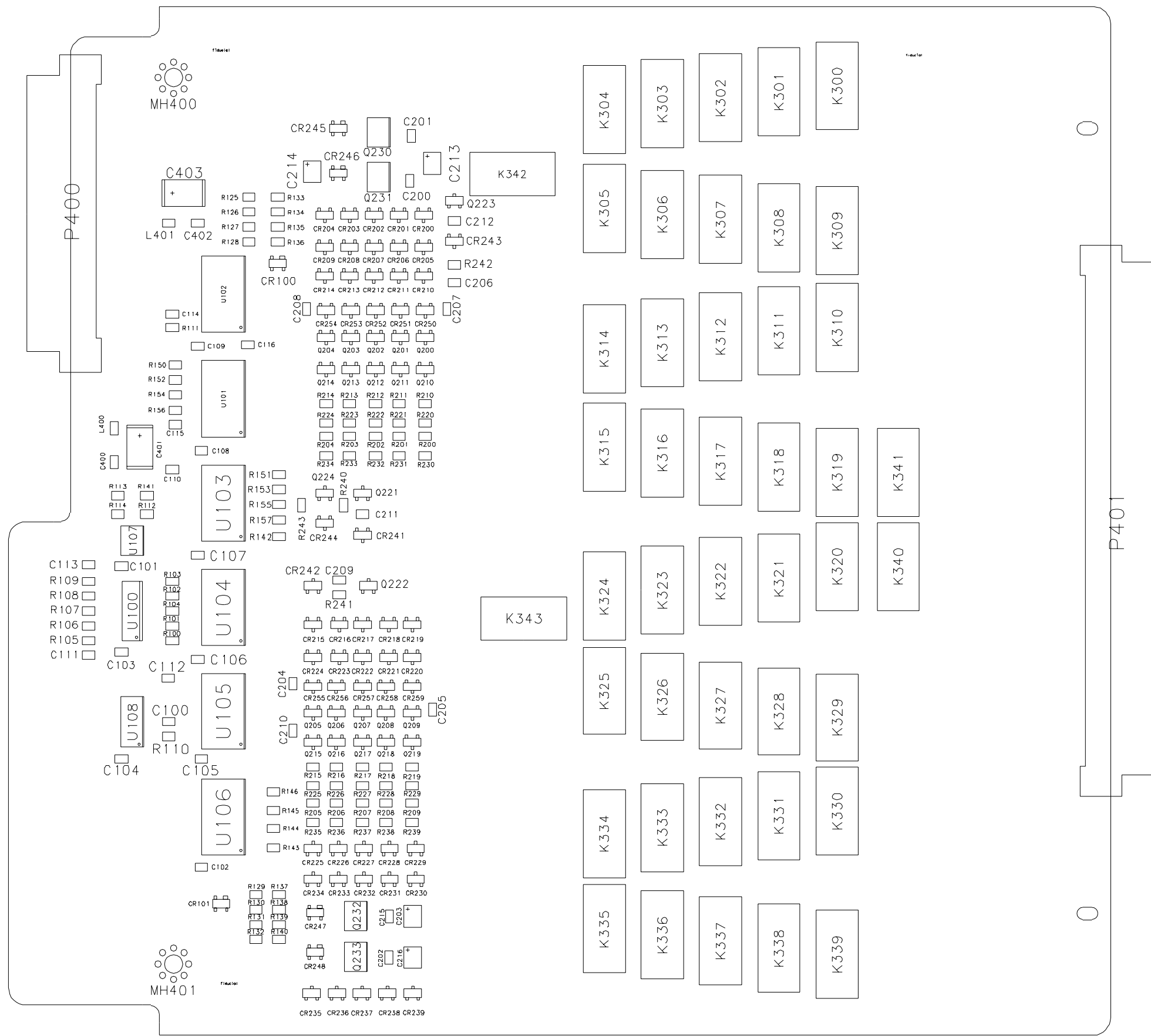
Agilent 3499A/B/C Keyboard and Display
Schematic (Sheet 1 of 2)
Page 144

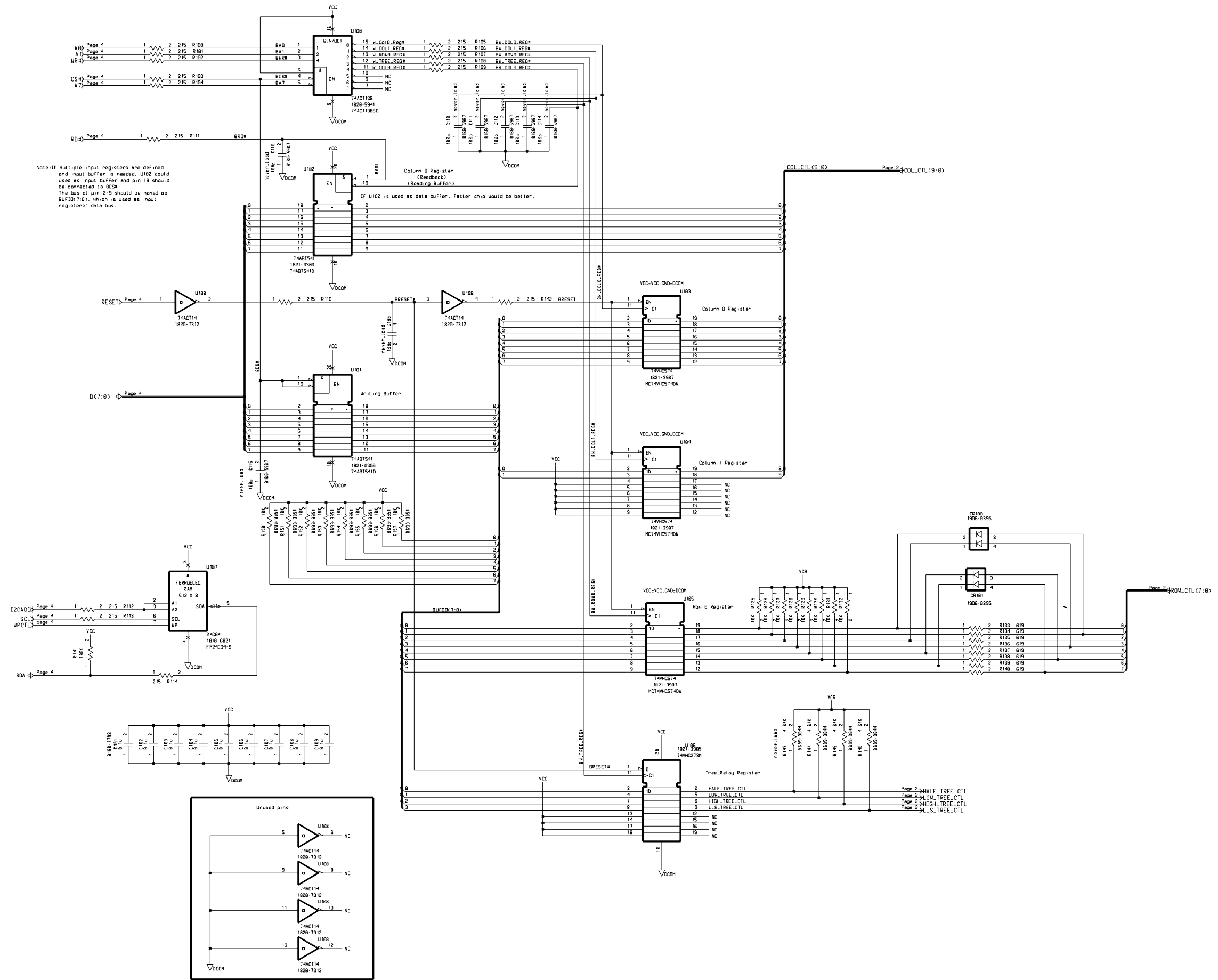
DC(12v) to DC (36v) Converter
 $V_o = (1 + (R_{200}/R_{201})) * 1.24$



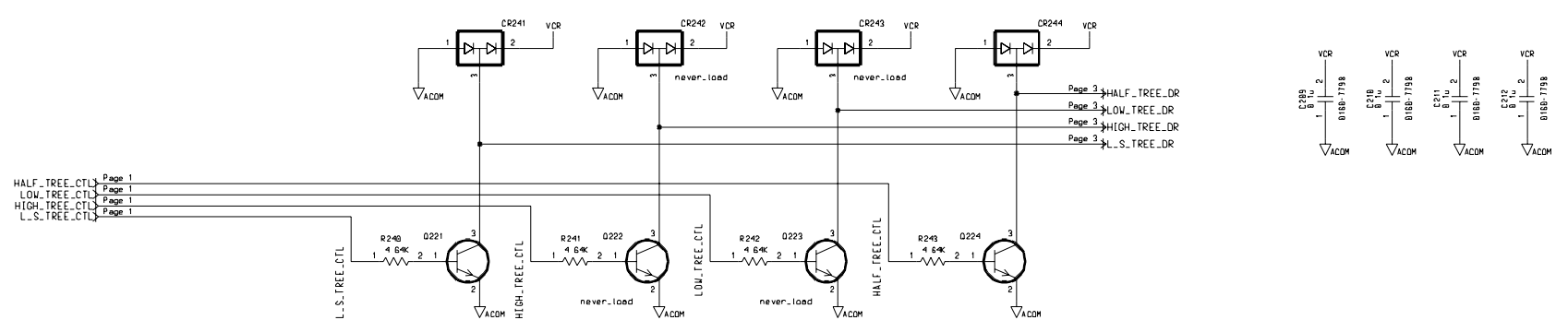
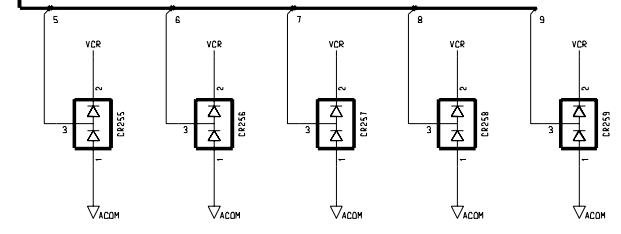
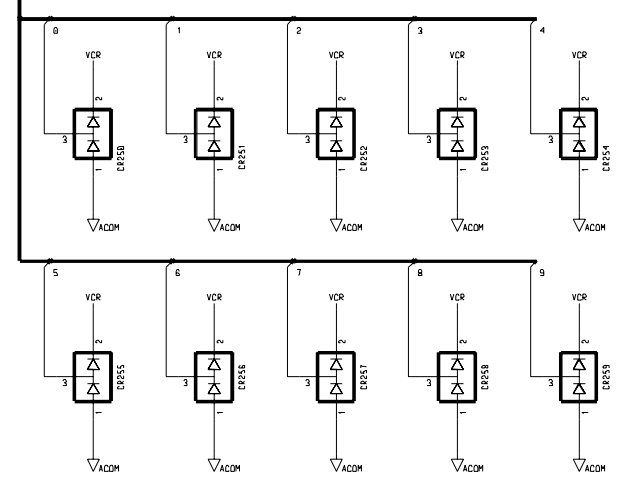
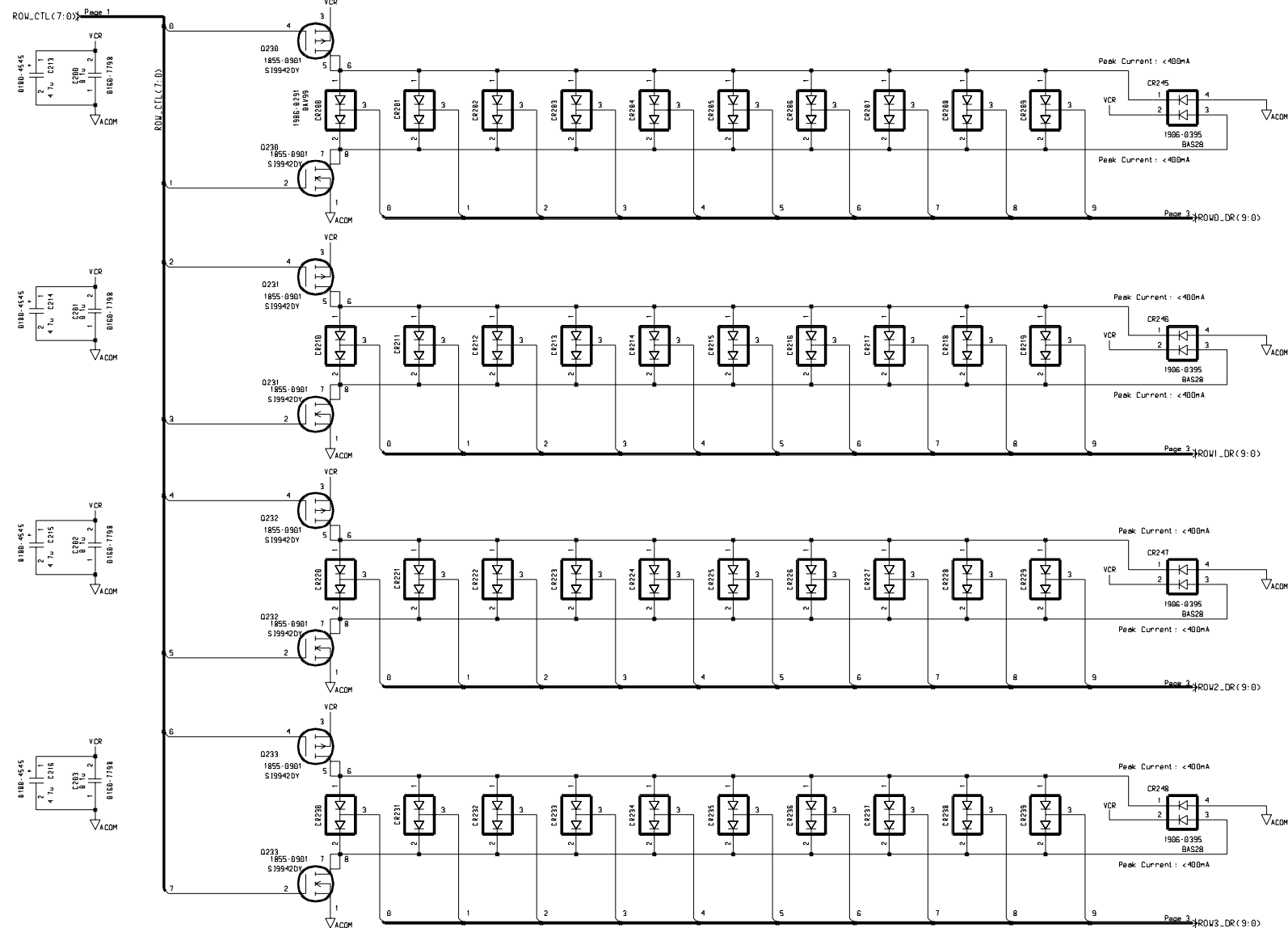
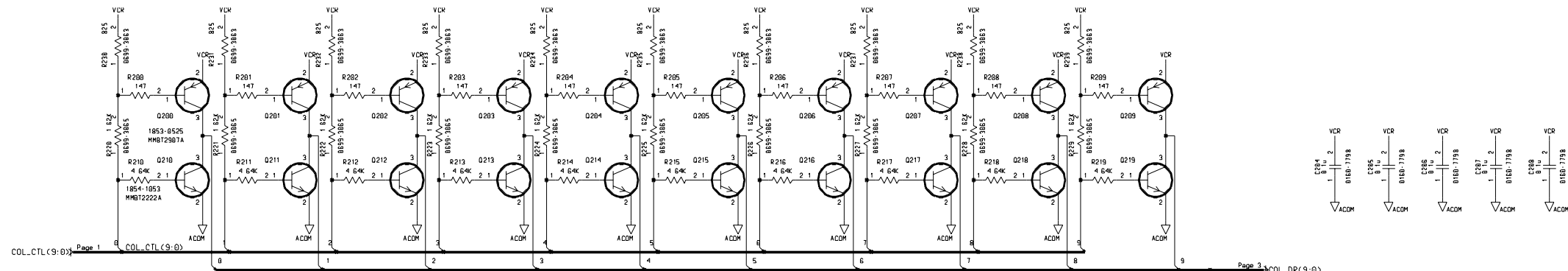


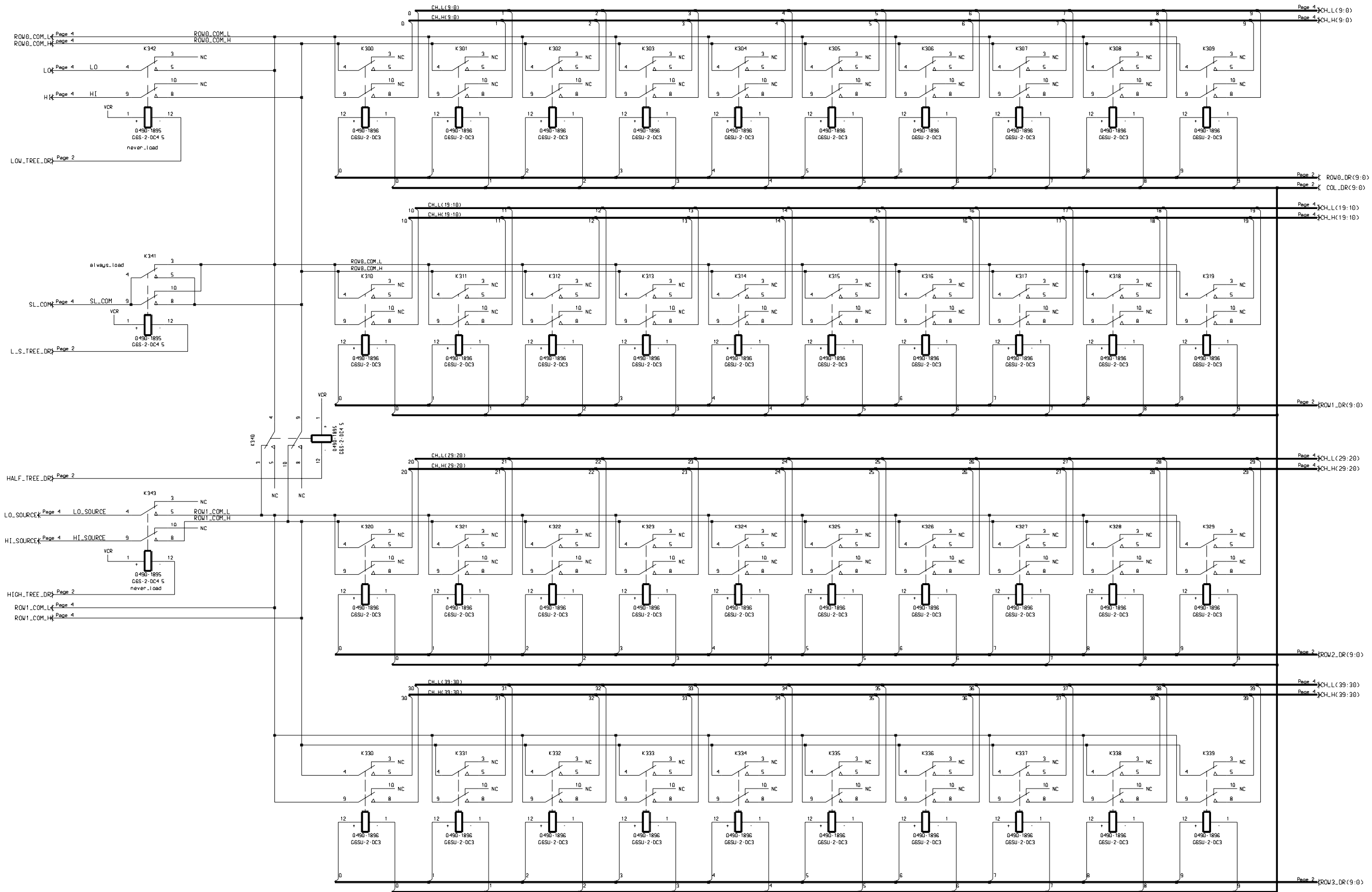






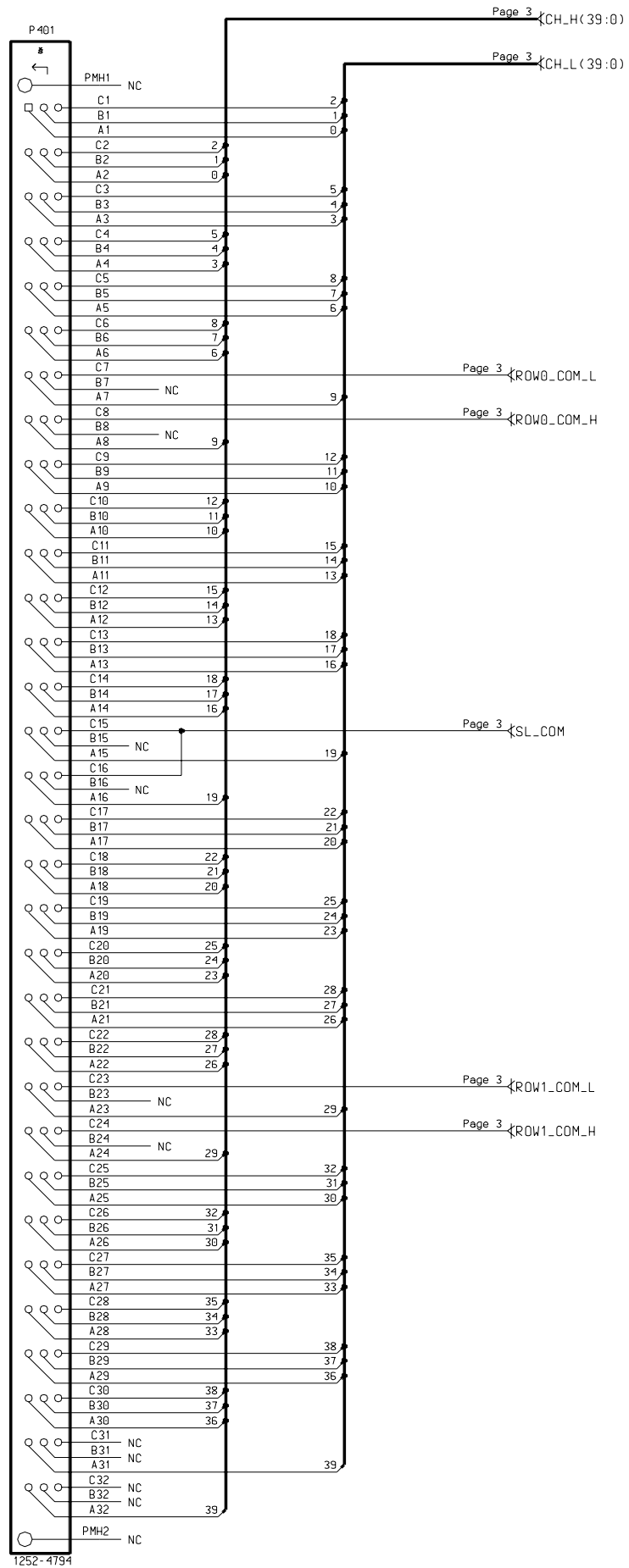
Agilent N2260A 40-Channel MUX Module Schematic (Sheet 1 of 4) Page 150





Relay Specification : 1A/200V

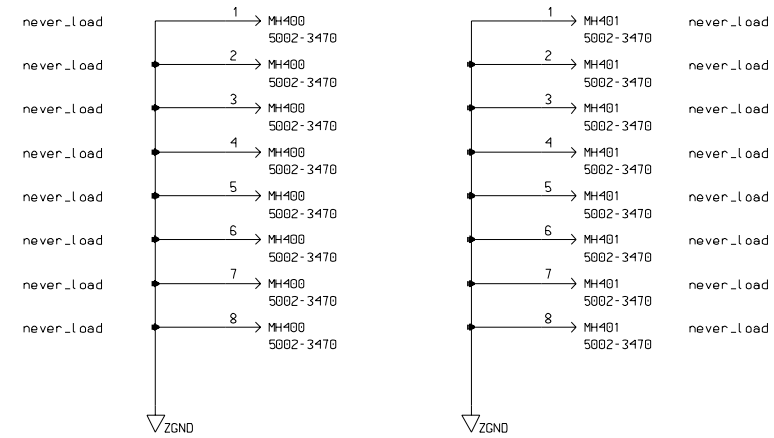
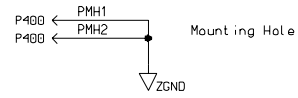
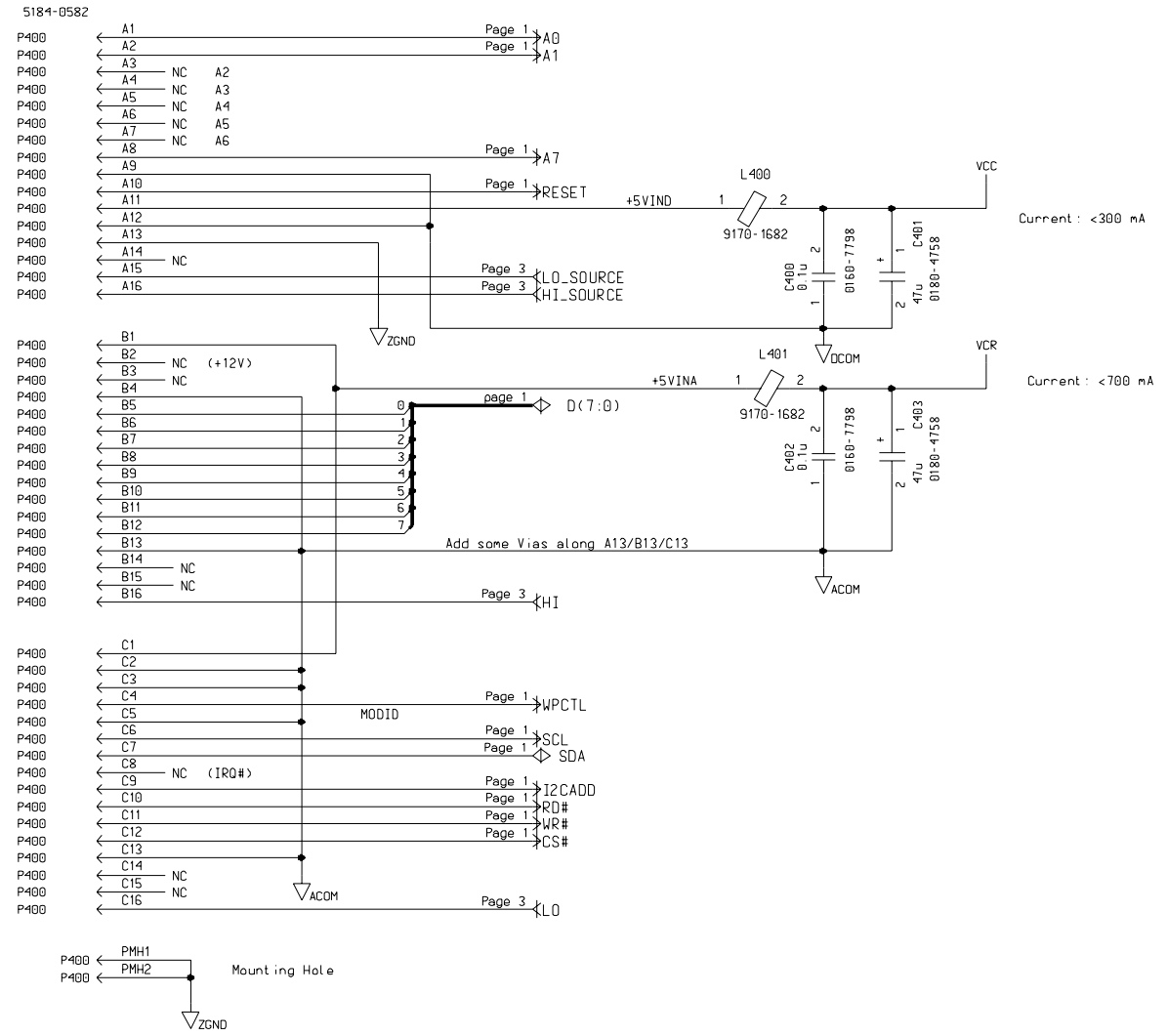
Agilent N2260A 40-Channel MUX Module
 Schematic (Sheet 3 of 4)
 Page 152

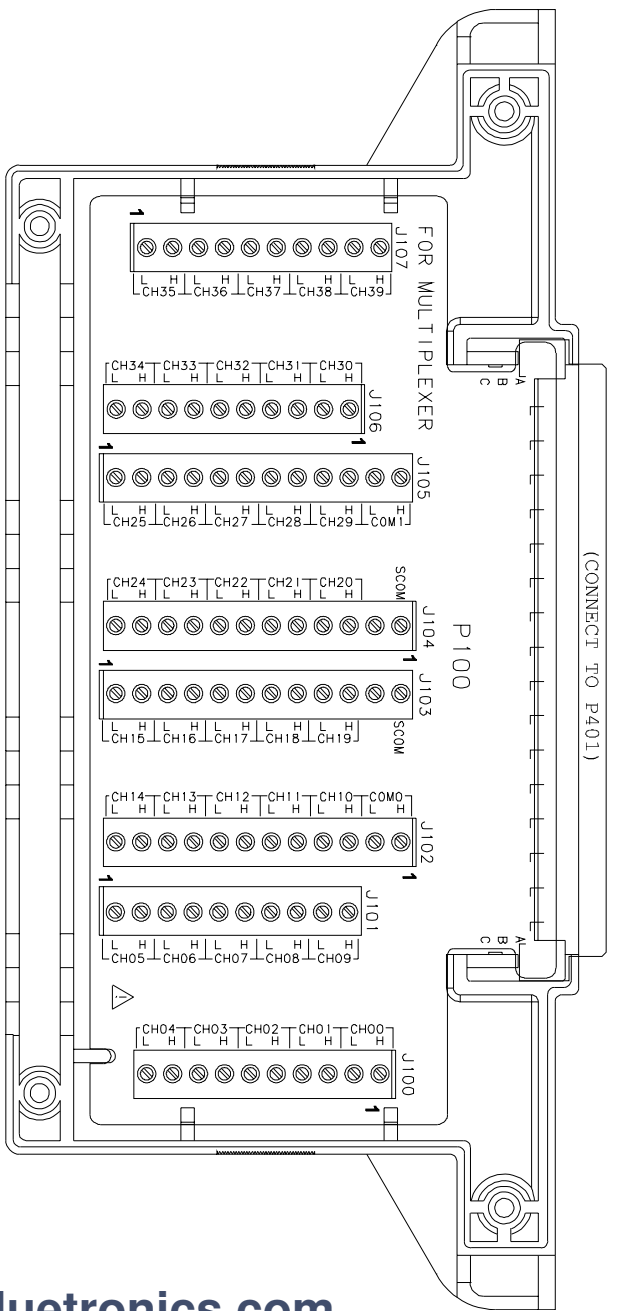
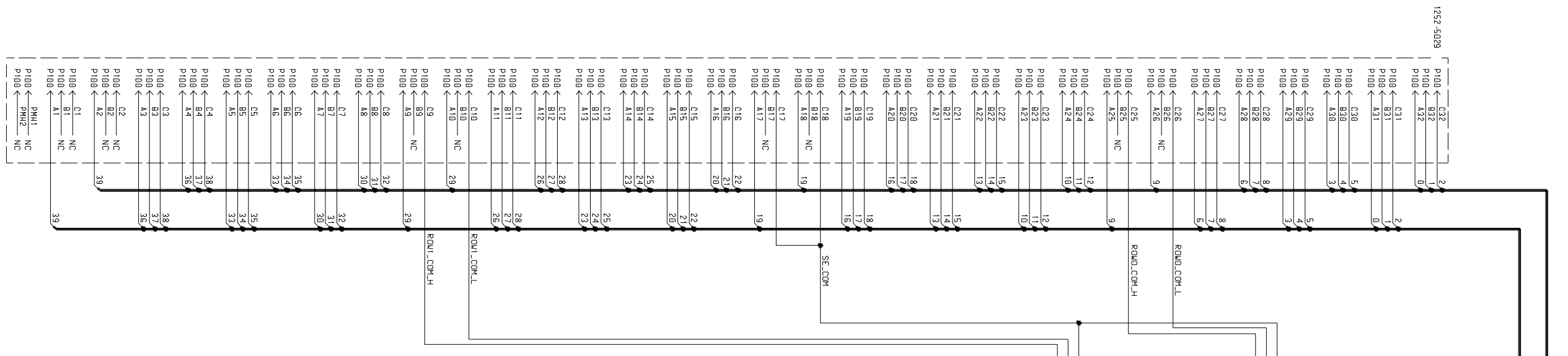


A13 is used as ZGND!
(Isolation between AB and System)

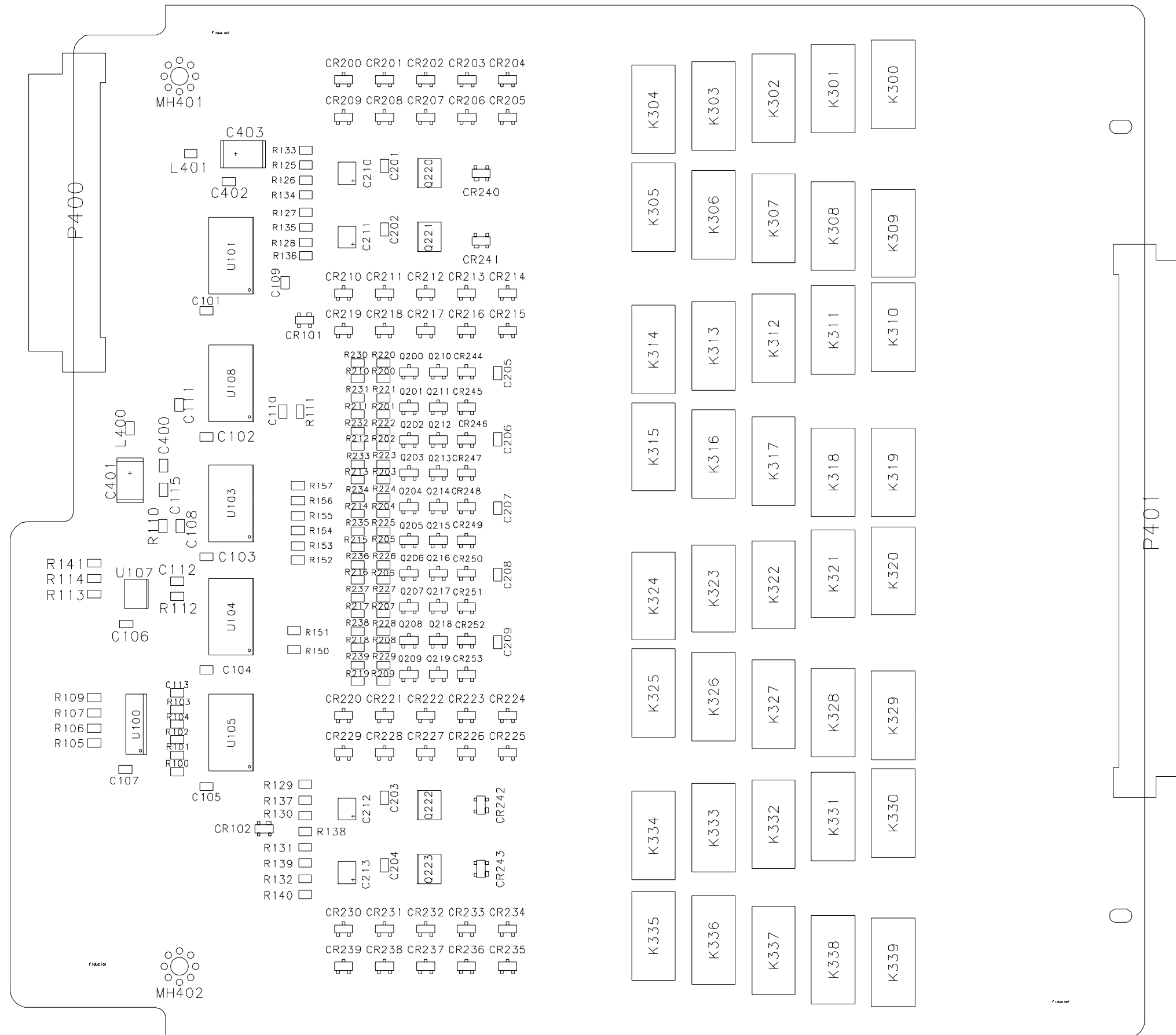
(Isolation between AB and System)

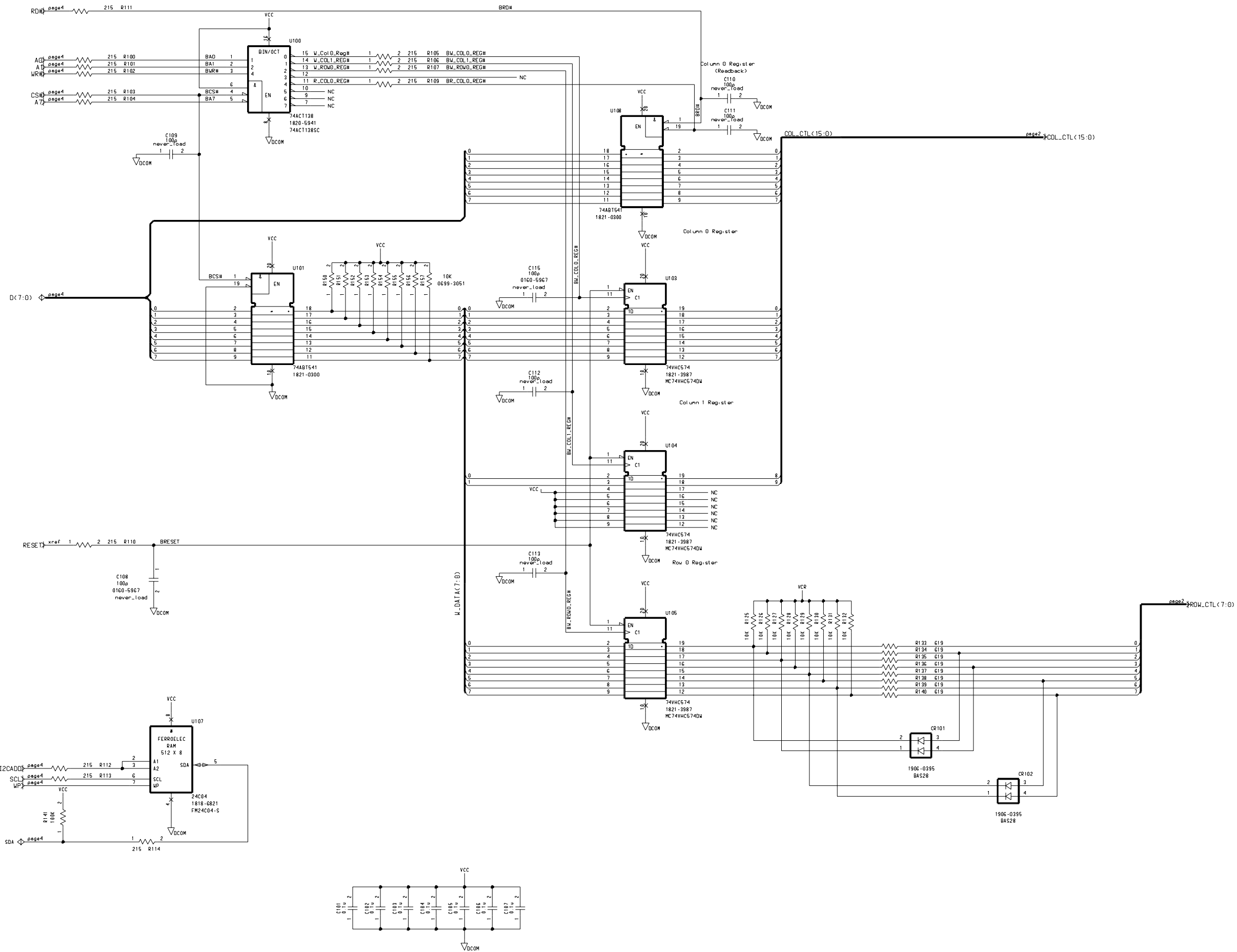
(Isolation between AB and System)



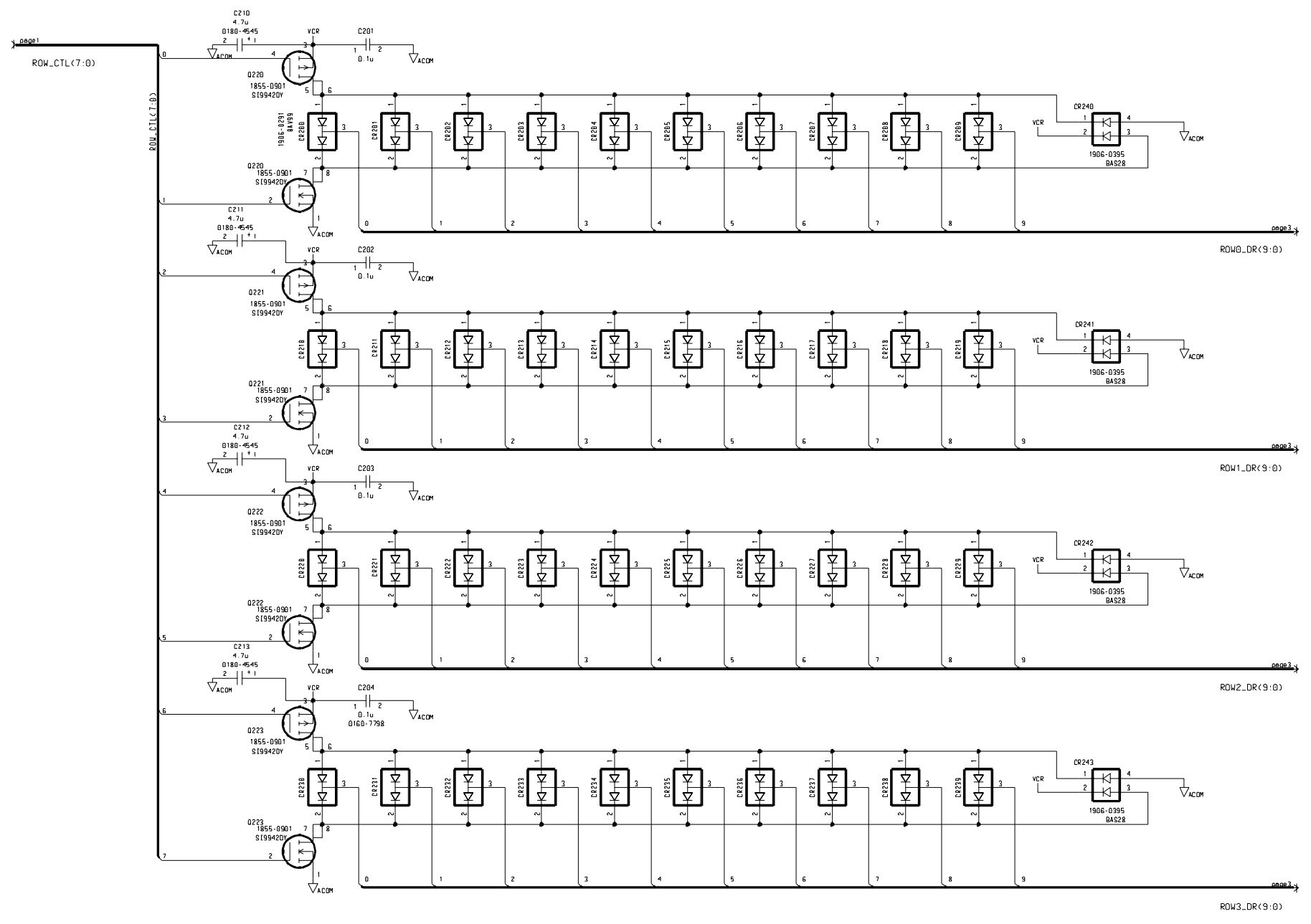
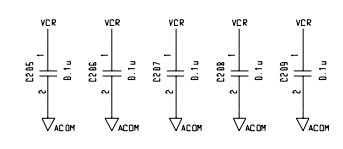
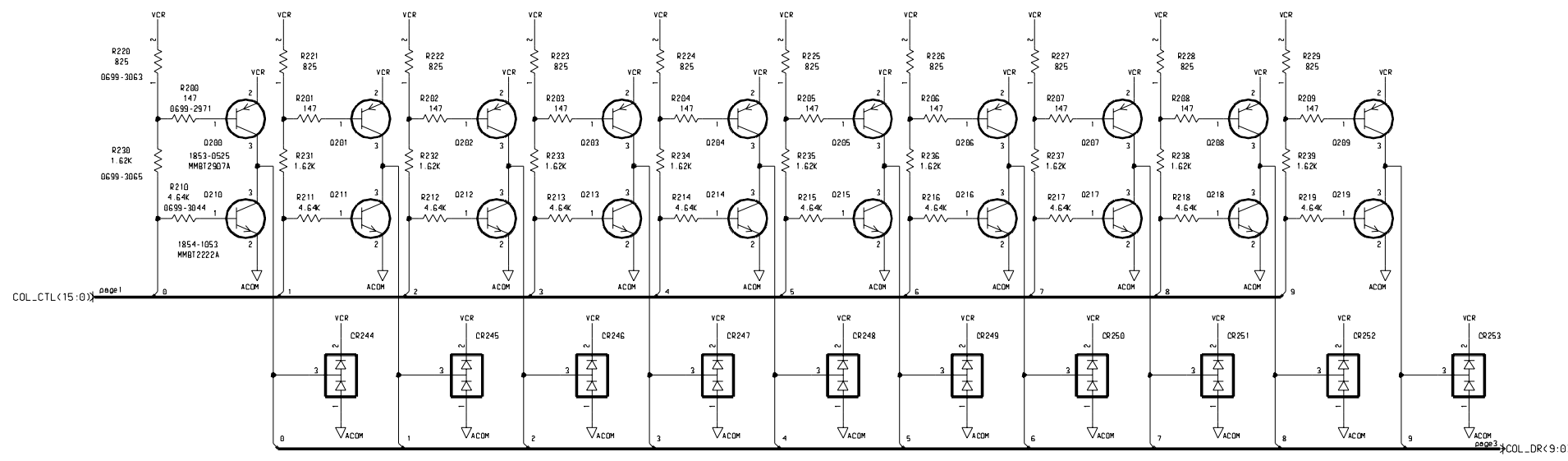


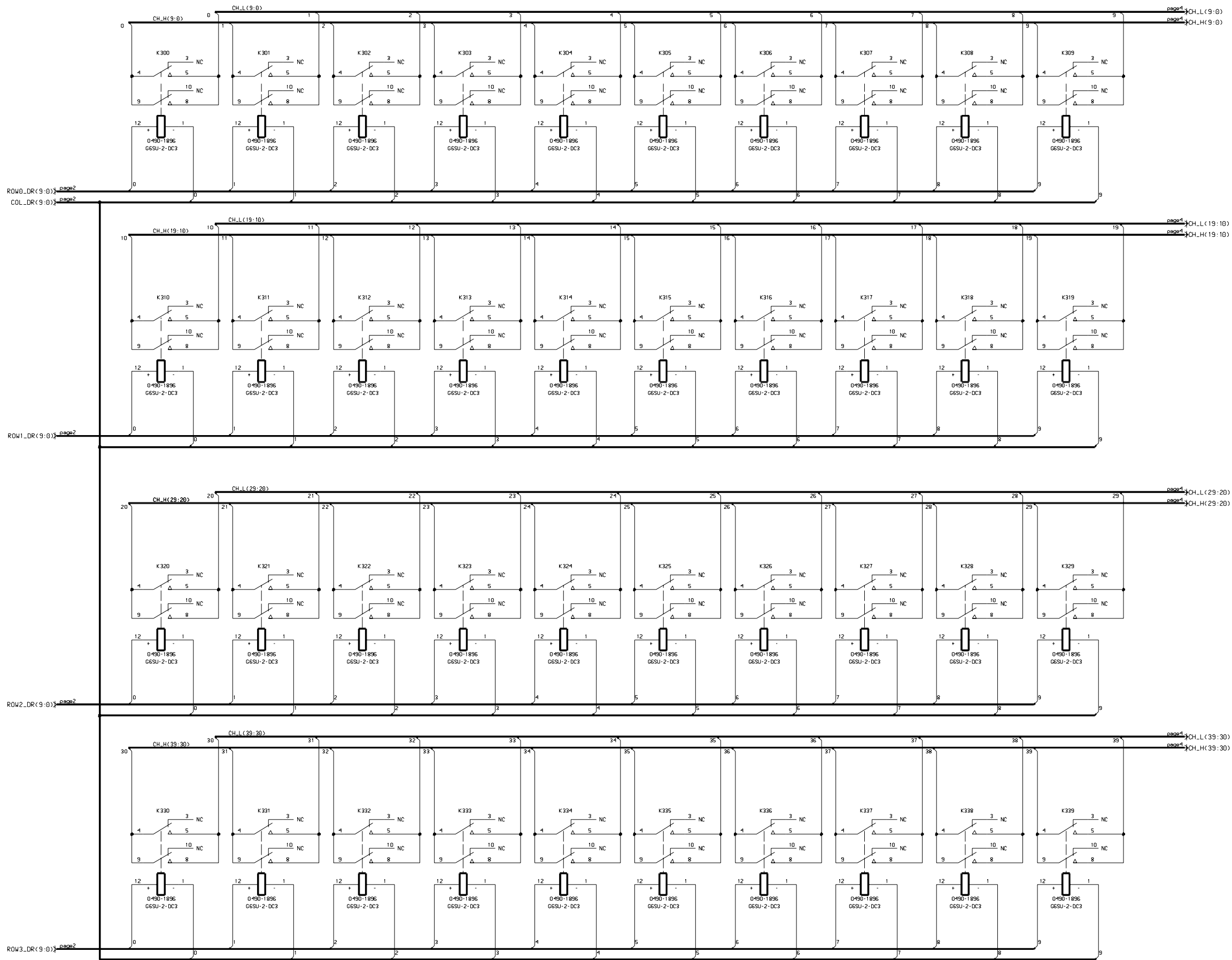
Agilent N2290A Screw Terminal Block Component Locator and Schematic
Page 154



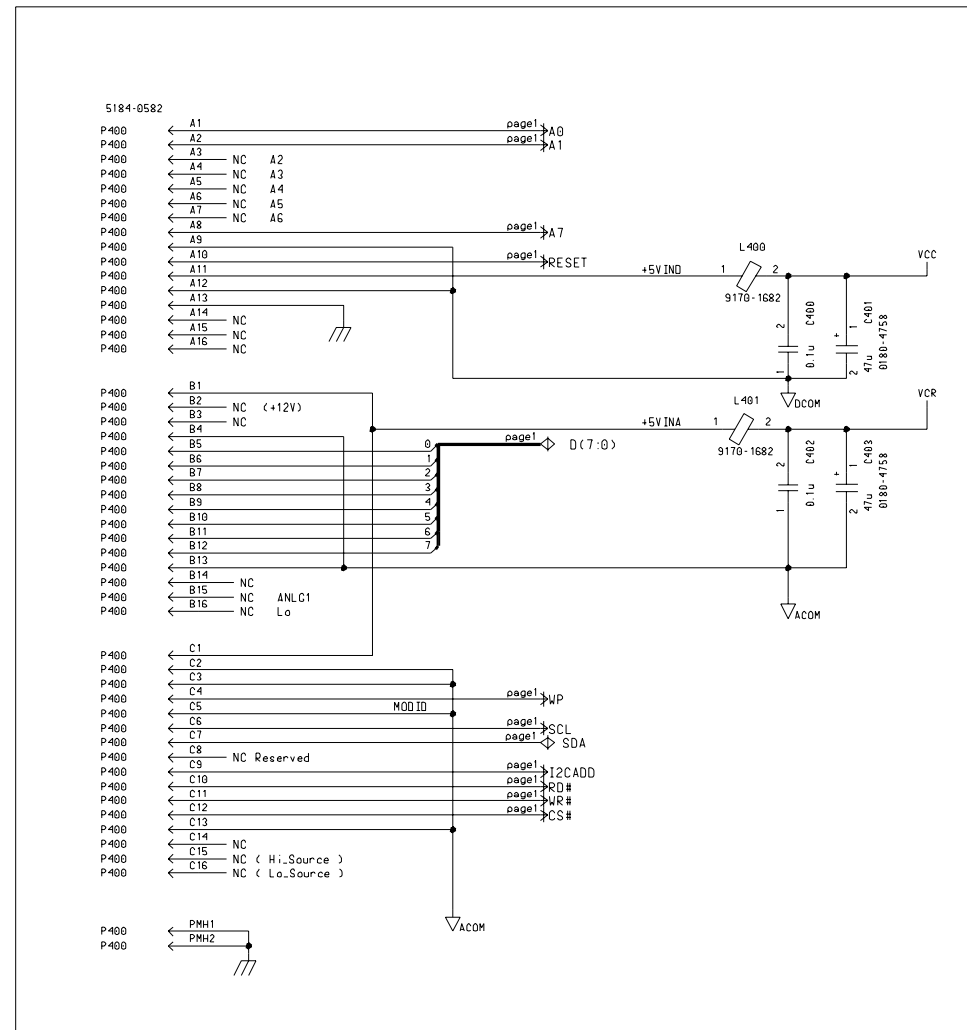


Agilent N2261A GP Relay Module
Schematic (Sheet 1 of 4)
Page 156

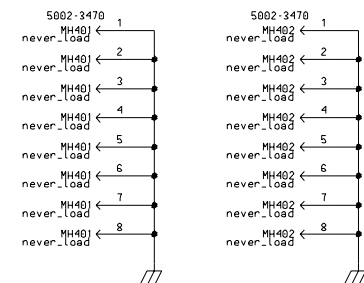




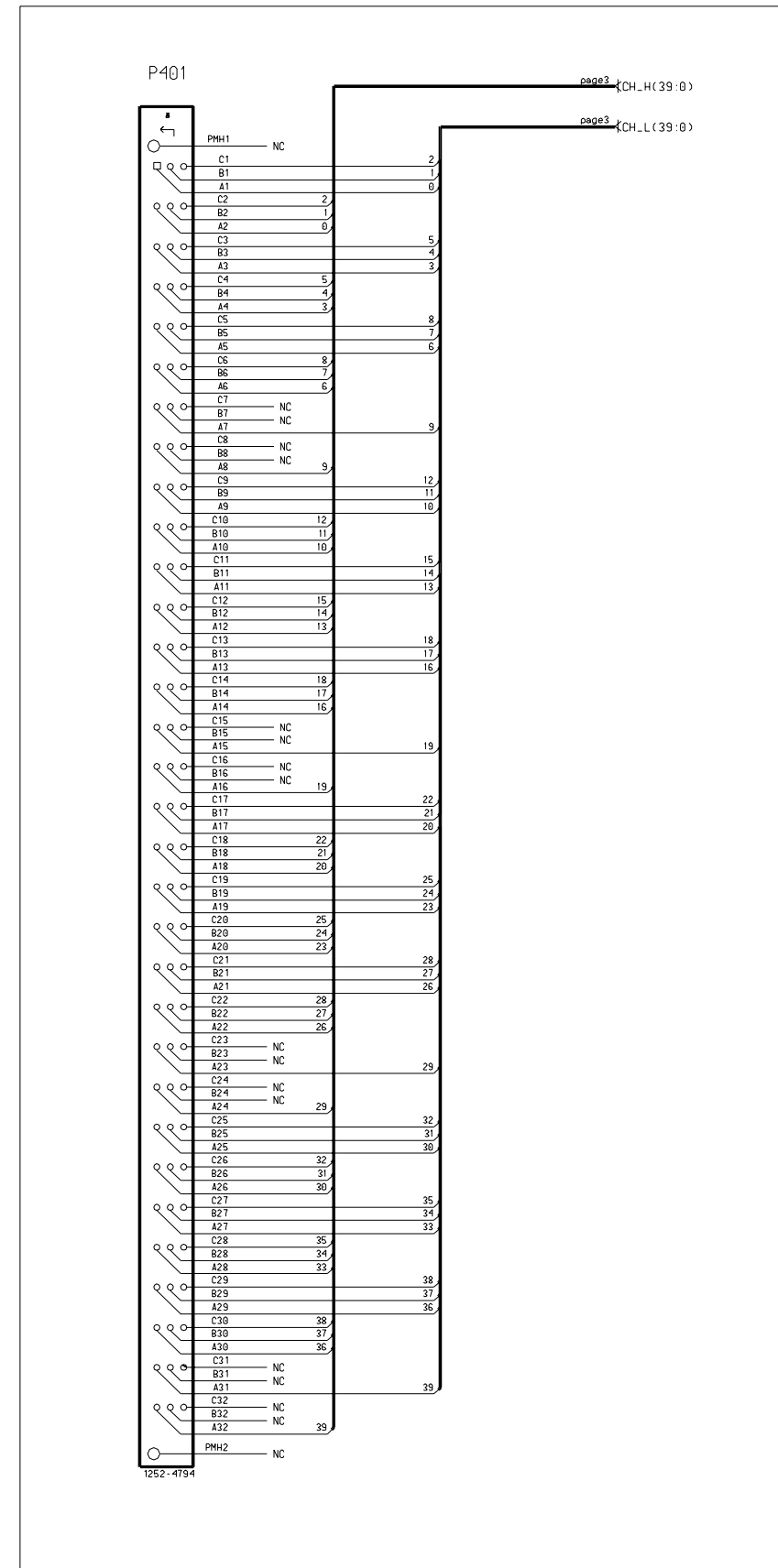
Backplane Connector

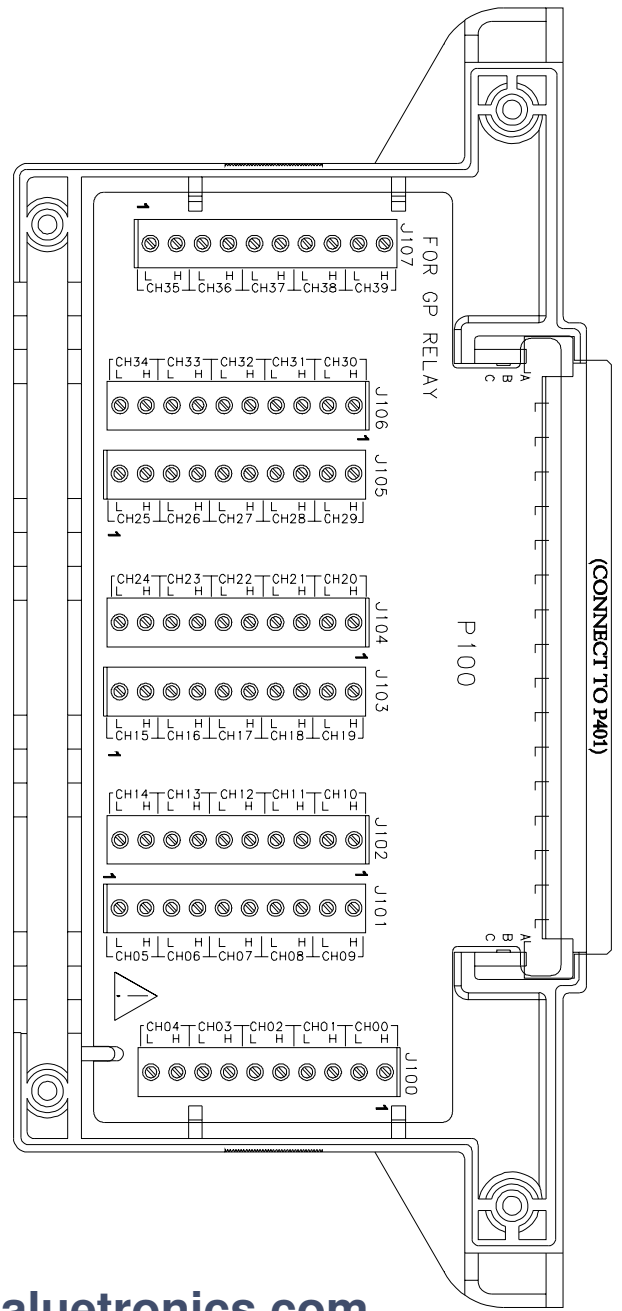
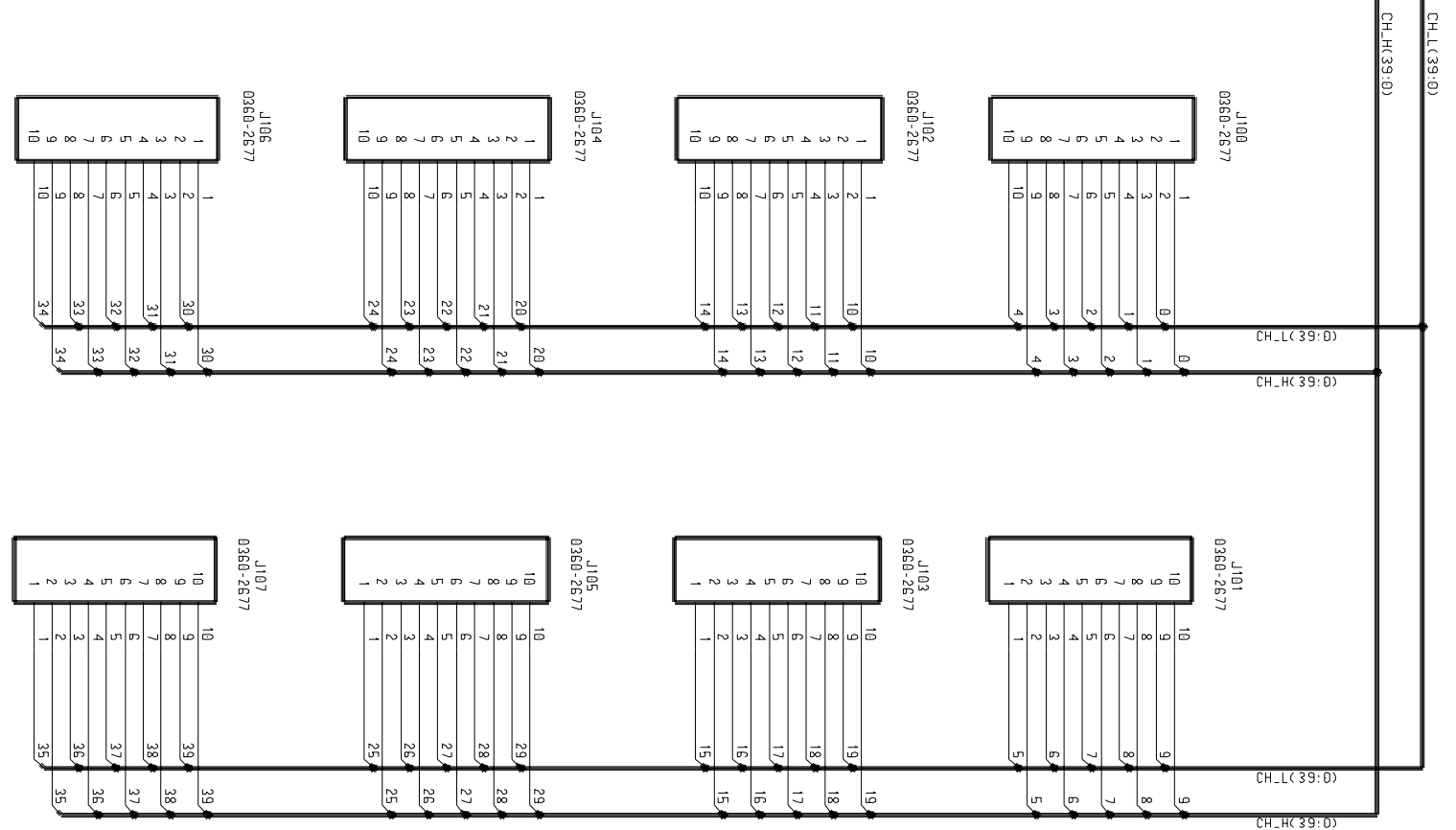
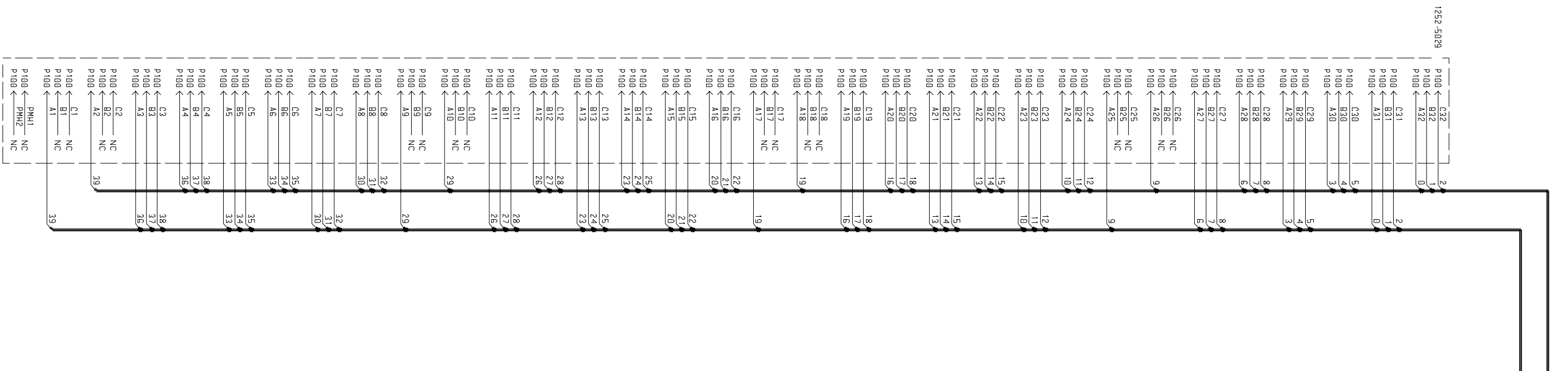


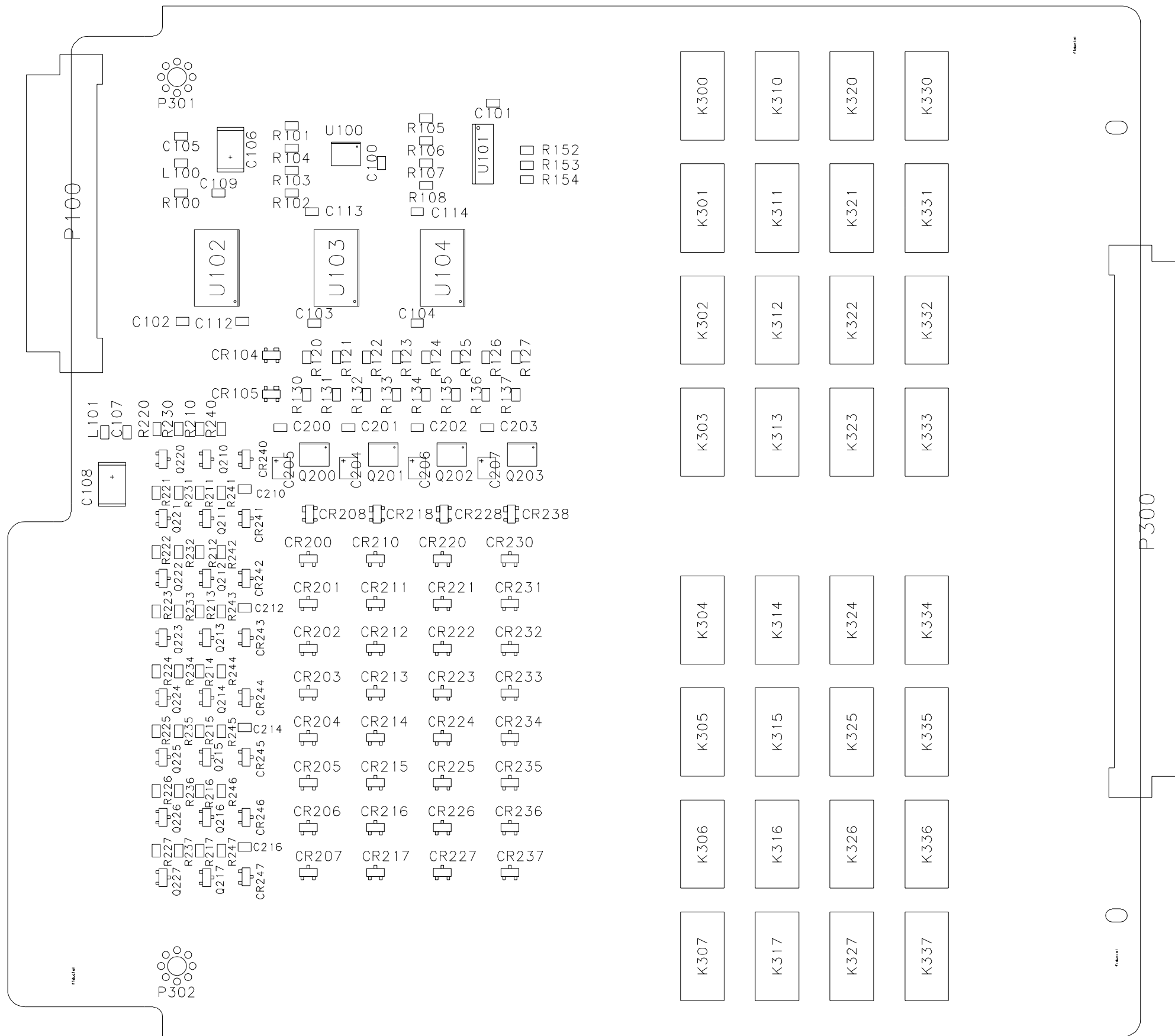
Two Mounting Holes

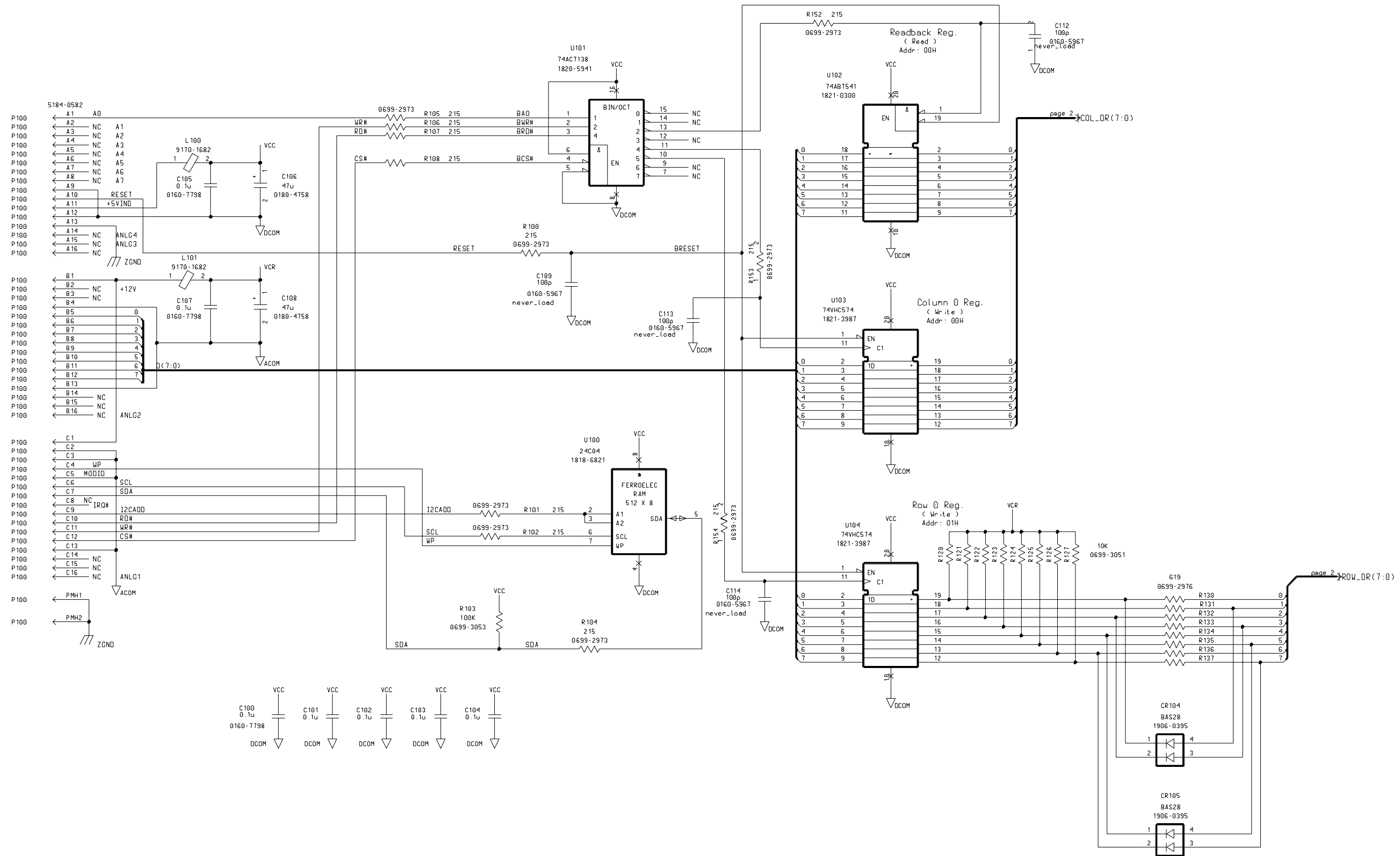


Front Connector

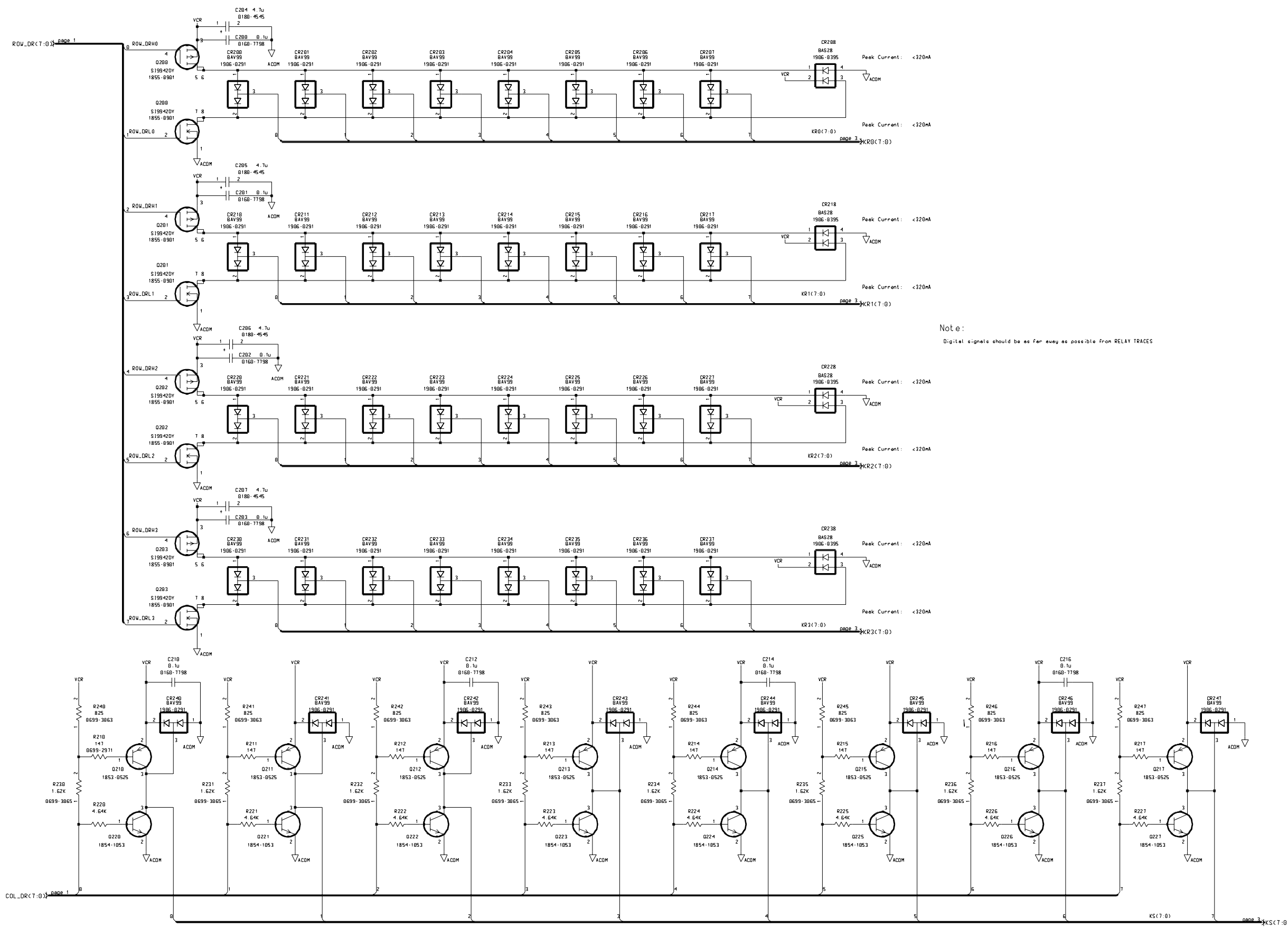






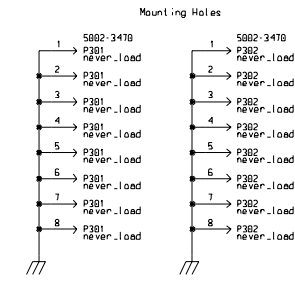
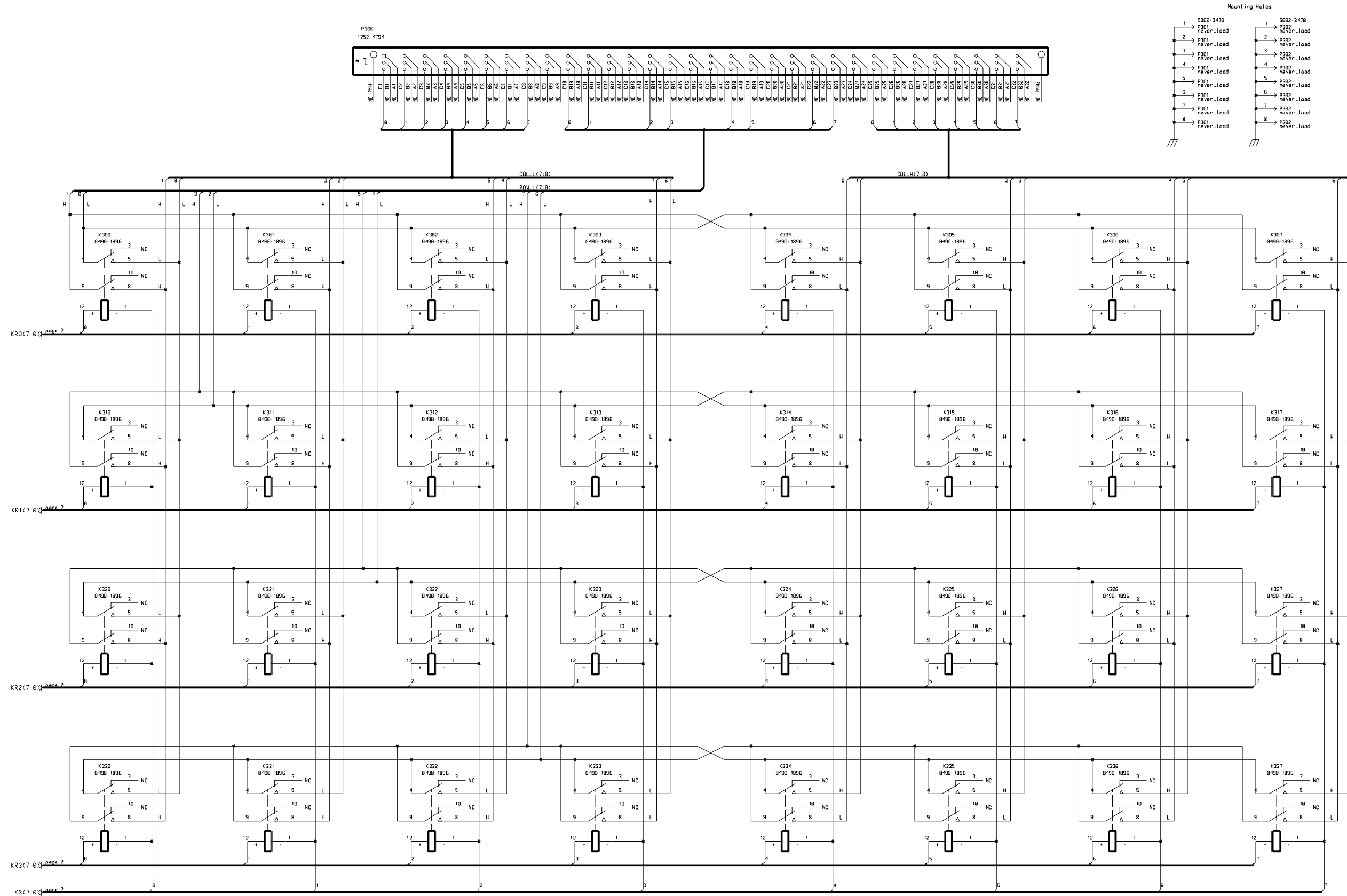


Agilent N2262A 4 x 8 Matrix Module
Schematic (Sheet 1 of 3)
Page 162

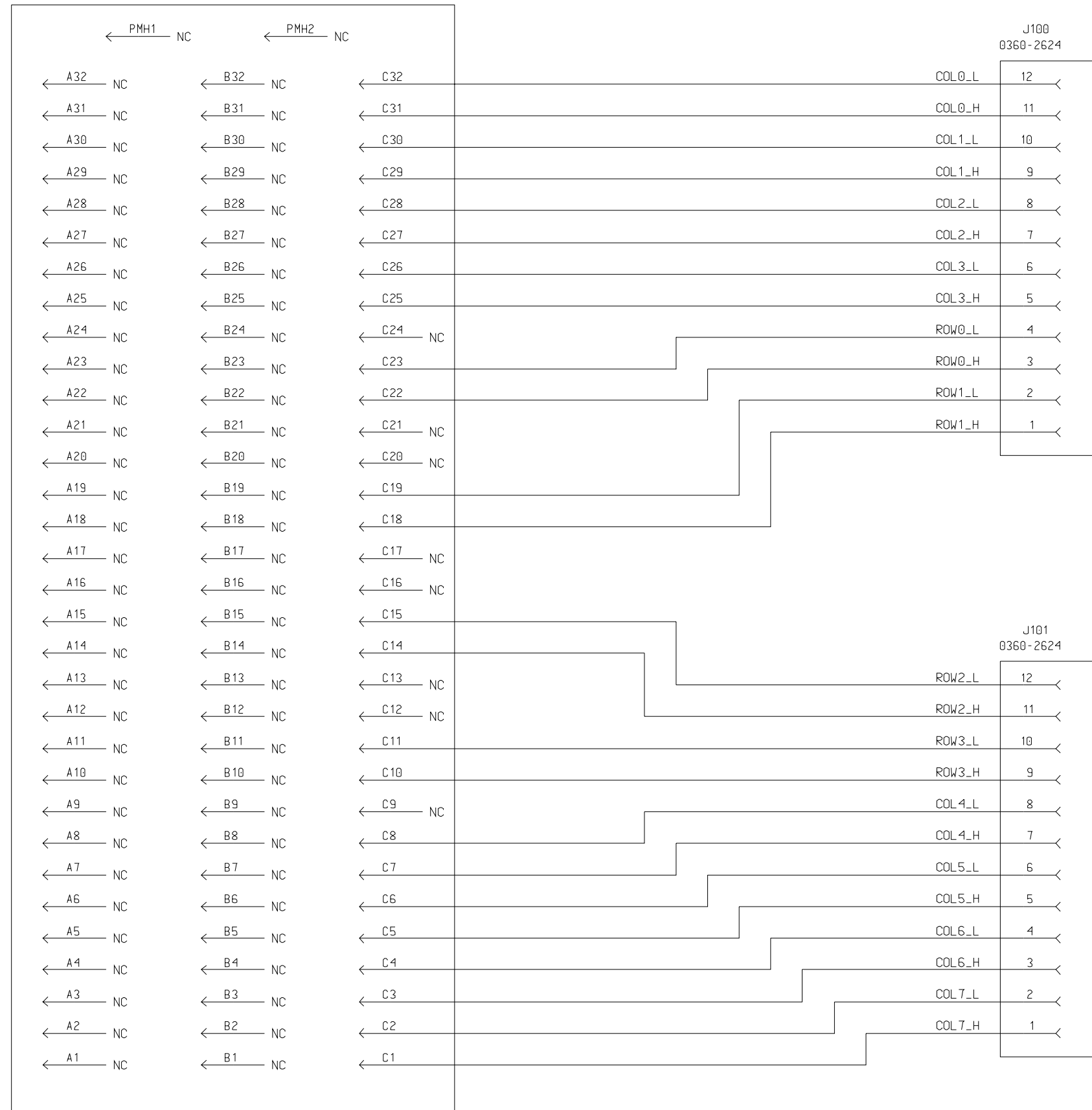
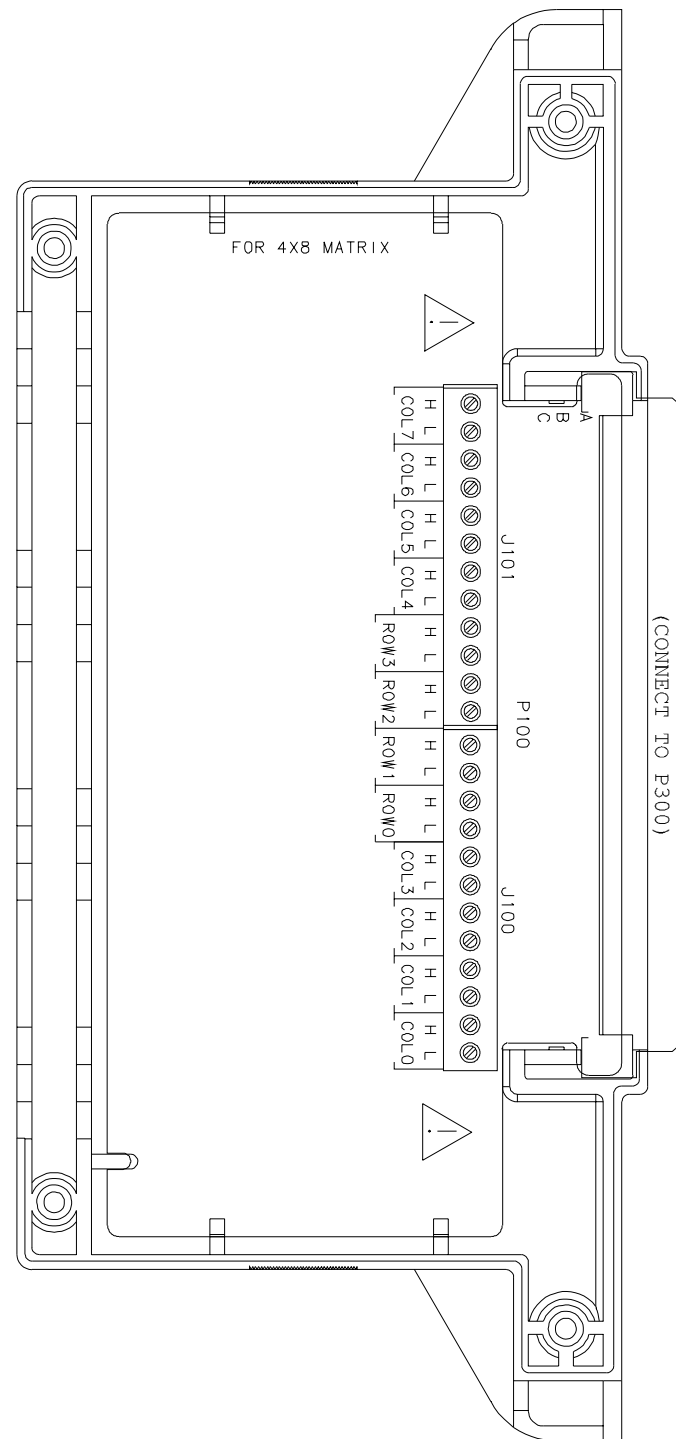


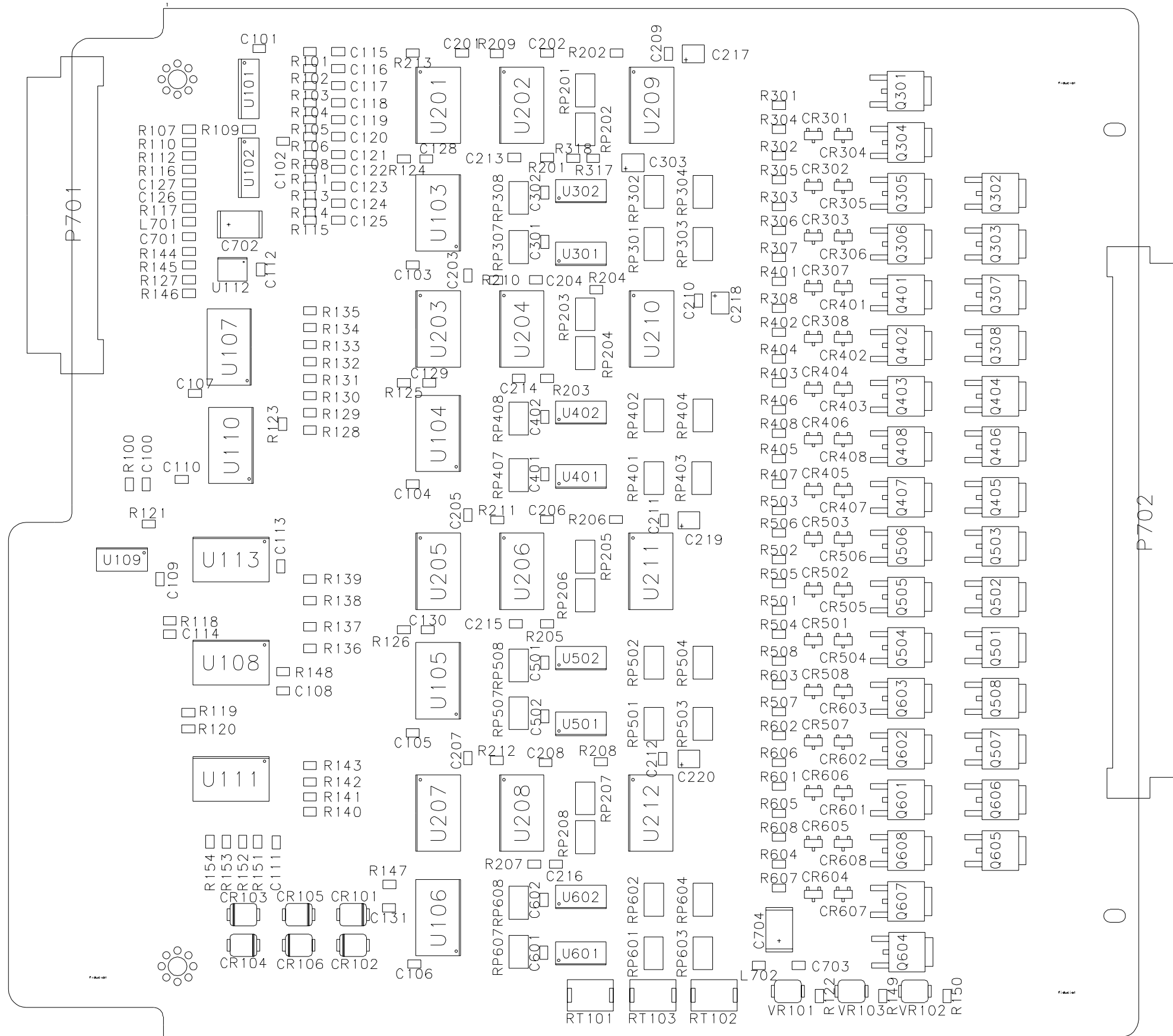
Note:
Digital signals should be as far away as possible from RELAY TRACES

P300
1252-4794



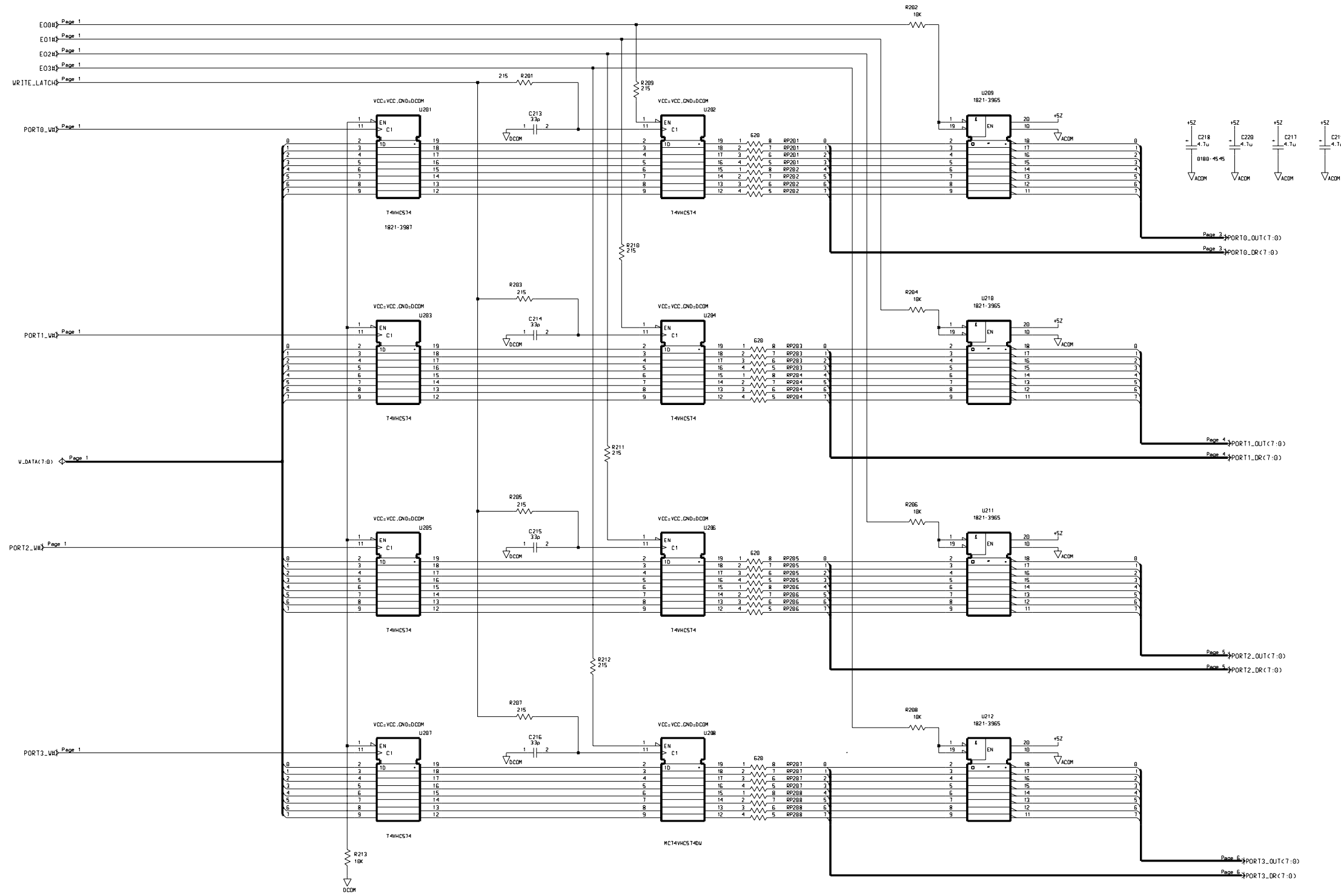
Relay Specification : 1A/200V



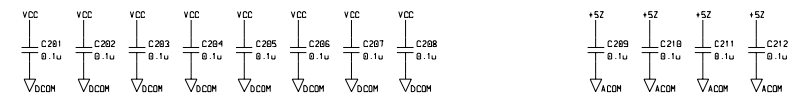


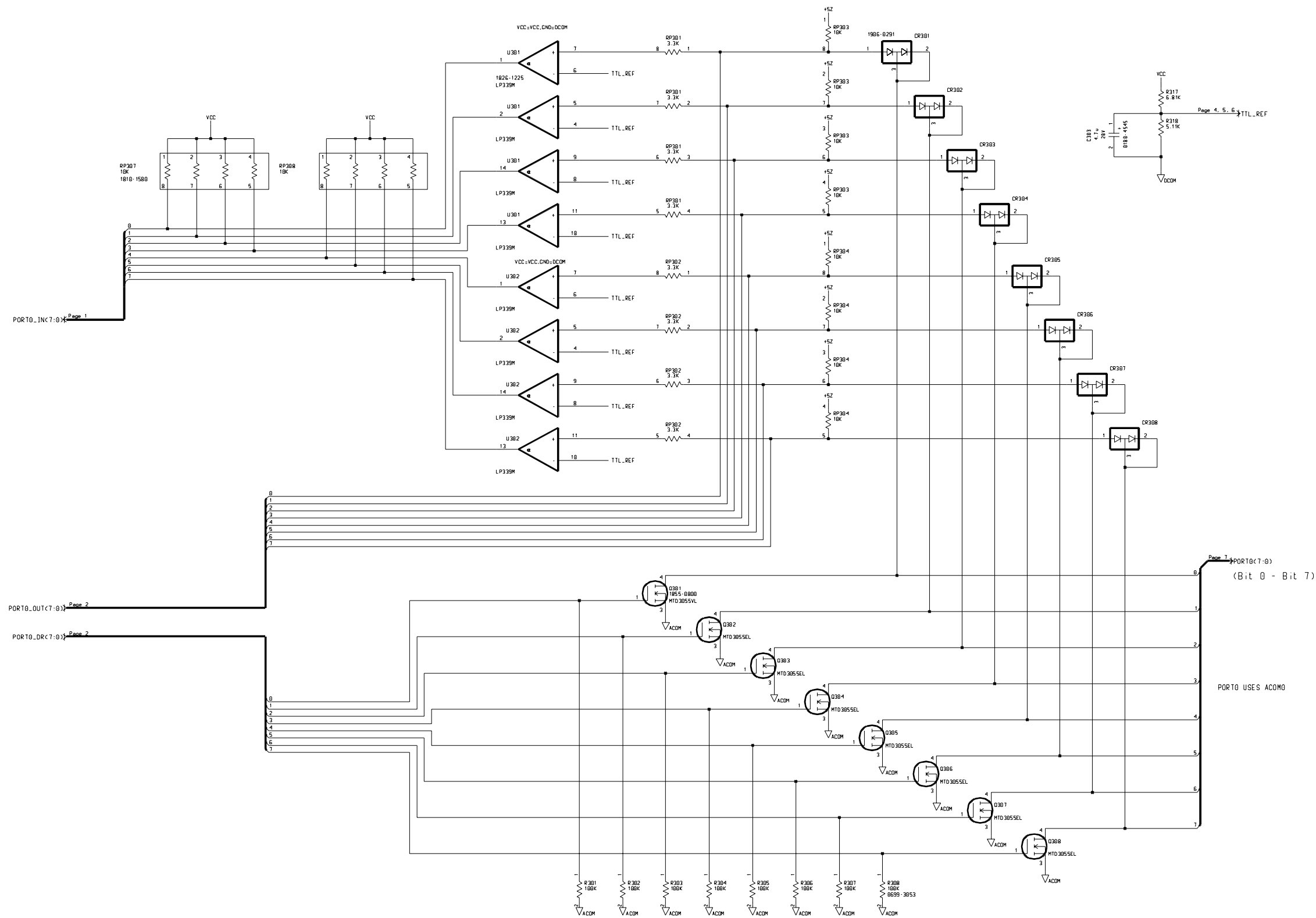
Agilent N2263A 32-Bit Digital I/O Module
 Component Locator
 Page 166

OUTPUT LATCHES & HIGH DRIVERS



Bypass capacitors





PORT0_IN<7:0> Page 1

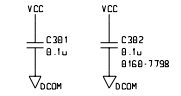
PORT0_OUT<7:0> Page 2

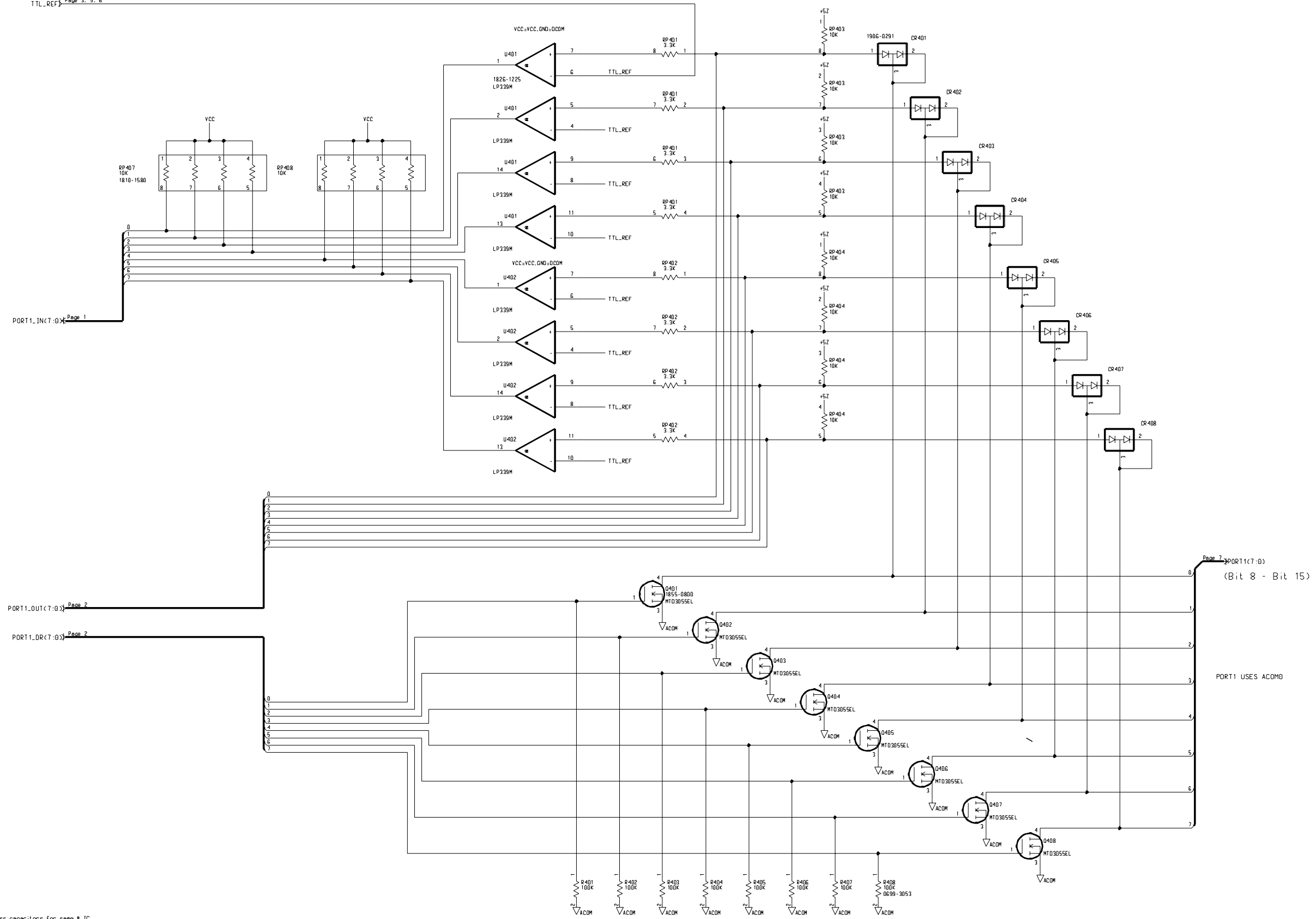
PORT0_OR<7:0> Page 2

PORT0<7:0> (Bit 0 - Bit 7)

PORT0 USES ACOM0

Bypass capacitors for same # IC





Page 1

Page 2

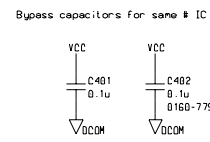
Page 2

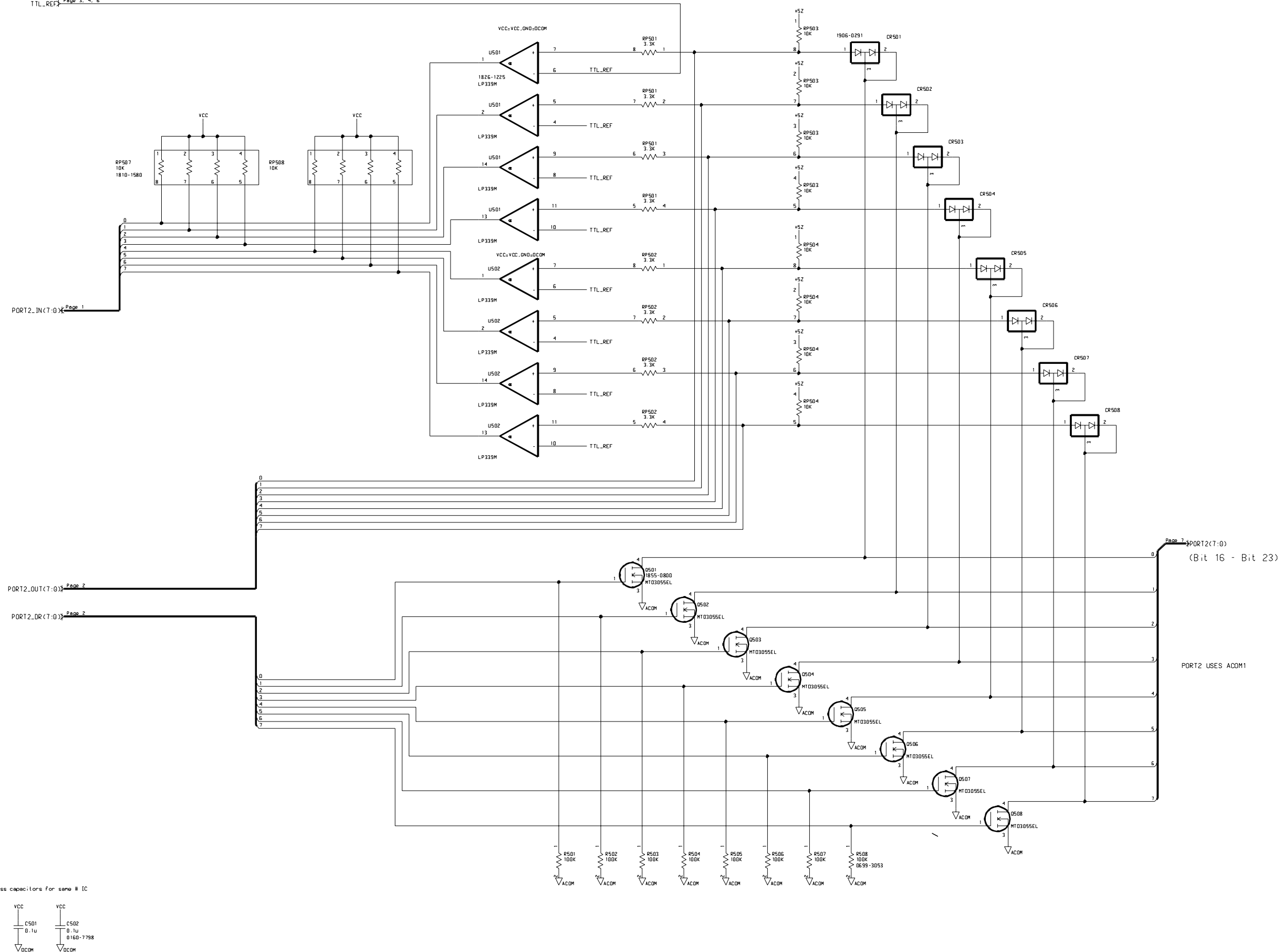
Page 7

PORT1(7:0)

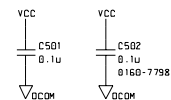
(Bit 8 - Bit 15)

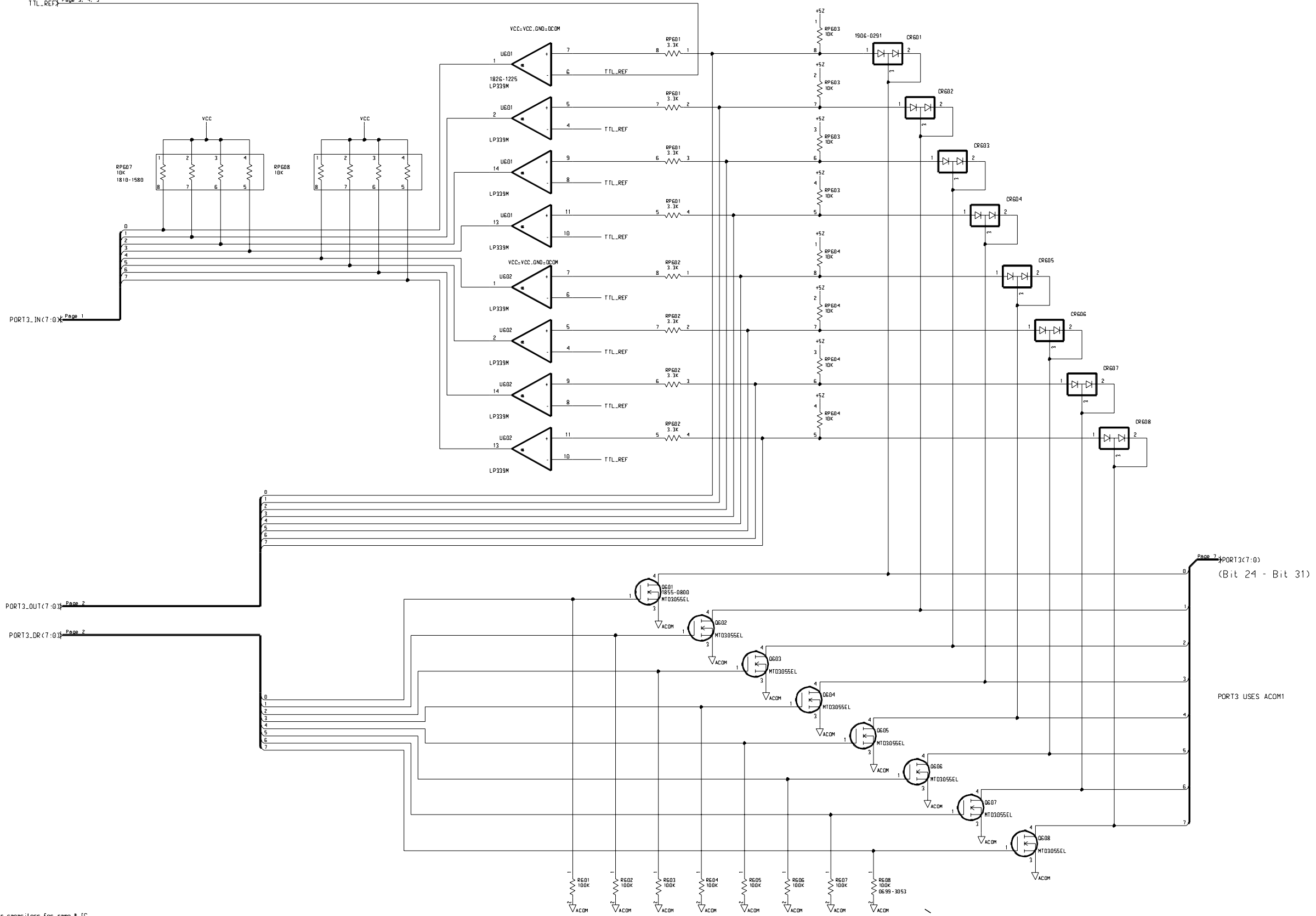
PORT1 USES ACOM0



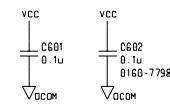


Bypass capacitors for same # IC

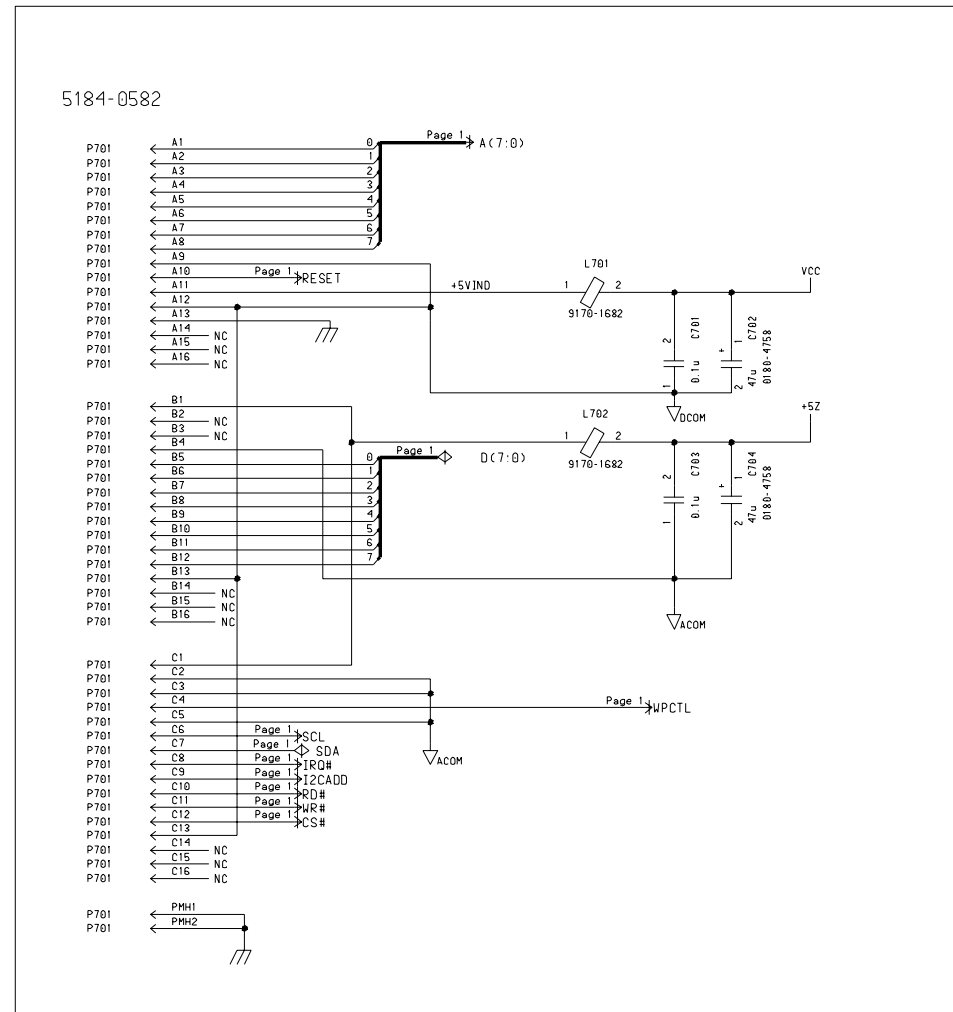




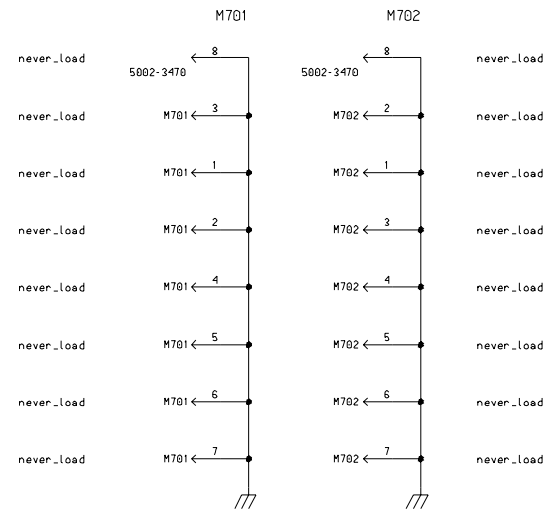
Bypass capacitors for same # IC



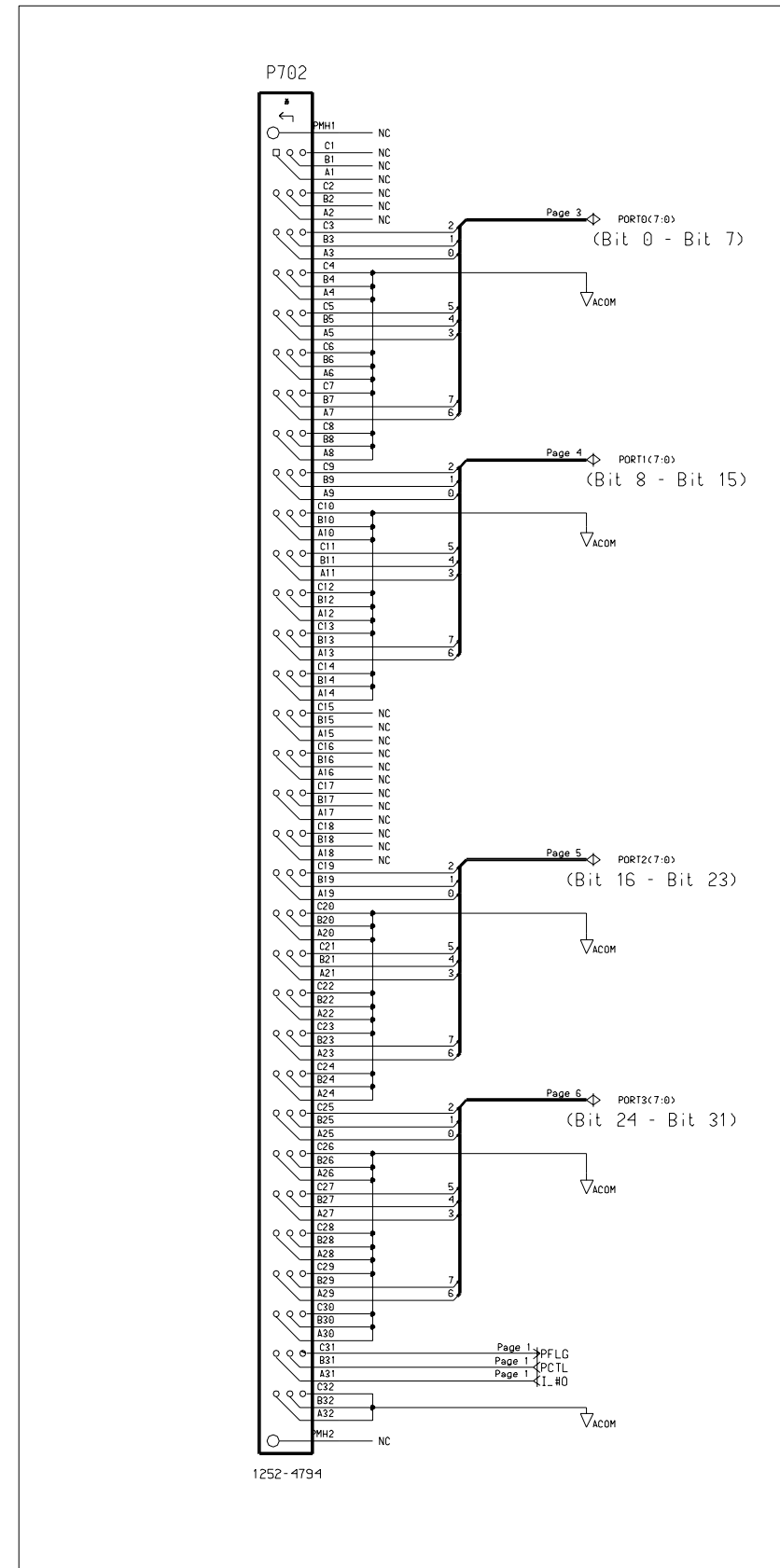
Backplane Connector

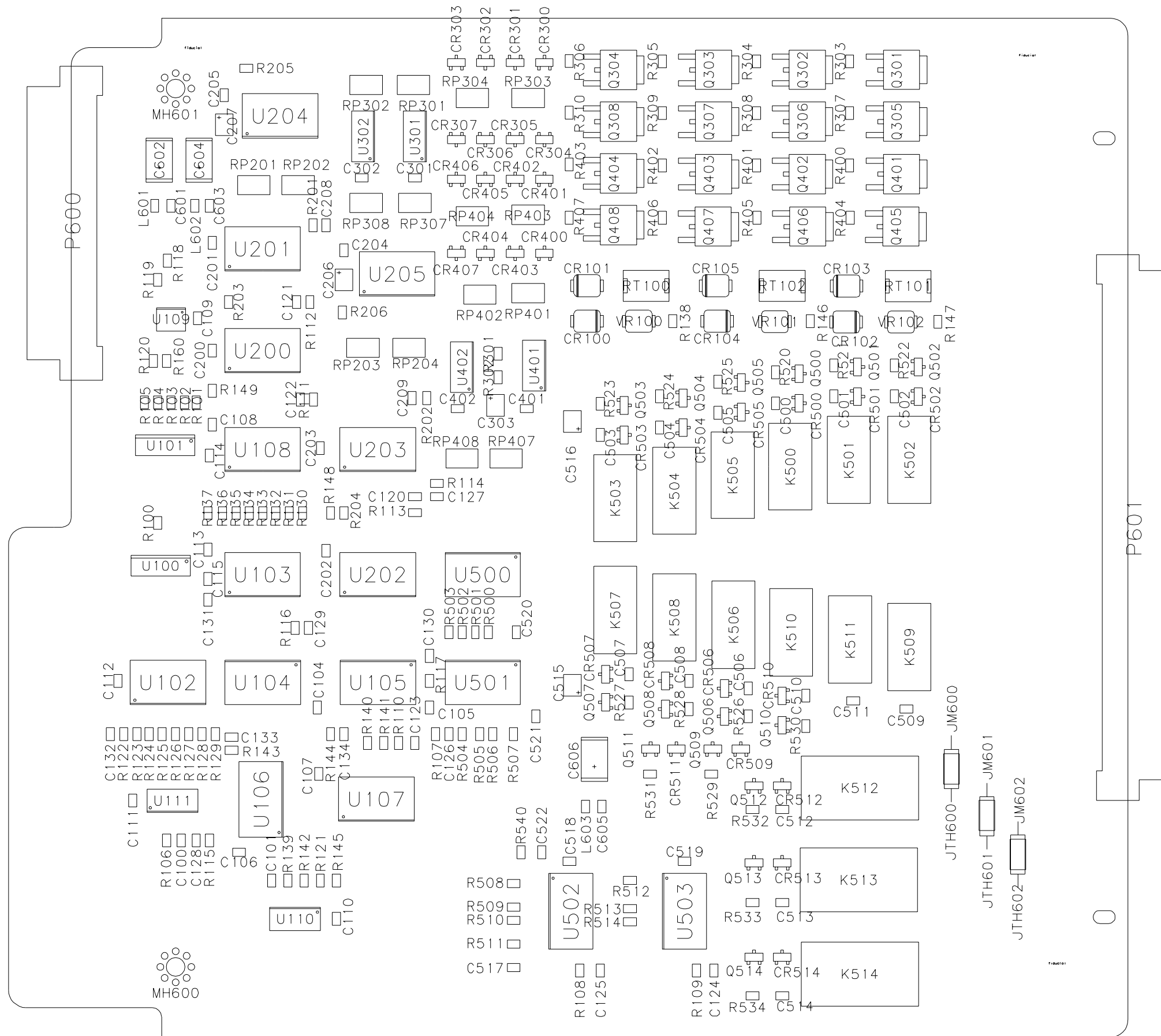


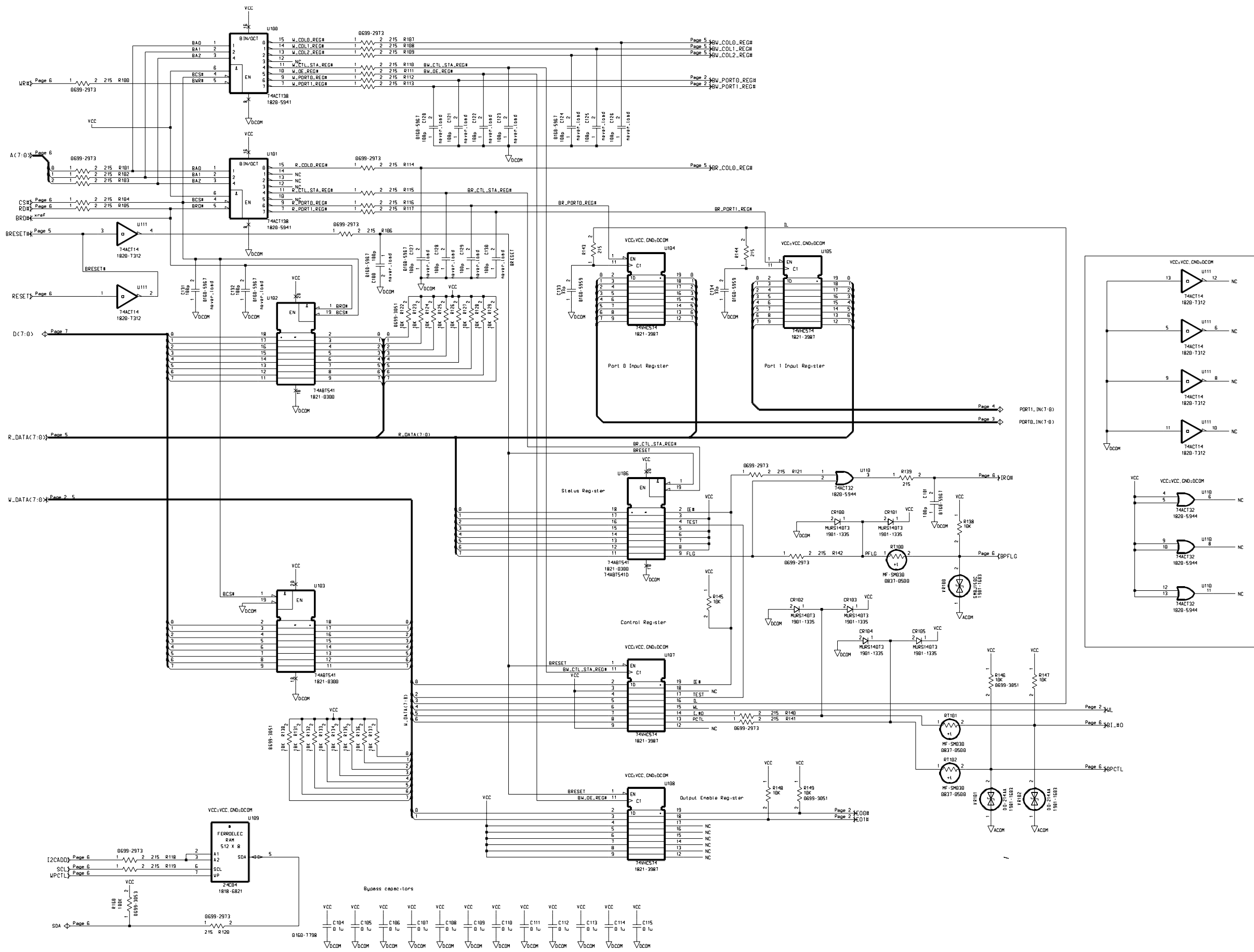
Two Mounting Holes with Soldermask



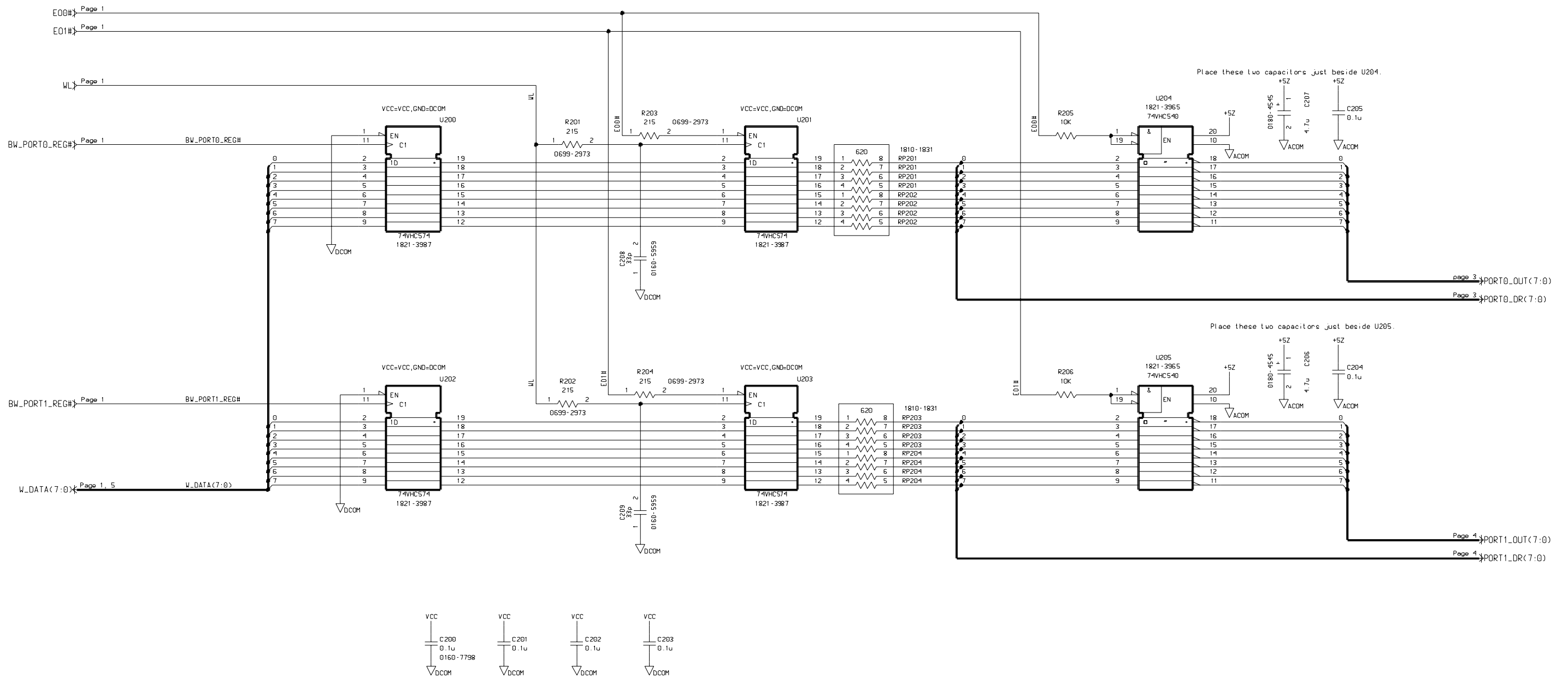
Front Connector

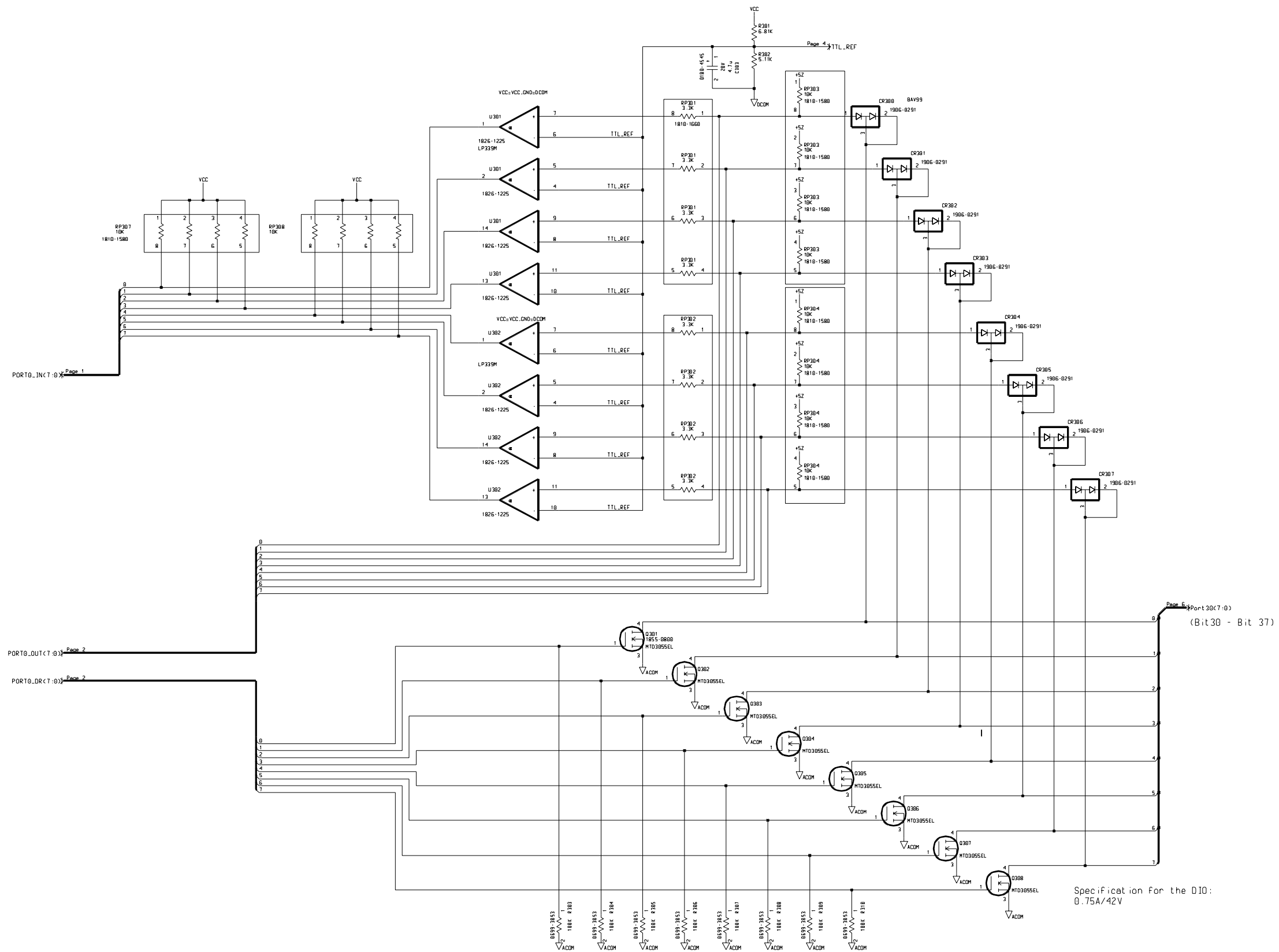




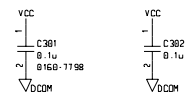


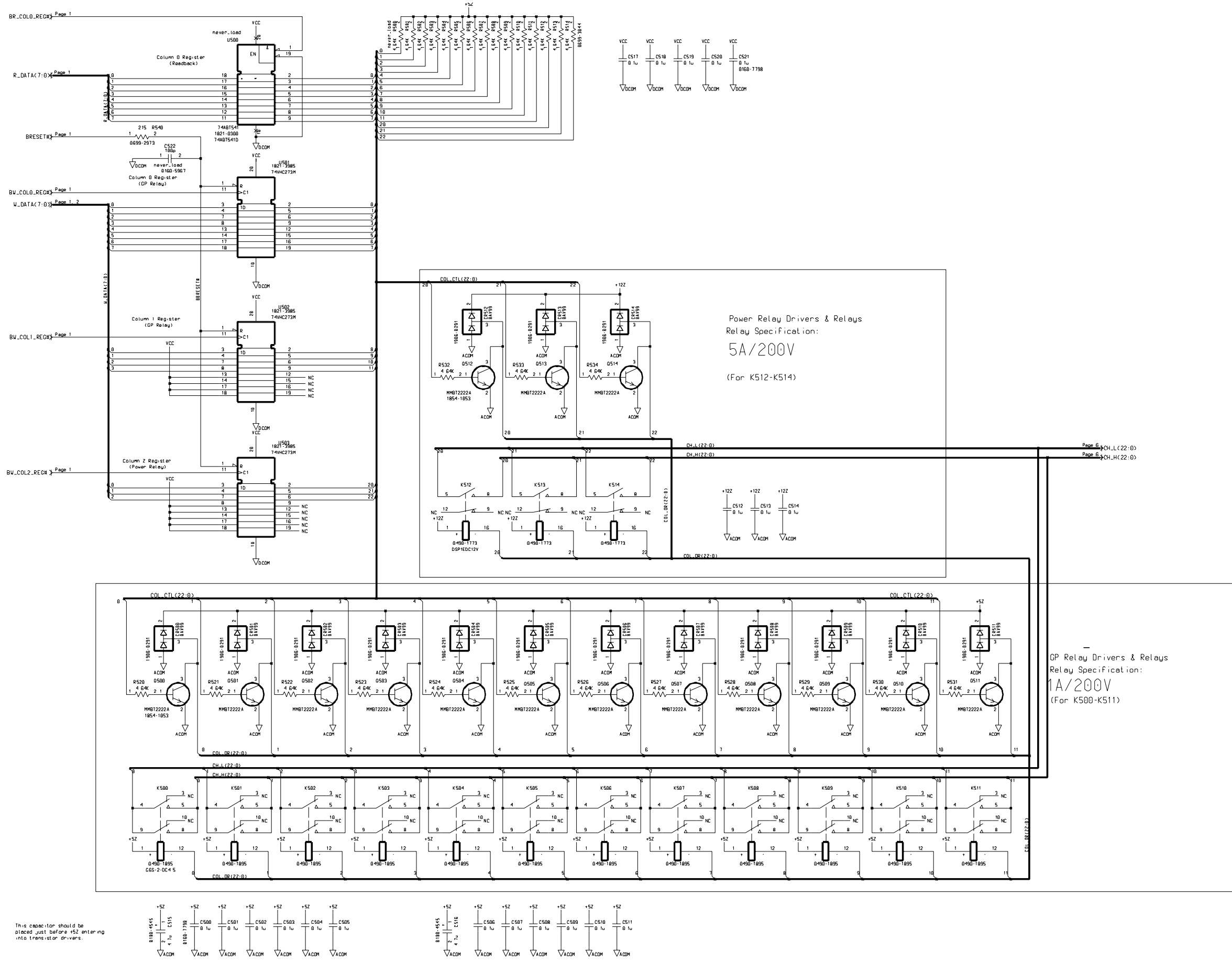
Agilent N2264A Multifunction Module
 Schematic (Sheet 1 of 6)
 Page 176





Supers capacitors for same IC



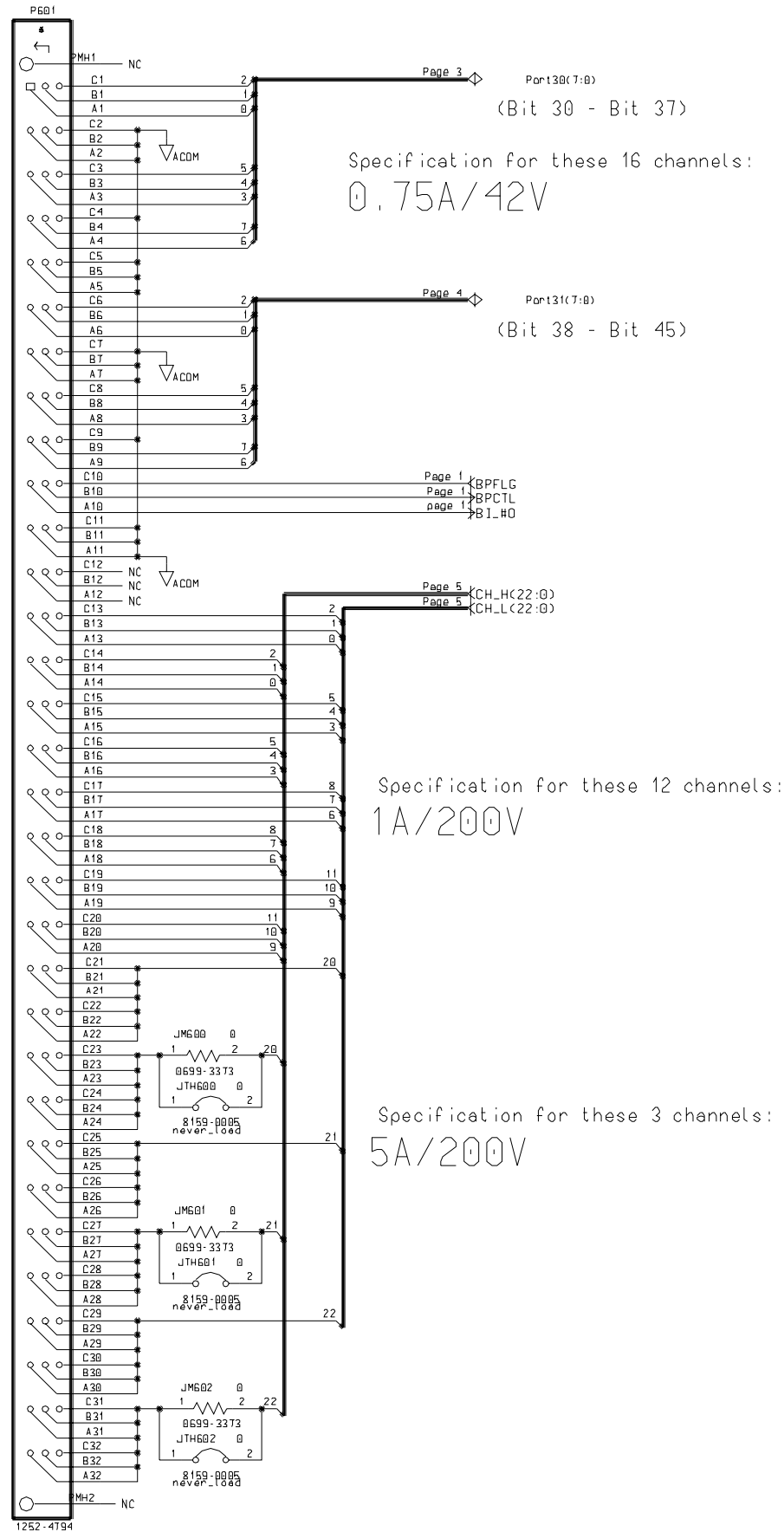


Power Relay Drivers & Relays
 Relay Specification:
 5A/200V
 (For K512-K514)

DP Relay Drivers & Relays
 Relay Specification:
 1A/200V
 (For K500-K511)

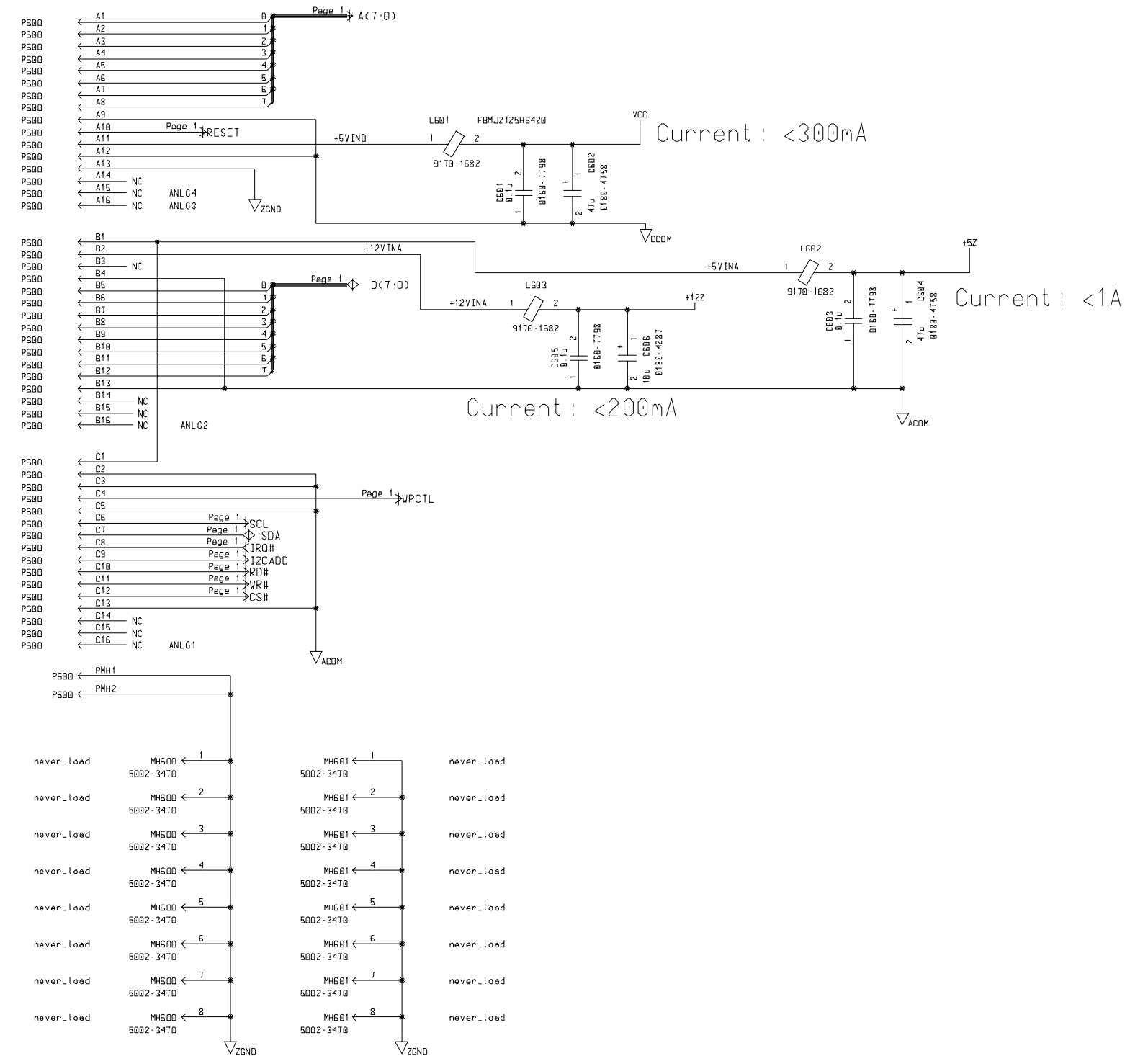
This capacitor should be placed just before +5Z entering into transistor drivers.

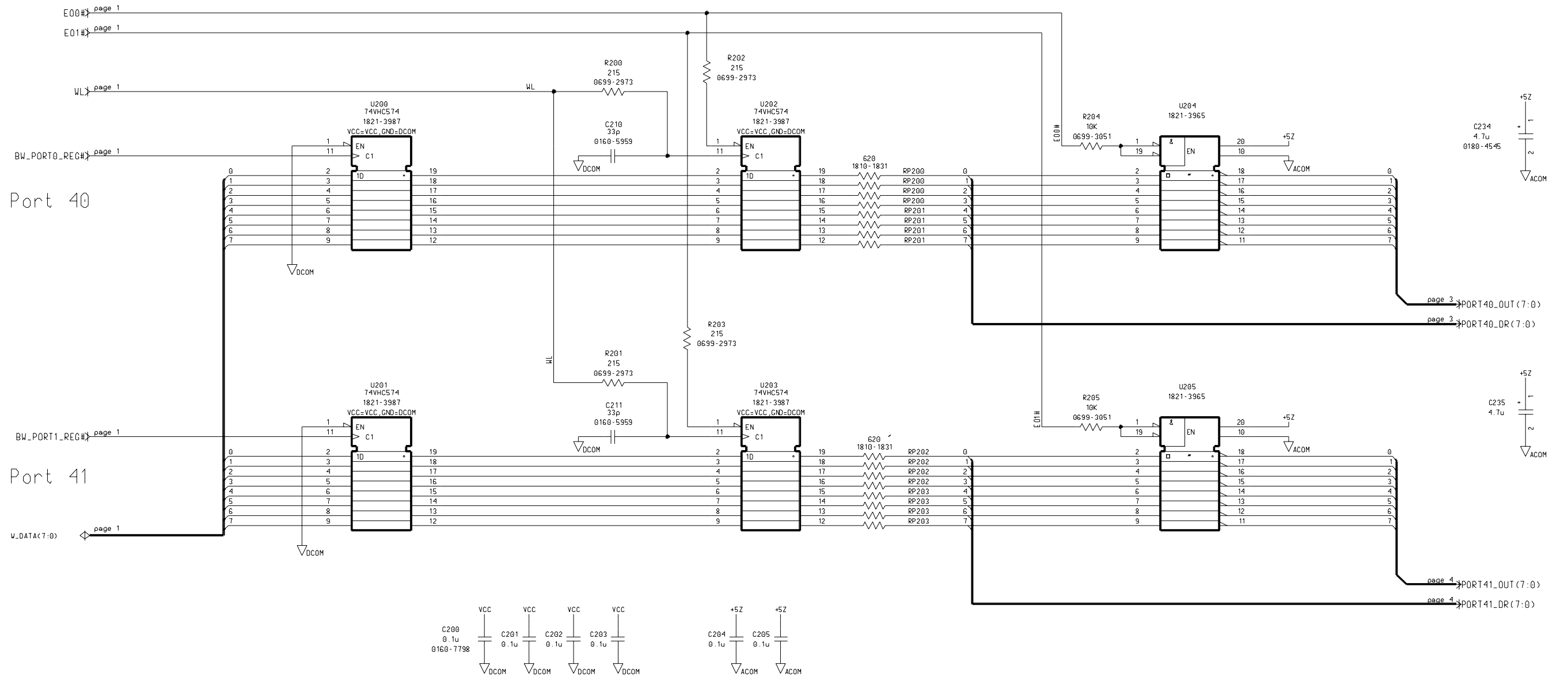
Customer Connector

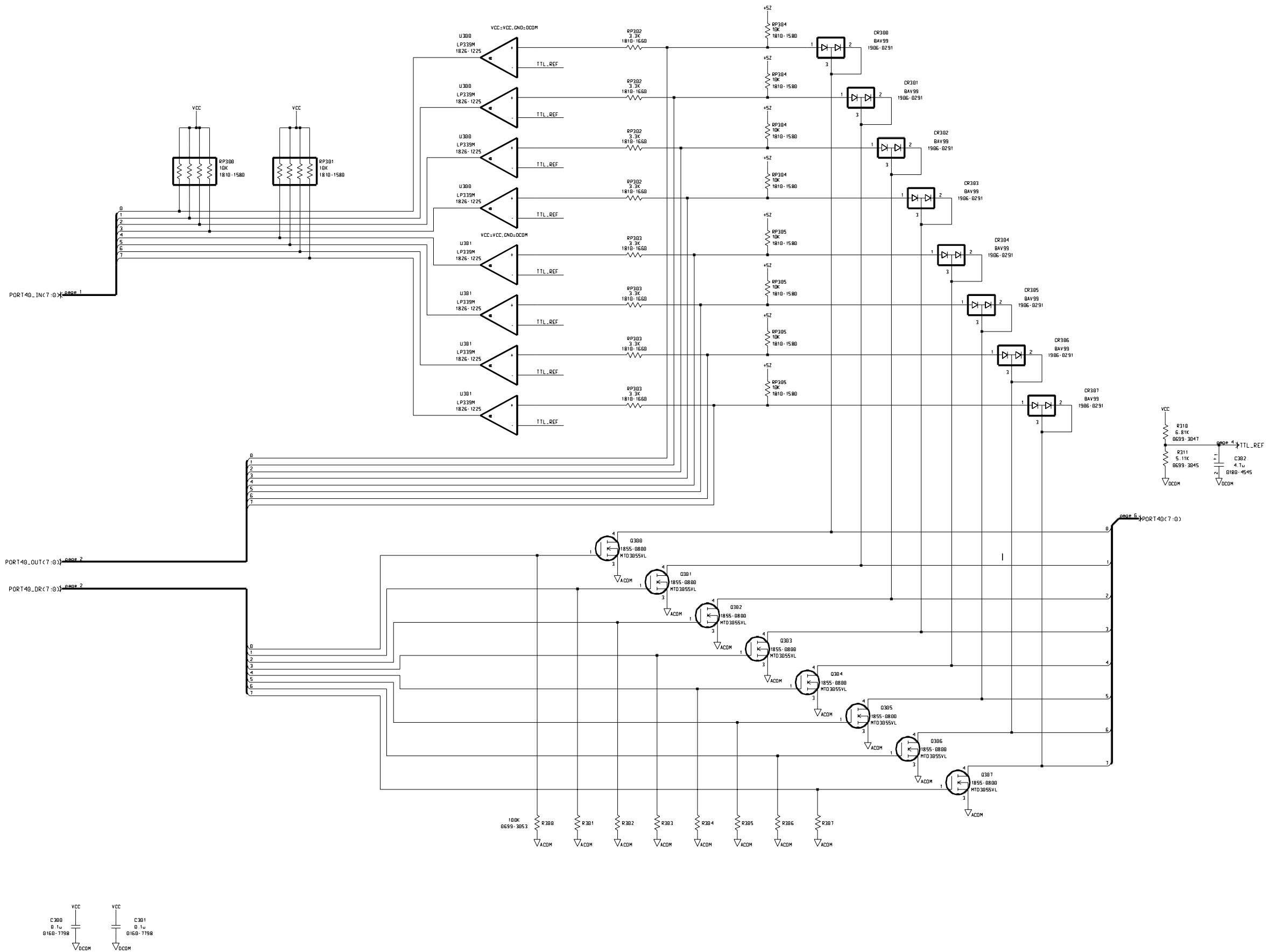


Backplane Connector

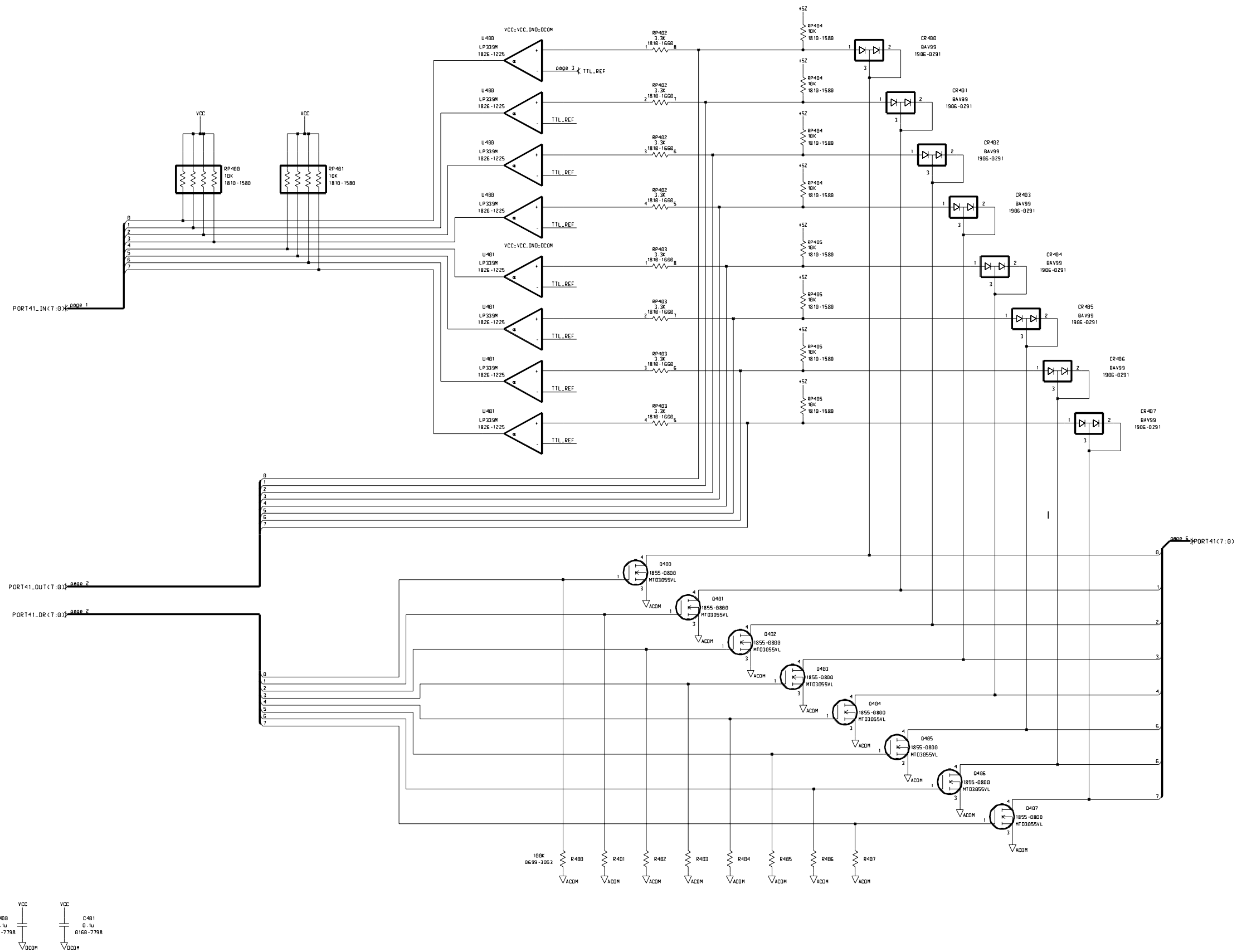
5184-0582

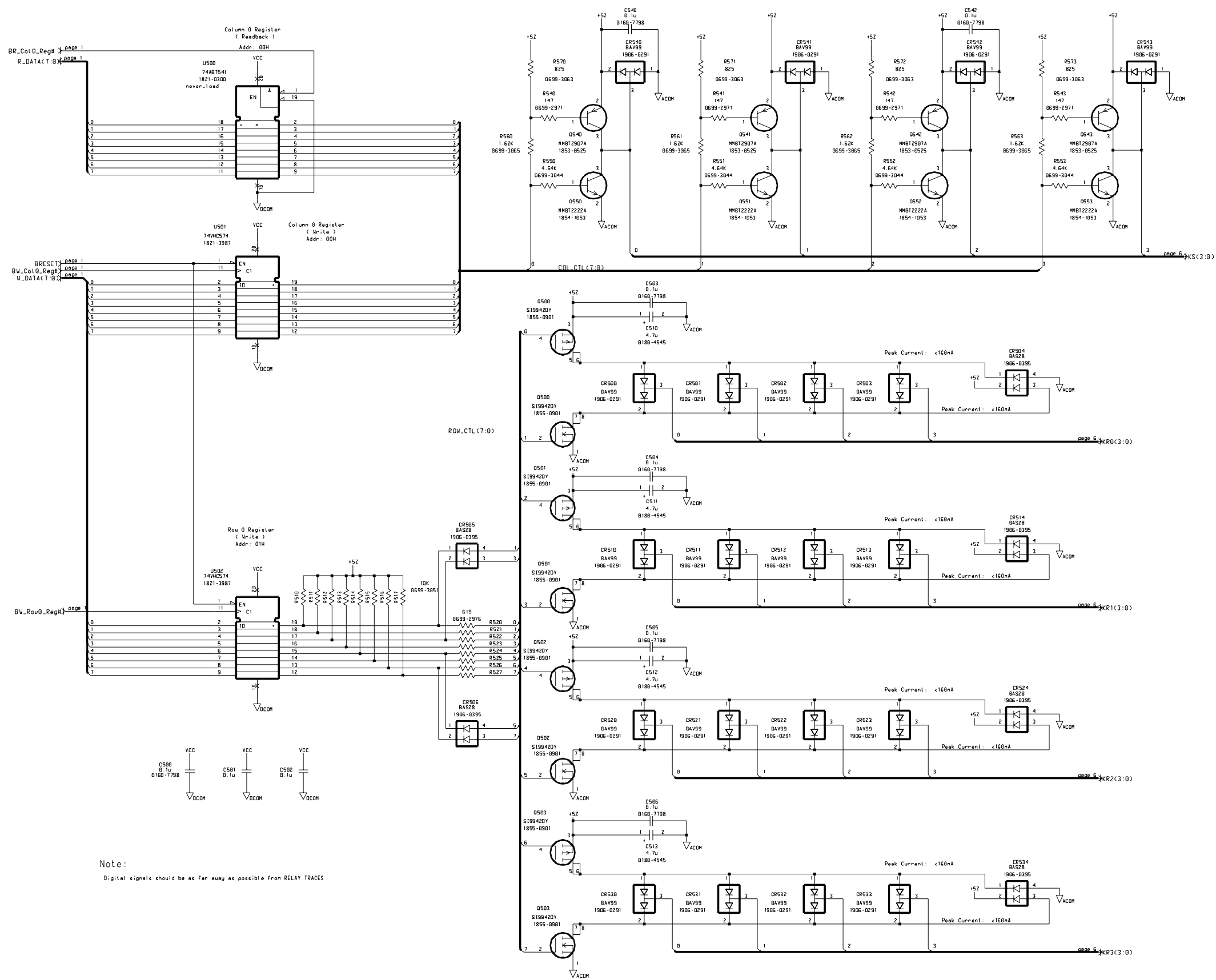




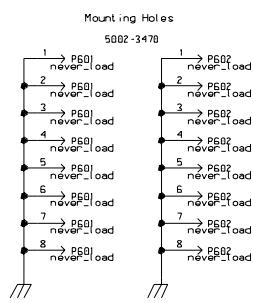
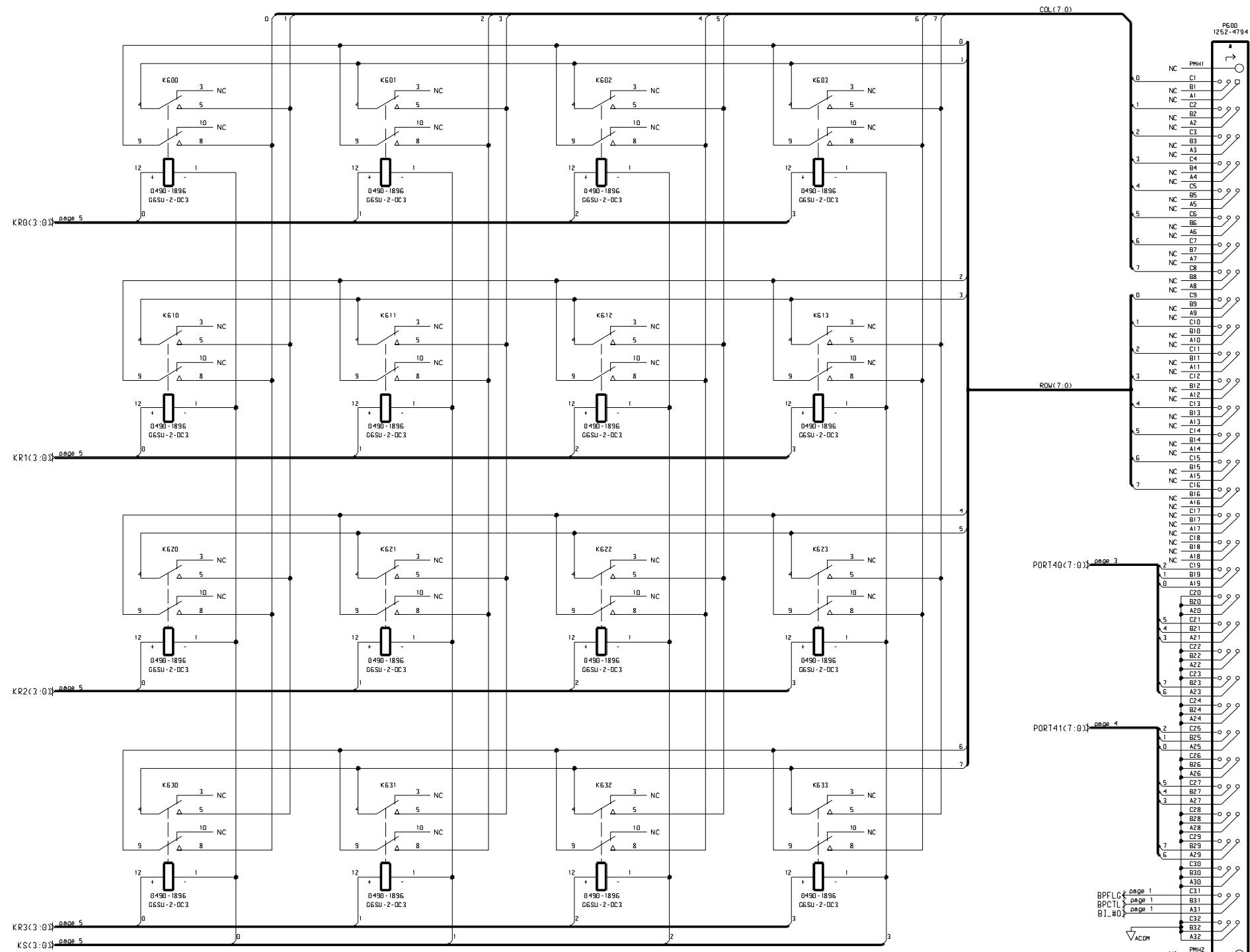


Agilent N2265A Multifunction Module
 Schematic (Sheet 3 of 6)
 Page 186

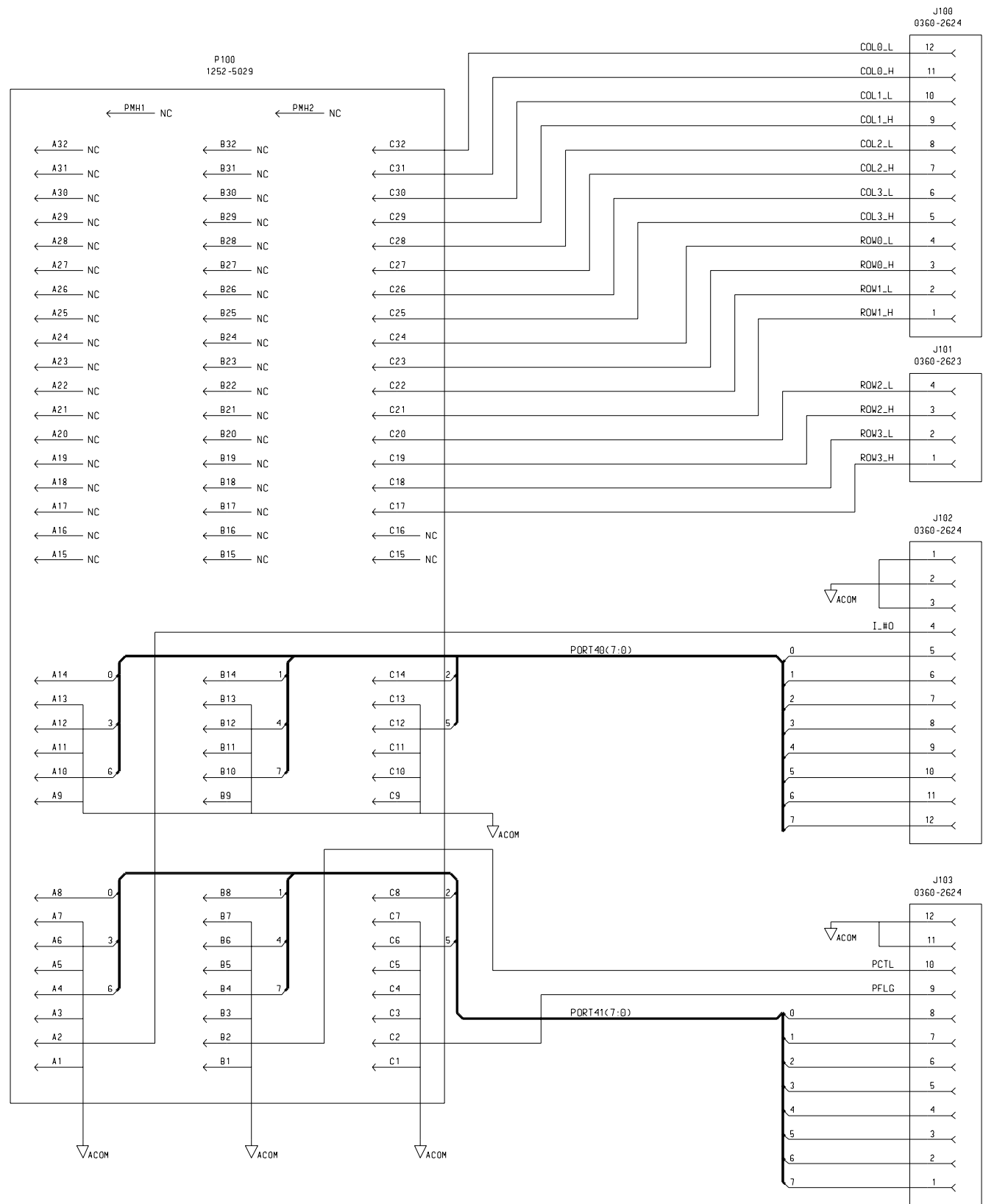
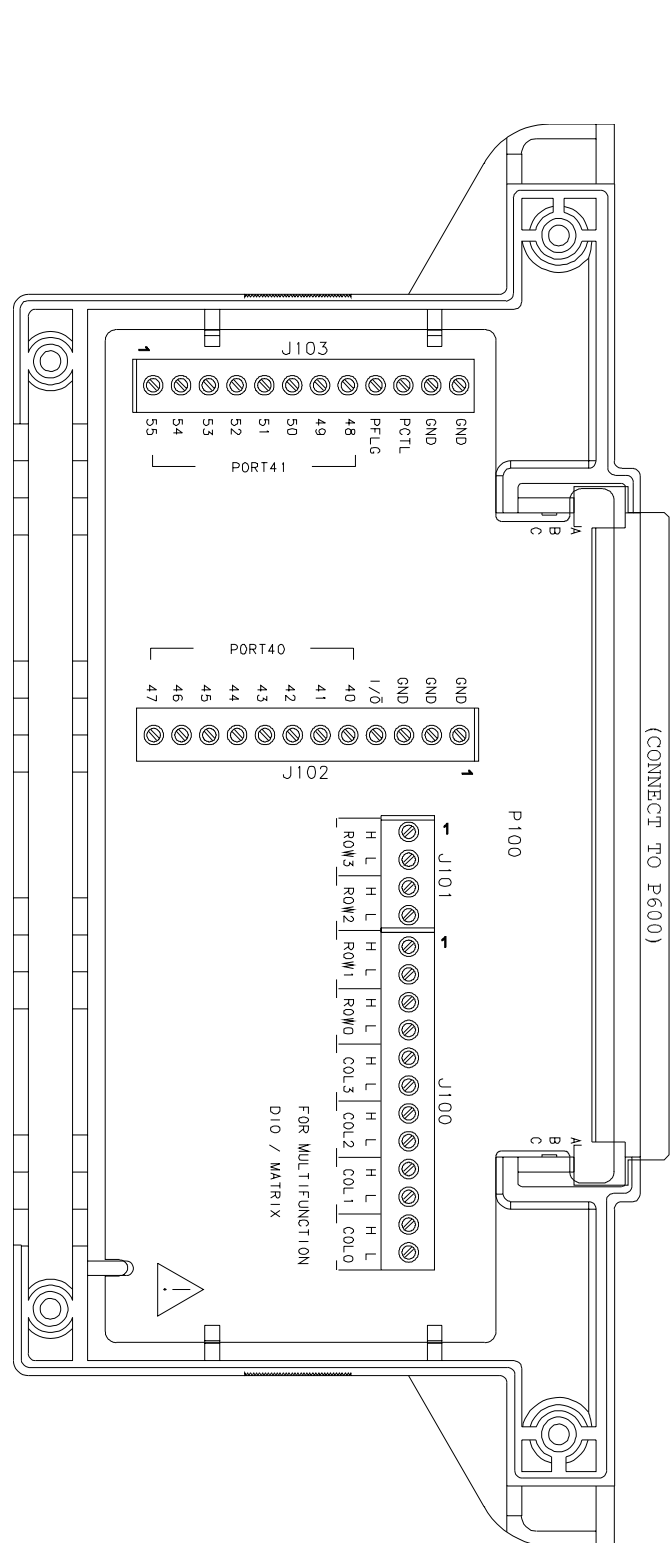




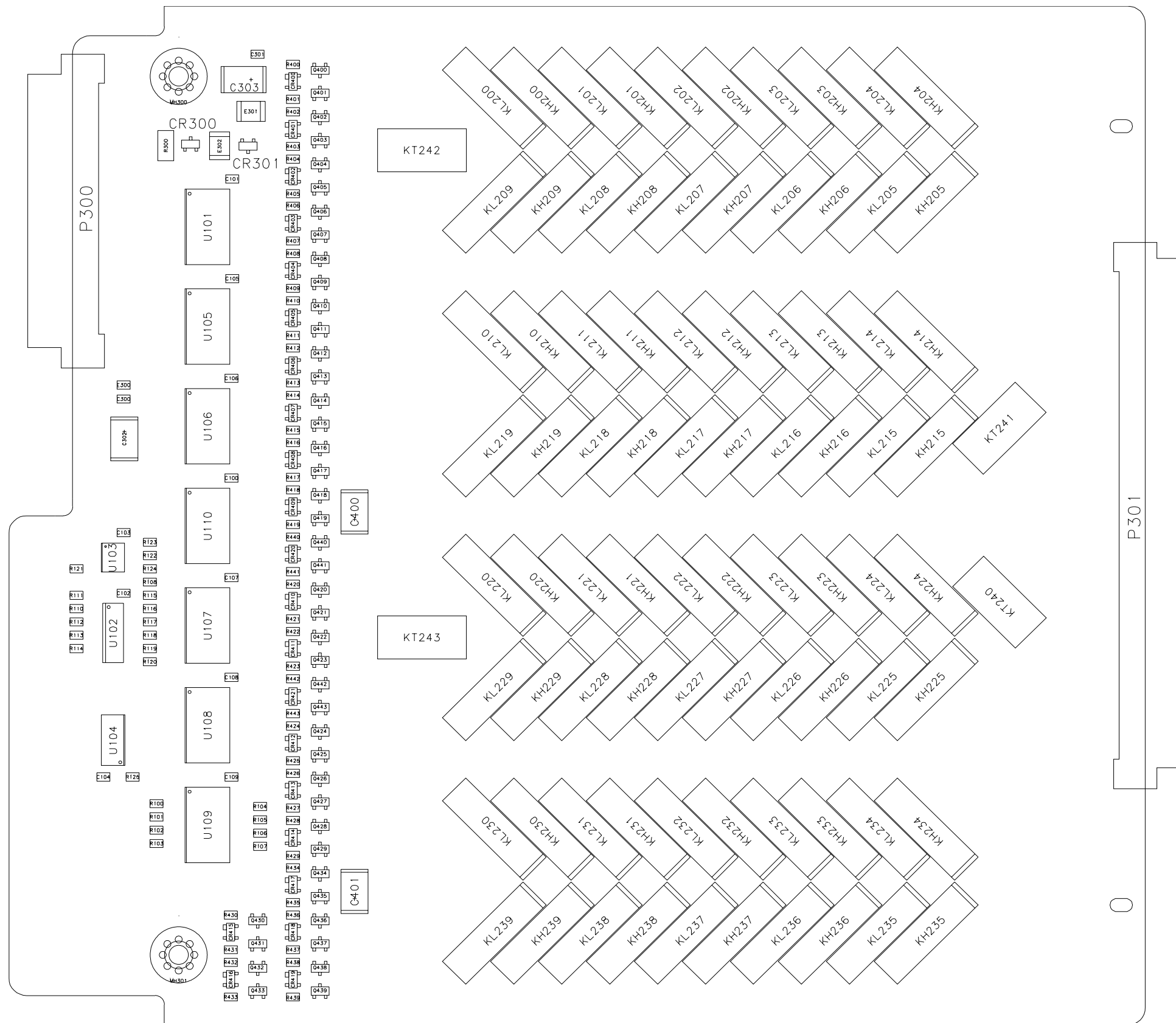
Note:
Digital signals should be as far away as possible from RELAY TRACES

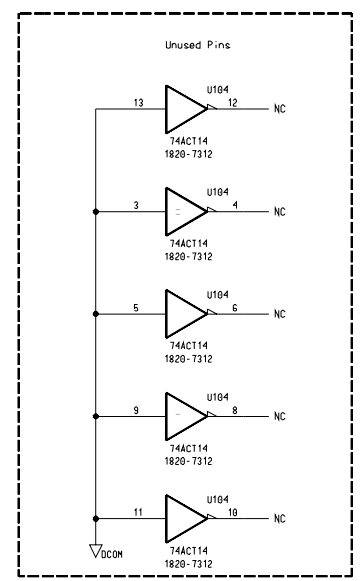
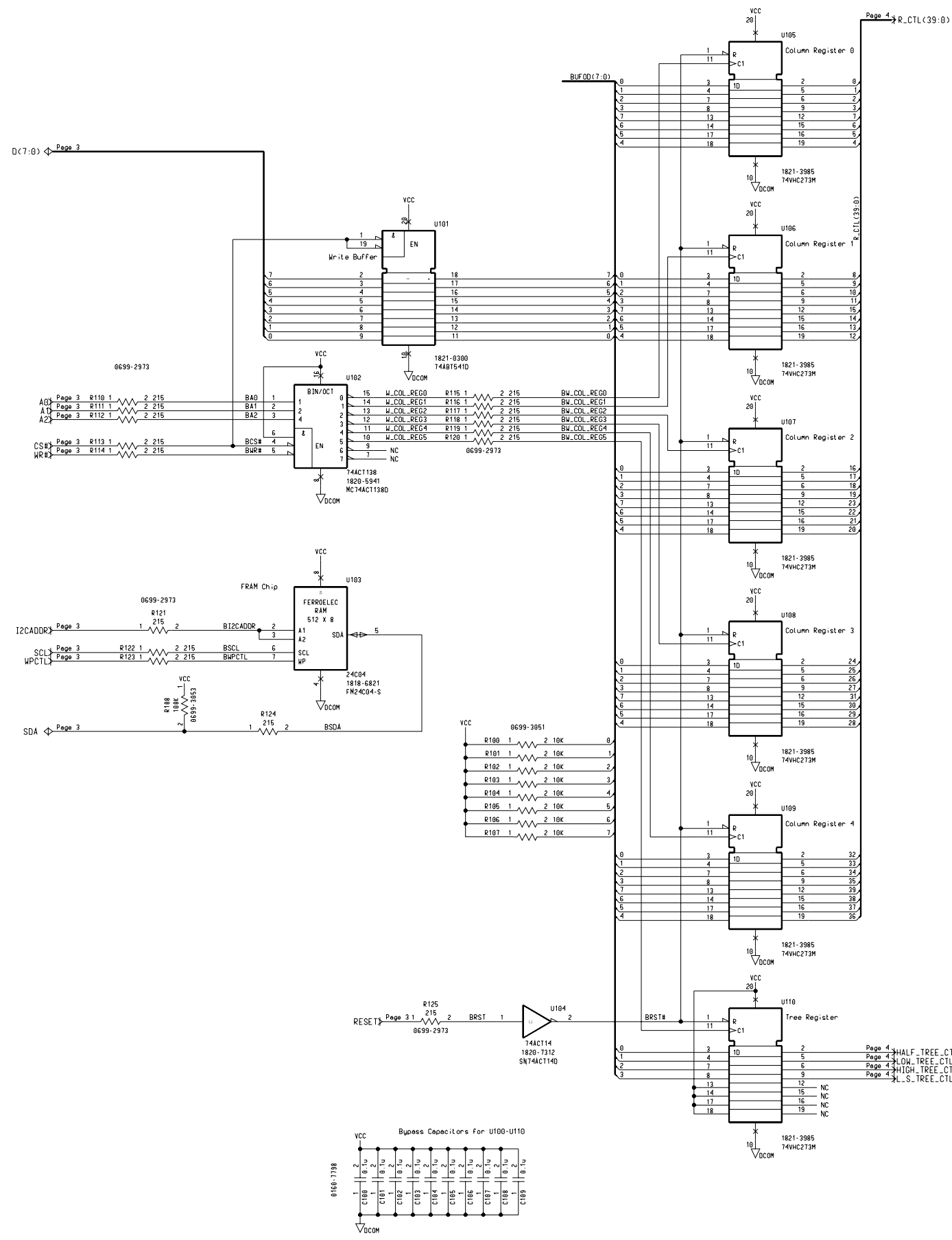


Relay Specification : 1A/200V



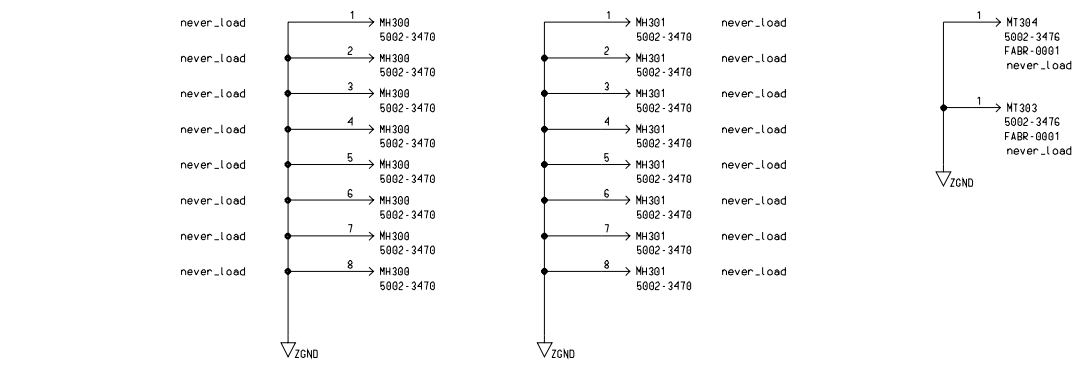
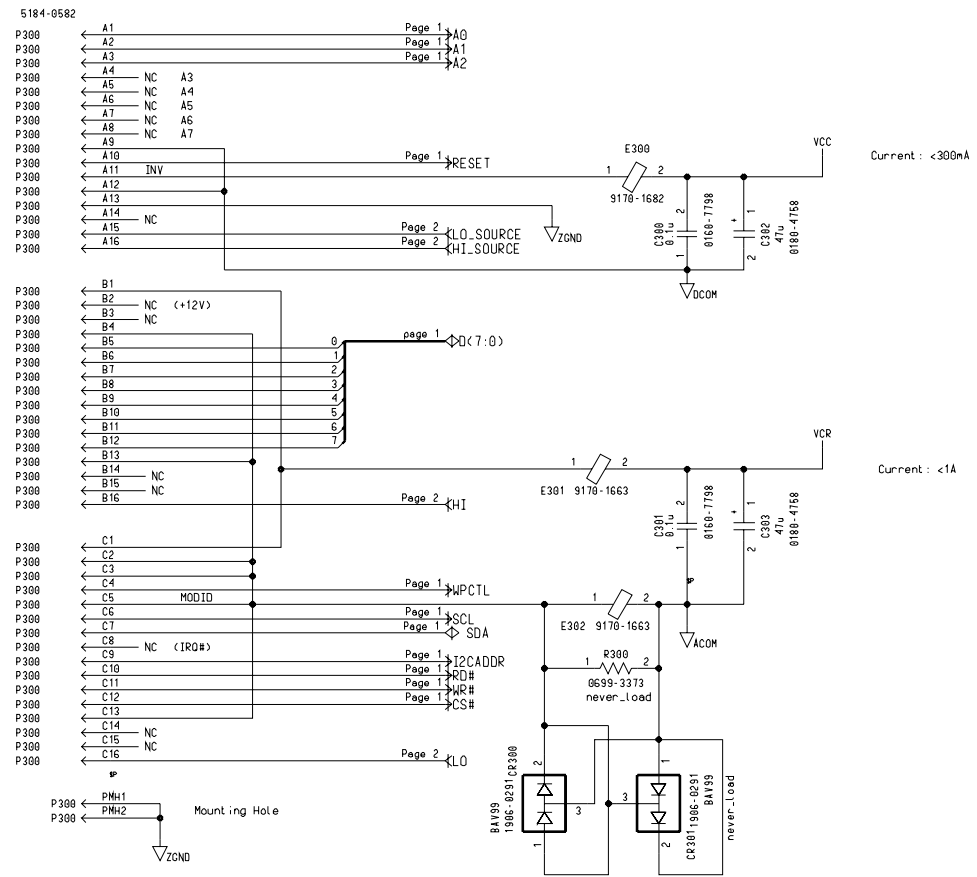
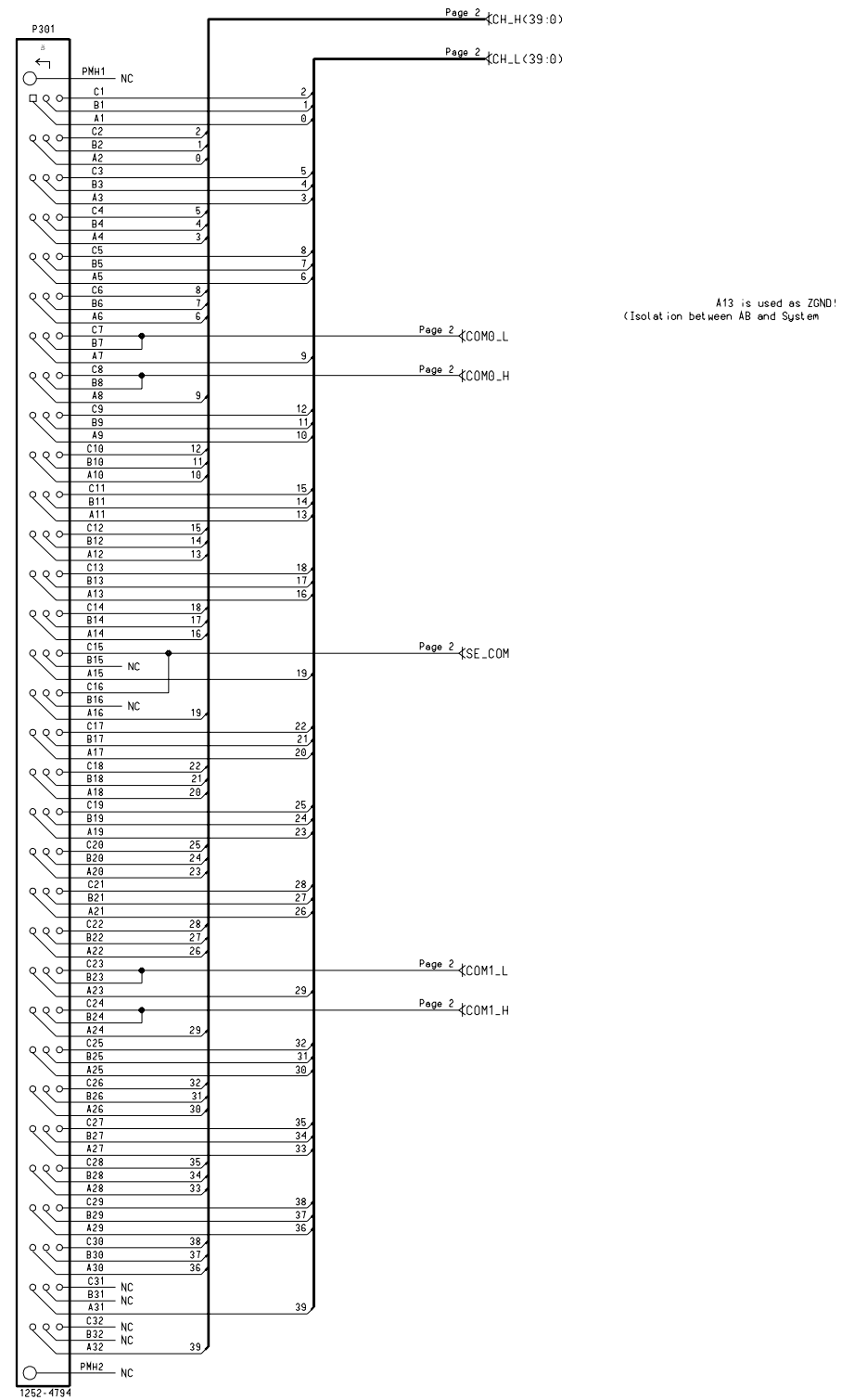
Agilent N2295A Screw Terminal Block Component Locator and Schematic
Page 190

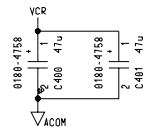
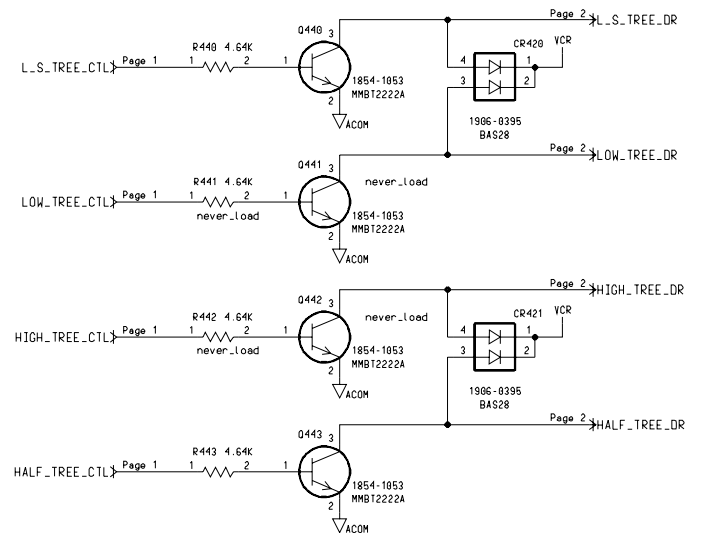
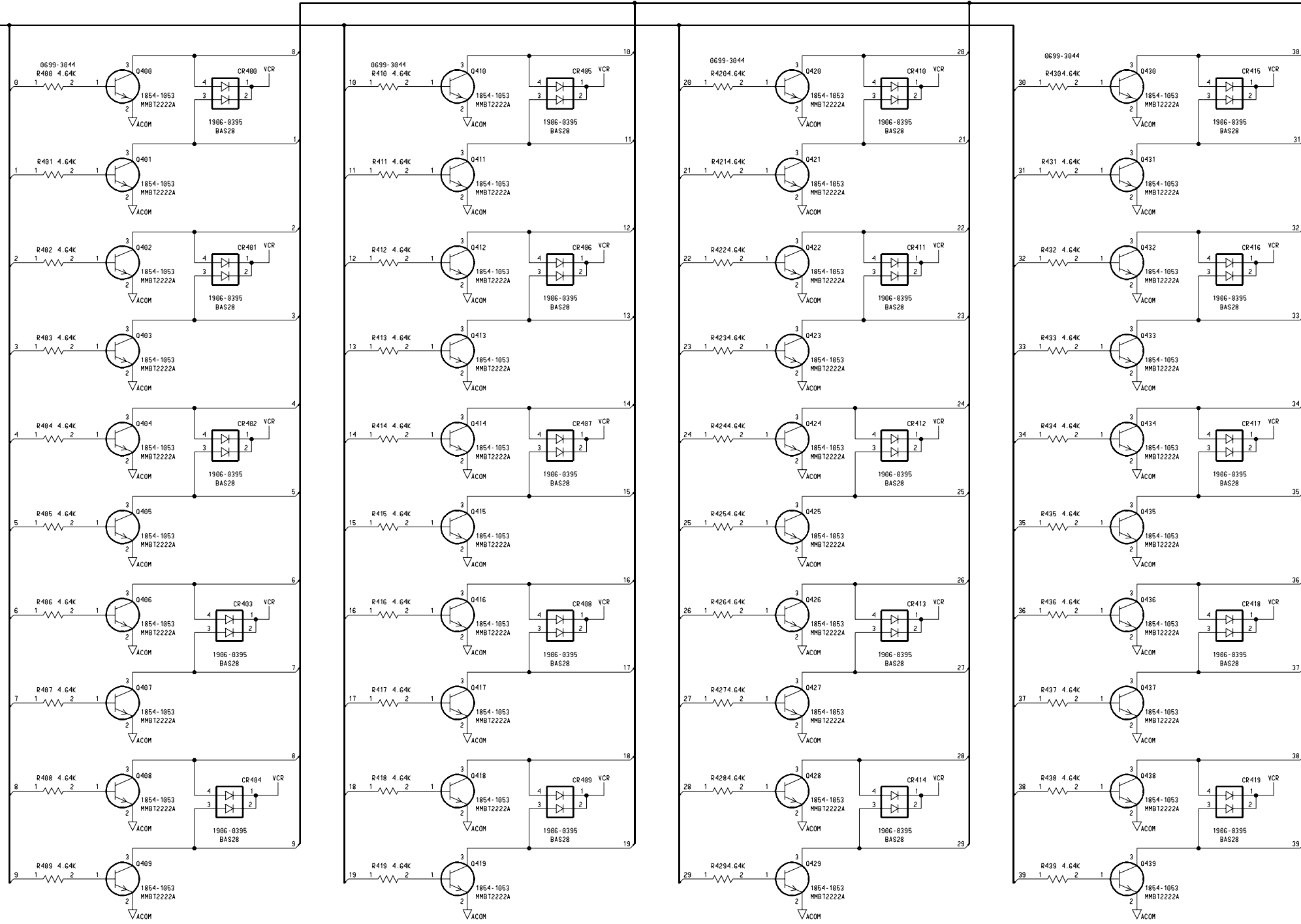


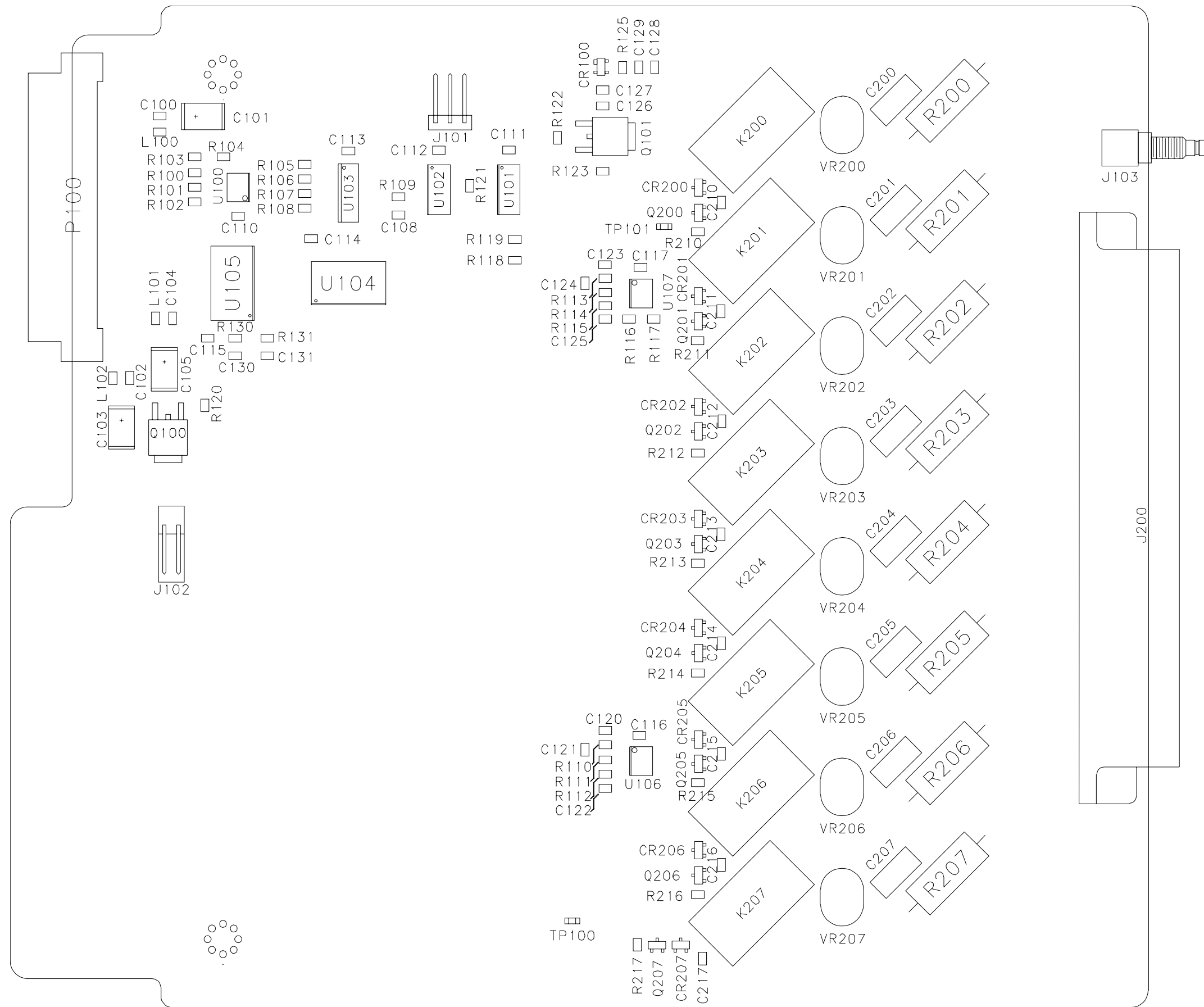




Layout Notes:
 1. If space allowed, enlarge the trace width of relay control lines.
 2. Relay specification: 0.5A/200V

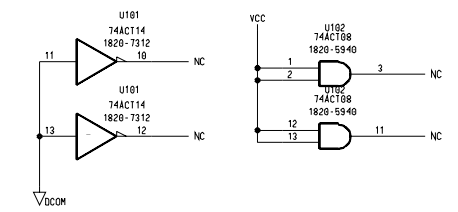
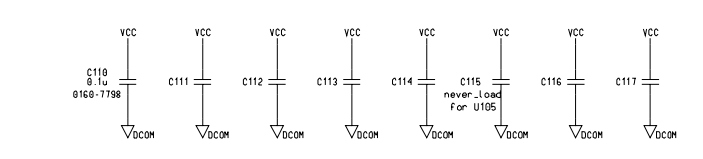
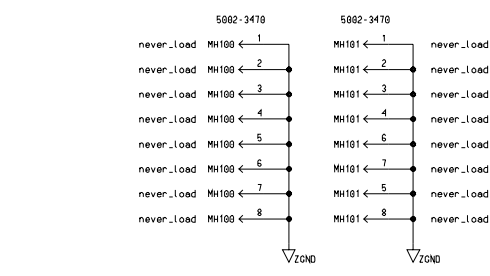
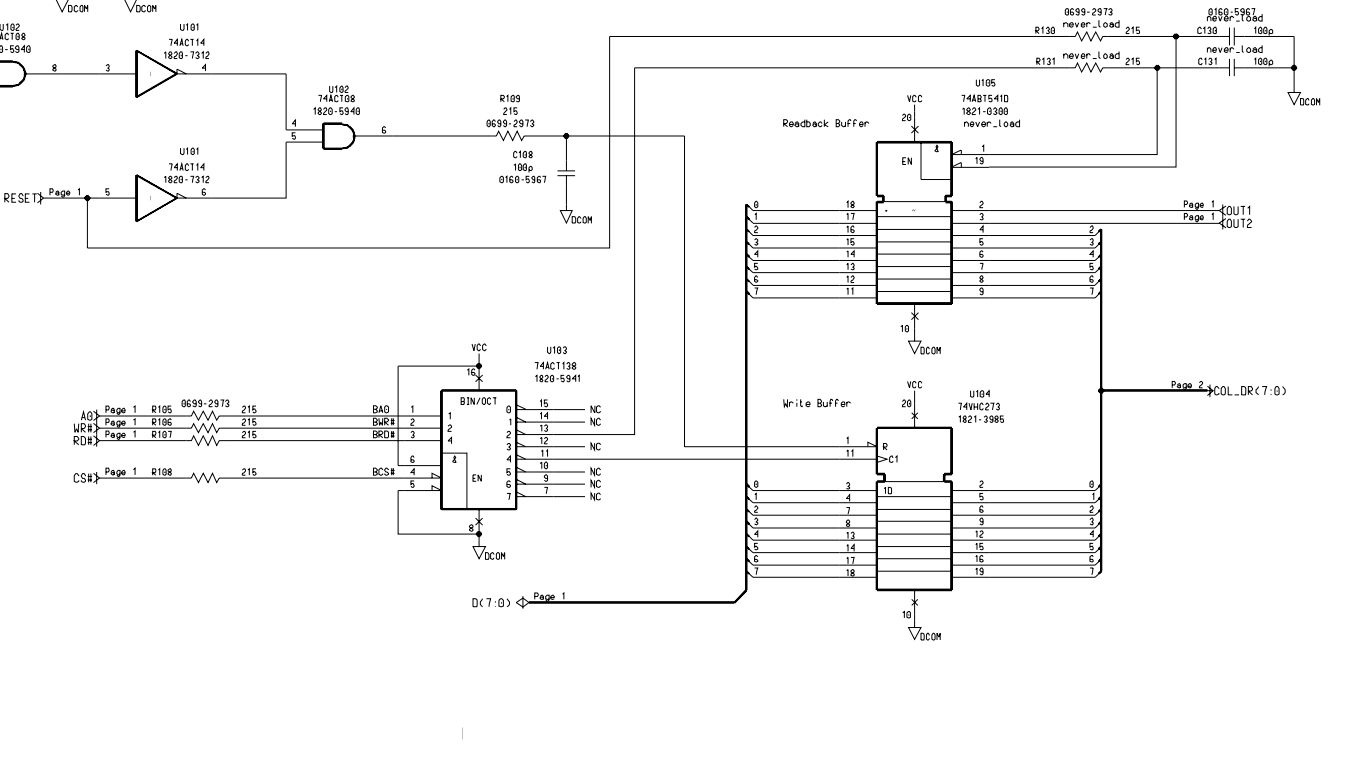
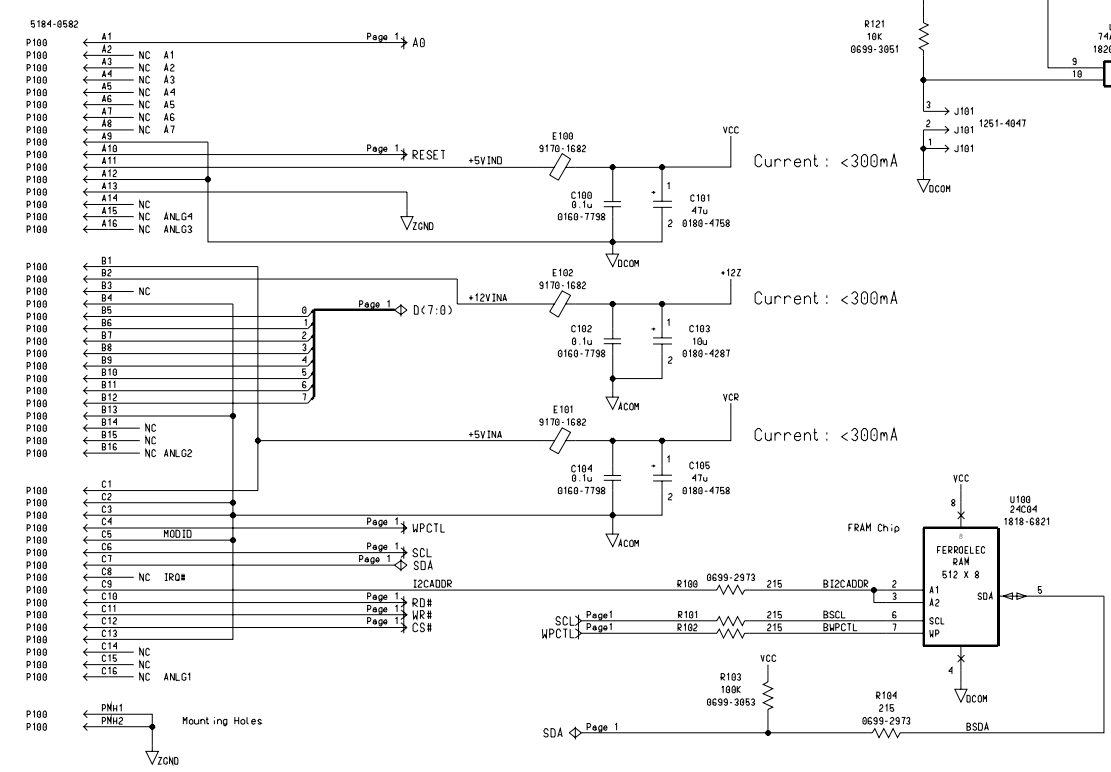
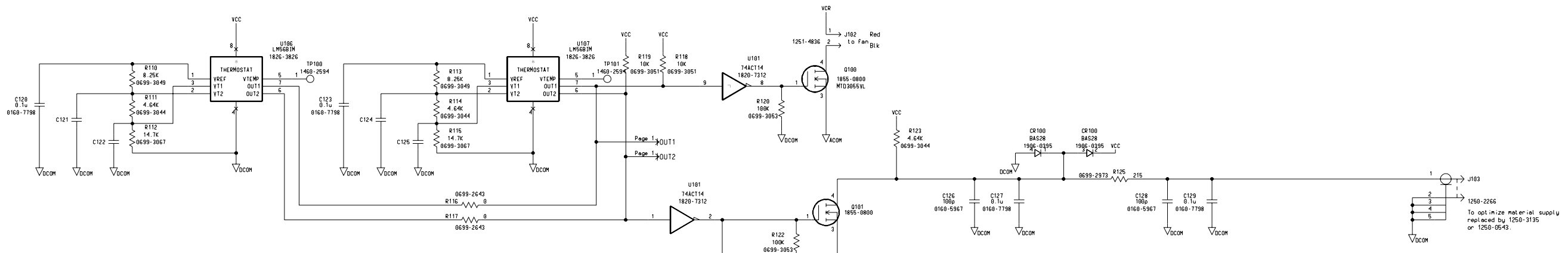




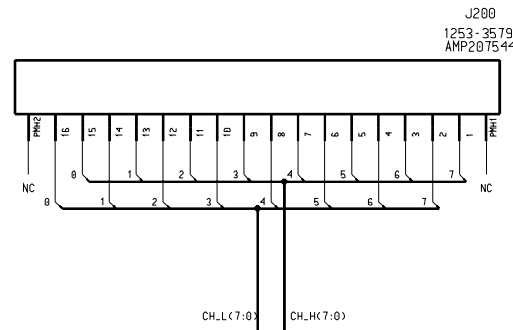


Agilent N2267A 8-Channel High Current GP Module
 Component Locator
 Page 196

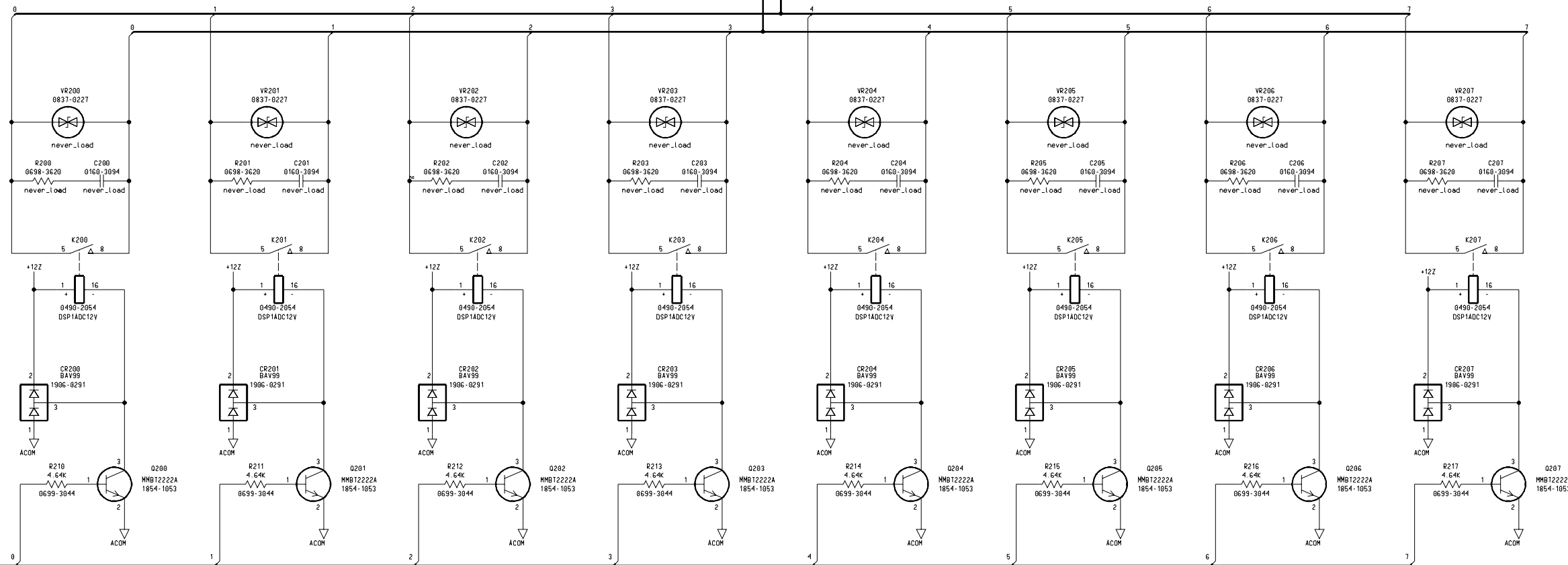
er



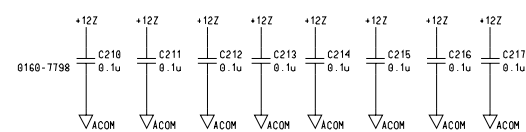
To optimize material supply
replaced by 1250-3135
or 1250-0543.

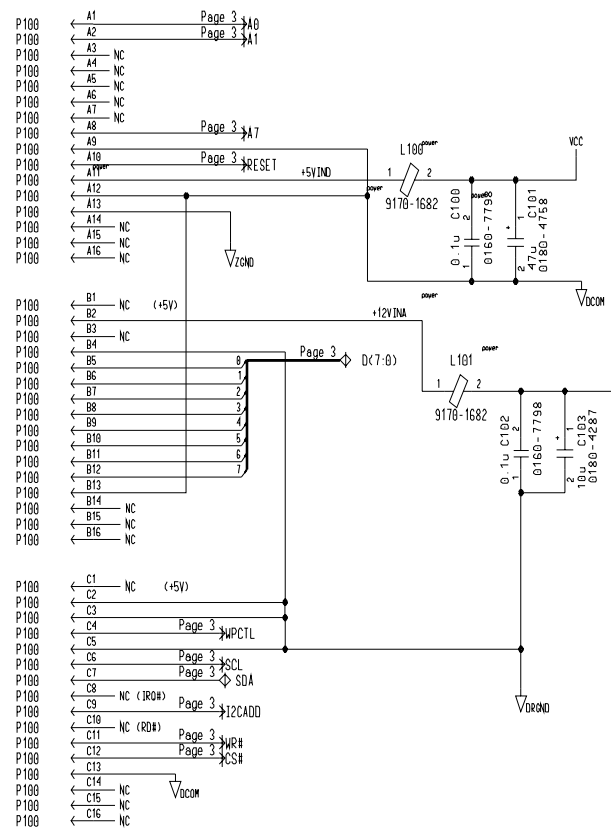


DSP1A-12VDC Specification:
8A/380V
N2267A Specification:
8A/250V



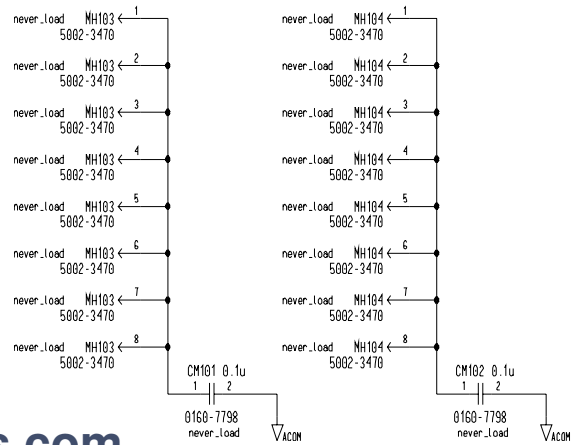
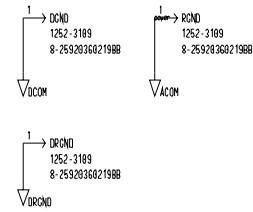
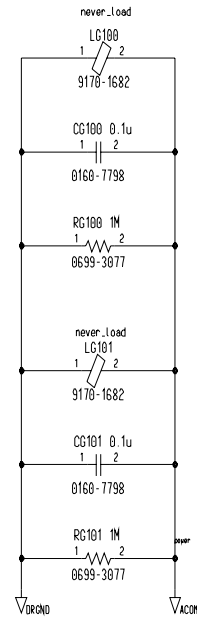
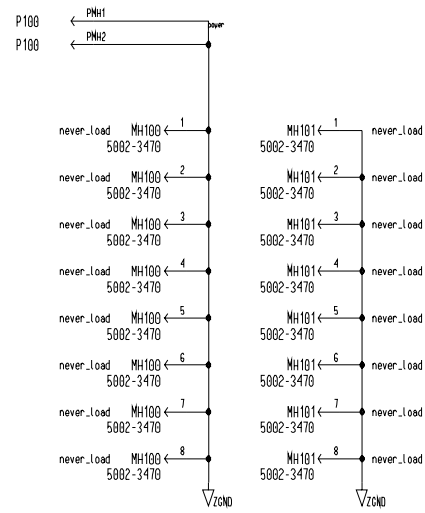
COL_DR (7:0) Page 1

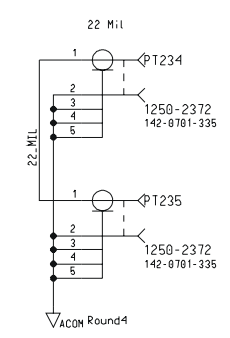
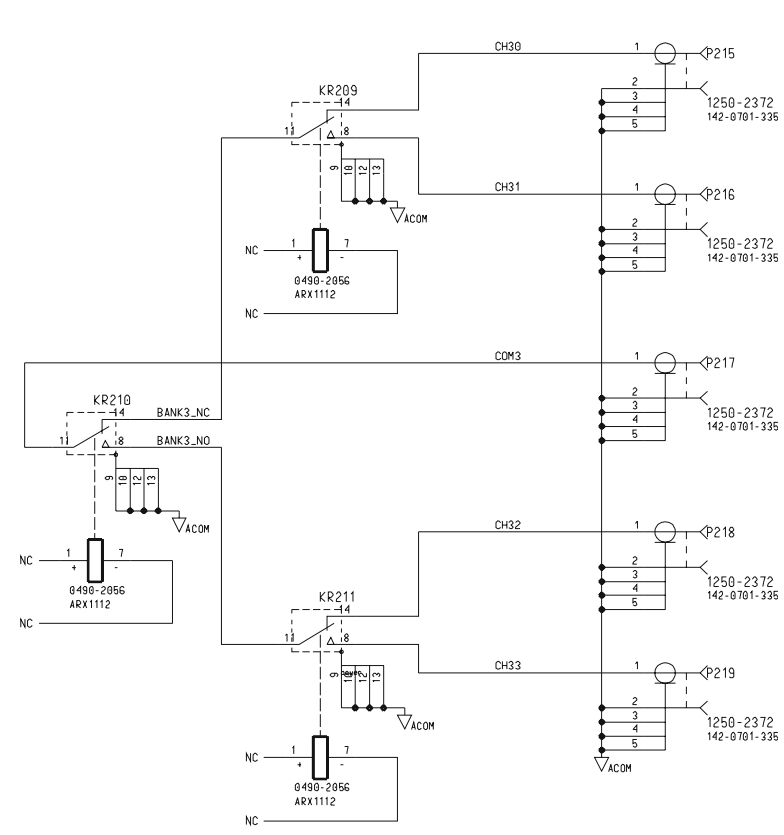
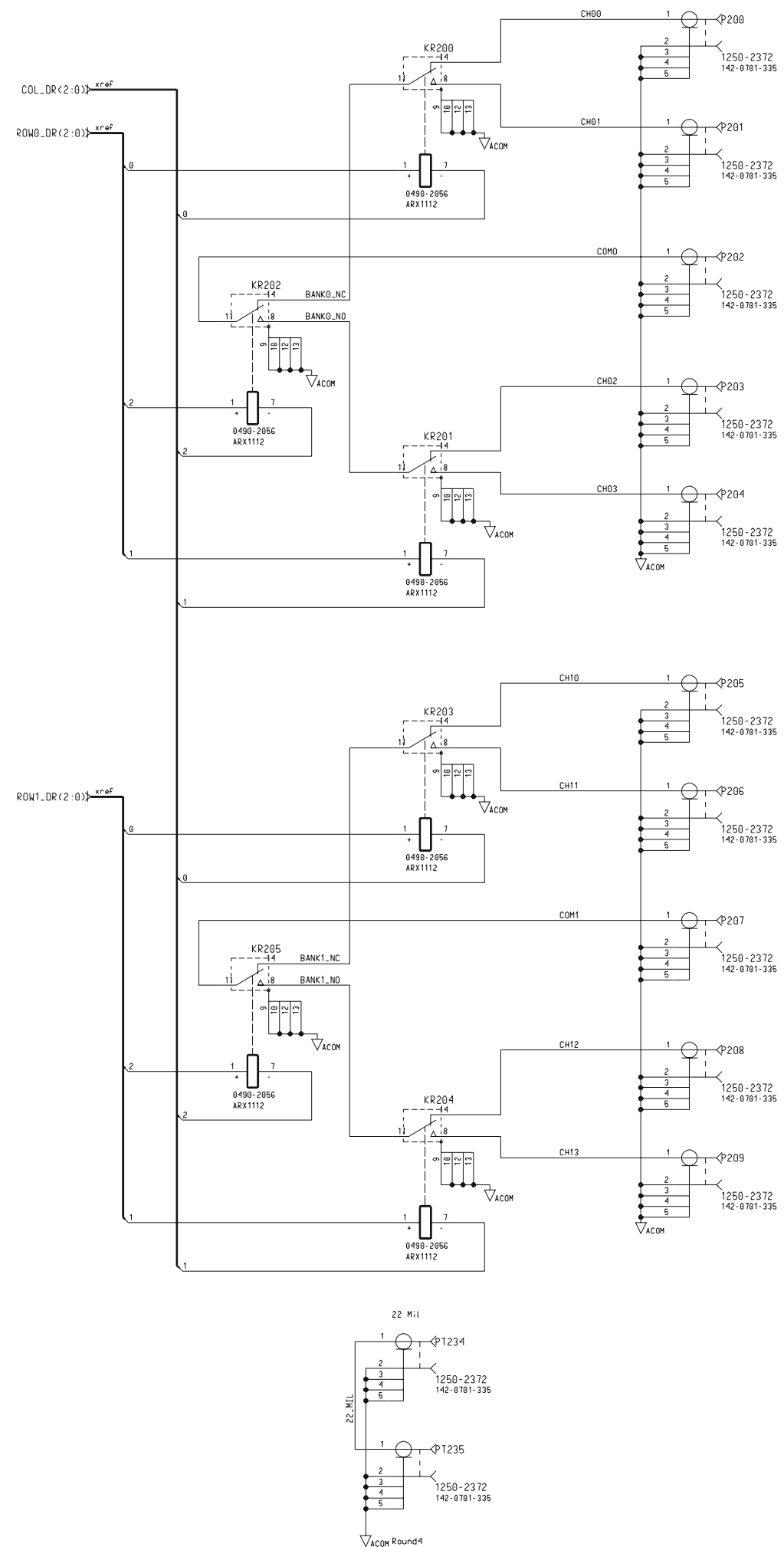


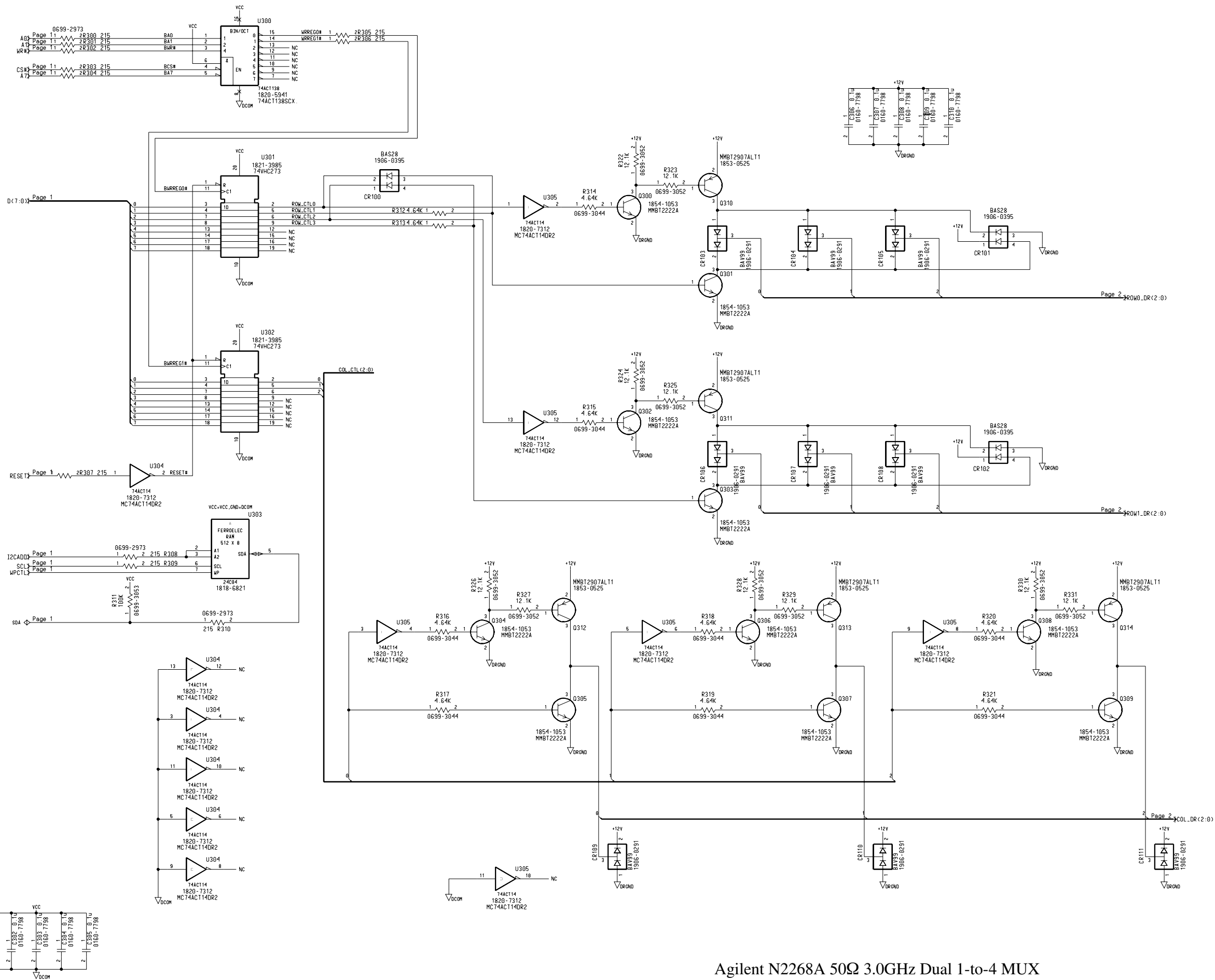


Current : <300mA

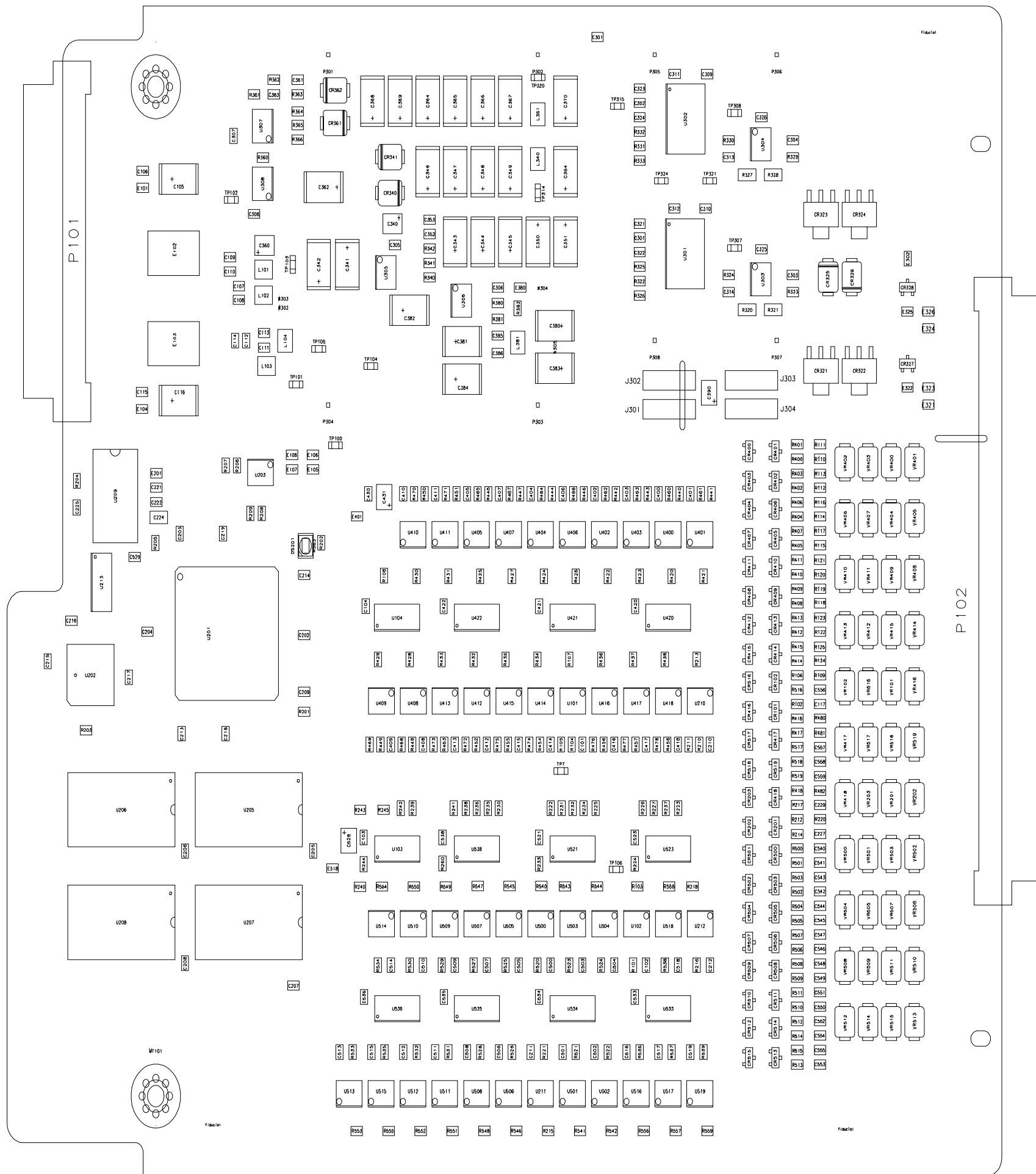
Current : <200mA

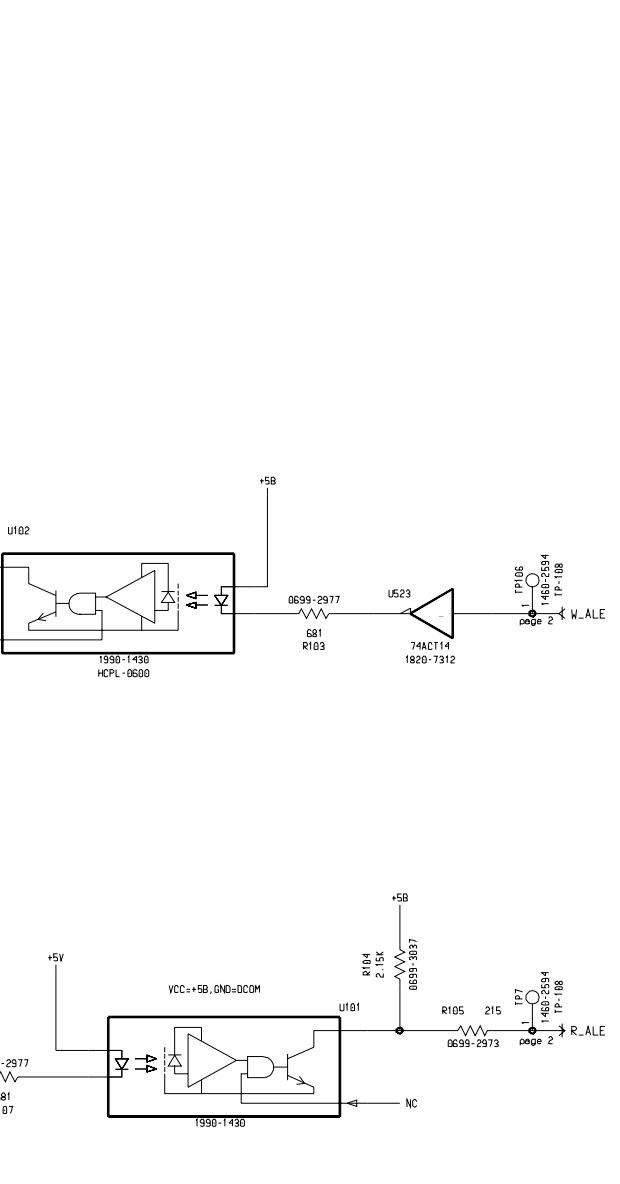
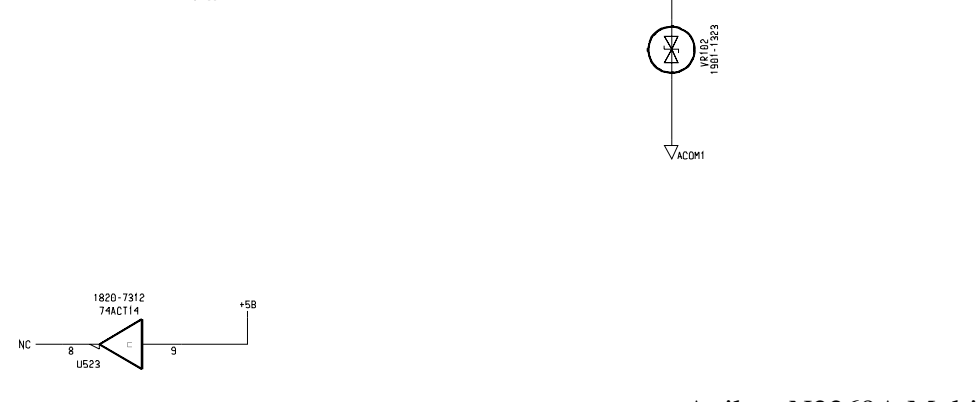
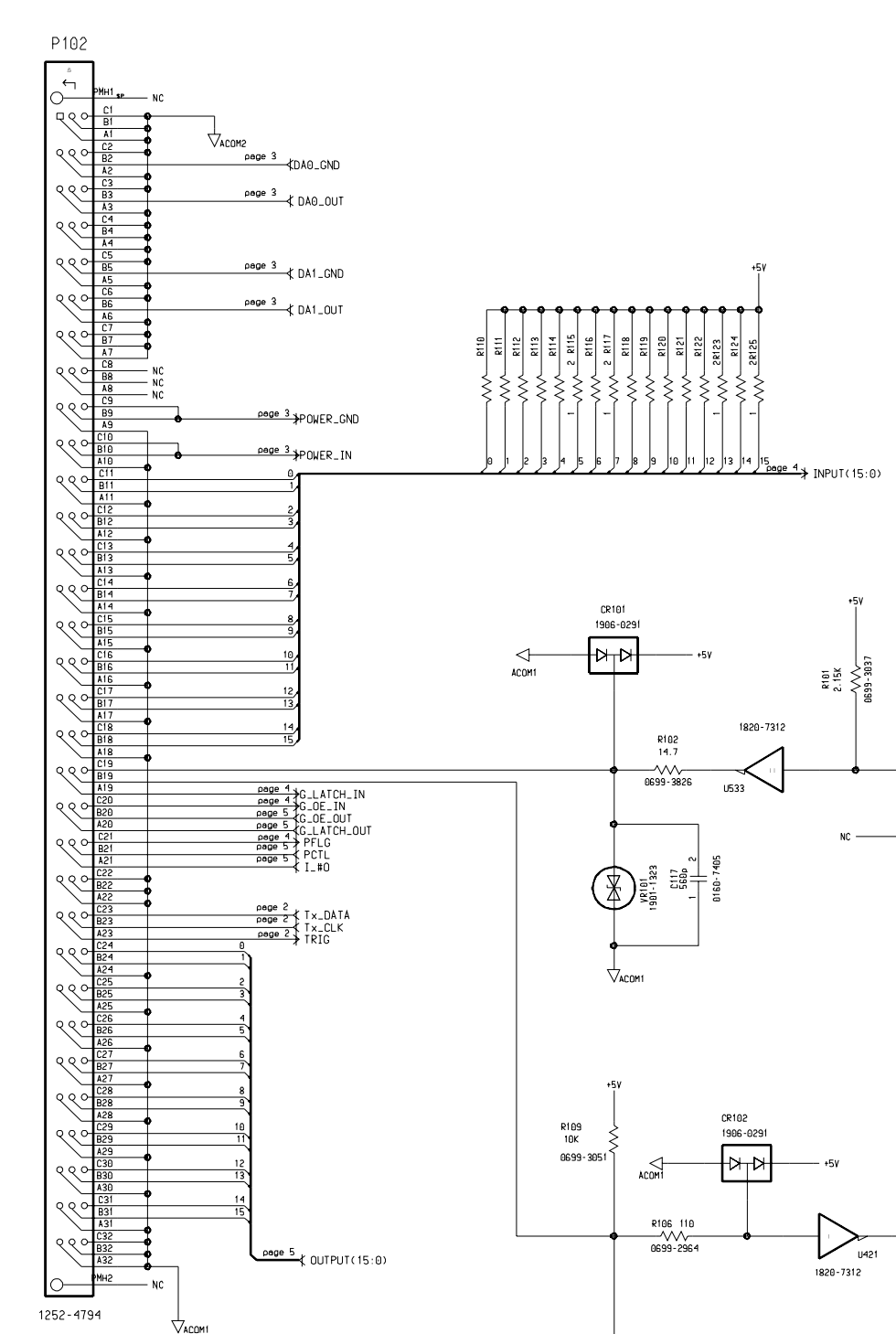
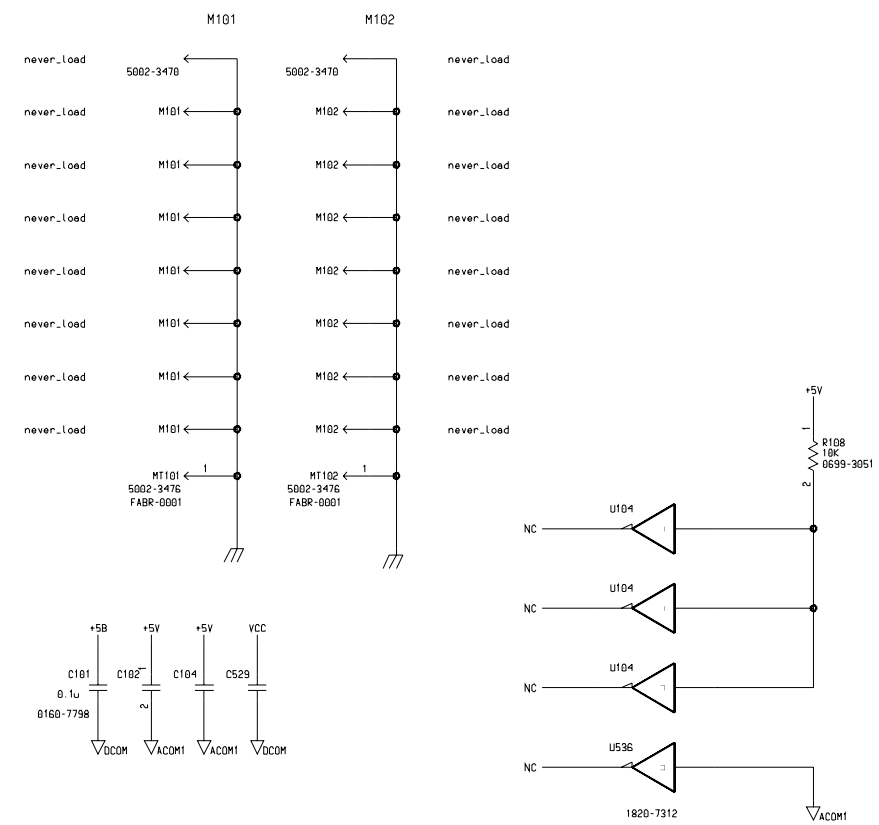
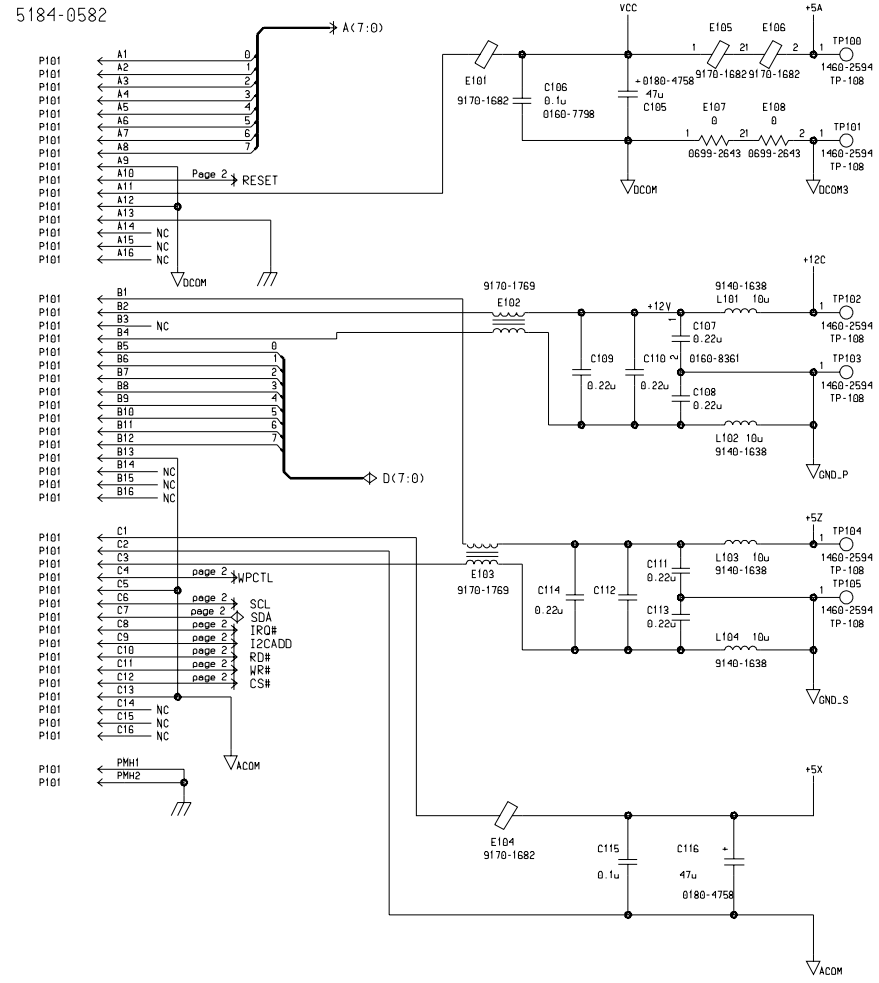




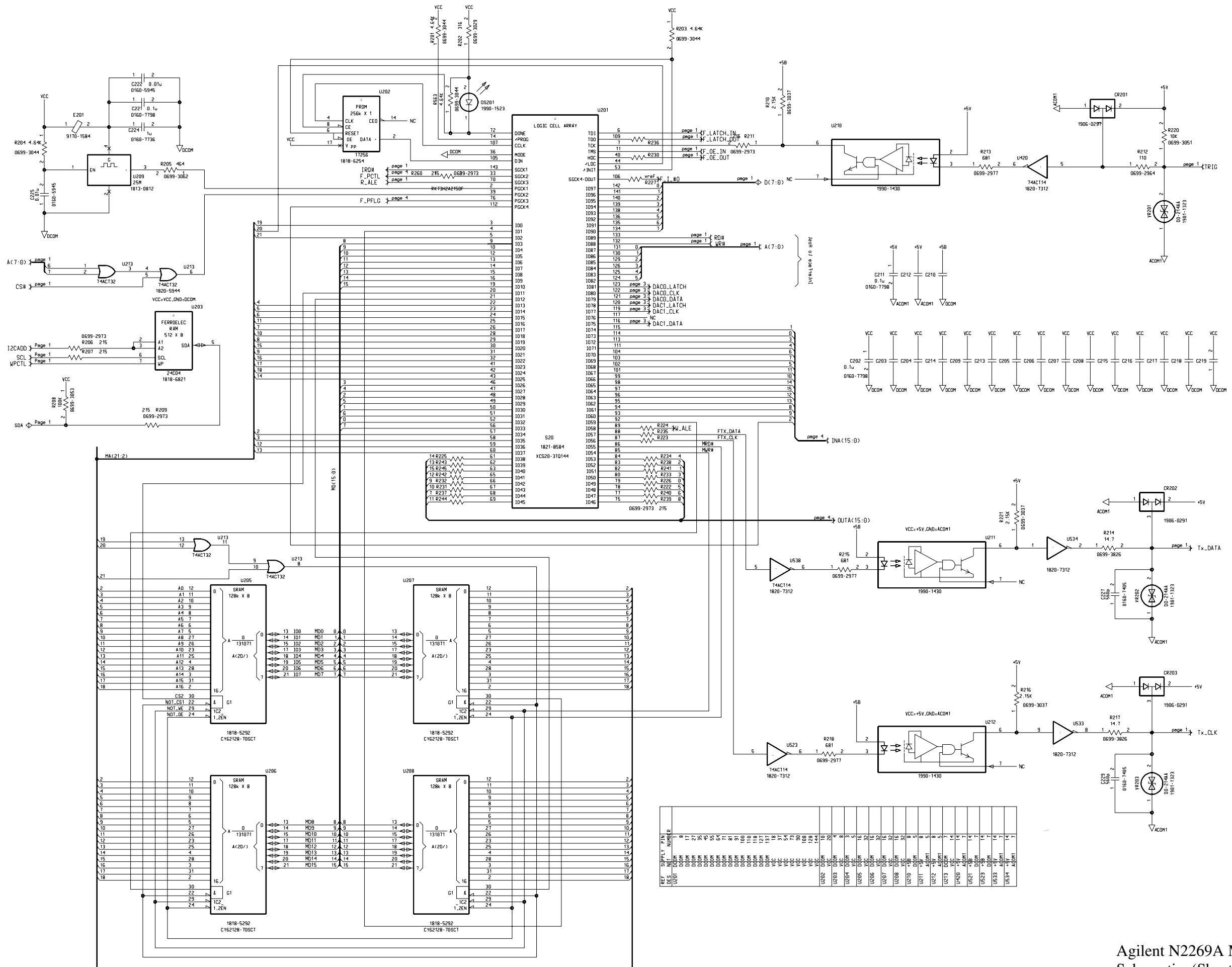


Agilent N2268A 50Ω 3.0GHz Dual 1-to-4 MUX
 Module Schematic (Sheet 3 of 3)
 Page 202

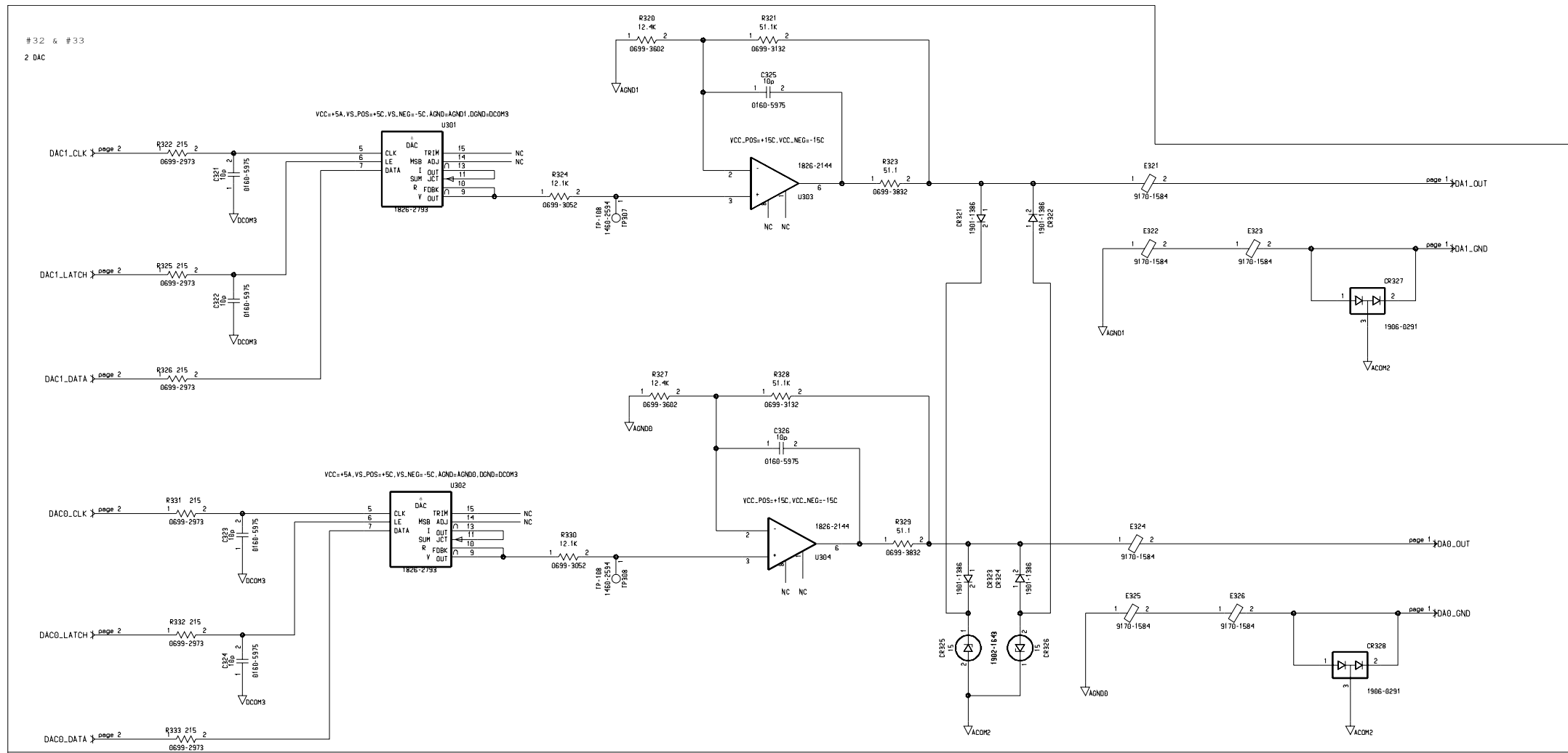




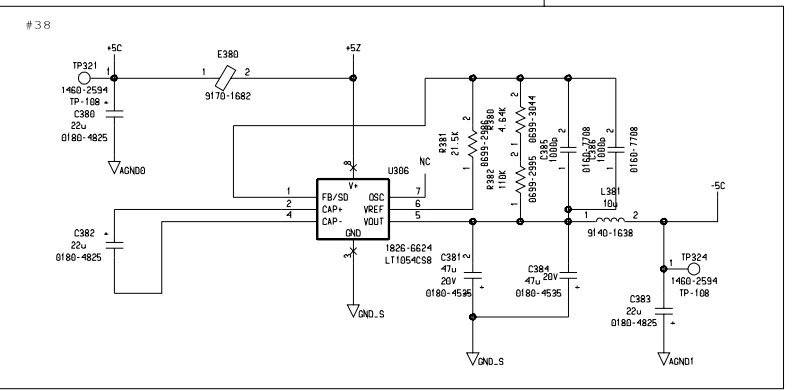
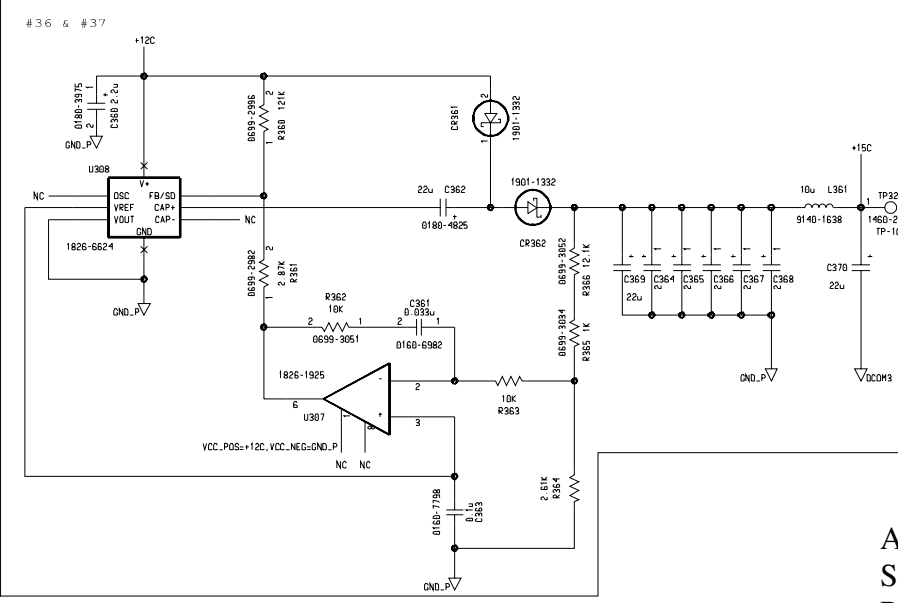
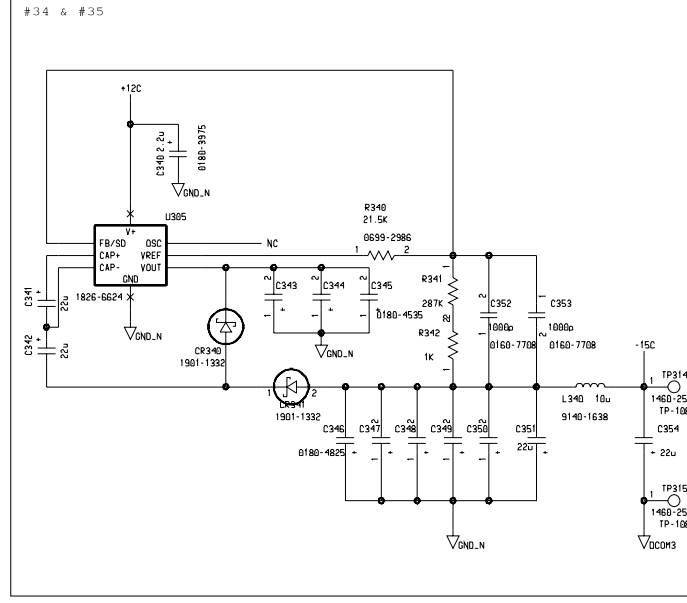
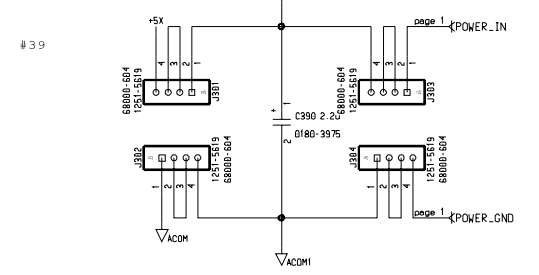
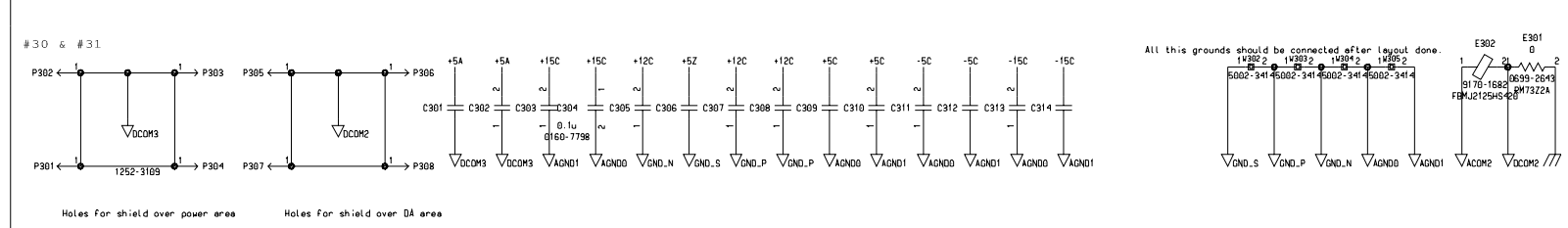
REF	SUPPLY	NET	PIN	NUMBER
U101	+5V	DCCM	8	
U102	+5V	ACQM1	5	
U104	+5V	ACQM1	14	
U421	+5V	ACQM1	7	
U523	+5V	DCCM	7	
U533	+5V	ACQM1	7	
U536	+5V	ACQM1	7	

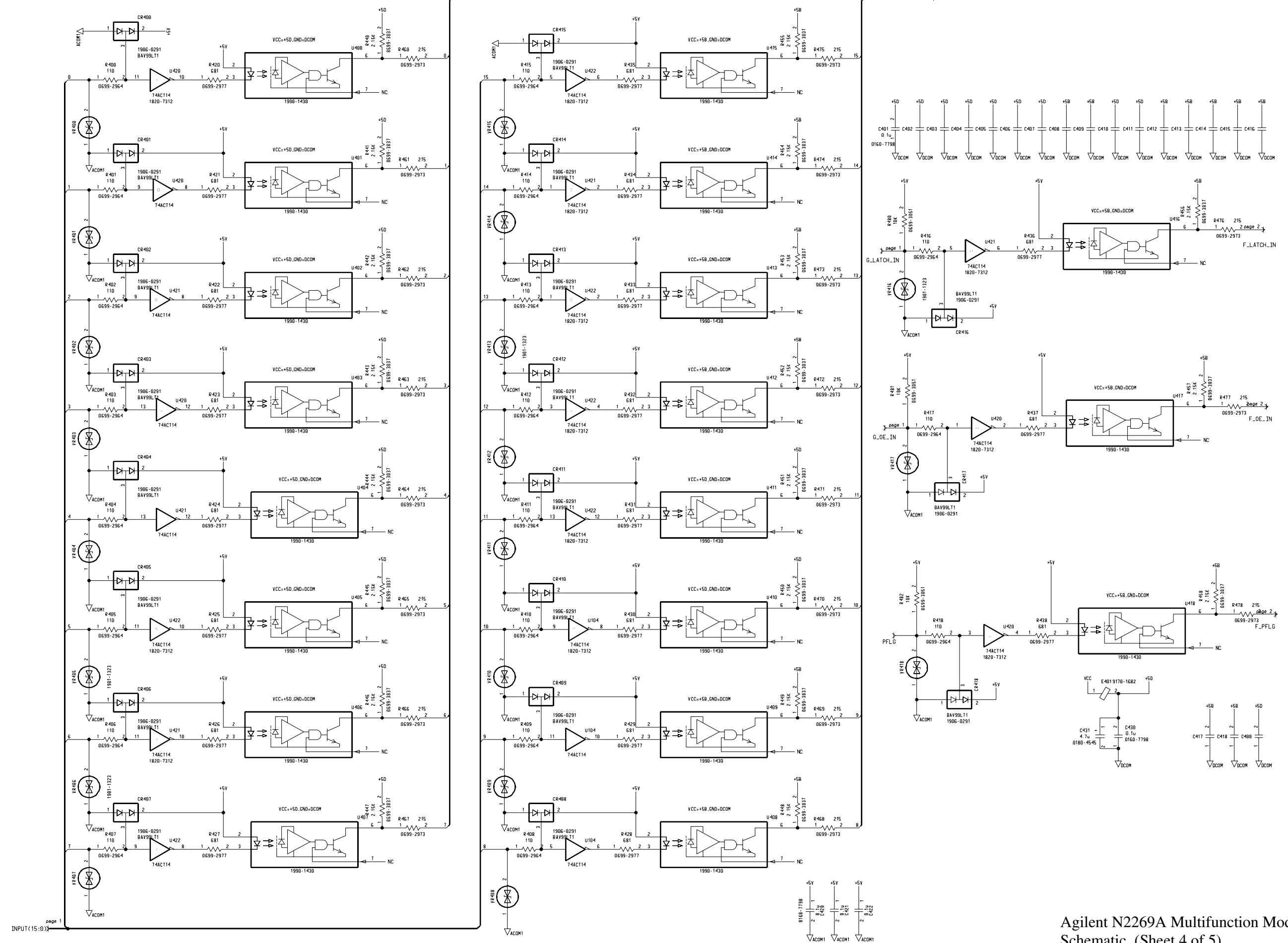


Agilent N2269A Multifunction Module Schematic (Sheet 2 of 5) Page 205

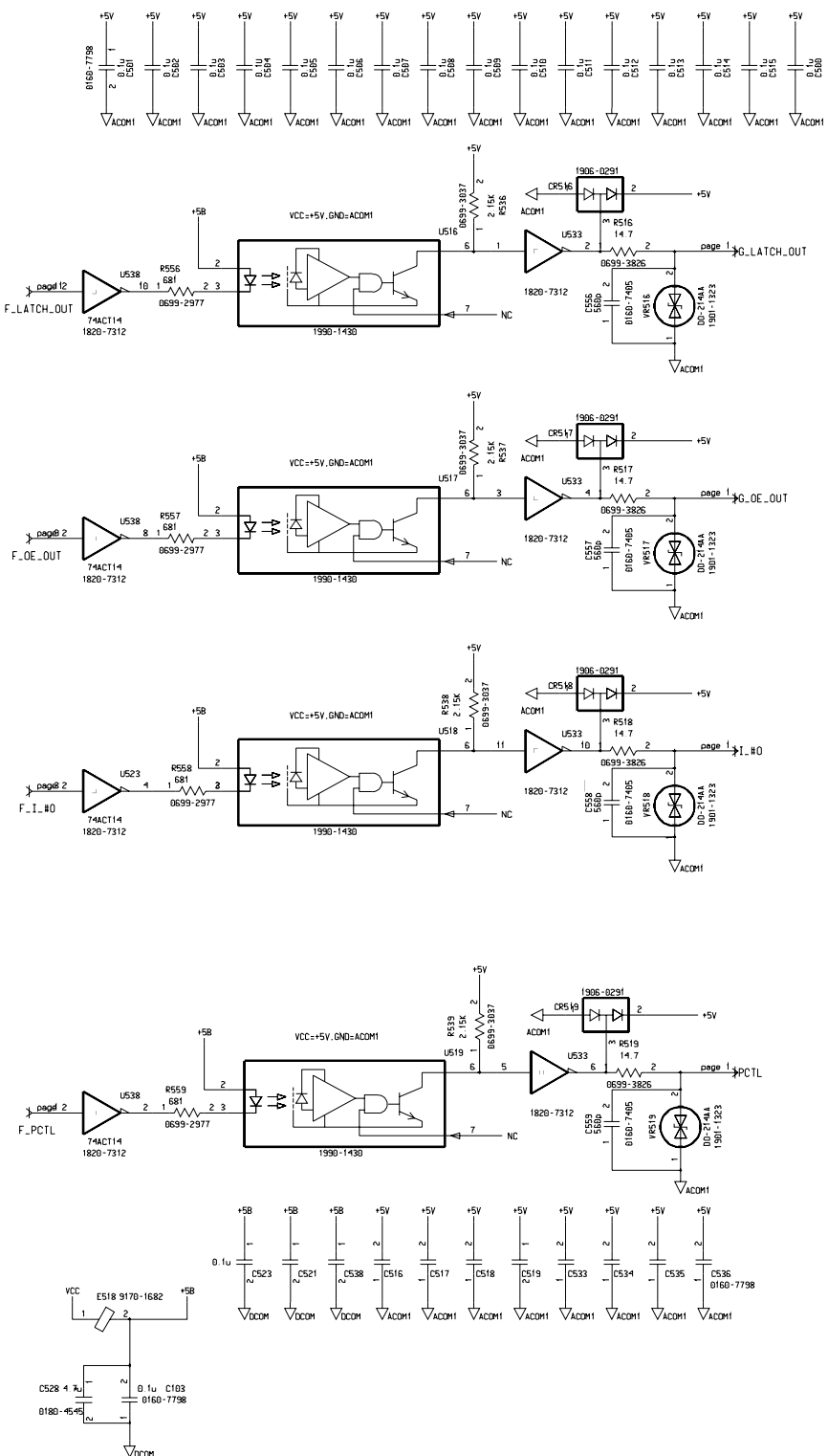
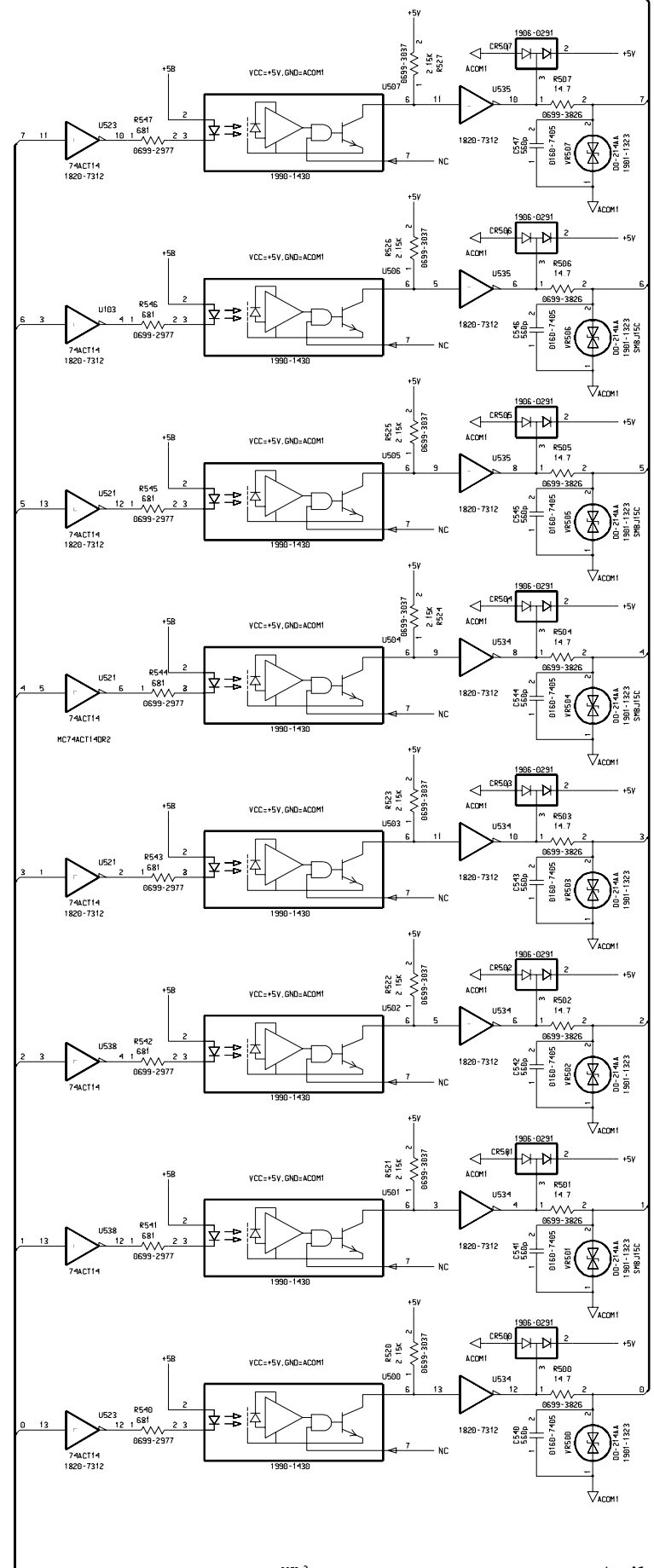
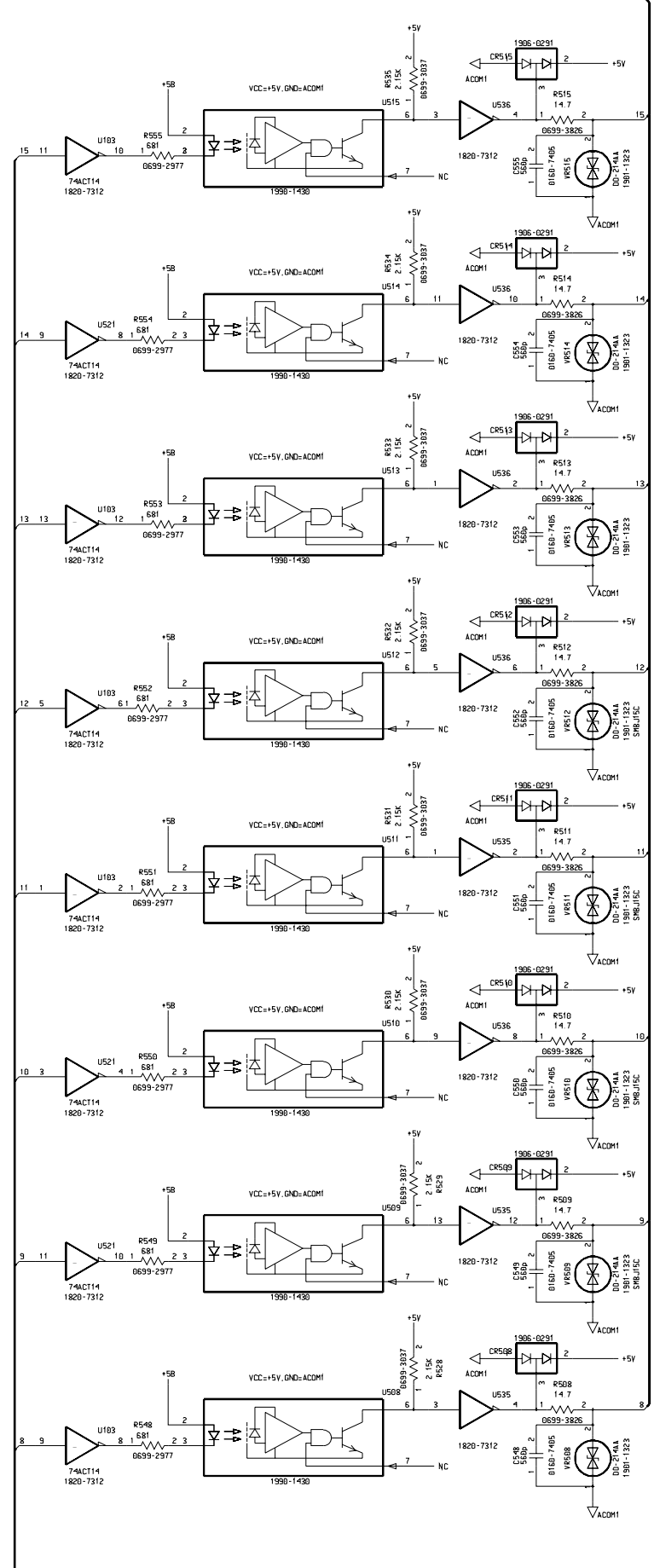


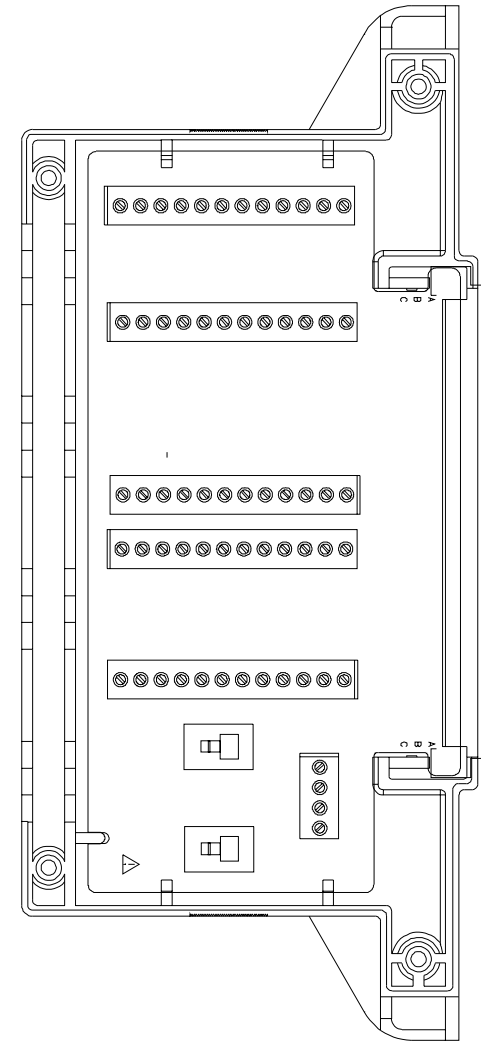
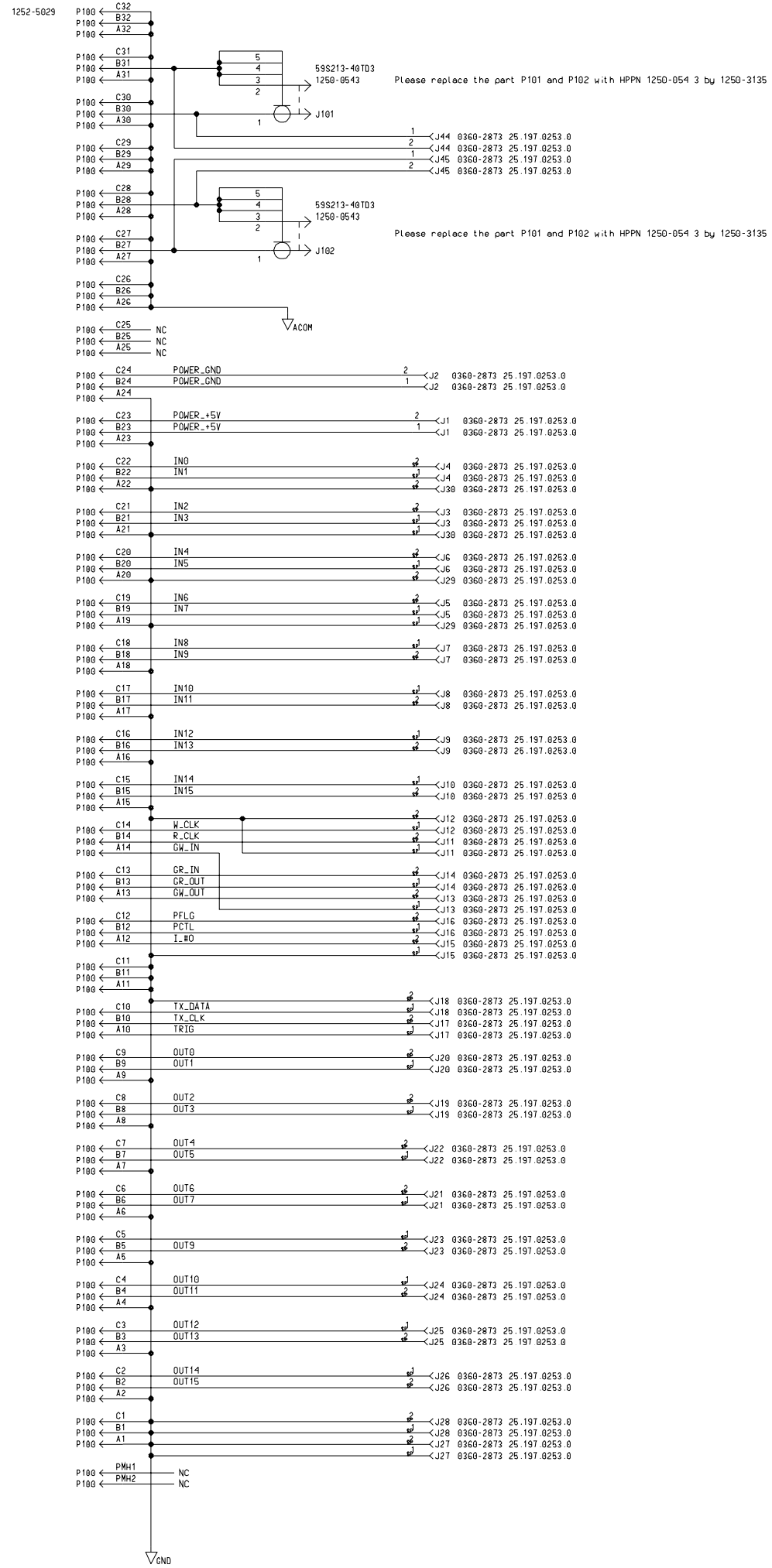
REF DES	SUPPLY	PIN	NUMBER
U301	+5A	15	3
U301	+5C	16	1
U301	+5C	17	1
U301	+5C	18	1
U301	+5C	19	1
U301	+5C	20	1
U301	+5C	21	1
U301	+5C	22	1
U301	+5C	23	1
U301	+5C	24	1
U301	+5C	25	1
U301	+5C	26	1
U301	+5C	27	1
U301	+5C	28	1
U301	+5C	29	1
U301	+5C	30	1
U301	+5C	31	1
U301	+5C	32	1
U301	+5C	33	1
U301	+5C	34	1
U301	+5C	35	1
U301	+5C	36	1
U301	+5C	37	1
U301	+5C	38	1
U301	+5C	39	1
U301	+5C	40	1
U301	+5C	41	1
U301	+5C	42	1
U301	+5C	43	1
U301	+5C	44	1
U301	+5C	45	1
U301	+5C	46	1
U301	+5C	47	1
U301	+5C	48	1
U301	+5C	49	1
U301	+5C	50	1
U301	+5C	51	1
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U301	+5C	88	1
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U301	+5C	90	1
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U301	+5C	93	1
U301	+5C	94	1
U301	+5C	95	1
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U301	+5C	98	1
U301	+5C	99	1
U301	+5C	100	1

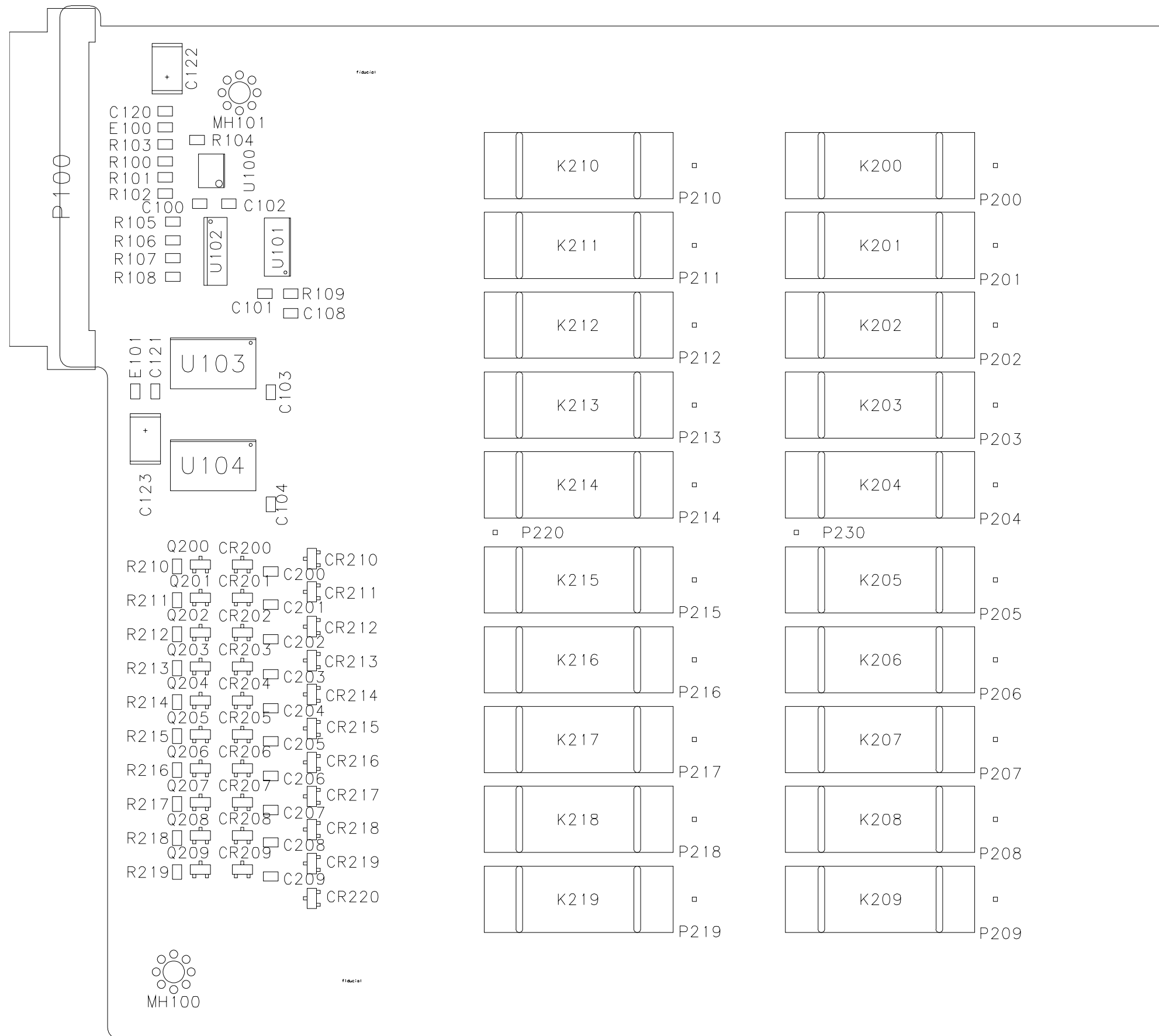


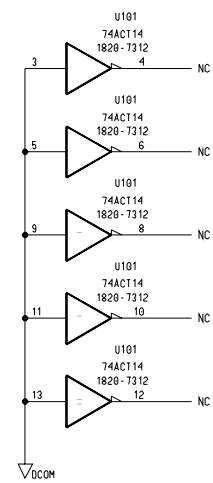
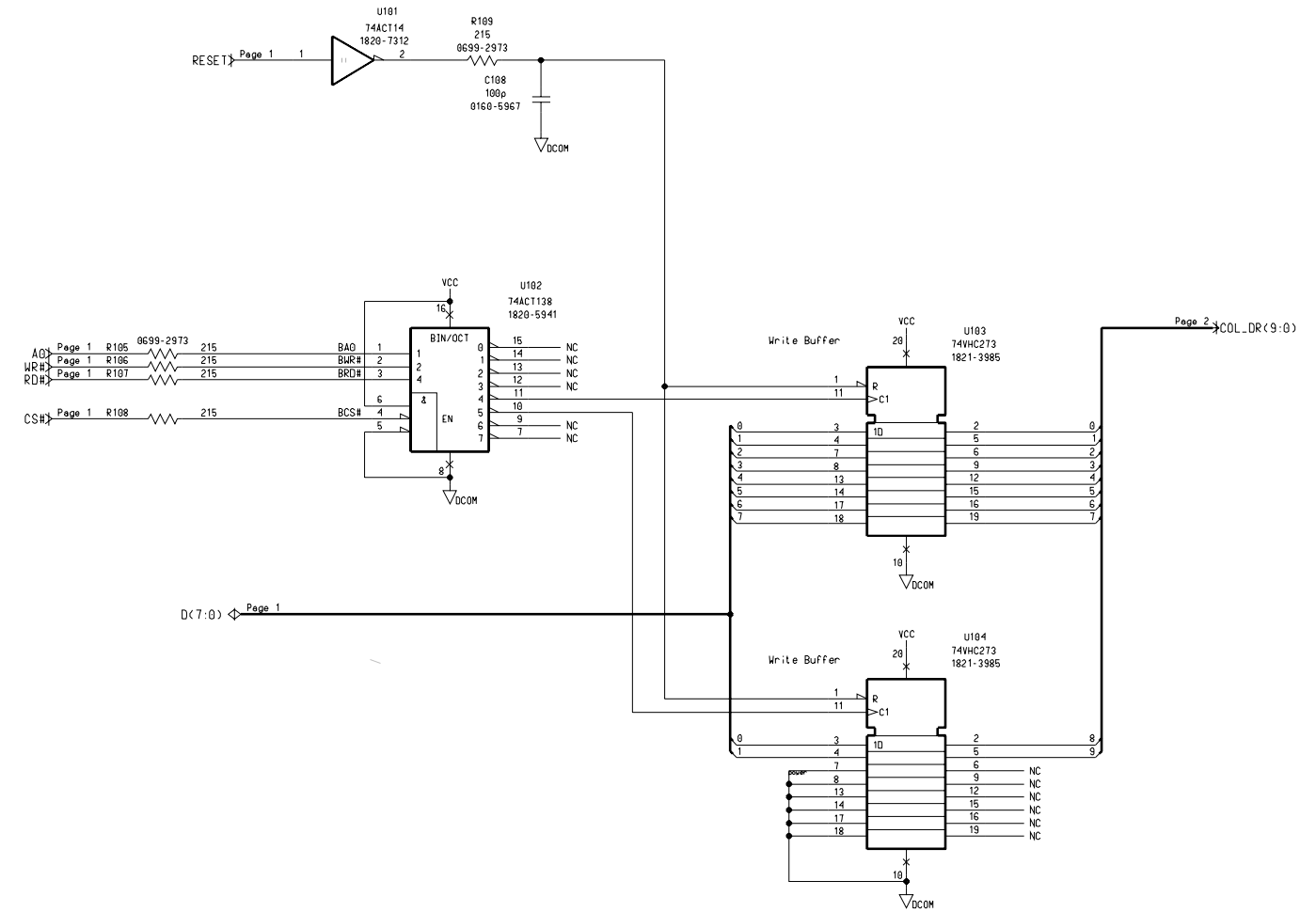
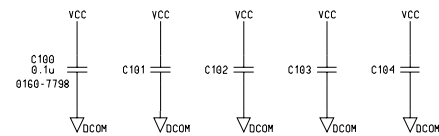
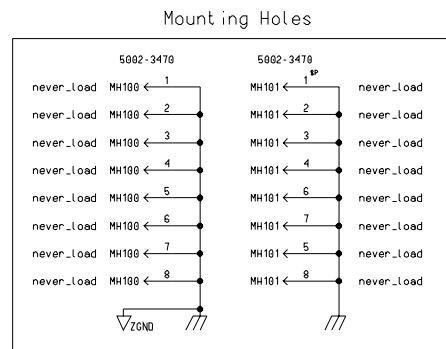
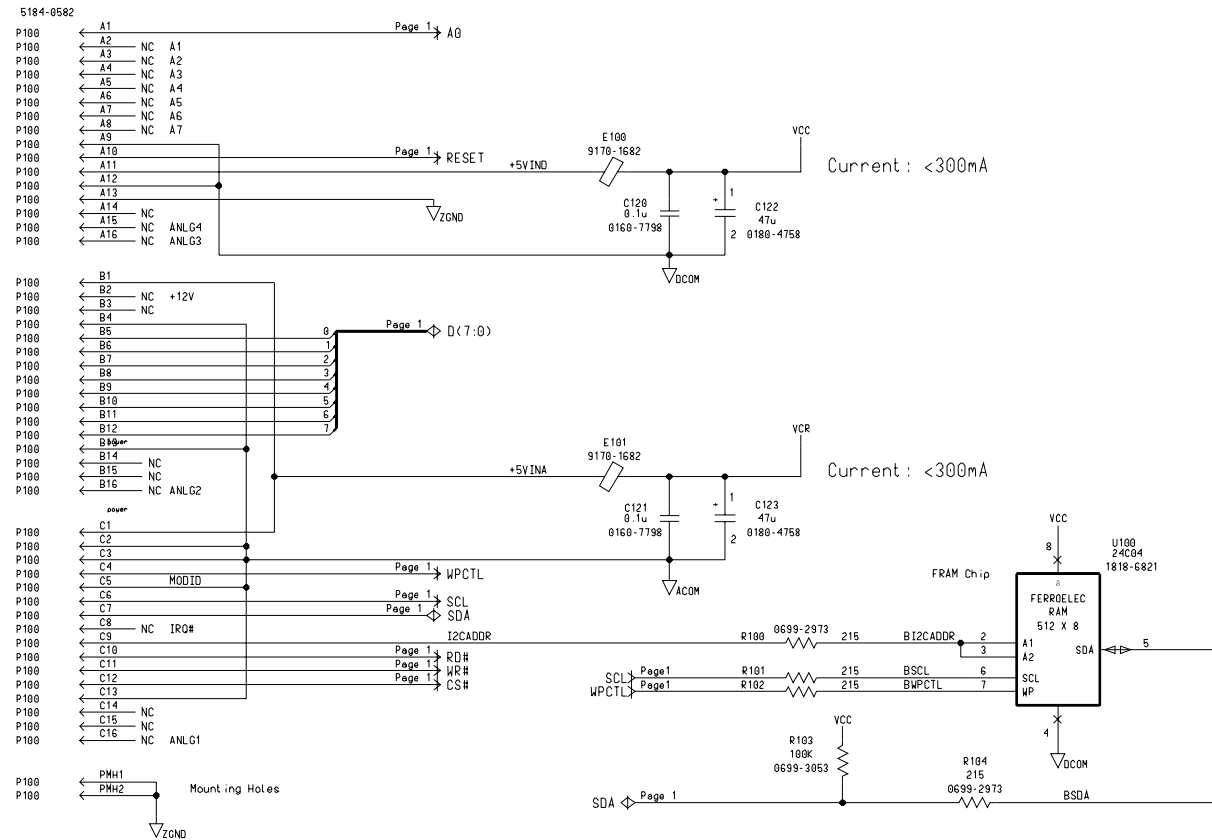


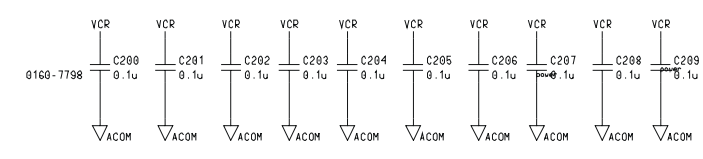
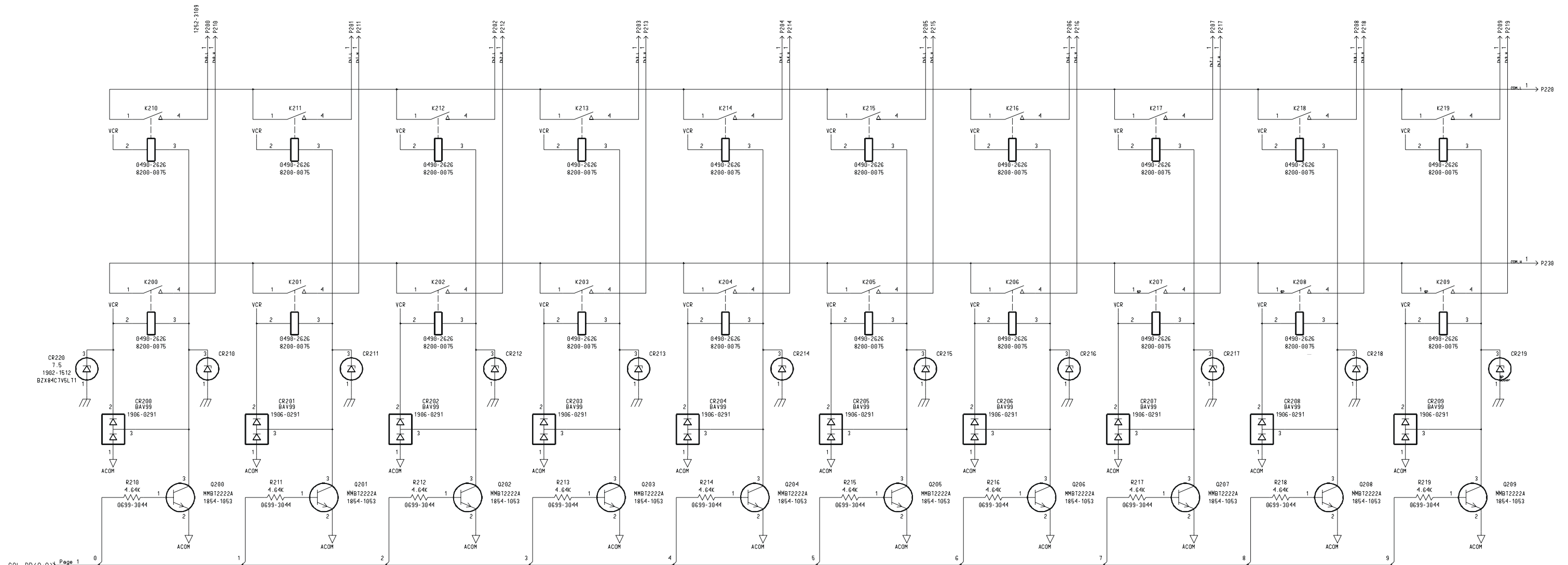
Agilent N2269A Multifunction Module
 Schematic (Sheet 4 of 5)
 Page 207

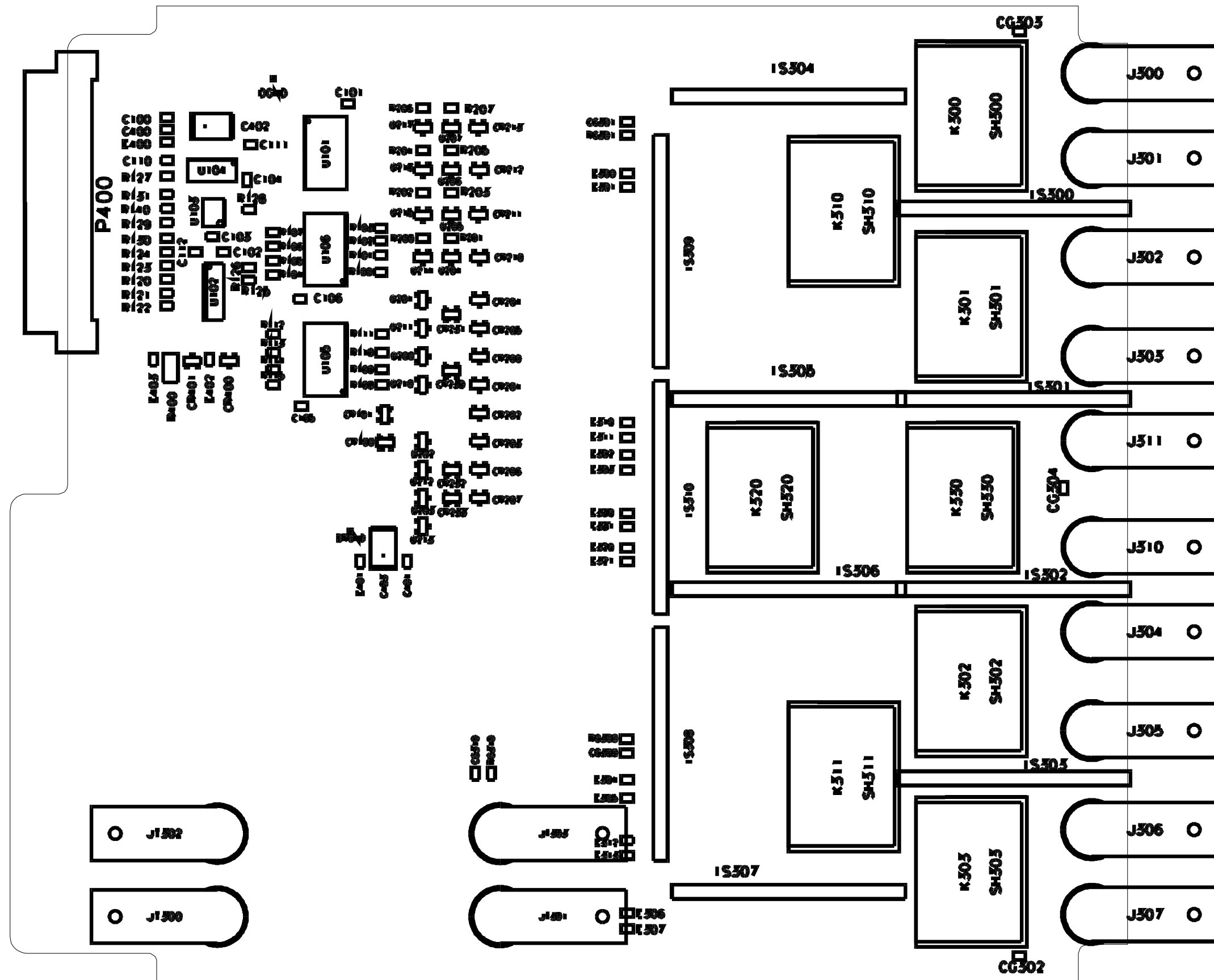


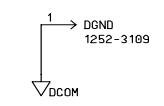
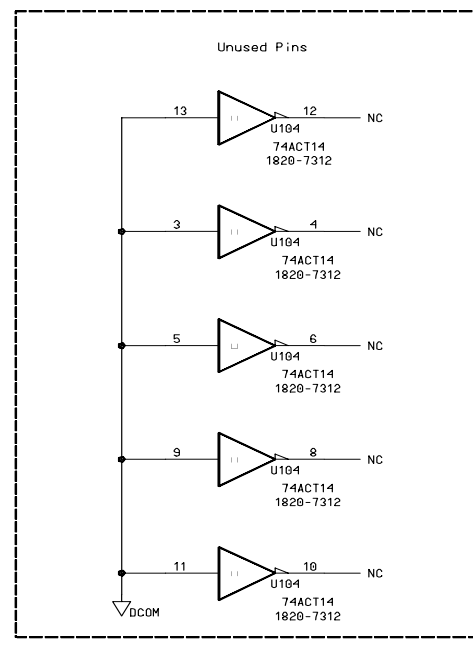
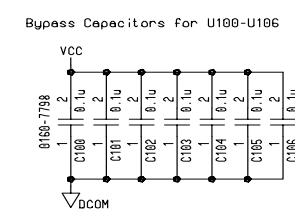
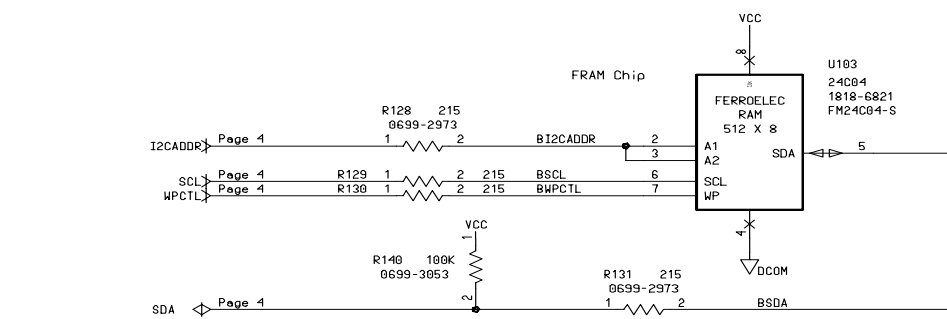
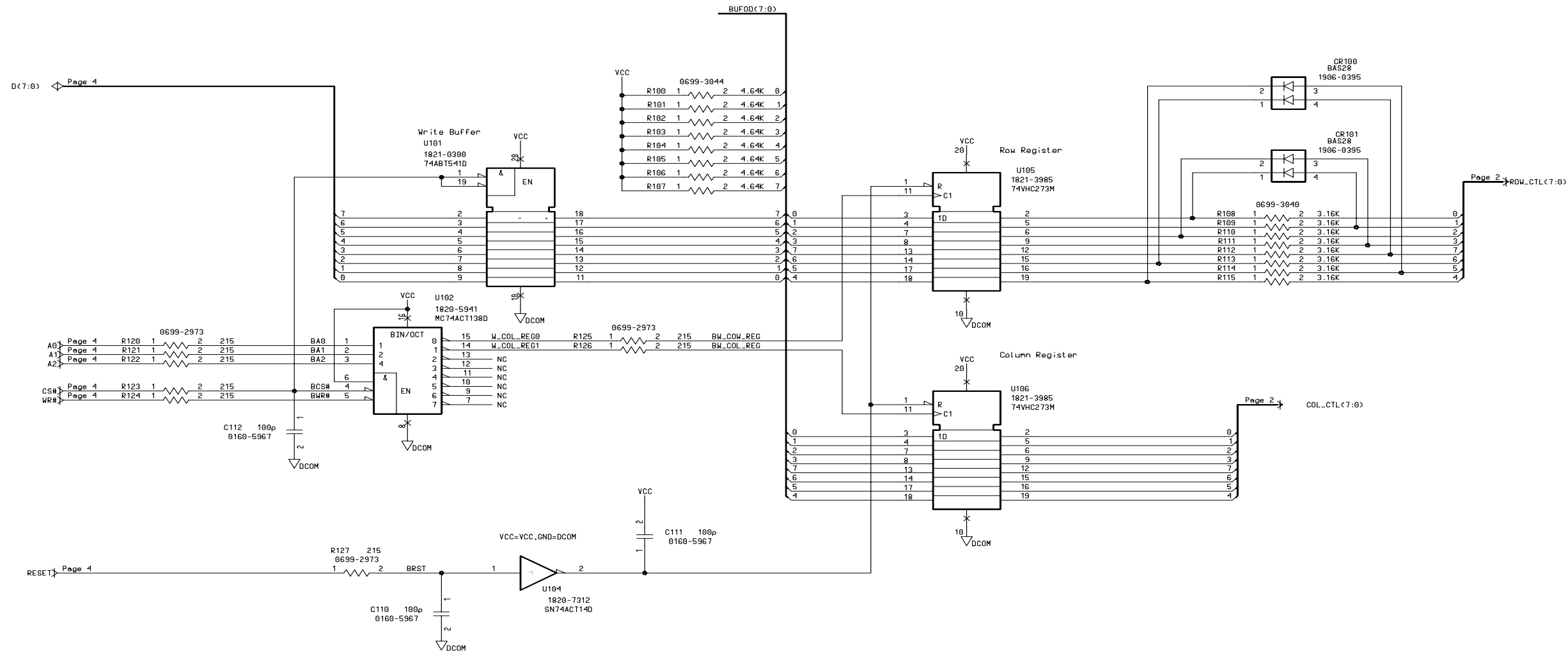


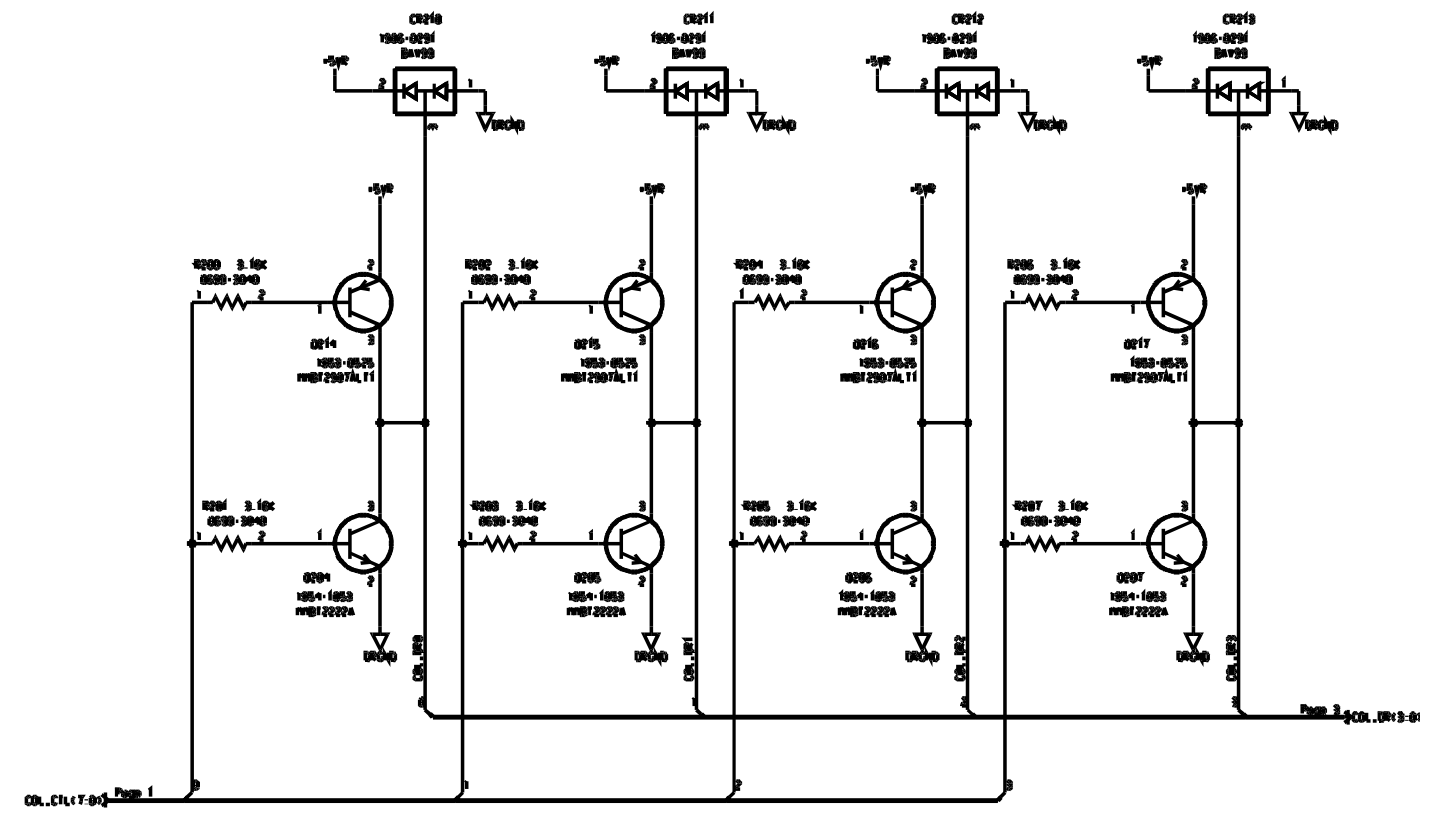
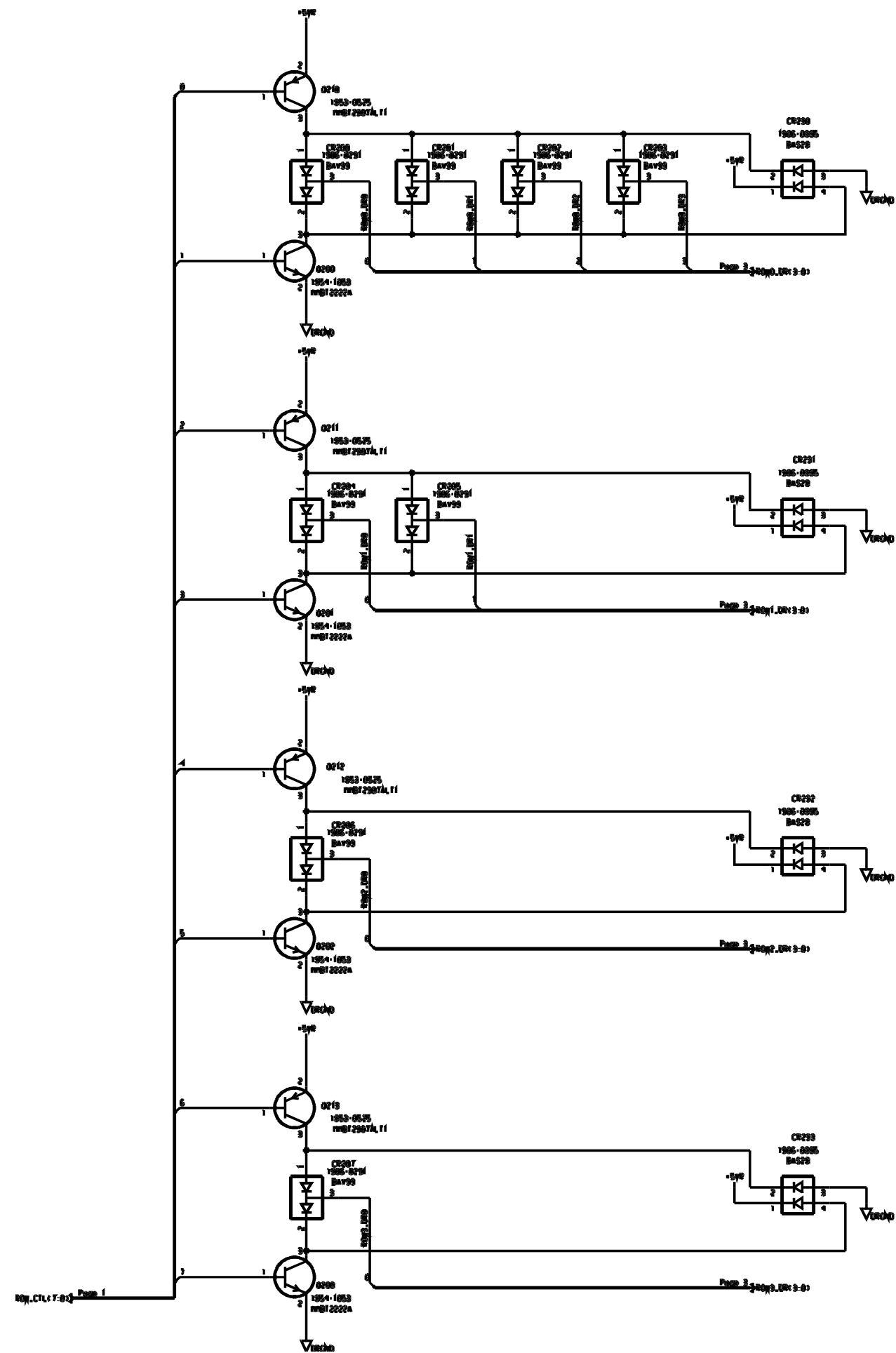




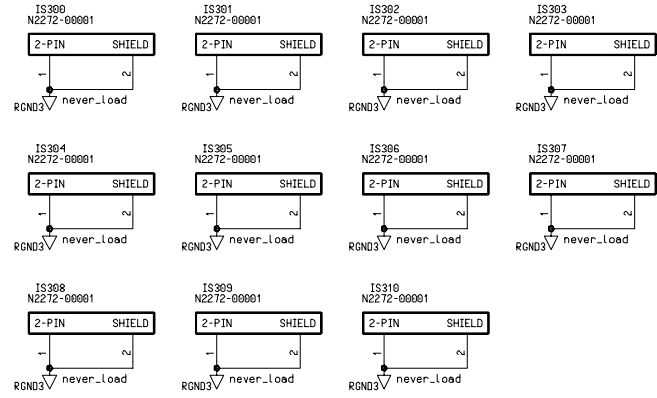




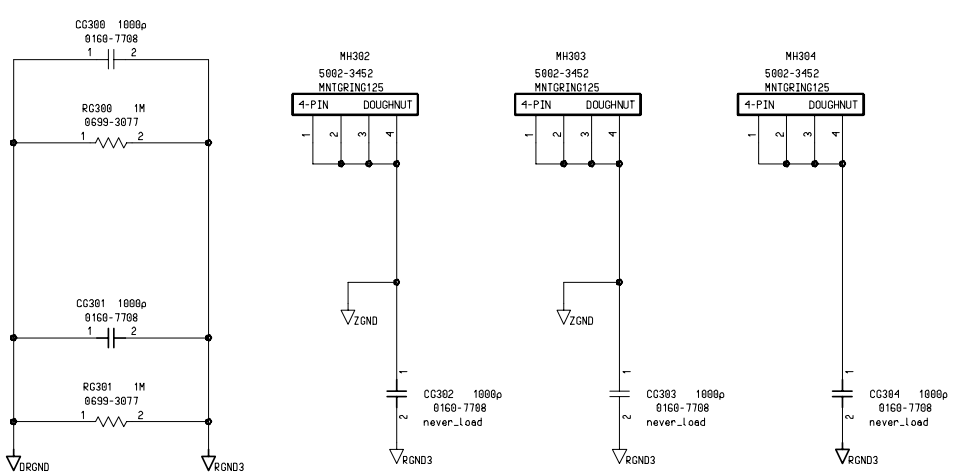
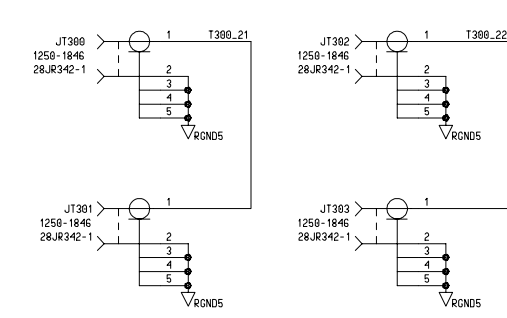
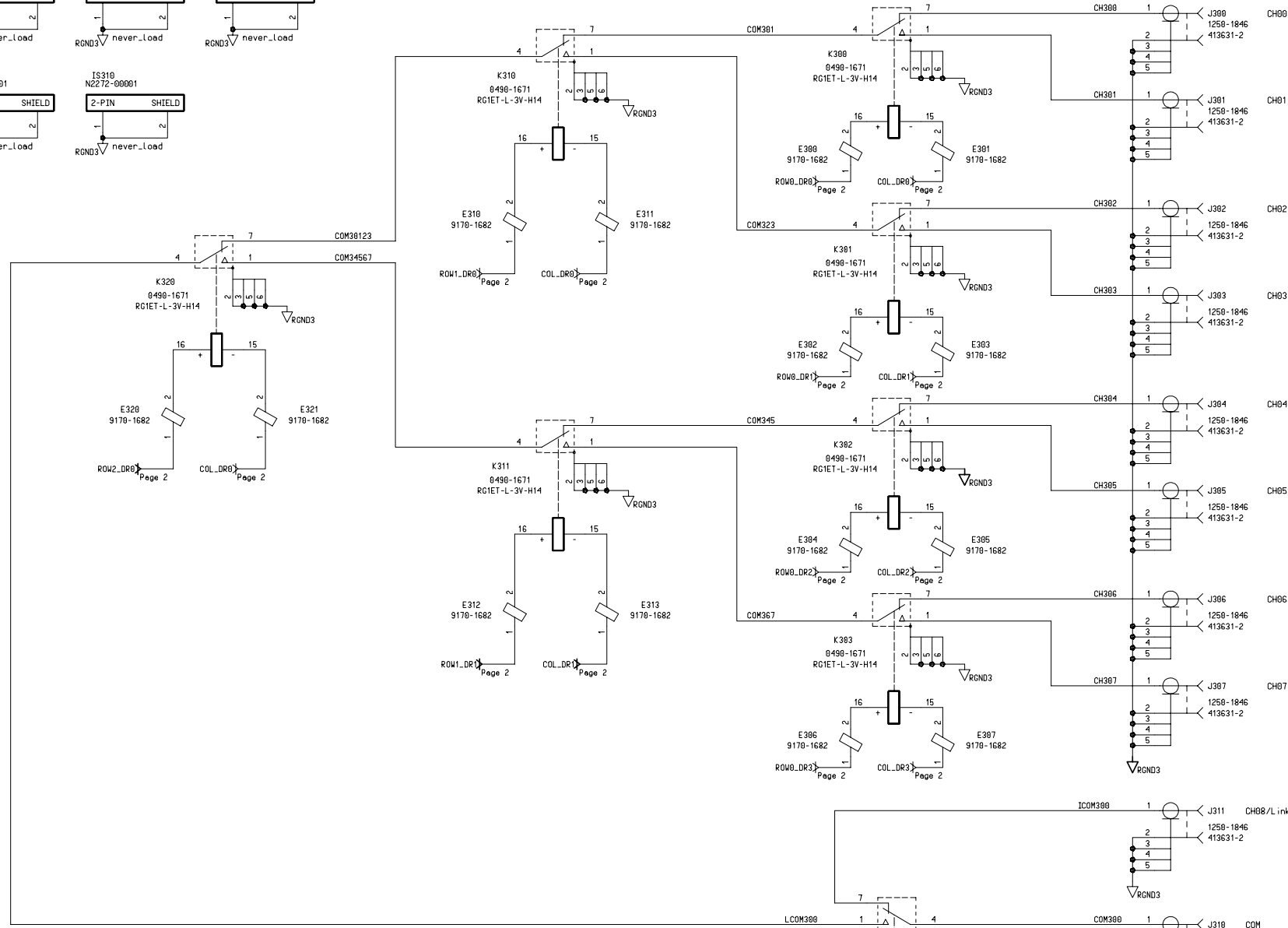
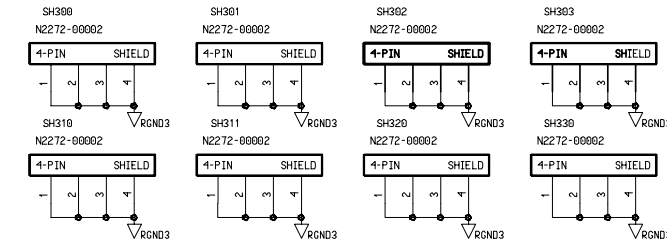




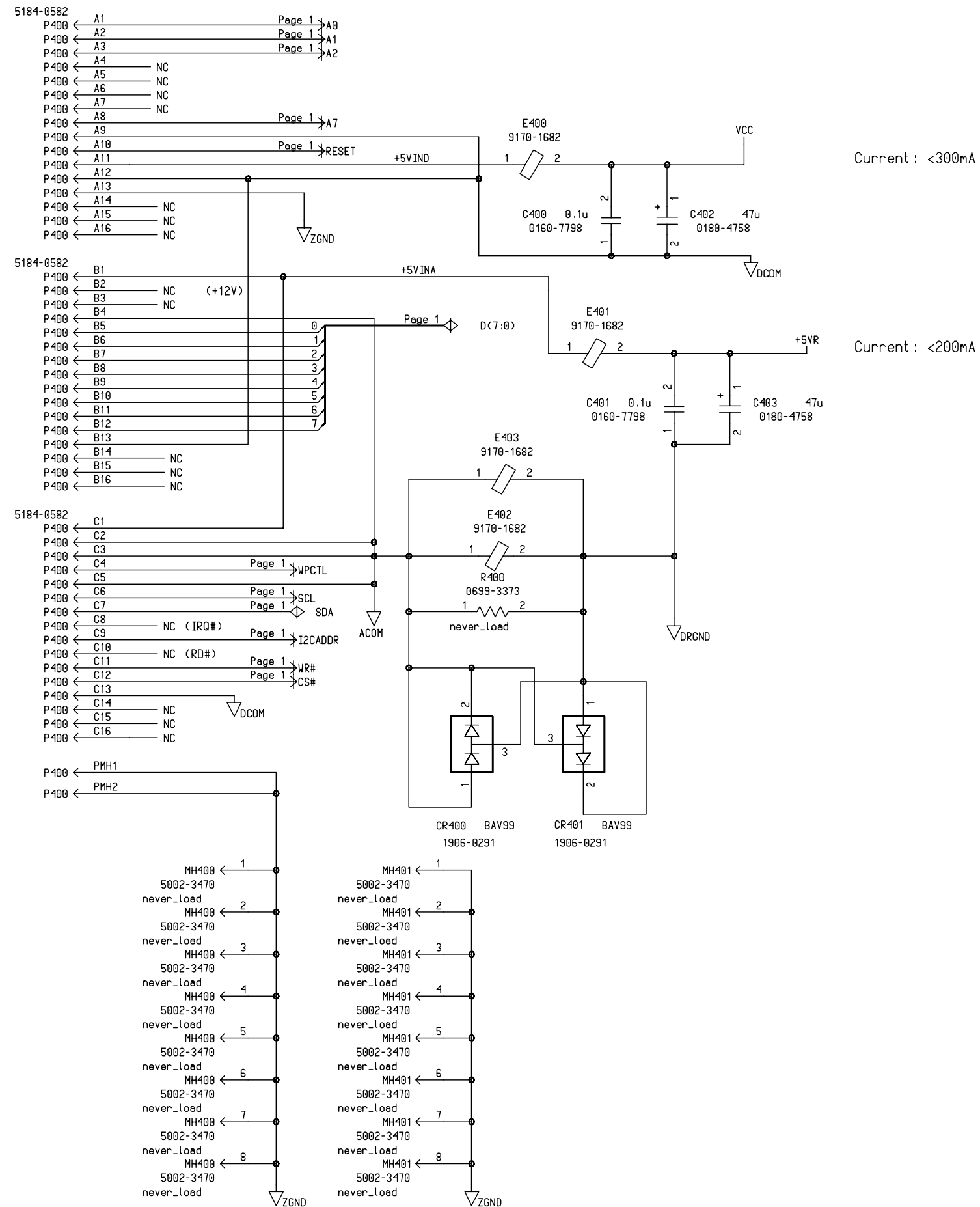
Metal bars between relays

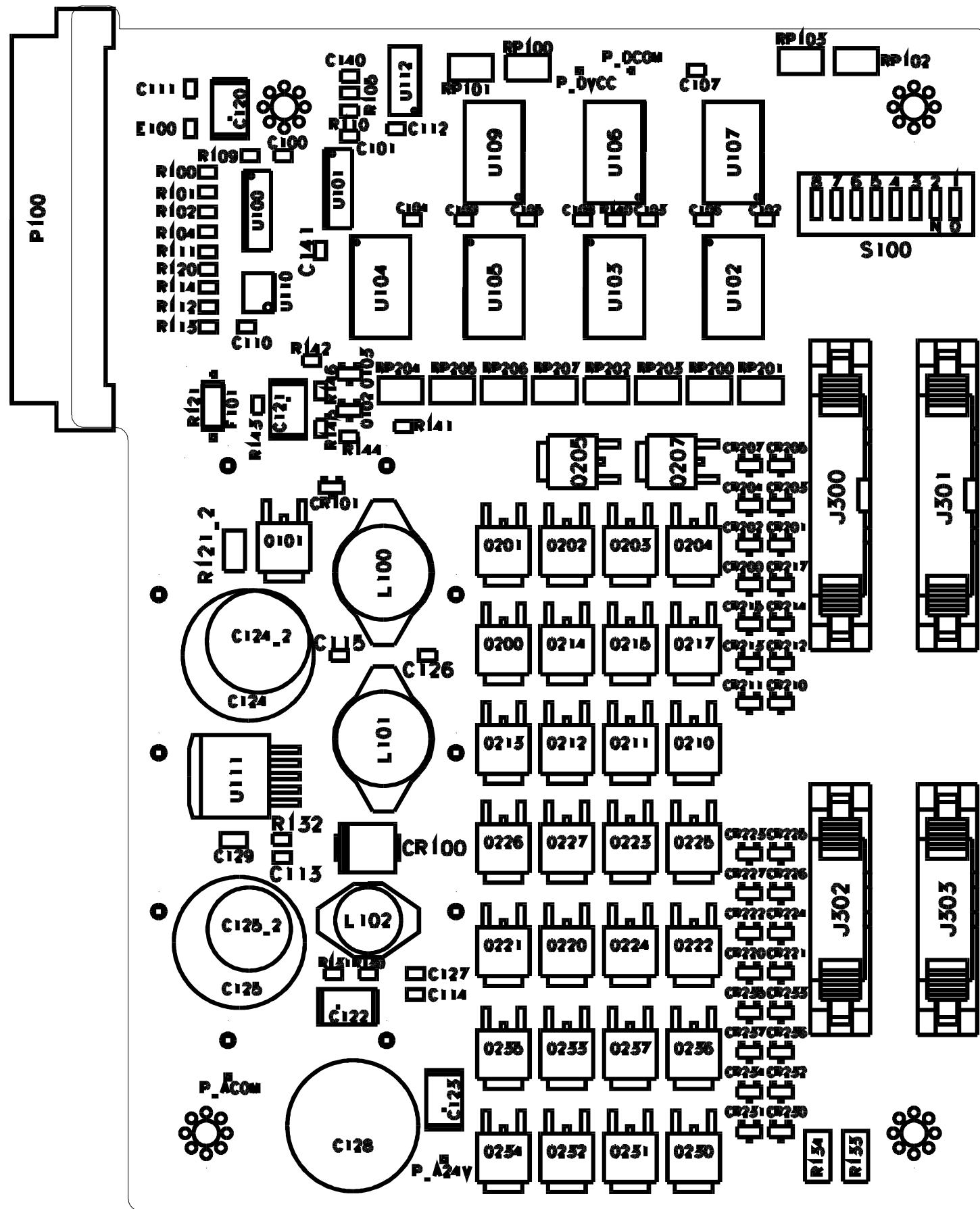


Metal covers for relays

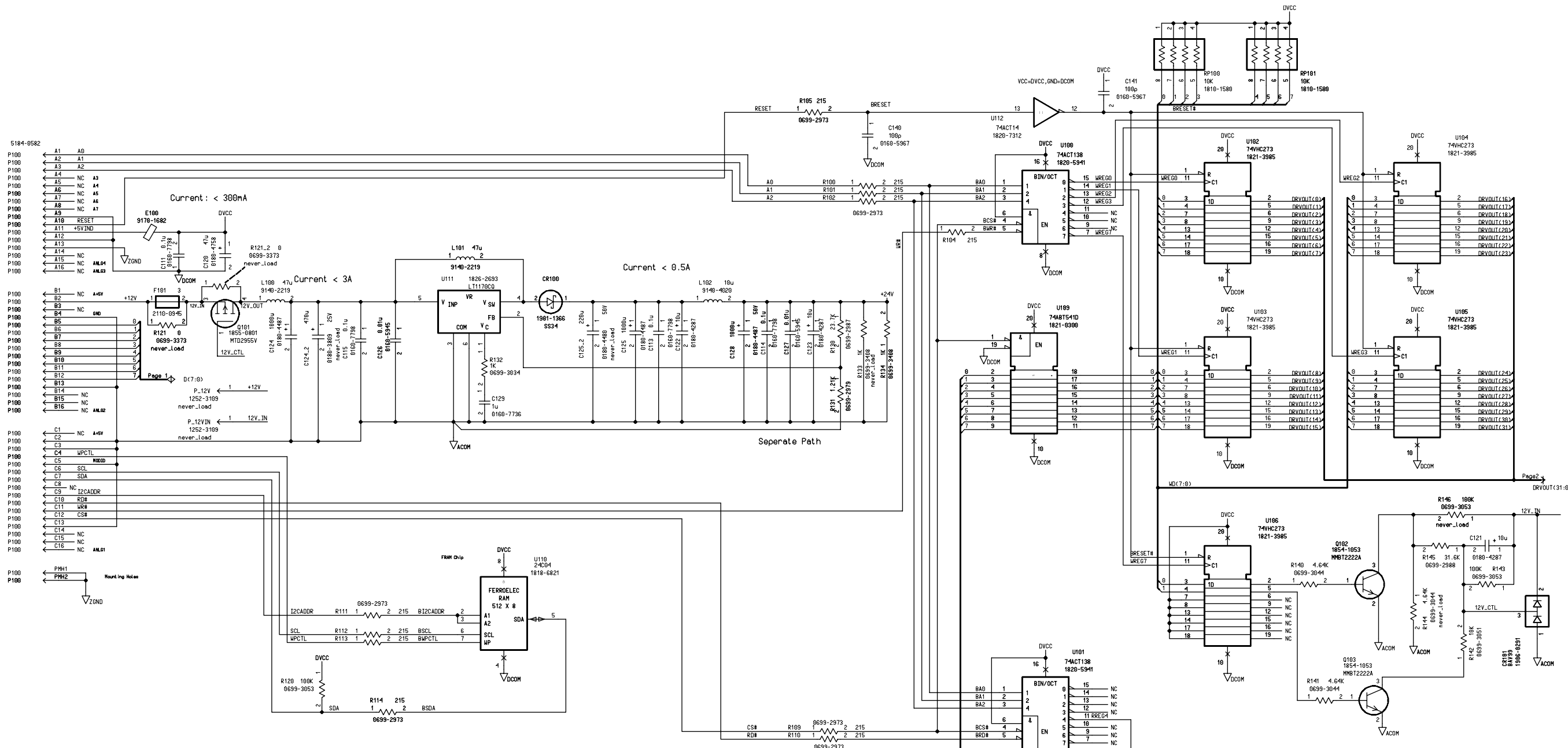


Backplane Connector





Agilent N2276A/B Dual 1-to-6(4) Microwave MUX/Attenuator Module
 Component Locator
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5184-9582
P100 A1 A0
P100 A2 A1
P100 A3 A2
P100 A4 A3
P100 A5 A4
P100 A6 A5
P100 A7 A6
P100 A8 A7
P100 A9 A8
P100 A10 RESET
P100 A11 +5VIND
P100 A12
P100 A13
P100 A14 NC
P100 A15 NC
P100 A16 NC
P100 B1 NC
P100 B2 NC
P100 B3 NC
P100 B4 DND
P100 B5
P100 B6
P100 B7
P100 B8
P100 B9
P100 B10
P100 B11
P100 B12
P100 B13
P100 B14 NC
P100 B15 NC
P100 B16 NC
P100 C1 NC
P100 C2 NC
P100 C3
P100 C4
P100 C5
P100 C6
P100 C7
P100 C8
P100 C9
P100 C10
P100 C11
P100 C12
P100 C13
P100 C14
P100 C15
P100 C16
P100 PH1
P100 PH2

Current < 300mA

Current < 0.5A

Current < 3A

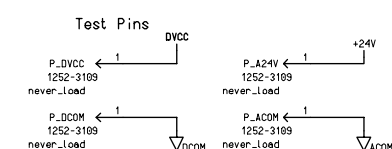
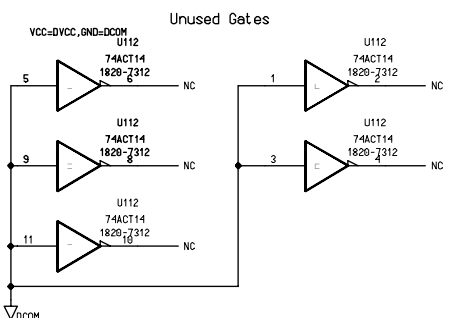
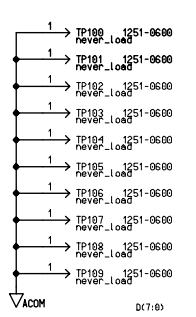
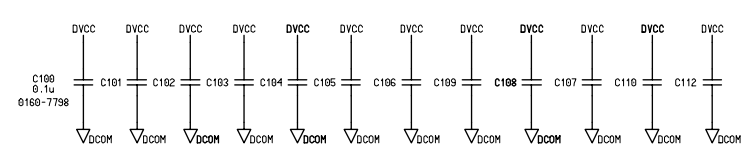
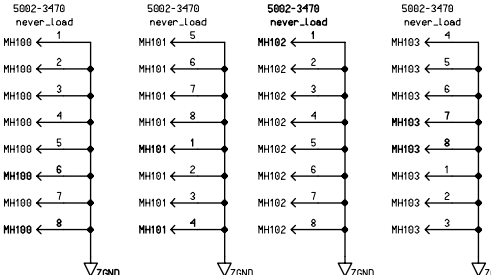
Separate Path

Mounting Holes

Bypass Caps Put as Close as the Same Number of ICs

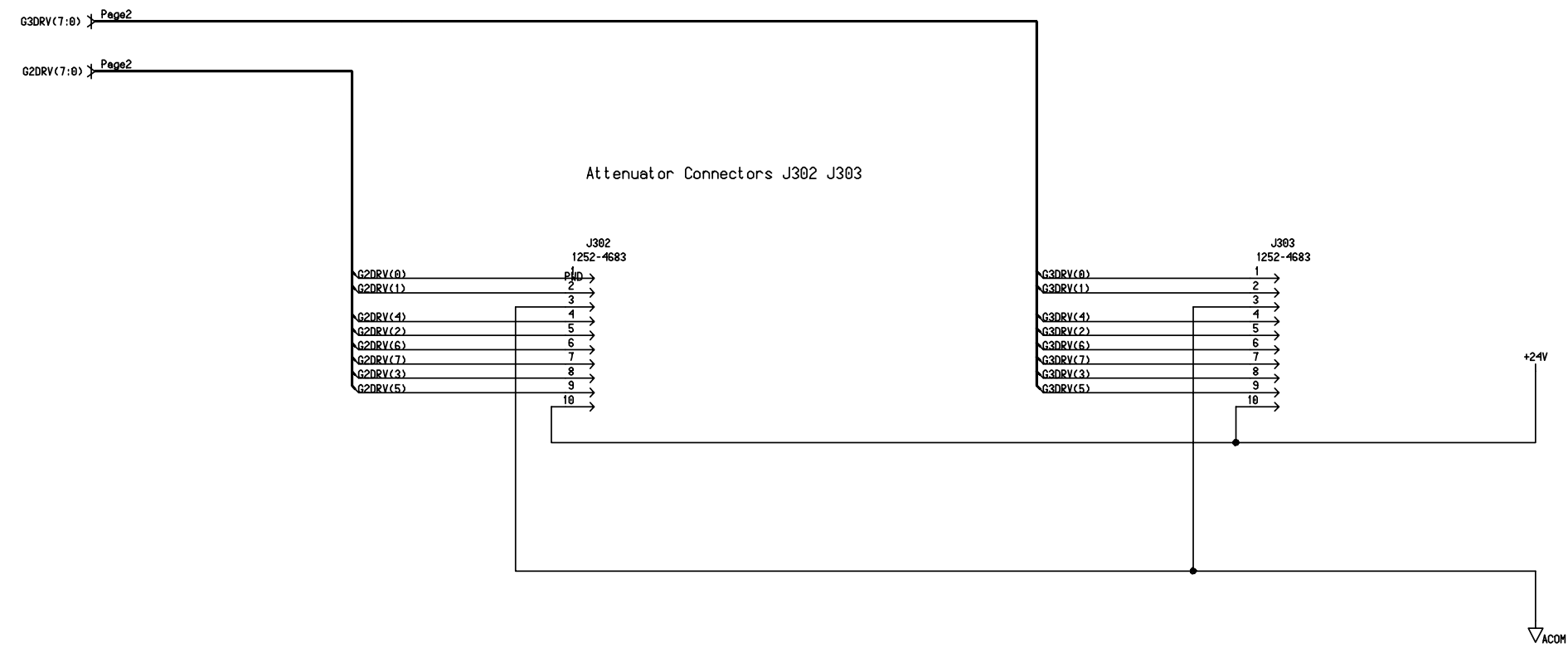
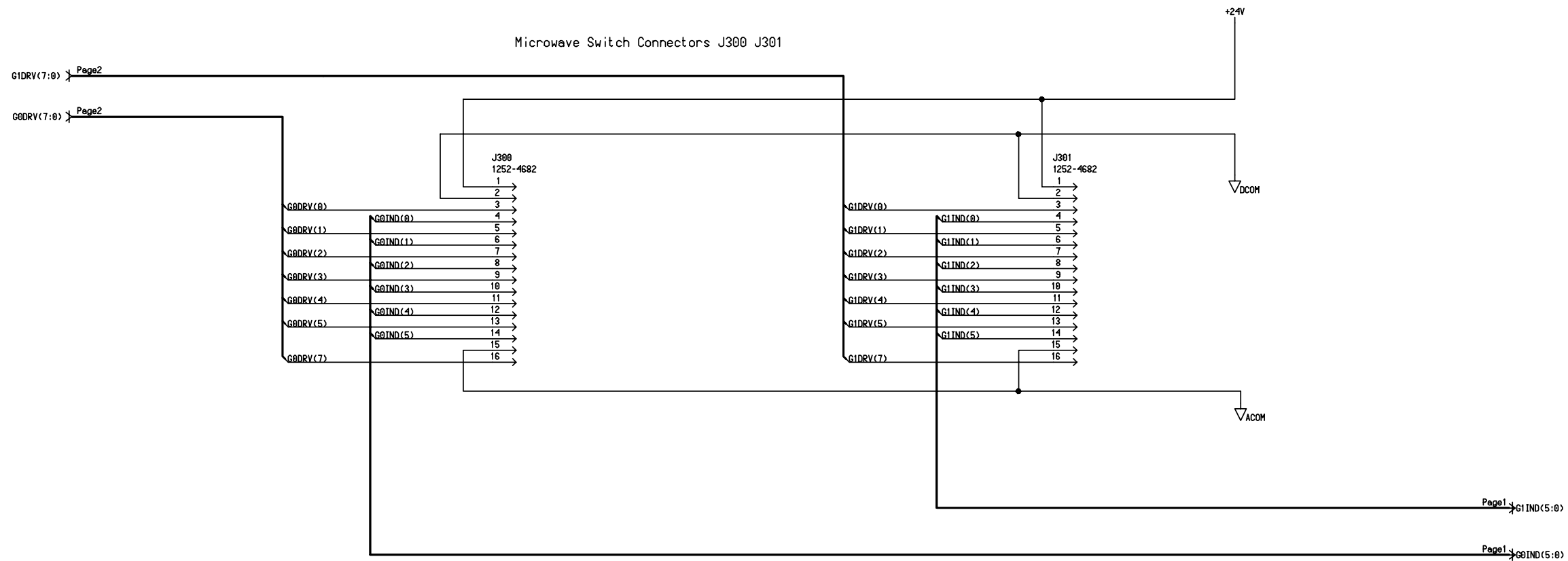
Note: These mounting holes are used to mount metal cover on DC-DC circuit if EMC failed

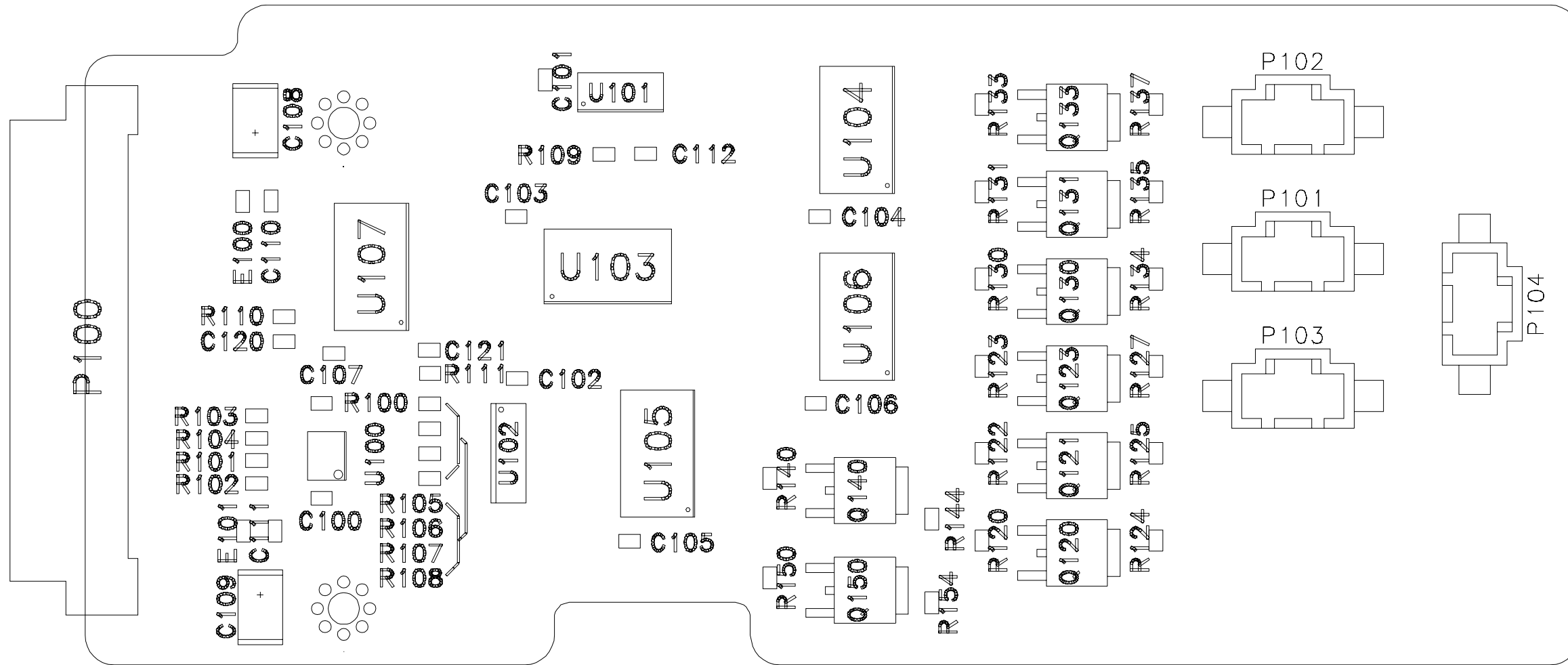
Unused Gates

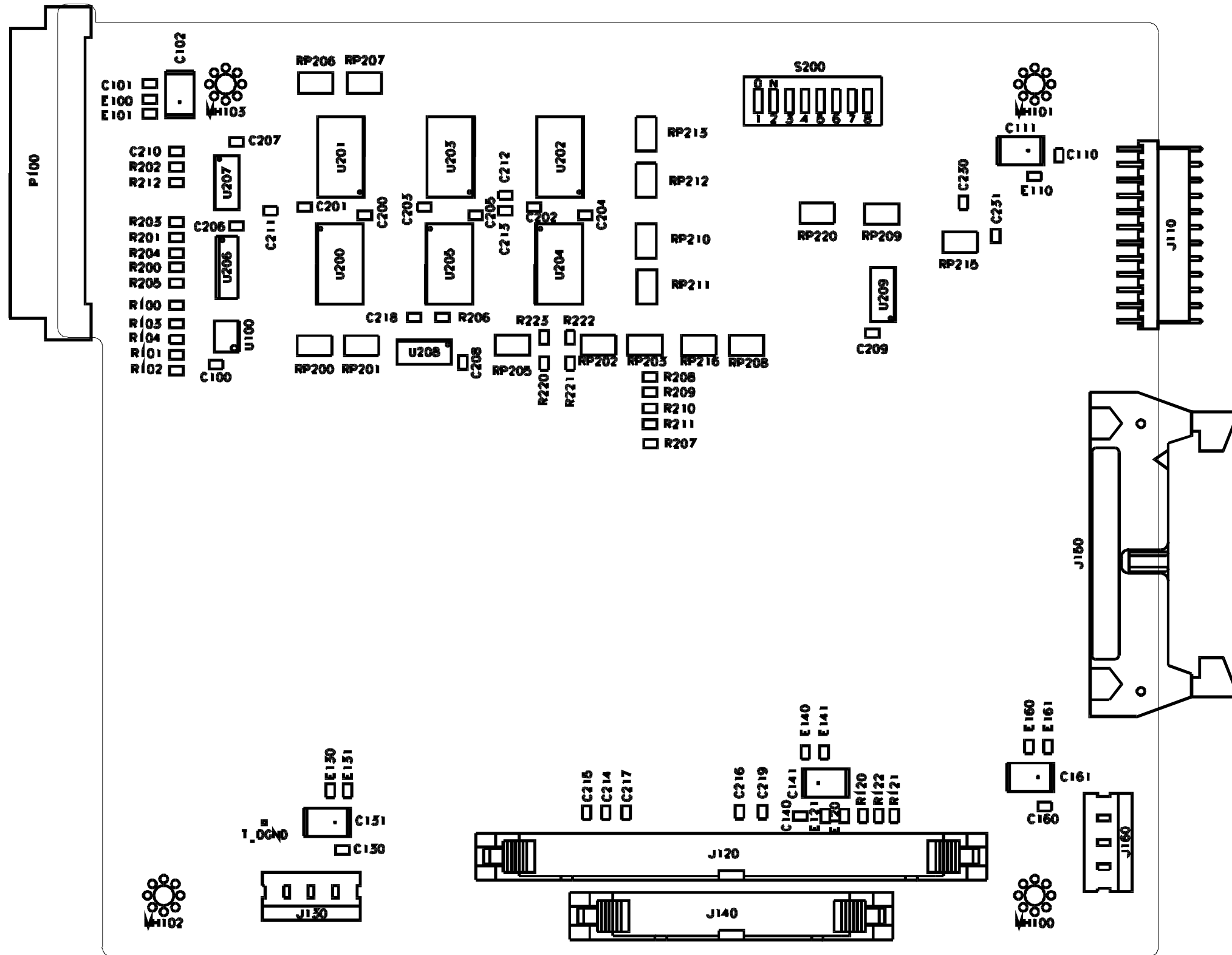




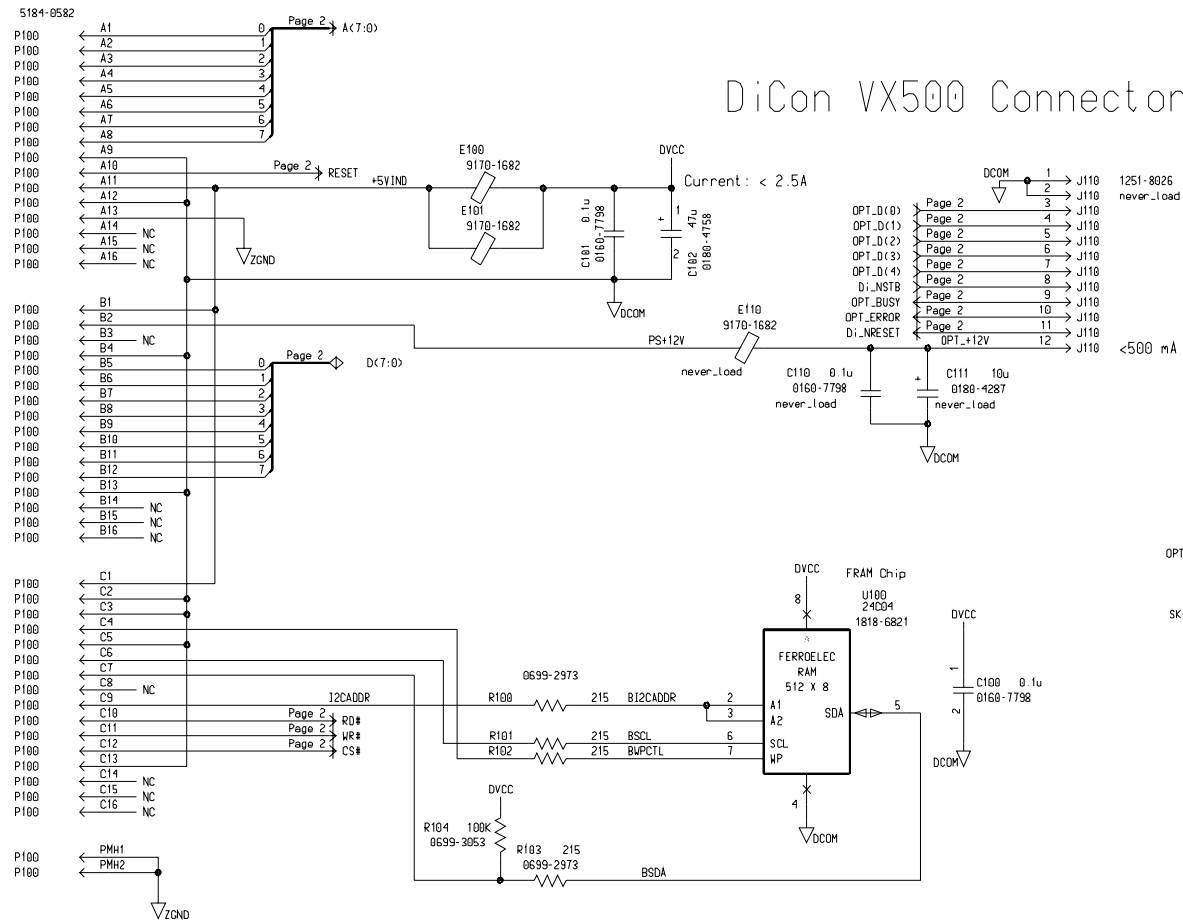
Agilent N2276A/B Dual 1-to-6(4) Microwave
 MUX/Attenuator Module Schematic (Sheet 2 of 3)
 Page 220



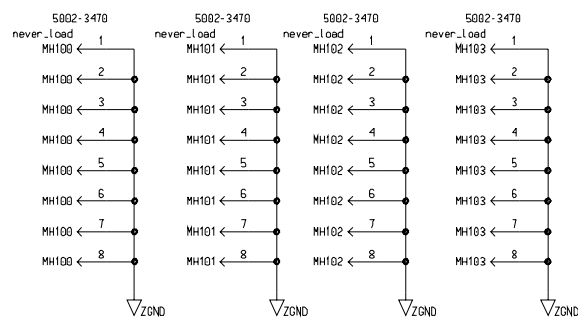




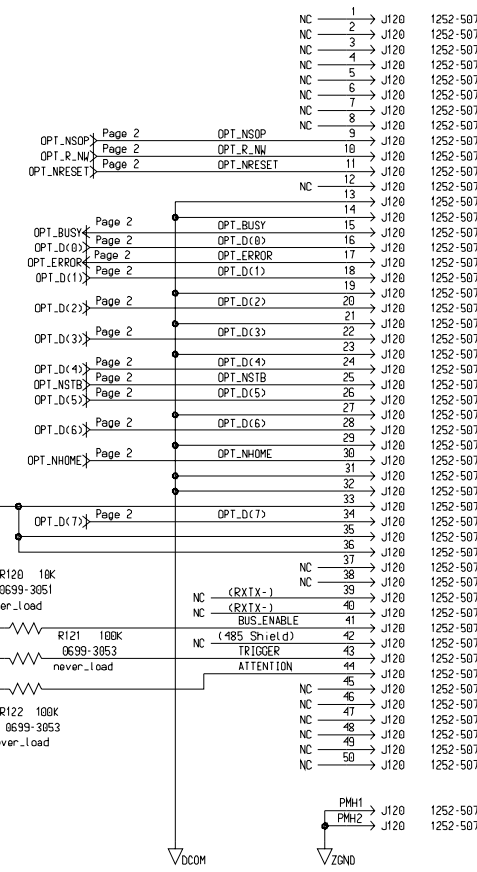
Backplane Connector



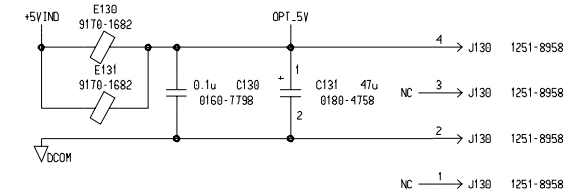
Mounting Holes



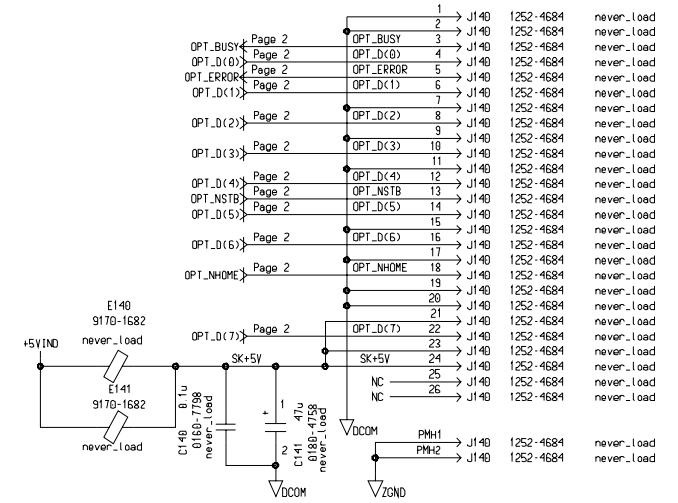
Parallel SKB Connector (IDE50)



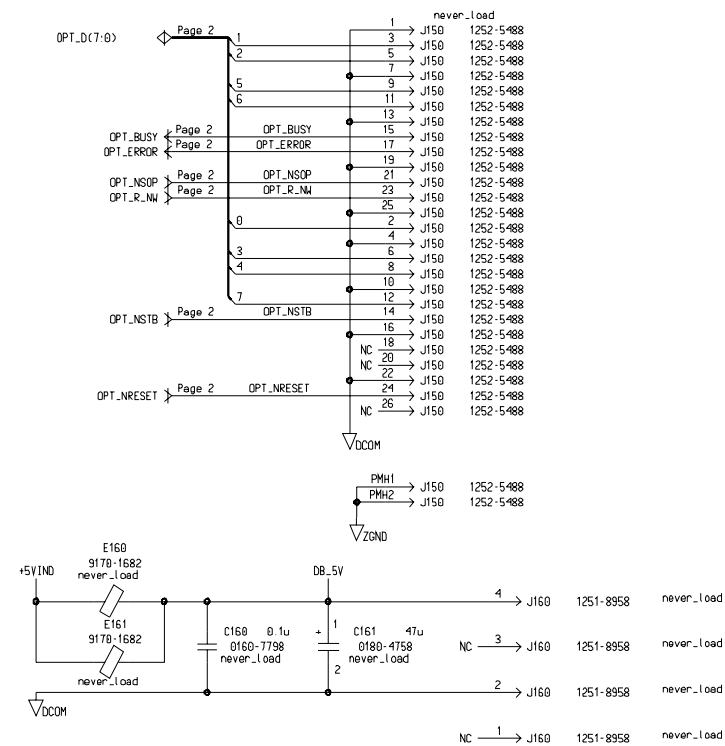
Power for Switch (Twisted for SKB)

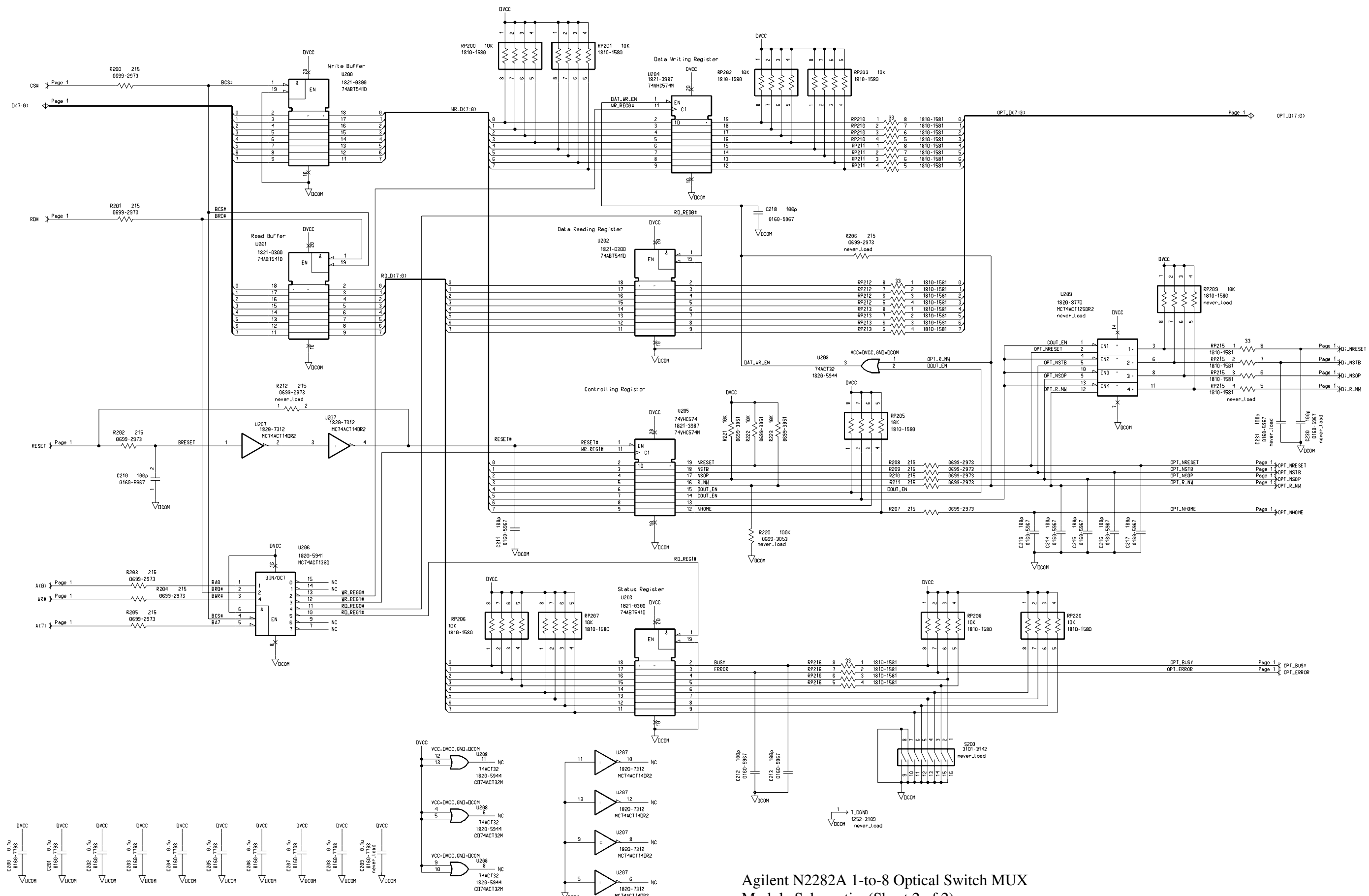


Parallel SK Connector (IDE26)

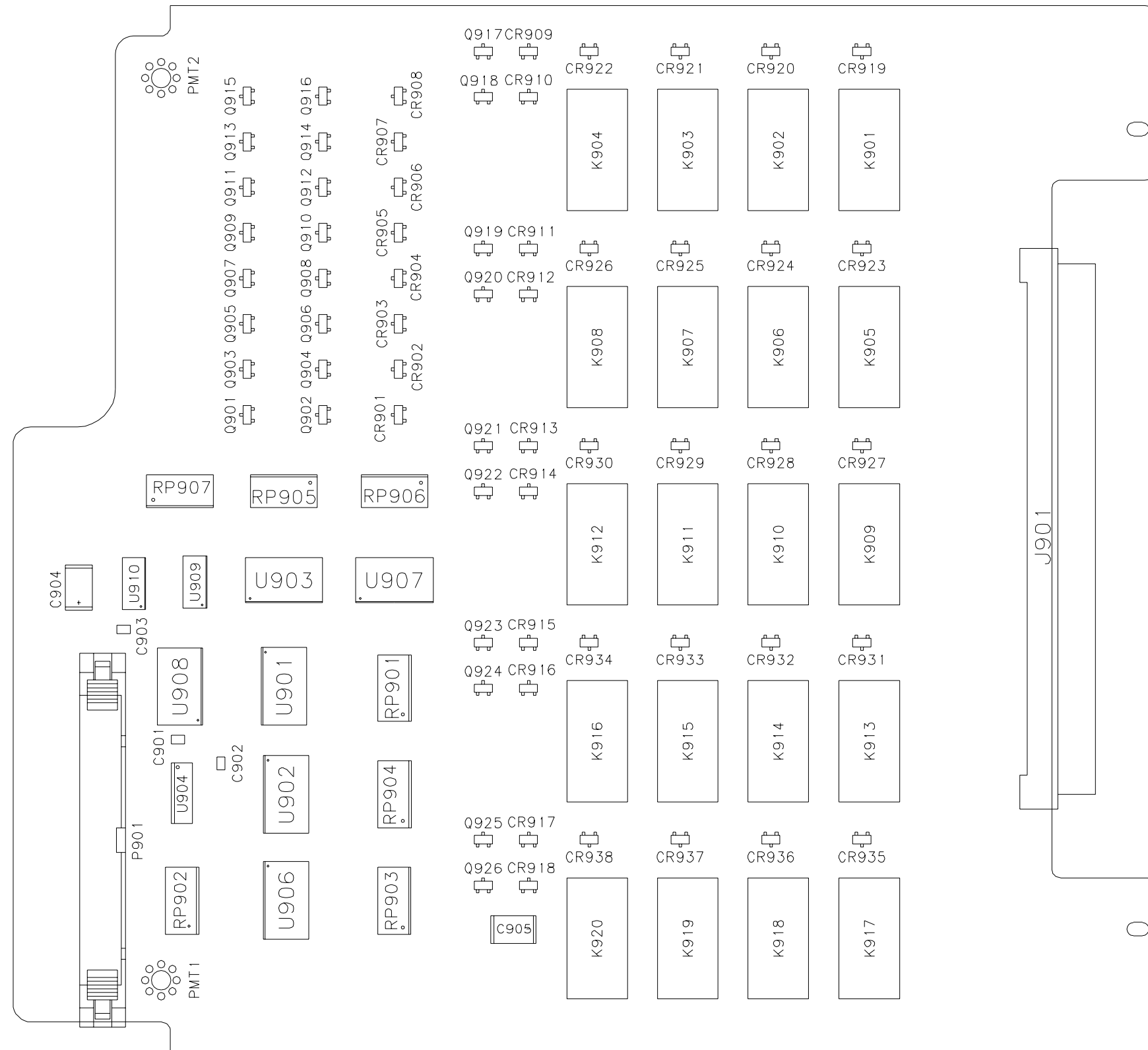


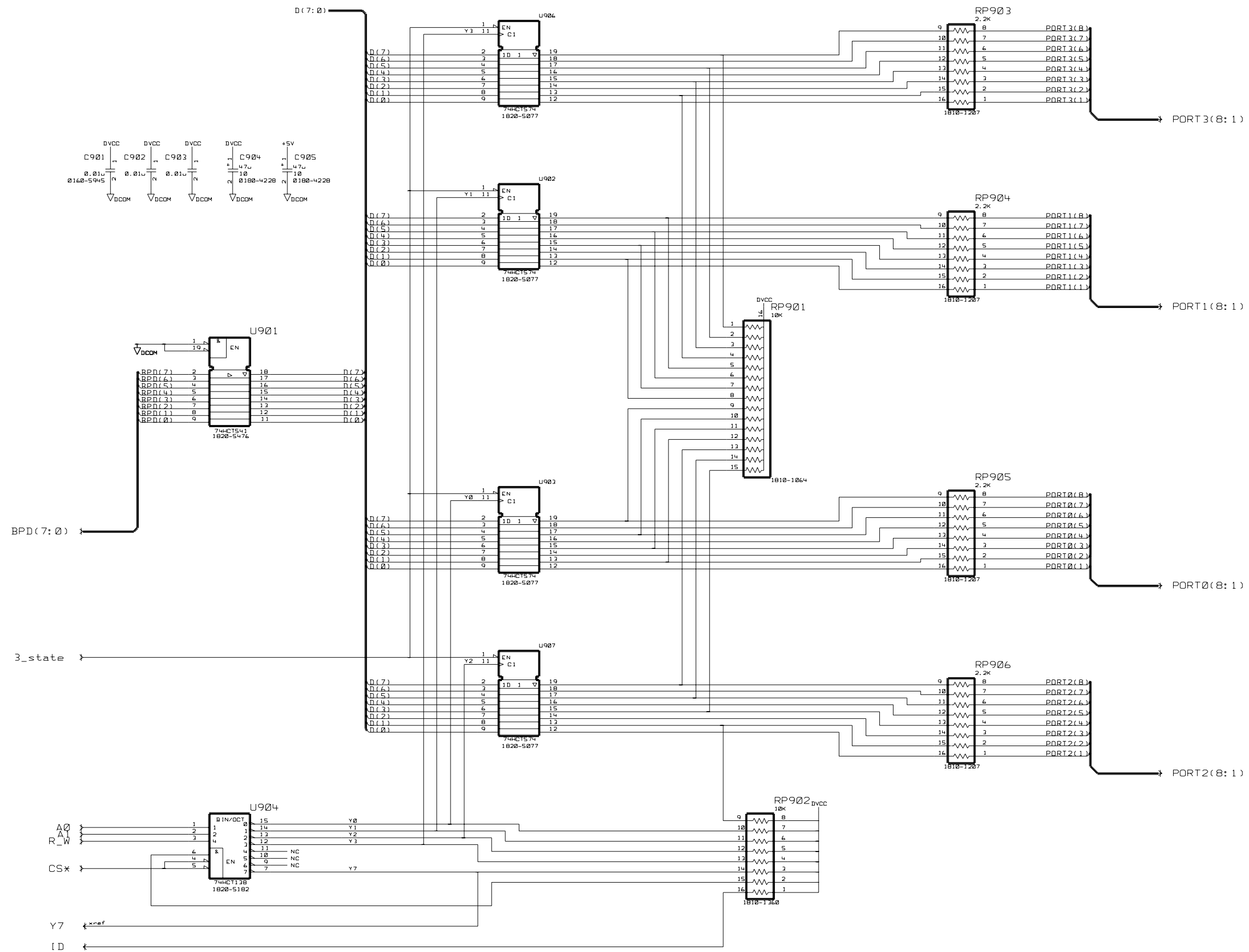
Parallel Interface (For SKB to D25)



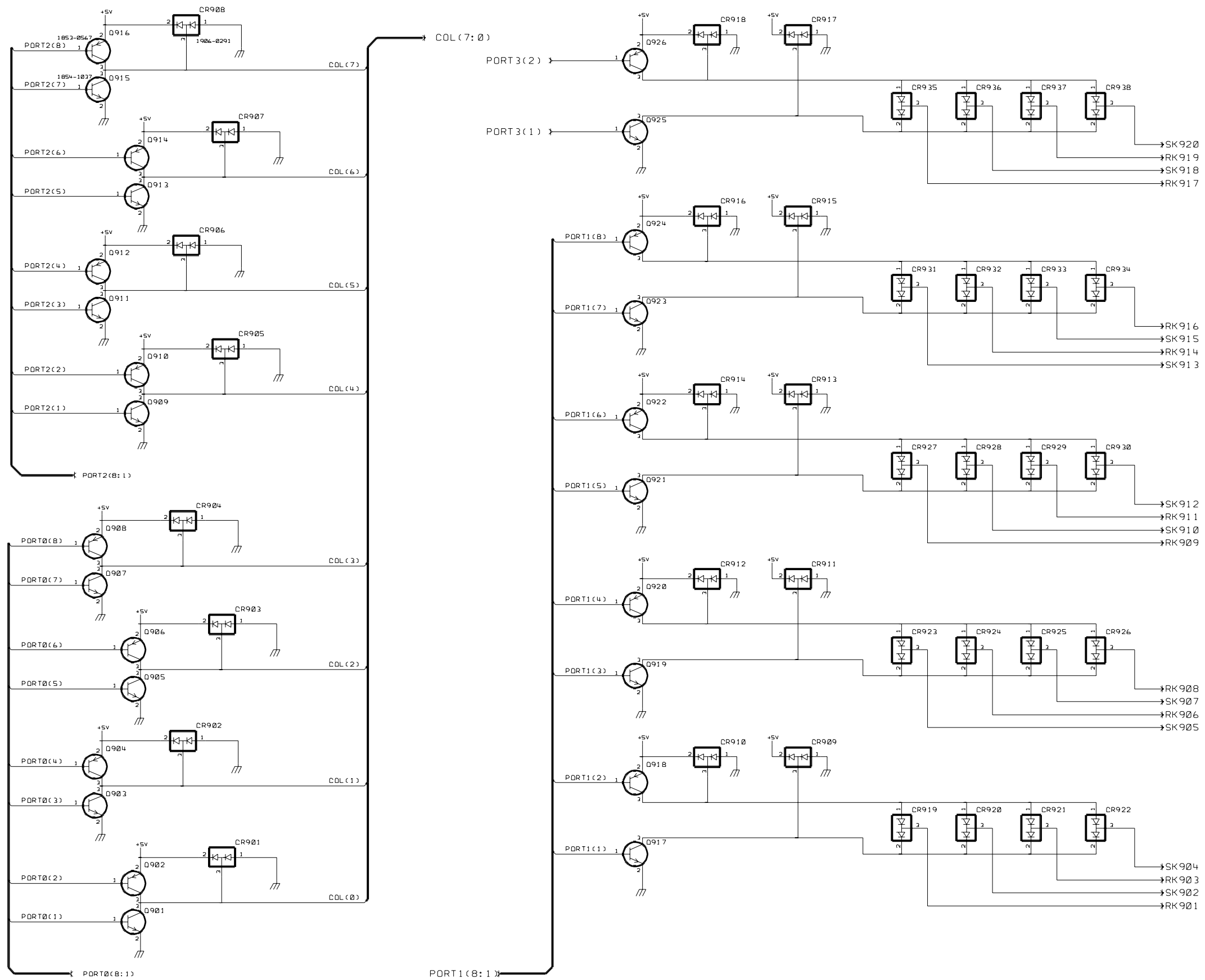


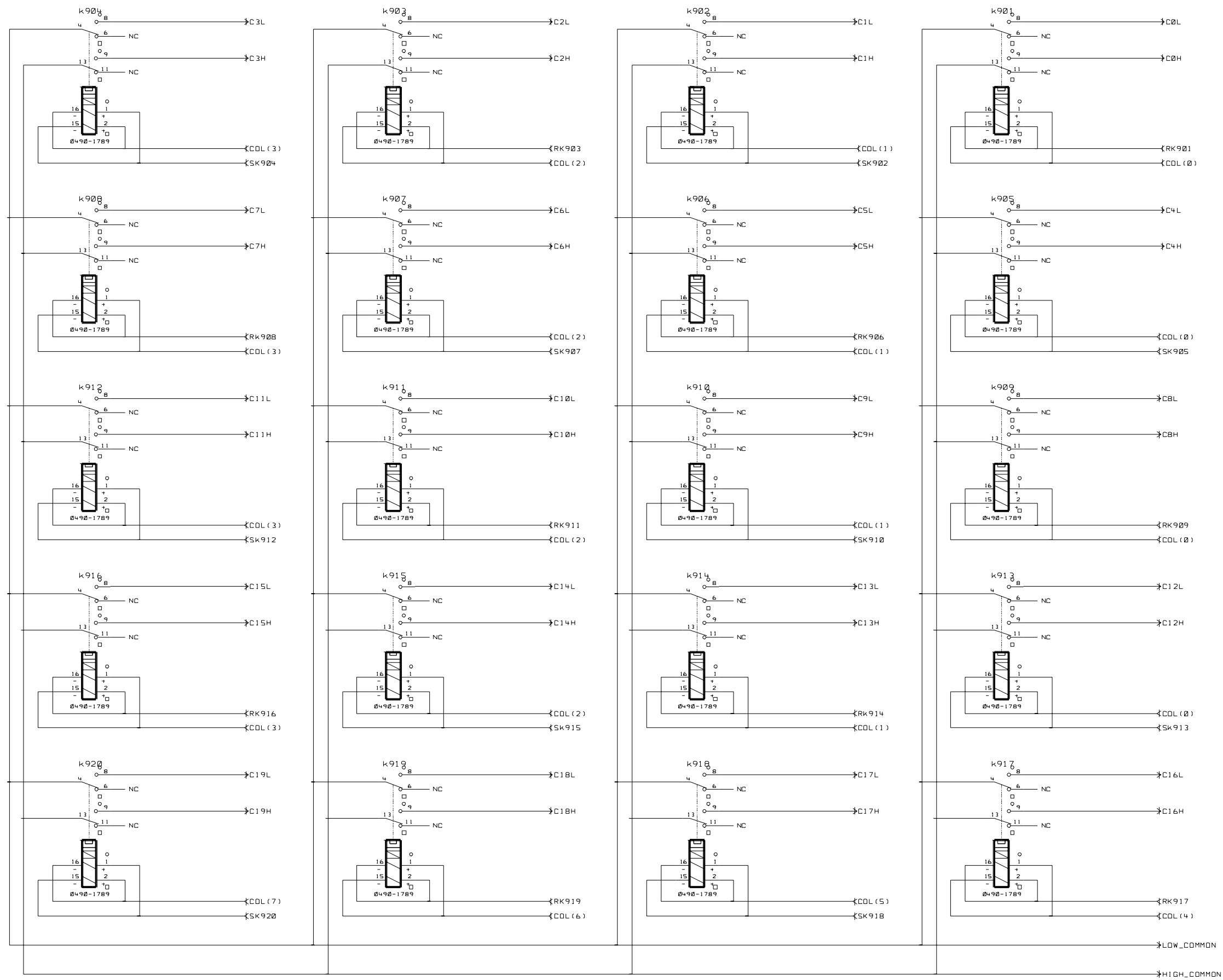
Agilent N2282A 1-to-8 Optical Switch MUX
Module Schematic (Sheet 2 of 2)
Page 226



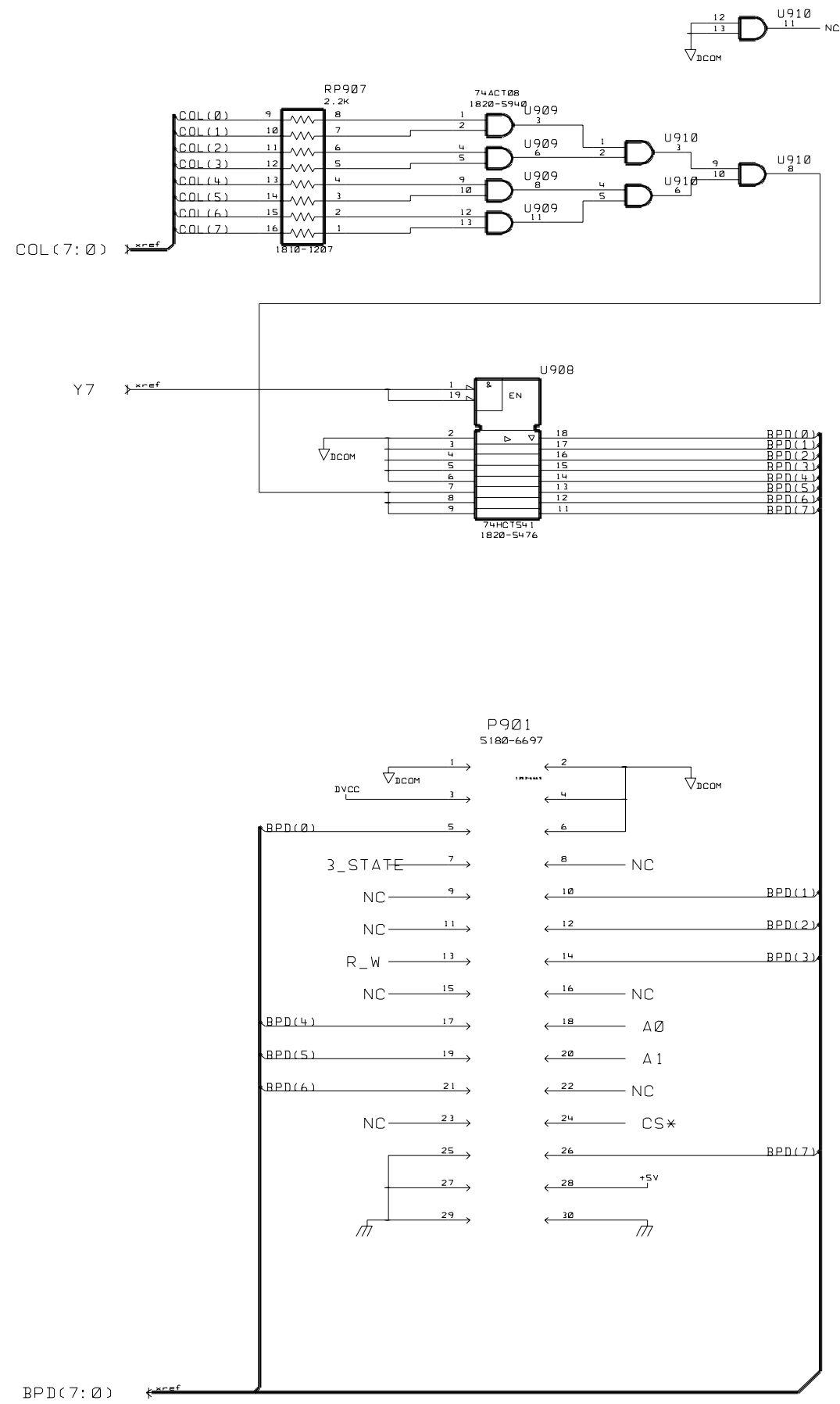


Agilent 44470D 20-Channel MUX Module
 Schematic (Sheet 1 of 4)
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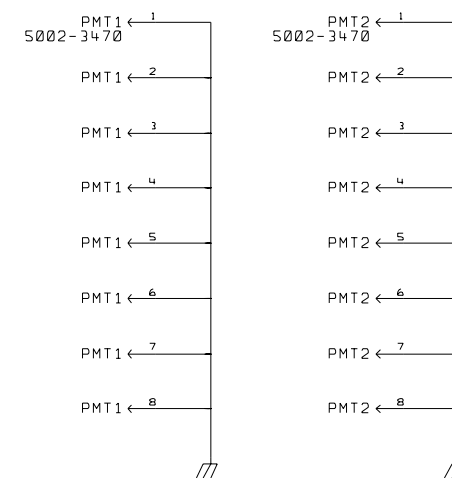


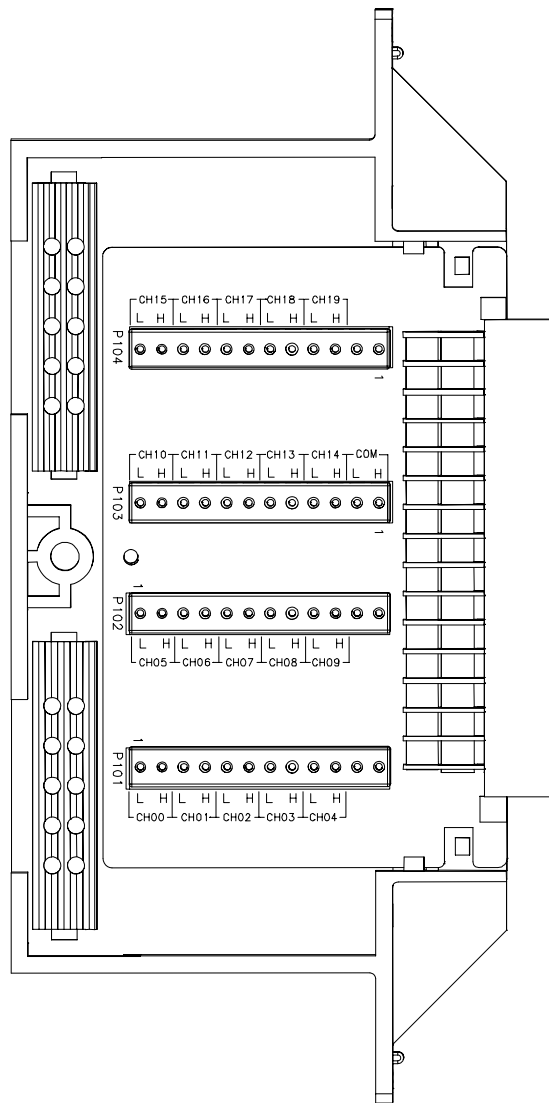


Agilent 44470D 20-Channel MUX Module
 Schematic (Sheet 3 of 4)
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J901 1252-1575			
← A2	C0L	← E2	C1L
← A4	C2L	← E4	C1H
← A6	C3L	← E6	C4L
← A8	C5L	← E8	C4H
← A10	C6L	← E10	C7L
← A12	C8L	← E12	C7H
← A14	C9L	← E14	NC
← A16	LOW_COMMON	← E16	HIGH_COMMON
← A18	C10L	← C18	C10H
← A20	C12L	← E20	C11H
← A22	C13L	← C22	C13H
← A24	C15L	← E24	C14H
← A26	C16L	← C26	C16H
← A28	C18L	← E28	C17H
← A30	C19L	← C30	NC
← A32	NC	← C32	NC





J101 1252-1577

→ A2 C0L 1 ← P101
 Ø 360-2624

→ C2 C0H 2 ← P101

→ E2 C1L 3 ← P101

→ E4 C1H 4 ← P101

→ A4 C2L 5 ← P101

→ C4 C2H 6 ← P101

→ A6 C3L 7 ← P101

→ C6 C3H 8 ← P101

→ E6 C4L 9 ← P101

→ E8 C4H 10 ← P101

NC — 11 ← P101

NC — 12 ← P101

→ A8 C5L 1 ← P102
 Ø 360-2624

→ C8 C5H 2 ← P102

→ A10 C6L 3 ← P102

→ C10 C6H 4 ← P102

→ E10 C7L 5 ← P102

→ E12 C7H 6 ← P102

→ A12 C8L 7 ← P102

→ C12 C8H 8 ← P102

→ A14 C9L 9 ← P102

→ C14 C9H 10 ← P102

NC — 11 ← P102

NC — 12 ← P102

→ A18 C10L 12 ← P103
 Ø 360-2624

→ C18 C10H 11 ← P103

→ E18 C11L 10 ← P103

→ E20 C11H 9 ← P103

→ A20 C12L 8 ← P103

→ C20 C12H 7 ← P103

→ A22 C13L 6 ← P103

→ C22 C13H 5 ← P103

→ E22 C14L 4 ← P103

→ E24 C14H 3 ← P103

LOW_COMMON
 → A16 — 2 ← P103

HIGH_COMMON
 → E16 — 1 ← P103

→ A24 C15L 12 ← P104
 Ø 360-2624

→ C24 C15H 11 ← P104

→ A26 C16L 10 ← P104

→ C26 C16H 9 ← P104

→ E26 C17L 8 ← P104

→ E28 C17H 7 ← P104

→ A28 C18L 6 ← P104

→ C28 C18H 5 ← P104

→ A30 C19L 4 ← P104

→ C30 C19H 3 ← P104

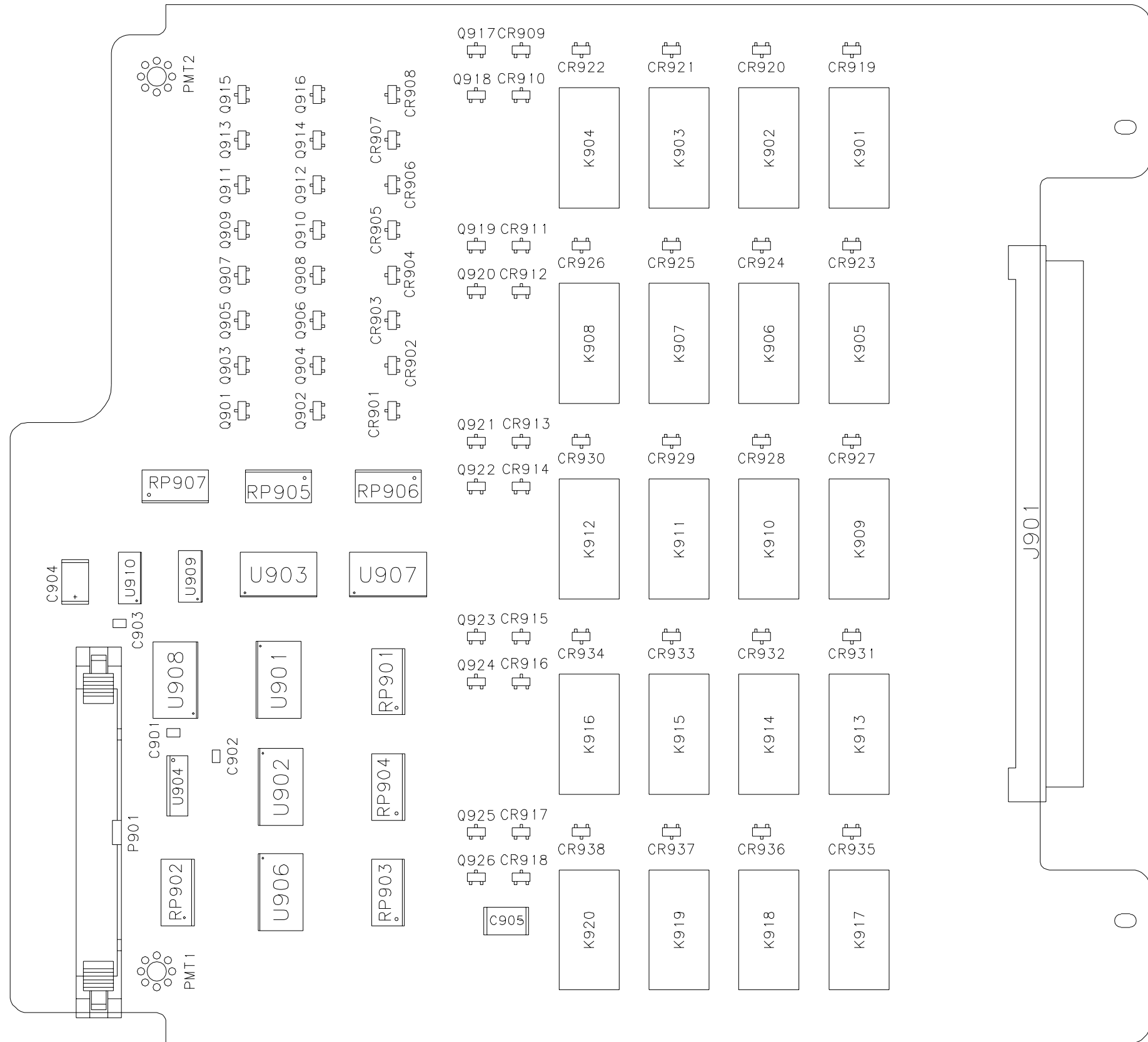
NC — 2 ← P104

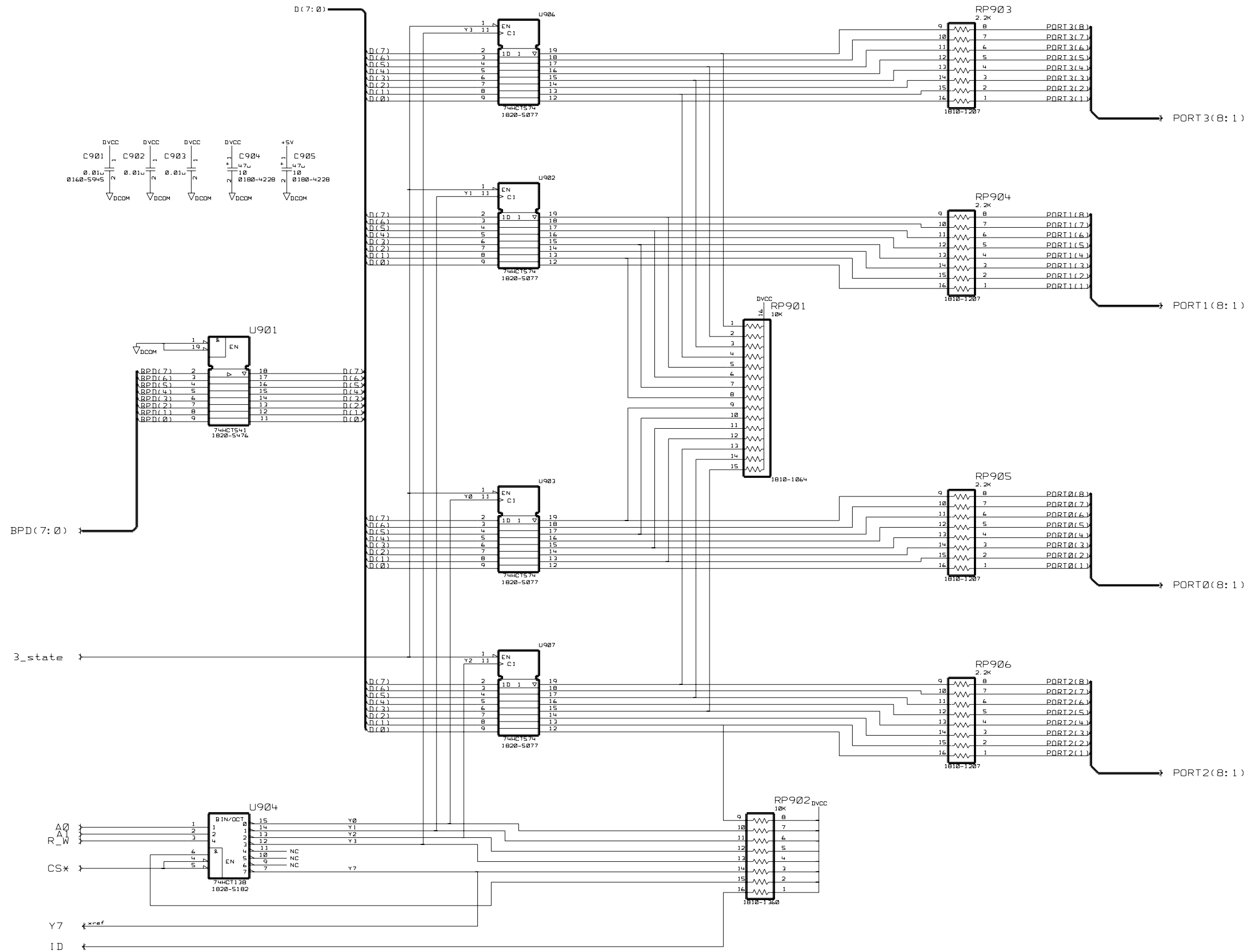
NC — 1 ← P104

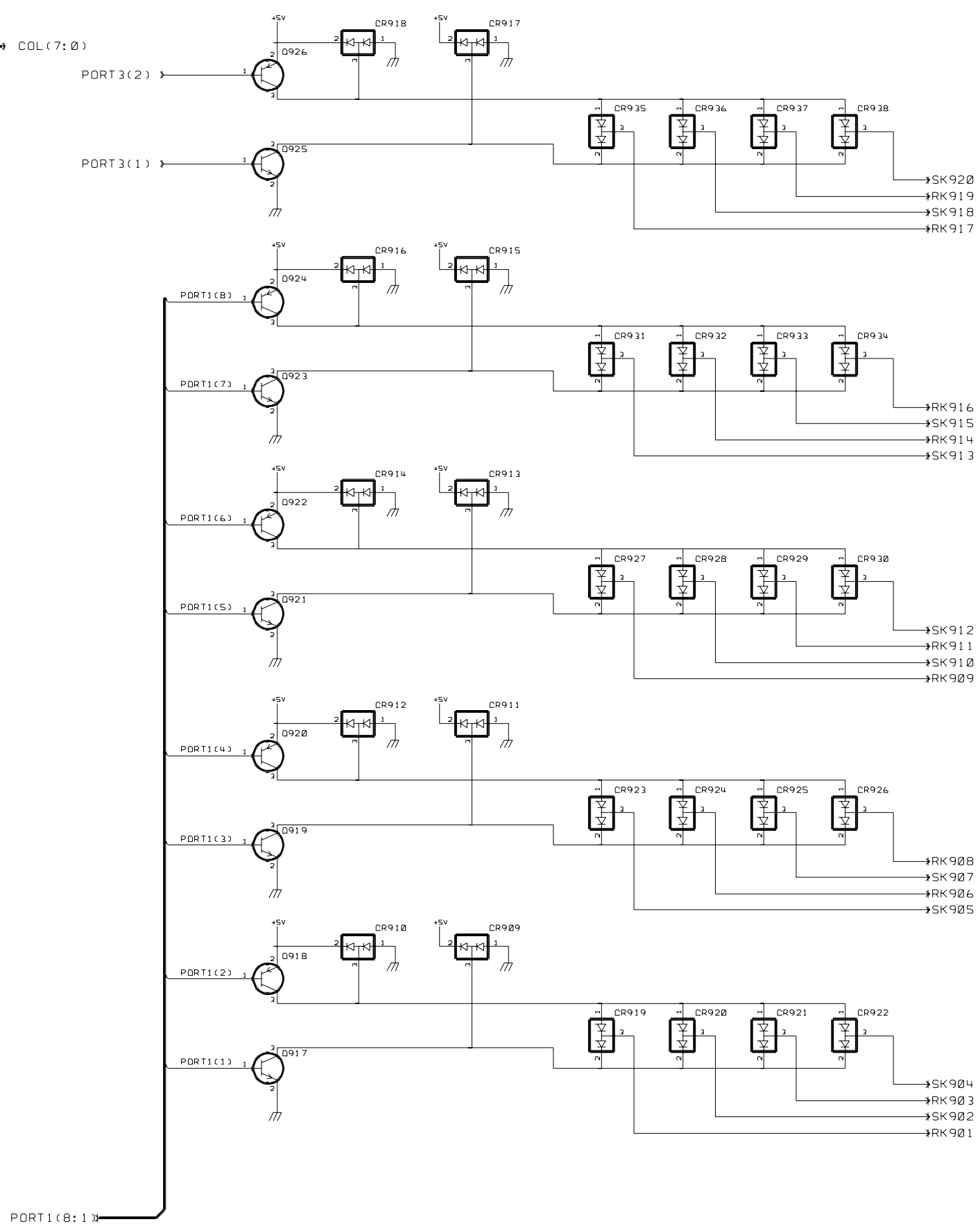
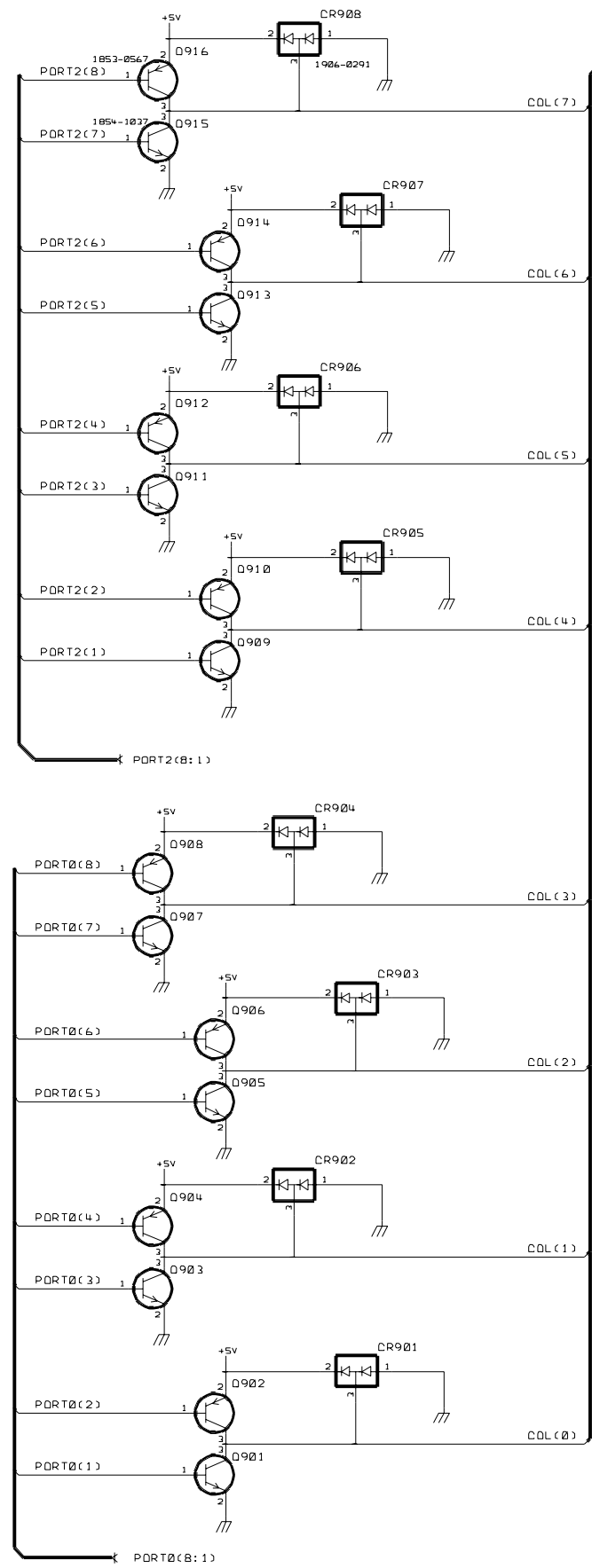
→ A32 NC → C16 NC → E14 NC

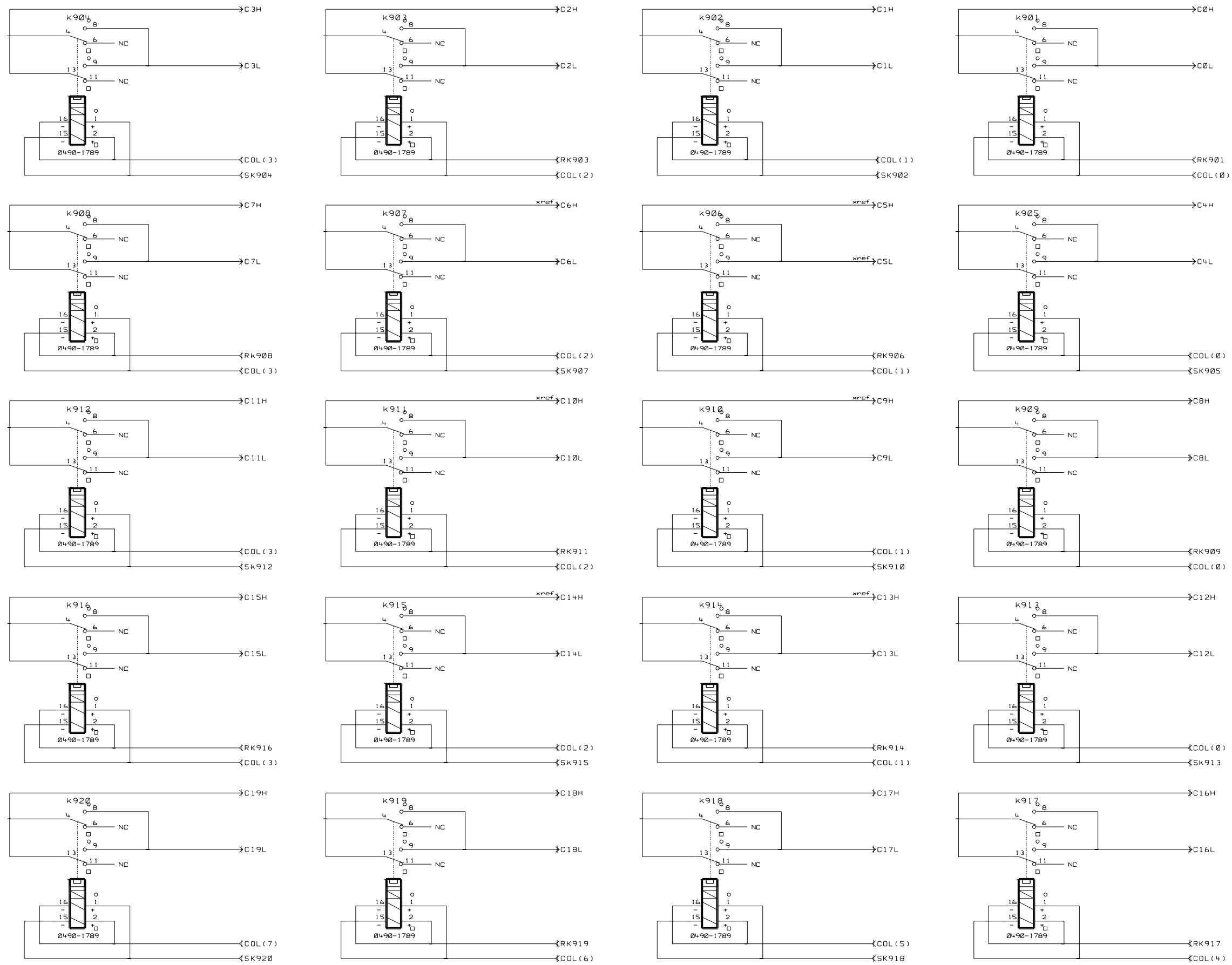
 → C32 NC → E30 NC

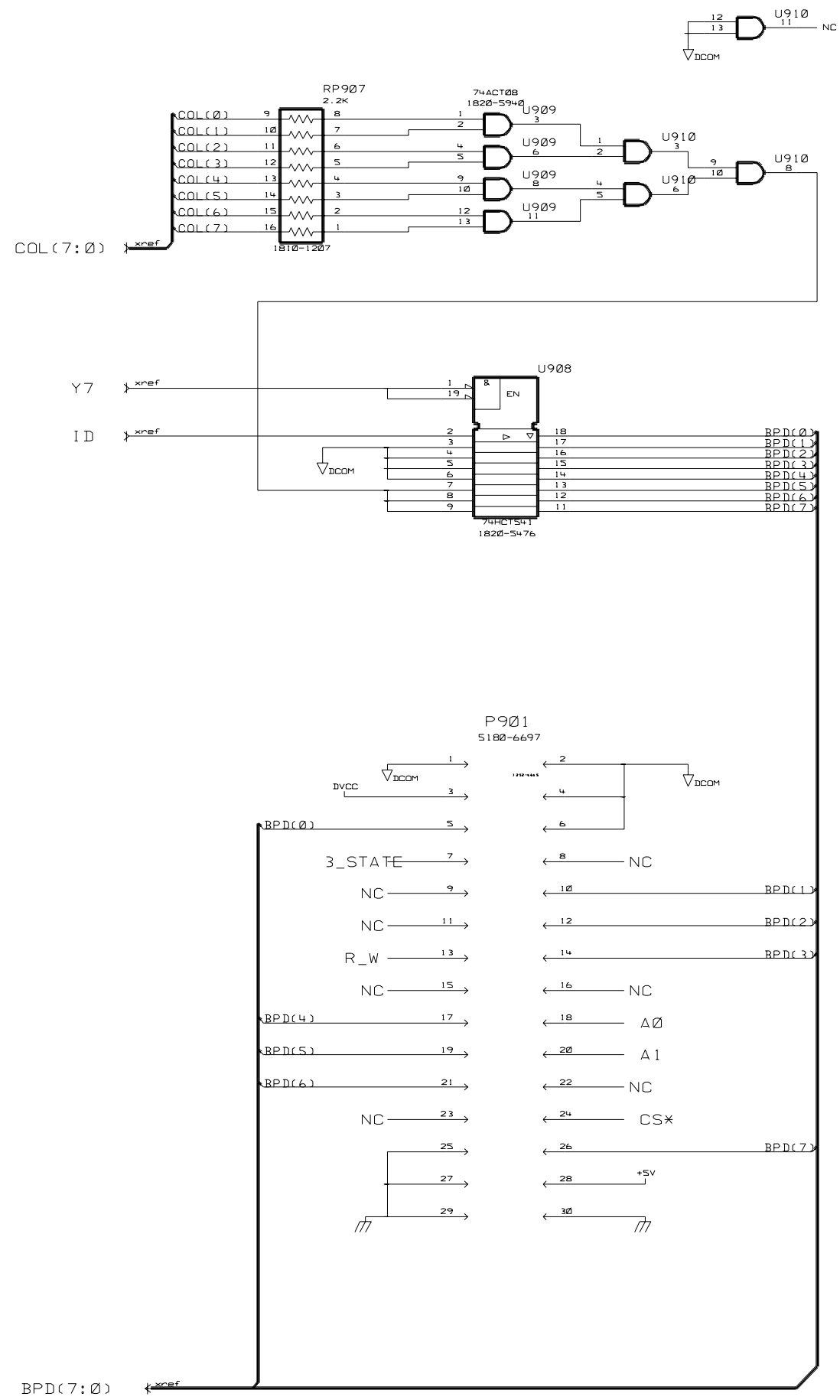
 → E32 NC





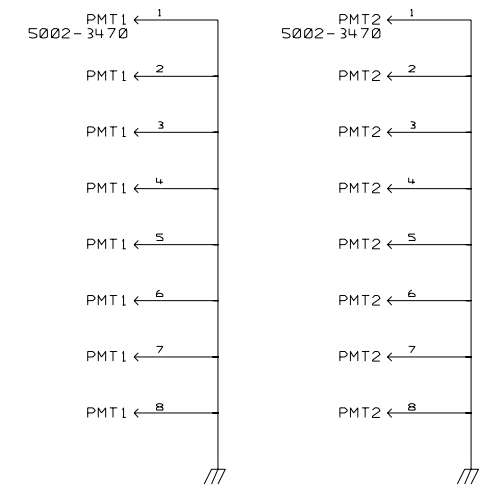


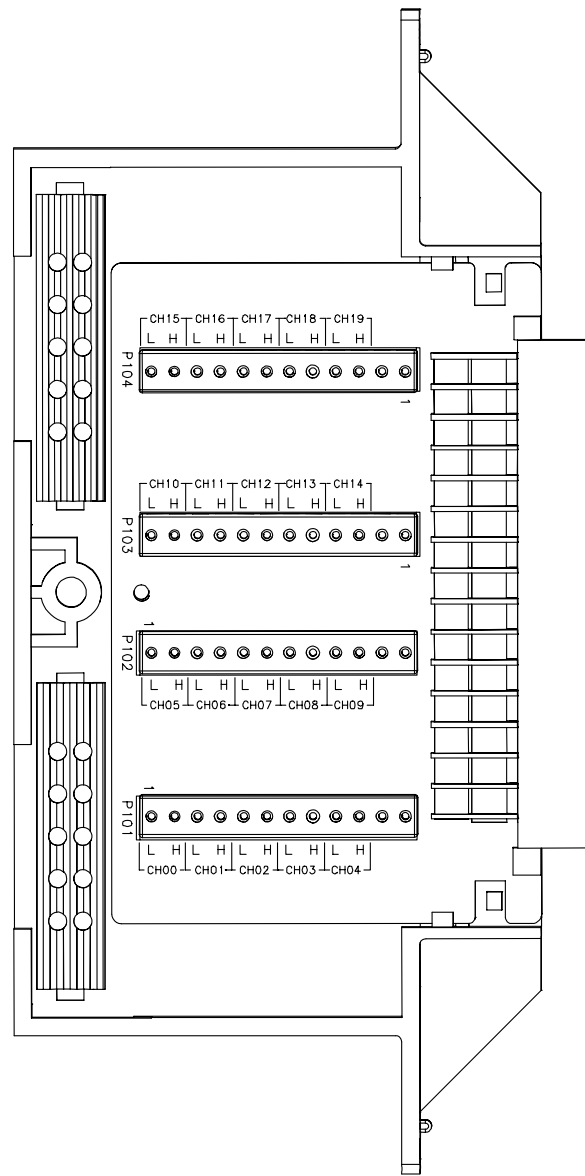




J901 1252-1575

← A2	C0L	← C2	C0H	← E2	C1L
← A4	C2L	← C4	C2H	← E4	C1H
← A6	C3L	← C6	C3H	← E6	C4L
← A8	C5L	← C8	C5H	← E8	C4H
← A10	C6L	← C10	C6H	← E10	C7L
← A12	C8L	← C12	C8H	← E12	C7H
← A14	C9L	← C14	C9H	← E14	NC
← A16	NC	← C16	NC	← E16	NC
← A18	C10L	← C18	C10H	← E18	C11L
← A20	C12L	← C20	C12H	← E20	C11H
← A22	C13L	← C22	C13H	← E22	C14L
← A24	C15L	← C24	C15H	← E24	C14H
← A26	C16L	← C26	C16H	← E26	C17L
← A28	C18L	← C28	C18H	← E28	C17H
← A30	C19L	← C30	C19H	← E30	NC
← A32	NC	← C32	NC	← E32	NC





J101
1252-1577

→ A2 C0L 1 ← P101
 Ø 360-2624

→ C2 C0H 2 ← P101

→ E2 C1L 3 ← P101

→ E4 C1H 4 ← P101

→ A4 C2L 5 ← P101

→ C4 C2H 6 ← P101

→ A6 C3L 7 ← P101

→ C6 C3H 8 ← P101

→ E6 C4L 9 ← P101

→ E8 C4H 10 ← P101

NC — 11 ← P101

NC — 12 ← P101

→ A8 C5L 1 ← P102
 Ø 360-2624

→ C8 C5H 2 ← P102

→ A10 C6L 3 ← P102

→ C10 C6H 4 ← P102

→ E10 C7L 5 ← P102

→ E12 C7H 6 ← P102

→ A12 C8L 7 ← P102

→ C12 C8H 8 ← P102

→ A14 C9L 9 ← P102

→ C14 C9H 10 ← P102

NC — 11 ← P102

NC — 12 ← P102

→ A18 C10L 12 ← P103
 Ø 360-2624

→ C18 C10H 11 ← P103

→ E18 C11L 10 ← P103

→ E20 C11H 9 ← P103

→ A20 C12L 8 ← P103

→ C20 C12H 7 ← P103

→ A22 C13L 6 ← P103

→ C22 C13H 5 ← P103

→ E22 C14L 4 ← P103

→ E24 C14H 3 ← P103

NC — 2 ← P103

NC — 1 ← P103

→ A24 C15L 12 ← P104
 Ø 360-2624

→ C24 C15H 11 ← P104

→ A26 C16L 10 ← P104

→ C26 C16H 9 ← P104

→ E26 C17L 8 ← P104

→ E28 C17H 7 ← P104

→ A28 C18L 6 ← P104

→ C28 C18H 5 ← P104

→ A30 C19L 4 ← P104

→ C30 C19H 3 ← P104

NC — 2 ← P104

NC — 1 ← P104

→ A16 NC → C16 NC → E14 NC

→ A32 NC → C32 NC → E16 NC

 → E30 NC

 → E32 NC



Agilent Technologies

Agilent Technologies, Inc.
Printed in Malaysia
Revision E
March 2009 E0309



Service Manual

03499-90002S