Agilent Technologies
E8285A CDMA Mobile Station Test Set
Condensed Programming Reference Guide

Firmware Version A.05.00 and Above

Agilent Part Number: E8285-90020
Printed in U. S. A.
June 2000

Rev. C

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Agilent Technologies
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Liberty Lake, WA 99019-9599
U.S.A.

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Manufacturer's Declaration

This statement is provided to comply with the requirements of the German Sound Emission Directive, from 18 January 1991.

This product has a sound pressure emission (at the operator position) < 70 dB(A).

- Sound Pressure Lp < 70 dB(A).
- At Operator Position.
- Normal Operation.
- According to ISO 7779:1988/EN 27779:1991 (Type Test).

Herstellerbescheinigung

Diese Information steht im Zusammenhang mit den Anforderungen der Maschinenlärminformationsverordnung vom 18 Januar 1991.

- Schalldruckpegel Lp < 70 dB(A).
- Am Arbeitsplatz.
- Normaler Betrieb.
- Nach ISO 7779:1988/EN 27779:1991 (Typprüfung).

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Safety Considerations

GENERAL

This product and related documentation must be reviewed for familiarization with safety markings and instructions before operation.

This product has been designed and tested in accordance with *IEC Publication 1010*, "Safety Requirements for Electronic Measuring Apparatus," and has been supplied in a safe condition. This instruction documentation contains information and warnings which must be followed by the user to ensure safe operation and to maintain the product in a safe condition.

SAFETY EARTH GROUND

A uninterruptible safety earth ground must be provided from the main power source to the product input wiring terminals, power cord, or supplied power cord set.

CHASSIS GROUND TERMINAL

To prevent a potential shock hazard, always connect the rear-panel chassis ground terminal to earth ground when operating this instrument from a dc power source.

SAFETY SYMBOLS

Indicates instrument damage can occur if indicated operating limits are exceeded.

Indicates hazardous voltages.

Indicates earth (ground) terminal

WARNING

A WARNING note denotes a hazard. It calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in personal injury. Do not proceed beyond a WARNING sign until the indicated conditions are fully understood and met.

CAUTION

A CAUTION note denotes a hazard. It calls attention to an operation procedure, practice, or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the product. Do not proceed beyond an CAUTION note until the indicated conditions are fully understood and met.

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Safety Considerations for this Instrument

WARNING

This product is a Safety Class I instrument (provided with a protective earthing ground incorporated in the power cord). The mains plug shall only be inserted in a socket outlet provided with a protective earth contact. Any interruption of the protective conductor inside or outside of the product is likely to make the product dangerous. Intentional interruption is prohibited..

Whenever it is likely that the protection has been impaired, the instrument must be made inoperative and be secured against any unintended operation.

If this instrument is to be energized via an auto transformer (for voltage reduction), make sure the common terminal is connected to the earth terminal of the power source.

If this product is not used as specified, the protection provided by the equipment could be impaired. This product must be used in a normal condition (in which all means for protection are intact) only.

No operator serviceable parts in this product. Refer servicing to qualified personnel. To prevent electrical shock, do not remove covers.

Servicing instructions are for use by qualified personnel only. To avoid electrical shock, do not perform any servicing unless you are qualified to do so.

The opening of covers or removal of parts is likely to expose dangerous voltages. Disconnect the product from all voltage sources while it is being opened.

Adjustments described in the manual are performed with power supplied to the instrument while protective covers are removed. Energy available at many points may, if contacted, result in personal injury.

The power cord is connected to internal capacitors that my remain live for 5 seconds after disconnecting the plug from its power supply.

For Continued protection against fire hazard, replace the line fuse(s) only with 250 V fuse(s) or the same current rating and type (for example, normal blow or time delay). Do not use repaired fuses or short circuited fuseholders.

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CAUTION:

Always use the three-prong ac power cord supplied with this product. Failure to ensure adequate earth grounding by not using this cord may cause product damage.

This product is designed for use in Installation Category II and Pollution Degree 2 per *IEC 1010* and *IEC 664* respectively. FOR INDOOR USE ONLY.

This product has autoranging line voltage input, be sure the supply voltage is within the specified range.

To prevent electrical shock, disconnect instrument from mains (line) before cleaning. Use a dry cloth or one slightly dampened with water to clean the external case parts. Do not attempt to clean internally.

Ventilation Requirements: When installing the product in a cabinet, the convection into and out of the product must not be restricted. The ambient temperature (outside the cabinet) must be less than the maximum operating temperature of the product by 4° C for every 100 watts dissipated in the cabinet. If the total power dissipated in the cabinet is greater than 800 watts, then forced convection must be used.

Product Markings

CE - the CE mark is a registered trademark of the European Community. A CE mark accompanied by a year indicated the year the design was proven.

CSA - the CSA mark is a registered trademark of the Canadian Standards Association.

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Agilent Technologies Warranty Statement for Commercial Products

Agilent Technologies E8285A CDMA Mobile Station Test Set

Duration of Warranty: 1 year

1. Agilent Technologies warrants Agilent Technologies hardware, accessories and supplies against defects in materials and workmanship for the period specified above. If Agilent Technologies receives notice of such defects during the warranty period, Agilent Technologies 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 Technologies 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 Technologies receives notice of such defects during the warranty period, Agilent Technologies 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 Technologies products will be uninterrupted or error free. If Agilent Technologies 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 Technologies. If customer schedules or delays Agilent Technologies 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 Technologies, (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 WARRANTYOR CONDITION, WHETHER WRITTEN OR ORAL IS EXPRESSED OR IMPLIED AND AGILENT TECHNOLOGIES SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OR 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 Technologies product.

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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 TECHNOLOGIES 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.

ASSISTANCE *Product maintenance agreements and other customer assistance agreements are available for Agilent Technologies products. For any assistance, contact your nearest Agilent Technologies Sales and Service Office.*

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DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name:	**Agilent Technologies, Inc.**
Manufacturer's Address:	**24001 E. Mission Avenue** **Liberty Lake, Washington 99019-9599** **USA**

declares that the product

Product Name:	CDMA Mobile Station Test Set
Model Number:	Agilent Technologies E8285A
Product Options:	All

conforms to the following Product specifications:

Safety: IEC 61010-1:1990+A1+A2 / EN 61010-1:1993+A2

EMC: CISPR 11:1990 / EN 55011:1991- Group 1, Class A
IEC 61000-3-2:1995 / EN 61000-3-2:1995
IEC 61000-3-3:1995 / EN 61000-3-3:1994
EN 50082-1 : 1992
IEC 801-2:1991 - 4kV CD, 8kV AD
IEC 801-3:1984 - 3 V/m
IEC 801-4:1988 - 0.5 kV Signal Lines,
1 kV Power Lines

Supplementary Information:

This product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC and carries the CE-marking accordingly.

Spokane, Washington USA June 16, 1999

Vince Roland
Reliability & Regulatory
Engineering Manager

European Contact: Your local Agilent Technologies Sales and Service Office or Agilent Technologies GmbH
Department ZQ/Standards Europe, Herrenberger Strasse 130, D-71034 Böblinger, Germany (FAX+49-7031-14-3143)

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Agilent Technologies E8285A Support Contacts

The documentation supplied with your test set is an excellent source of reference, applications, and service information. Please use these manuals if you are experiencing technical problems:

- Applications information is included in the Agilent Technologies E8285A CDMA Mobile Station Test Set Application Guide (Agilent P/N E8285-90019)
- Calibration and repair information are in the Agilent Technologies E8285A CDMA Mobile Station Test Set Assembly Level Repair Manual - this manual (Agilent P/N E8285-90033).

If you have used the manuals and still have *application* questions, contact your local Agilent Technologies Sales Representative.

Repair assistance is available for the Agilent E8285A CDMA Mobile Test Set from the factory by phone and e-mail.

When calling or writing for repair assistance, please have the following information ready:

- Instrument model number (Agilent E8285A)
- Instrument Serial Number (tag located on the rear panel).
- Installed options - if any (tag located on the rear panel).
- Instrument firmware revision (displayed at the top of the screen when the Test Set is powered up, and is also displayed on the CONFIGURE screen).

Support Telephone Numbers:

1 800 827 3848 (Spokane Division Service Assistance, U.S. only)
1 509 921 3848 (Spokane Division Service Assistance, International)
1 800 227 8164 (Agilent Technologies Direct Parts Ordering, U.S. only)
1 916 783 0804 (Agilent Technologies Service Parts Identification, U.S. & Intl.)

Electronic mail (Internet): Spokane_Service@spk.agilent.com

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Table 1 Regional Sales and Service Offices

United States of America: Agilent Technologies Test and Measurement Call Center P.O. Box 4026 Englewood, CO 80155-4026 (tel) 1 800 452 4844	Canada: Agilent Technologies Canada Inc. 5150 Spectrum Way Mississauga, Ontario L4W 5G1 (tel) 1 877 894 4414	Europe: Agilent Technologies European Marketing Organization P.O. Box 999 1180 AZ Amstelveen The Netherlands (tel) (3120) 547 9999
Japan: Agilent Technologies Japan Ltd. Measurement Assistance Center 9-1 Takakura-Cho, Hachioji-Shi, Tokyo 192-8510, Japan (tel) (81) 456-56-7832 (fax) (81) 426-56-7840	Latin America: Agilent Technologies Latin America Region Headquarters 5200 Blue Lagoon Drive, Suite #950 Miami, Florida 33126 U.S. A. (tel) (305) 267 4245 (fax) (305) 267 4286	Australia/New Zealand: Agilent Technologies Australia Pty Ltd. 347 Burwood Highway Forest Hill, Victoria 3131 (tel) 1 800 629 485 (Australia) (fax) (61 3) 9272 0749 (tel) 0 800 738 378 (New Zealand) (fax) (64 4) 802 6881
Asia Pacific: Agilent Technologies 24/F, Cityplaza One, 111 Kings Road, Taikoo Shing, Hong Kong (tel) (852) 3197 7777 (fax) (852) 2506 9233		

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Documentation Map

All of the following literature, with the exception of the Instrument BASIC User's Handbook, is shipped with the Agilent Technologies E8285A on a CD-ROM. The Agilent part number of the CD-ROM is E8285-10004.

Unless a delete option is specified, paper versions of the Application Guide and Condensed Programming Reference Guide are also shipped with each Test Set.

If option OBW is ordered, paper versions of the Reference Guide and the User's Guide will also be included with the Test Set.

Reference Guide (E8285-90016)[1]

This guide describes the functions performed by each front panel key, front and rear panel connector, and display screen and field. GPIB command examples for each display field are included.

User's Guide (E8285-90018)

This guide provides a tutorial-style overview of operating the Test Set, including a section designed to help you get started. Status reporting, IBASIC controller information, and error message descriptions are also included.

Application Guide (E8285-90019)

This guide contains step-by-step procedures and programming examples for calibrating the Test Set, setting up a call, and making measurements on CDMA and AMPS mobile stations. Tips for increasing measurement throughput are also included, as well as a procedure for logging protocol messages.

Condensed Programming Reference Guide (E8285-90020)

This pocket-sized guide contains a complete listing of GPIB commands, along with a cross-reference between front-panel display fields and the corresponding commands.

Assembly Level Repair (E8285-90033)

This guide includes procedures for performing periodic adjustments, verifying performance, troubleshooting, and repairing the Test Set. Block diagrams and a list of replaceable parts are also included.

Instrument Basic User's Handbook (E2083-90000)

This guide contains a complete listing of IBASIC commands. This guide is not shipped with the Test Set. For ordering information, contact your nearest regional sales office.

Specifications (5968-8839E)

This document provides a short description of the Agilent E8285A and lists the operating specifications.

This document also includes the specifications for Agilent Technologies 83217A Option 001, 003, and 004 software.

1. Part numbers listed are Agilent Technologies part numbers unless otherwise stated.

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Remote/Local Modes

Control Annunciators

The letters and symbols at the top right corner of the display indicate these conditions:

- **R** indicates the Test Set is in remote mode. The Test Set can be put into the remote mode by an external controller or by an IBASIC program running on the built-in IBASIC controller.
- **L** indicates the Test Set has been addressed to Listen.
- **T** indicates the Test Set has been addressed to Talk.
- **S** indicates the Test Set has sent the Require Service message by setting the Service Request (SRQ) bus line true.
- **C** indicates the Test Set is currently the Active Controller on the bus.
- ***** indicates an IBASIC program+ is running.
- **?** indicates an IBASIC program is waiting for a user response.
- **-** indicates an IBASIC program is paused.

Remote Mode

In Remote mode all front panel keys are disabled (except for the LOCAL key, POWER switch, Volume control and Squelch control). The LOCAL key is only disabled by the Local Lockout bus command. When in Remote mode and addressed to Listen the Test Set responds to the Data, Remote, Local, Clear(SDC), and Trigger messages. When the Test Set is in Remote mode, the “R” annunciator will be displayed in the upper right corner of the display screen and triggering is set to the state it was last set to in Remote mode (if no previous setting the default is FULL SETTling and REPetitive RETRiggering). When the Test Set is being addressed to Listen or Talk the “L” or “T” annunciators will be displayed in the upper right corner of the display screen.

Local Mode

In Local mode the Test Set’s front panel controls are fully operational. The Test Set uses FULL SETTling and REPetitive RETRiggering in Local mode.

Remote or Local Mode

When addressed to Talk in Remote or Local mode , the Test Set can issue the Data and Status Byte messages and responds to the Take Control message. In addition the Test Set can issue the Service Request Message (SRQ). Regardless of whether it is addressed to talk or listen, the Test Set will respond to the Clear(DCL), Local Lockout, Clear Lockout/Set Local, and Abort messages.

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Local To Remote Transitions

The Test Set switches from Local to Remote mode upon receipt of the Remote message (REN bus line true and Test Set is addressed to listen). No instrument settings are changed by the transition from Local to Remote mode, but triggering is set to the state it was last set to in Remote mode (if no previous setting the default is FULL SETTling and REPetitive RETRiggering). The “R” annunciator in the upper right corner of the display is turned on.

When the Test Set makes a transition from local to remote mode all currently active measurements are flagged as invalid causing any currently available measurement results to become unavailable. If the GPIB trigger mode is RETR:REP then a new measurement cycle is started and measurement results will be available for all active measurements when valid results have been obtained. If the GPIB trigger mode is RETR:SING then a measurement cycle must be started by issuing a trigger event.

Refer to “Triggering Analog Measurements in Remote Mode (GPIB Operation)” or “Triggering CDMA Measurements in Remote Mode (GPIB Operation)” in the Measurement Triggering Process chapter of the Test Set’s User’s Guide.

Remote To Local Transitions

The Test Set switches from Remote to Local operation (full front panel control) upon receipt of the Local message (Go To Local (GTL) bus message and Test Set is addressed to listen) or the Clear Lockout/Set Local message (REN bus line false). No instrument settings are changed by the transition from Remote to Local mode, but triggering is reset to FULL SETTling and REPetitive RETRiggering. The “R” annunciator in the upper right corner of the display is turned off.

If it is not in Local Lockout mode the Test Set switches from Remote to Local mode whenever the front-panel LOCAL key is pressed.

If the Test Set was in Local Lockout mode when the Local message was received, front-panel control is returned, but Local Lockout mode is not cleared. Unless the Test Set receives the Clear Lockout/Set Local message, the Test Set will still be in Local Lockout mode the next time it goes to the Remote mode.

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Local Lockout

The Local Lockout mode disables the front-panel LOCAL key and allows return to Local mode only by commands from the System Controller (Clear Lockout/Set Local message).

When a data transmission to the Test Set is interrupted, which can happen if the LOCAL key is pressed, the data being transmitted may be lost. This can leave the Test Set in an unknown state. The Local Lockout mode prevents loss of data or system control due to someone unintentionally pressing front-panel keys.

NOTE: Return to Local mode can also be accomplished by setting the POWER switch to OFF and back to ON. However, returning to Local mode in this way has the following disadvantages:

1. It defeats the purpose of the Local Lockout mode in that the Active Controller will loose control of the Test Set,.
2. Instrument configuration is reset to the power up condition thereby loosing the instrument configuration set by the Active Controller.

Clear Lockout/Set Local

The Test Set returns to Local mode (full front panel control) when it receives the Clear Lockout/Set Local message. No instrument settings are changed by the transition from Remote mode with Local Lockout to Local mode but triggering is reset to FULL SETTling and REPetitive RETRiggering.

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GPIB Command Syntax

Instrument Command Syntax Listings

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"AF Analyzer" on page 25.
"AF Generator 1" on page 31.
"AF Generator 2 Pre-Modulation Filters" on page 41.
"AFGenerator2|Encoder" on page 33.
"CALL Process" on page 43.
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"CELL" on page 111.
"CSPectrum" on page 125.
"Decoder" on page 129.
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Instrument Number Setting Command Syntax Listings

"Integer Number Setting Syntax" on page 197.
"Real Number Setting Syntax" on page 199.
"Multiple Real Number Setting Syntax" on page 201.

Measurement Command Syntax Listings

"Measure" on page 139.
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Measurement Number Setting Command Syntax Listings

"Number Measurement Syntax" on page 203.
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Instrument Function Command Syntax Listings

"Configure" on page 113.
"Display" on page 135.
"Program" on page 163.
"Save/Recall Registers" on page 177.
"Status" on page 181.
"System" on page 189.
"Tests" on page 191.

GPIB Only Command Syntax Listings

"Special (GPIB Only Commands)" on page 179.

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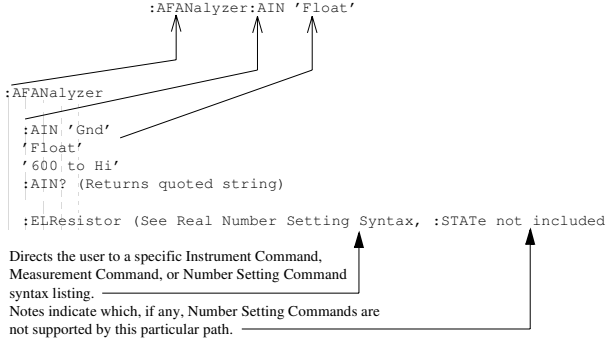
Command Listing Conventions

Command listings are used to define the Test Set's GPIB commands. The listing shows the commands, their hierarchical relationships, related parameters (if any), and associated notes (if any).

The Test Set's commands are based upon a hierarchical structure, also known as a tree system. In such a system, associated commands are grouped together under a common node in the hierarchy, analogous to the way leaves at a same level are connected at a common branch. This and similar branches are connected to fewer and thicker branches, until they meet at the root of the tree. The closer to the root, the higher a node is considered in the hierarchy.

The command listing is divided into columns, as indicated by light gray vertical lines. The root node is the leftmost column. Lower nodes in the hierarchy are indented one position to the right, below the root node. To obtain a particular command, the full path to it must be specified. For example: to set the low side of the audio input on the Audio Analyzer to float you would generate the following command:



Square brackets([]) are used to enclose a keyword that is optional when programming the command; that is, the Test Set will process the command to have the same effect whether the option keyword is omitted by the programmer or not.

Letter case (uppercase or lowercase) in listings is used to differentiate between the accepted short form (the uppercase characters) and the long form (the whole keyword). The Test Set accepts only the exact short and the exact long forms. Sending a keyword that is not the exact short form or the exact long form will generate an error.

In the parameter section of the listing a number of characters have special significance. Square brackets ([]) are used to enclose one or more parameters that are optional when controlling the Test Set. Braces({}), or curly brackets, are used to enclose one or more parameters that may be included zero or more times. The vertical bar (|) can be read as "or" and is used to separate alternative parameter options.

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The query form of a command is generated by appending a question mark to the last keyword. However, not all commands have a query form, and some commands exist only in the query form. The listings include, where applicable, the command form and the query form of each command.

CAUTION: When changing a field's setting, a space must always precede the setting value in the command string, regardless of the field type. For example:

```
:RFG:FREQ<space>850MHZ
:EFG:ATT<SPACE>'On'
```

Improper punctuation will result in the following error:

HP-IB Error: -102 Syntax Error.

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Adjacent Channel Power

```
:ACPower

  :CBW|CBANdwidth (See "Real Number Setting Syntax" on page 199, :STATe not
                  included)
                  THIS COMMAND SETS THE BANDWIDTH OF THE CARRIER AND ADJACENT
                  CHANNELS TO BE MEASURED IN ADJACENT CHANNEL POWER MEASUREMENTS.
                  THE CHANNEL BW FIELD IS FOUND ON THE ADJACENT CHANNEL POWER
                  SCREEN.

  :COFFset (See "Real Number Setting Syntax" on page 199, :STATe not included)
                  THIS COMMAND SETS THE FREQUENCY DIFFERENCE BETWEEN THE TUNE FREQ OR RF
                  CHANNEL FIELD SETTINGS AND THE CENTER OF THE ADJACENT CHANNEL TO BE
                  MEASURED IN ADJACENT CHANNEL POWER MEASUREMENTS. THE CH OFFSET FIELD IS
                  FOUND ON THE ADJACENT CHANNEL POWER SCREEN.


  :MEASurement 'Ratio'
               'Level'
  :MEASurement? (Returns quoted string)
                  THESE COMMANDS SET/QUERY THE FORMAT FOR DISPLAYING ADJACENT
                  CHANNEL POWER MEASUREMENTS. THE ACP MEAS FIELD IS FOUND ON THE
                  ADJACENT CHANNEL POWER SCREEN

  :RBW|RBANdwidth '300 Hz'
                  '1 kHz'
  :RBW?|RBANdwidth? (Returns quoted string)
                  THESE COMMANDS SET/QUERY THE RESOLUTION BANDWIDTH FOR ADJACENT CHANNEL POWER
                  MEASUREMENTS. THE RES BW FIELD IS FOUND ON THE ADJACENT CHANNEL POWER
                  SCREEN.


  :RMODulation 'Unmod'
               'Mod'
  :RMODulation? (Returns quoted string)
                  THESE COMMANDS SET/QUERY THE CARRIER REFERENCE SETTING, INDICATING WHETHER
                  THE CARRIER BEING MEASURED DURING ADJACENT CHANNEL POWER REFERENCE
                  MEASUREMENTS WILL BE UNMODULATED OR MODULATED. THE CARRIER REF FIELD IS
                  FOUND ON THE ADJACENT CHANNEL POWERSCREEN.
```


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AF Analyzer

```
:AFANalyzer

  :AIN 'Gnd'
       'Float'
       '600 to Hi'
  :AIN? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE INPUT STATE OF THE AUDIO IN (LO)
            CONNECTOR. THE AUDIO IN LO FIELD IS FOUND ON THE AF ANALYZER screen.

  :CURRent
  [:ZERO]
            THIS COMMAND ZEROES THE DC CURRENT MEASUREMENT. THE DC CURRENT
            FIELD IS FOUND ON THE AF ANALYZER SCREEN.

  :DEMPhasis '750 us'
             'Off'
  :DEMPhasis? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE STATE OF DE-EMPHASIS NETWORKS IN THE AUDIO
            ANALYZER AND SPEAKER CIRCUITRY. THE DE-EMPHASIS FIELD IS FOUND ON THE AF
            ANALYZER screen.

    :GAIN '0 dB'
          '10 dB'
          '20 dB'
          '30 dB'
    :GAIN? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE AF ANALYZER DE-EMPHASIS AMPLIFIER GAIN. THE
            DE-EMP GAIN FIELD IS FOUND ON THE AF ANALYZER screen.
```


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```
:AFAN
  :DETector 'RMS'
            'RMS*SQRT2'
            'PK+'
            'PK-'
            'PK+-/2'
            'PK+-MAX'
            'PK+ HOLD'
            'PK- HOLD'
            'PK+-/2 Hd'
            'PK+-MX Hd'
  :DETector? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE TYPE OF DETECTOR USED WHEN MEASURING AND
              DISPLAYING AF SIGNAL LEVELS. THE DETECTOR FIELD IS FOUND ON THE AF
              ANALYZER screen.


    :PKLocation 'Filters'
                'De-Emp'
    :PKLocation? (Returns quoted string)
                  THESE COMMANDS SET/QUERY THE SIGNAL SOURCE FOR THE PEAK DETECTOR
                  MEASUREMENTS. THE PK DET TO FIELD IS FOUND ON THE AF ANALYZER
                  screen.


    :SETTling 'Fast'
              'Slow'
    :SETTling? (Returns quoted string)
                  THESE COMMANDS SET/QUERY THE SETTLING TIME FOR AUDIO MEASUREMENTS.
                  (USE "FAST" WHEN MEASURING SIGNALS GREATER THAN 200 Hz). THE
                  SETTLING FIELD IS FOUND ON THE AF ANALYZERscreen.


  :ELResistor (See "Real Number Setting Syntax" on page 199, :STATe not
              included, valid range 1 ohm to 1 megohm)
                  THIS COMMAND SETS THE EXTERNAL LOAD RESISTANCE FOR MEASUREMENTS USING
                  THE AUDIO IN CONNECTORS. THE EXT LOAD R FIELD IS FOUND ON THE AF
                  ANALYZER screen.
```


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:AFAN

:FILTER1|FILT1 '<20Hz HPF'
'50HZ HPF'
'300Hz HPF'
'C MESSAGE'

:FILTER1?|FILT1? (Returns quoted string)
THESE COMMANDS SET/QUERY THE AUDIO FILTER 1 SELECTION. THE FILTER 1 FIELD IS FOUND ON THE **AF ANALYZER**screen.

:FILTER2|FILT2 '300Hz LPF'
'3kHz LPF'
'15kHz LPF'
'>99kHz LP'
'6khz BPF'

:FILTER2?|FILT2? (Returns quoted string)
THESE COMMANDS SET/QUERY THE AUDIO FILTER 2 SELECTION. THE FILTER 2 FIELD IS FOUND ON THE **AF ANALYZER**screen.

:GTIMe (See **"Real Number Setting Syntax" on page 199**, :STATe not included, valid range 10 mS to 1 S)
THIS COMMAND SETS THE GATE TIME (HOW LONG THE AF COUNTER SAMPLES THE INPUT SIGNAL) FOR THE AUDIO FREQUENCY COUNTER. THE AF CNT GATE FIELD IS FOUND ON THE **AF ANALYZER** screen.

:INPut 'FM Demod'
'AM Demod'
'SSB Demod'
'Audio In'
'Ext Mod'
'FM Mod'
'AM Mod'
'Audio Out'

:INPut? (Returns quoted string)
THESE COMMANDS SET/QUERY THE INPUT TO THE AUDIO ANALYZER. THE AF ANL IN FIELD IS FOUND ON THE **AF ANALYZER**screen.

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```
:AFAN
  :GAIN '0 dB'
        '20 dB'
        '40 dB'
  :GAIN? (Returns quoted string)
        THESE COMMANDS SET/QUERY THE INPUT GAIN SETTING FOR THE AUDIO ANALYZER. THE
        INPUT GAIN FIELD IS FOUND ON THE AF ANALYZERscreen.


  :SMPoint 'De-Emp'
           'Filters'
           'Input'
           'Notch'
  :SMPoint? (Returns quoted string)
        THESE COMMANDS SET/QUERY THE SIGNAL SOURCE FOR THE OSCILLOSCOPE. THE
        SCOPE TO FIELD IS FOUND ON THE AF ANALYZERscreen.


  :NOTCh
    :GAIN '0 dB'
          '10 dB'
          '20 dB'
          '30 dB'
          '40 dB'
    :GAIN? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE GAIN OF THE AF ANALYZER'S NOTCH FILTER
          AMPLIFIER (USED FOR MAKING SINAD MEASUREMENTS). THE NOTCH GAIN FIELD
          IS FOUND ON THE AF ANALYZERscreen.


    :FREQuency (See "Real Number Setting Syntax" on page 199, :STATe not
          included, valid range 300 Hz to 10 kHz)
          THIS COMMAND SETS THE CENTER FREQUENCY FOR THE VARIABLE FREQUENCY NOTCH
          FILTER. THE NOTCH FREQ FIELD IS FOUND ON THE AF ANALYZERscreen.


  :RANGing 'Auto'
           'Hold'
  :RANGing? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE GAIN CONTROL MODE OF THE AF ANALYZER'S
          NOTCH FILTER AMPLIFIER (USED FOR MAKING SINAD MEASUREMENTS). THE NOTCH
          GAIN FIELD IS FOUND ON THE AF ANALYZERscreen.
```


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```
:AFAN
 :SPEaker
   :MODE 'On'
         'Off'
   :MODE? (Returns quoted string)
         THESE COMMANDS SET/QUERY THE GAIN CONTROL MODE OF THE AF ANALYZER'S
         NOTCH FILTER AMPLIFIER (USED FOR MAKING SINAD MEASUREMENTS). THE NOTCH
         GAIN FIELD IS FOUND ON THE AF ANALYZERscreen.

   :VOLume 'Pot'
           'Off'
   :VOLume? (Returns quoted string)
         THESE COMMANDS SET/QUERY THE SPEAKER VOLUME, WHICH IS CONTROLLED BY THE
         VOLUME KNOB WHEN "POT" IS SELECTED. THESPEAKER VOL FIELD IS FOUND ON THE
         AF ANALYZER screen.
```


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AF Generator 1

```
:AFGENERATOR1|AFG1

  :AM (See "Real Number Setting Syntax" on page 199)

  :DESTination 'AM'
               'FM'
               'Audio Out'
  :DESTination? (Returns quoted string)

  :FM (See "Real Number Setting Syntax" on page 199)

  :FREQuency (See "Real Number Setting Syntax" on page 199, :STATe not
           included)

  :OUTPut (See "Real Number Setting Syntax" on page 199)
```


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AFGenerator2|Encoder

```
:AFGENERATOR2|AFG2|ENCoder

  :AM (See "Real Number Setting Syntax" on page 199)

  :DESTination 'AM'
               'FM'
               'Audio Out'
  :DESTination? (Returns quoted string)

  :FM (See "Real Number Setting Syntax" on page 199)

  :FREQuency (See "Real Number Setting Syntax" on page 199, :STATe not
                  included)

  :OUTPut (See "Real Number Setting Syntax" on page 199)

  :BURSt (See "Integer Number Setting Syntax" on page 197)

  :MODE 'Func Gen'
        'DTMF'
        'AMPS-NTACS'
        'NAMP-NTAC'
  :MODE? (Returns quoted string)
```


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```
:AFG2
  :PEMPhasis 'On'
             'Off'
  :PEMPhasis? (Returns quoted string)

  :POLarity 'Norm'
            'Invert'
  :POLarity? (Returns quoted string)

  :SEND
    :MODE 'Single'
          'Burst'
          'Cont'
          'Step'
    :MODE? (Returns quoted string)

  :STOP
```


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```
:AFG2
  :AMPS|TACS

    :BUSY 'Idle'
          'Busy'
          'WS Delay'
          'lstBitDly'
    :BUSY? (Returns quoted string)

      :DELay (See "Integer Number Setting Syntax" on page 197, valid range: 0
      -254)

    :CHANnel 'Cntl'
             'Voice'
    :CHANnel? (Returns quoted string)

    :DUTest 'Mobile'
            'Cell'
    :DUTest? (Returns quoted string)

    :DATA
      :AM  (See "Real Number Setting Syntax" on page 199)

      :FM  (See "Real Number Setting Syntax" on page 199)

      :LEVel  (See "Real Number Setting Syntax" on page 199)

      :RATE  (See "Real Number Setting Syntax" on page 199, :STATe not
          included)

    :FILLer
      :DATA1 '<character_data>' (7 chars required, valid chars:)
                                0123456789ABCDEF
      :DATA1? (Returns quoted string)

      :DATA2 '<character_data>' (7 chars required, valid chars:)
                                0123456789ABCDEF
      :DATA2? (Returns quoted string)

       :SEND

       :STOP
```


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```
:AFG2
  :AMPS|TACS
    :FVCMessage '<character_data>' (7 chars required, valid chars:)
                                   0123456789ABCDEF
    :FVCMessage? (Returns quoted string)

    :MESSage
      :DATA1 '<character_data>' (112 chars max in 7 char increments)
                        (valid chars: 0123456789ABCDEF)
      :DATA1? (Returns quoted string)

      :DATA2 '<character_data>' (112 chars max in 7 char increments)
                        (valid chars: 0123456789ABCDEF)
      :DATA2? (Returns quoted string)

    :SAT
      :AM  (See "Real Number Setting Syntax" on page 199)

      :FM  (See "Real Number Setting Syntax" on page 199)

      :FREQuency  (See "Real Number Setting Syntax" on page 199, :STATe not
          included)

      :LEVel  (See "Real Number Setting Syntax" on page 199)

    :STANdard 'AMPS'
              'TACS'
              'JTACS'
    :STANdard? (Returns quoted string)
```


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```
:AFG2
  :DTMF

    :FREQuency

      :COLumn (See "Multiple Real Number Setting Syntax" on page 201)

      :ROW (See "Multiple Real Number Setting Syntax" on page 201)

    :OFFTime  (See "Real Number Setting Syntax" on page 199, :STATe not
            included)

    :ONTime  (See "Real Number Setting Syntax" on page 199, :STATe not
            included)

    :SEQuence '<character_data>'(16 char max, 1 char min. Valid characters:)
                                        0123456789ABCD *#
    :SEQuence? (Returns quoted string)

    :STANdard 'Bell'
    :STANdard? (Returns quoted string)

    :TWISt  (See "Real Number Setting Syntax" on page 199, :STATe and
                                       :INCRement not included)
```


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```
:AFG2
  :FGENerator

    :WAVeform 'Sine'
              'Square'
              'Triangle'
              'Ramp(+)'
              'Ramp(-)'
              'DC(+)'
              'DC(-)'
              'Uni Noise'
              'Gau Noise'
    :WAVeform? (Returns quoted string)

    :SUNits 'RMS'
            'Peak'
    :SUNits? (Returns quoted string)
```


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```
:AFG2
  :NAMPs|NTACs

    :BUSY 'Idle'
          'Busy'
          'WS Delay'
          'lstBitDly'
    :BUSY? (Returns quoted string)

      :DELay (See "Integer Number Setting Syntax" on page 197,
          valid range: 0-254)

    :CHANnel 'Cntl'
             'Voice'
    :CHANnel? (Returns quoted string)

    :DSAT
      :MESSage '<character_data>' (6 chars maximum)
      :MESSage? (Returns quoted string)

      :SEND

      :STOP

   [:FOCC]
      :AM  (See "Real Number Setting Syntax" on page 199)

      :FILLer
        :DATA1 '<character_data>' (7 chars required, valid chars:)
                                   0123456789ABCDEF
        :DATA1? (Returns quoted string)

        :DATA2 '<character_data>' (7 chars required, valid chars:)
                                   0123456789ABCDEF
        :DATA2? (Returns quoted string)

        :SEND

        :STOP

      :FM  (See "Real Number Setting Syntax" on page 199)

      :LEVel  (See "Real Number Setting Syntax" on page 199)

      :MESSage
        :DATA1 '<character_data>' (112 chars max in 7 char increments)
                    (valid chars: 0123456789ABCDEF)
        :DATA1? (Returns quoted string)

        :DATA2 '<character_data>' (112 chars max in 7 char increments)
                    (valid chars: 0123456789ABCDEF)
        :DATA2? (Returns quoted string)

      :RATE  (See "Real Number Setting Syntax" on page 199, :STATe not
      included)
```


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```
:AFG2
  :NAMPS|NTACS

    :FVC
      :AM  (See "Real Number Setting Syntax" on page 199)

      :FM  (See "Real Number Setting Syntax" on page 199)

      :LEVel  (See "Real Number Setting Syntax" on page 199)

      :MESSage '<character_data>' (7 chars required, valid chars:)
                                   0123456789ABCDEF
      :MESSage? (Returns quoted string)

      :RATE  (See "Real Number Setting Syntax" on page 199, :STATe not
      included)

      :SEND 'Message'
            'DST'
      :SEND? (Returns quoted string)

    :STANdard 'NAMPS'
              'NTACS'
    :STANdard? (Returns quoted string)
```


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AF Generator 2 Pre-Modulation Filters

To improve performance, one of four pre-modulation filters is *automatically* selected for each Encoder Mode. The automatically selected filter can only be changed using GPIB commands; however, we recommend you do not change this setting. In order to change the automatically selected filter, the Filter Mode must be set to ON. Filter Mode ON allows independent selection of filters. The Filter Mode ON command must be executed first to override default settings. Filter Mode OFF is the power up default state. The following error will occur if the user attempts to select an alternate filter without first setting the Filter Mode to ON: **`Entry not accepted.`** Auto entries take precedence. The syntax to change or query the premodulation filter is shown below.

```
AFG2:FILTER:MODE 'ON|OFF'(select one)
AFG2:FILTER:MODE?(query the current mode setting)
AFG2:FILTER 'NONE|20kHz LPF|250Hz LPF|150Hz LPF'(select one)
AFG2:FILTER?(query the current filter setting)
```

```
:AFGENERATOR2|AFG2|ENCoder

:FILTer 'NONE'
        '20kHz LPF'
        '250Hz LPF'
        '150Hz LPF'
:FILTer? (Returns quoted string)

:MODE 'On'
      'Off'
:MODE? (Returns quoted string)
```


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CALL Process

The following commands control the analog call-processing functions featured in the Test Set. Handoffs from the CDMA call-processing subsystem to the analog call-processing subsystem are performed using the commands listed under the keywords "CDMA:CALL:AHAN""

:CPRocess|CALLP

:MODE 'MEAS'
'DATA'

:MODE? (Returns quoted string)

These commands set/query the type of information displayed on the CALL CONTROL screen when an analog call (except System Type NAMPS) is connected. This command can be sent during any call processing state. The Display field is found on the **CALL CONTROL** screen.
See "CPR:NAMP:NDMMode" for NAMPS calls.

:ACTive

This command activates the analog call processing forward control channel. When the forward control channel is activated the Active annunciator found on the **CALL CONTROL** screen becomes lit. If a call is in any other call-processing state, sending this command will force a return to the active state. The Active field is found on the **CALL CONTROL** screen.

:REGister

This command initiates a registration attempt by the mobile station. The Test Set must be in the Active state (Active annunciator on the **CALL CONTROL** screen lit) before attempting registration. The Register field is found on the **CALL CONTROL** screen.

:PAGE

This command initiates a page to the mobile station. The Test Set must be in the Active state (Active annunciator on the **CALL CONTROL** screen lit) and the MS Id fields (Phone Num/Min) must have correct values entered for a page attempt to be successful. Phone Num/Min values can be entered via registering the phone (See CPR:REGister command). The Page field is found on the **CALL CONTROL** screen.

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:CPR

:HANDoff

This command initiates a handoff to another voice channel. The commands to set the new voice channel, power level, and SAT are "CPR:VCH"|"CPR:VMAC"|"CPR:SAT" respectively. The Test Set must be in the connected state (Connect annunciator on the **CALL CONTROL** screen lit) for a handoff attempt to be successful. The Handoff field is found on the **CALL CONTROL** screen.

:RELease

This command terminates an active voice channel connection with the mobile station. The Test Set must be in the connected state (Connect annunciator on the **CALL CONTROL** screen lit) for a release attempt to be successful. The Release field is found on the **CALL CONTROL** screen.

:TIMEout <string>,<integer value>

This command selects the timeout period used during pages and/or registrations. The string values allowed are "REGister" "PAGE" or "ALL" (both register and page).
For example, "CPR:TIMEout ALL,30" sets both the Register and Page timeouts to 30 seconds. The integer value must be in the range of 20 to 900 seconds.The default timeout value for both Registrations and Pages is 20 seconds.

:TIMEout? <string> returns integer value

This command queries the timeout period ("REGister" for Treg, or "PAGE" for Tpage). For example, "CPR:TIMEout? PAGE" returns the integer value of page timeout.

:DSPecifier 'STD'
'BITS'

:DSPecifier? (Returns quoted string)

These commands determine how signaling messages are built.
The contents can come from industry standards (Std) or bit patterns (Bits) set on the **CALL BIT** screen. The Data Spec field is located on the **CALL BIT** screen.

:CCHannel (See "Integer Number Setting Syntax" on page 197, valid range: 1-1023)

This command sets the control channel number. The Cntrl Chan field is found on the **CALL CONTROL** screen.

:CSYStem 'AMPS'
'TACS'
'JTACS'
'NAMPS'
'NTACS'

:CSYStem? (Returns quoted string)

These commands set/query the type of cellular system in use. If a call is connected and the system type is set, the call processing state will be forced into the Active state (call will drop). The System Type field is located on the **CALL CONTROL** screen.

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```
:CPR
  :VCHannel (See "Integer Number Setting Syntax" on page 197, valid range: 1-1023)
                  This command sets the voice channel number that the mobile station
                  will be assigned to during the next call setup or handoff. See
                  "CPR:HAND" for performing a handoff. It is not required that the Test
                  Set be in any particular call processing state when this command is
                  sent, and this command will not cause a change to the current call
                  processing state.The Chan: field is found on the CALL CONTROL
                  screen.

  :SIDentify (See "Integer Number Setting Syntax" on page 197, valid range: 1-4094)
                  This command sets the (base station) system identification number. It
                  is not required that the Test Set be in any particular call processing
                  state when this command is sent, and this command will not cause a
                  change to the current call processing state.The SID field is found on
                  the CALL CONTROL screen.

  :AMPLitude (See "Real Number Setting Syntax" on page 199, range: +18 to -137 dBm)
                  This command sets the output power from the Test Set's RF generator.
                  The Amplitude field is found on the CALL CONTROL screen.

  :NMODe 'PHONE NUM'
         'MIN2 MIN1'
  :NMODe? (Returns quoted string)
                  This command sets/queries the MS Id (mobile station identification)
                  subfield currently displayed. Sending this command is not necessary to
                  enter MS Id values. The "CPR:PNUM" command sets the phone num field,
                  and the "CPR:MIN" command sets the MIN2 MIN1 field. These fields
                  are coupled to allow MIN to be entered via phone number and
                  vice versa. The MS Id field is found on the CALL CONTROL screen.

  :PNUMber '<character_data>' (10 chars max, valid chars: 0123456789)
  :PNUMber? (Returns quoted string)

  :MINumber '<character_data>' (9 chars max, valid chars: 0123456789ABCDEF)
  :MINumber? (Returns quoted string)
              These commands set/query the MS Id (mobile station identification) subfield
              contents, using either the phone number or MIN (Mobile
              Identification)format. These fields are coupled to allow MIN to be entered
              via phone number and vice versa.The "CPR:NMOD" command selects which
              format (phone number or MIN) the Test Set has currently displayed. The MS
              Id field is found on the CALL CONTROL screen.
              Note: Registering the phone will retrieve these values from the phone and
              automatically enter/overwrite contents of each MS Id subfield.

  :SWORd
              This command sends the (signaling) word in the Set Message field. The
              Set Message field and the Send Word field are found on the CALL BIT
              screen.
```


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```
:CPR
  :CRFAtten      '0 dB'
                 '5 dB'
                 '10 dB'
                 '15 dB'
                 '20 dB'
                 '25 dB'
                 '30 dB'
                 '35 dB'
  :CRFAtten? (Returns quoted string)
```

THESE COMMANDS SET/QUERY THE INPUT ATTENUATION FOR THE RF IN/OUT AND ANTENNA IN SIGNAL PATHS WHEN USING THE ANALOG CALL PROCESSING SUBSYSTEM. THE INPUT ATT FIELD IS FOUND ON THE **CALL CONFIGURE** SCREEN.

```
  :STOLerance 'Narrow'
              'Wide'
  :STOLerance? (Returns quoted string)
```

THESE COMMANDS SET/QUERY THE SAT TOLERANCE. THIS SETTING SHOULD BE "WIDE" IF THE MOBILE STATION'S AUDIO IS NOT MUTED DURING A CALL. THE SAT TOL FIELD IS FOUND ON THE **CALL CONFIGURE** SCREEN. SEE "CPR:SAT" FOR SETTING THE SAT FREQUENCY.

```
  :CMAXimum (See "Integer Number Setting Syntax" on page 197, valid range: 1-4094)
```

THIS COMMAND SENDS THE (SIGNALING) WORD ENTERED IN THE SET MESSAGE FIELD. THE SET MESSAGE FIELD AND THE SEND WORD FIELD ARE FOUND ON THE **CALL BIT** SCREEN.

```
  :SATone  '5970Hz'
           '6000Hz'
           '6030Hz'
  :SATone? (Returns quoted string)
```

THESE COMMANDS SET/QUERY THE SAT (SUPERVISORY AUDIO TONE) TO BE USED DURING THE NEXT CALL SETUP OR HANDOFF. SEE "CPR:HAND" FOR PERFORMING A HANDOFF. THE SAT FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

```
  :VMACode (See "Integer Number Setting Syntax" on page 197, valid range: 0-7)
```

THIS COMMAND SETS/QUERIES THE VMAC (VOICE MOBILE ATTENUATION CODE) TO BE USED DURING THE NEXT CALL SETUP OR HANDOFF. SEE "CPR:HAND" FOR PERFORMING A HANDOFF. INTEGER VALUE IS ENTERED IN THE PWR LVL FIELD. THE TEST SET SIGNALS THE MOBILE STATION TO ADJUST ITS POWER LEVEL TO A VALUE CORRESPONDING TO VMAC WHEN A CALL IS ESTABLISHED OR A HANDOFF OCCURS. IT IS NOT REQUIRED THAT THE TEST SET BE IN ANY PARTICULAR CALL PROCESSING STATE WHEN THIS COMMAND IS SENT, AND THIS COMMAND WILL NOT CAUSE A CHANGE TO THE CURRENT CALL PROCESSING STATE. THE PWR LVL FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

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```
:CPR
  :ORDer 'Chng PL 0'
         'Chng PL 1'
         'Chng PL 2'
         'Chng PL 3'
         'Chng PL 4'
         'Chng PL 5'
         'Chng PL 6'
         'Chng PL 7'
         'Mainten'
         'Alert'
               This command sends an order type Mobile Station Control Message on
               the forward voice channel. A call must be connected (Connect
               annunciator lit) in order to send this message. The 'Chng PL N'
               strings will cause the mobile station to change power levels. The
               'Mainten' string puts the mobile station in maintenance mode. the
               'alert' string alerts the mobile station. The Order field is found on
               the CALL DATA screen if the Authent field on the AUTHENTICATION
               screen is set to "Off".
               See "CPR:NAMP:NORD" (NAMPS calls) and "CPR:AMPS:AUTH:VCOR"
               (Authentication "On").

  :ORDer? (Returns quoted string)
               This command queries the last order sent to the mobile station using
               the "CPR:ORDer" command

  :MESSage 'SPC WORD1'
           'SPC WORD2'
           'ACCESS'
           'REG INC'
           'REG ID'
           'C-FILMESS'
           'MS Word 1'
           'MSMessOrd'
           'MS IntVCh'
           'FVC O Mes'
           'FVC V Mes'
  :MESSage? (Returns quoted string)
               These commands select/query a forward control channel or forward voice
               channel message to be modified. The Set Messagefield is
               found on the CALL BIT screen.
```


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```
:CPR
  :DATA 'RECCW A'
        'RECCW B'
        'RECCW C'
        'RECCW D'
        'RECCW E'
        'RVCORDCON'
        'BSCHALORD'
        'AUTHWORD'
        'UNIQCHCON'
        'RVCORD'
        'RVCBSCHAL'
        'NRVC ORD'
        'MRI ORD'
  :DATA? (Returns quoted string)
        THESE COMMANDS SELECT/QUERY THE REVERSE CONTROL CHANNEL OR REVERSE VOICE
        CHANNEL MESSAGE TO BE VIEWED ON THE CALL DATA SCREEN. THE DISPLAY WORD
        FIELD IS FOUND ON THE CALL DATA SCREEN.


  :RCDDATA1?|RCDD1? (Returns quoted string)

  :RCDDATA2?|RCDD2? (Returns quoted string)

  :RCDDATA3?|RCDD3? (Returns quoted string)

  :RCDDATA4?|RCDD4? (Returns quoted string)

  :RCDDATA5?|RCDD5? (Returns quoted string)

  :RCDDATA6?|RCDD6? (Returns quoted string)
        THESE COMMANDS QUERY THE INFORMATION DISPLAYED ON THE RIGHT-HAND PORTION OF
        THE CALL CONTROL SCREEN WHEN THE DISPLAY FIELD IS SET TO "DATA" OR
        "NDATA". EACH COMMAND CORRESPONDS TO A NON-LABELED DATA FIELD CONSISTING
        OF 1 LINE OF CHARACTERS.
```


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:CPR

:AVCNumber? (Returns quoted string)

THIS COMMAND QUERIES THE VOICE CHANNEL NUMBER FOR THE CALL CURRENTLY CONNECTED. THIS COMMAND IS INTENDED TO BE SENT WHEN A CALL IS CONNECTED (THE CONNECTED ANNUNCIATOR IS LIT). IF A CALL IS NOT CONNECTED, THE STRING 'CHAN:-' WILL BE RETURNED. TO CHANGE THE VOICE CHANNEL NUMBER SEE "CPR:HAND". THE CHAN: FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

:AVCPower? (Returns quoted string)

THIS COMMAND QUERIES THE VMAC (VOICE MOBILE ATTENUATION CODE) FOR THE CALL CURRENTLY CONNECTED. THIS COMMAND IS INTENDED TO BE SENT WHEN A CALL IS CONNECTED (THE CONNECTED ANNUNCIATOR IS LIT). IF A CALL IS NOT CONNECTED, THE STRING 'PWR LVL:-' WILL BE RETURNED. TO CHANGE VMAC, SEE "CPR:ORD" OR "CPR:HAND". THE PWR LVL: FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

:AVCSat? (Returns quoted string)

THIS COMMAND QUERIES THE SAT (SUPERVISORY AUDIO TONE) FREQUENCY FOR THE CALL CURRENTLY CONNECTED. THIS COMMAND IS INTENDED TO BE SENT WHEN A CALL IS CONNECTED (THE CONNECTED ANNUNCIATOR IS LIT). IF A CALL IS NOT CONNECTED, THE STRING 'SAT:-' WILL BE RETURNED.TO CHANGE THE VOICE CHANNEL NUMBER SEE "CPR:HAND". THE SAT: FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

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```
:CPR
  :RECA

    :FWORd?|F? (Returns quoted string)

    :NAWComing? (Returns quoted string)

    :TFIeld?|T? (Returns quoted string)

    :SERial?|S? (Returns quoted string)

    :EXTended?|E? (Returns quoted string)

    :REServed?|RSVD? (Returns quoted string)

    :SCMark? (Returns quoted string)

    :MINumber? (Returns quoted string)

    :PARity? (Returns quoted string)
                THESE COMMANDS QUERY THE MESSAGE FIELDS FOR RECCW A
                (REVERSE CONTROL CHANNEL WORD A - ABBREVIATED ADDRESS
                WORD). THE MESSAGE FIELDS FOR RECCW A ARE FOUND ON THE CALL
                DATA SCREEN.

  :RECB

    :FWORd?|F? (Returns quoted string)

    :NAWComing? (Returns quoted string)

    :LOCal? (Returns quoted string)

    :ORDQualifier? (Returns quoted string)

    :ORDer? (Returns quoted string)

    :LTRY?|LT? (Returns quoted string)

    :REServed?|RSVD? (Returns quoted string)

    :MINumber? (Returns quoted string)

    :PARity? (Returns quoted string)
              THESE COMMANDS QUERY THE MESSAGE FIELDS FOR RECCW B (REVERSE CONTROL
              CHANNEL WORD B - EXTENDED ADDRESS WORD). THE MESSAGE FIELDS FOR RECCW B
              ARE FOUND ON THE CALL DATA SCREEN.
```


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```
:CPR
  :RECC

    :FWORd?|F? (Returns quoted string)

    :NAWComing? (Returns quoted string)

    :SERial? (Returns quoted string)

    :PARity? (Returns quoted string)
                THESE COMMANDS QUERY THE MESSAGE FIELDS FOR RECCW C (REVERSE CONTROL
                CHANNEL WORD C - SERIAL NUMBER WORD). THE MESSAGE FIELDS FOR RECCW C
                ARE FOUND ON THE CALL DATA SCREEN.


  :RECD

    :FWORd?|F? (Returns quoted string)

    :NAWComing? (Returns quoted string)

    :DIGIT1?|DIG1? (Returns quoted string)

    :DIGIT2?|DIG2? (Returns quoted string)

    :DIGIT3?|DIG3? (Returns quoted string)

    :DIGIT4?|DIG4? (Returns quoted string)

    :DIGIT5?|DIG5? (Returns quoted string)

    :DIGIT6?|DIG6? (Returns quoted string)

    :DIGIT7?|DIG7? (Returns quoted string)

    :DIGIT8?|DIG8? (Returns quoted string)

    :PARity? (Returns quoted string)
                THESE COMMANDS QUERY THE MESSAGE FIELDS FOR RECCW D (REVERSE CONTROL
                CHANNEL WORD D - FIRST WORD OF THE CALLED-ADDRESS). THE MESSAGE
                FIELDS FOR RECCW C ARE FOUND ON THE CALL DATA SCREEN.
```


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```
:CPR
  :RECE

    :FWORd?|F? (Returns quoted string)

    :NAWComing? (Returns quoted string)

    :DIGIT9?|DIG9? (Returns quoted string)

    :DIGIT10?|DIG10? (Returns quoted string)

    :DIGIT11?|DIG11? (Returns quoted string)

    :DIGIT12?|DIG12? (Returns quoted string)

    :DIGIT13?|DIG13? (Returns quoted string)

    :DIGIT14?|DIG14? (Returns quoted string)

    :DIGIT15?|DIG15? (Returns quoted string)

    :DIGIT16?|DIG16? (Returns quoted string)

    :PARity? (Returns quoted string)
              These commands query the message fields for RECCW E (Reverse Control
              Channel Word E - Second Word of the Called-Address). The message fields
              for RECCW E are found on the CALL DATA screen.


  :RCOConfirm

    :FWORd?|F? (Returns quoted string)

    :NAWComing? (Returns quoted string)

    :TFIeld?|T? (Returns quoted string)

    :LOCal? (Returns quoted string)

    :ORDQualifier? (Returns quoted string)

    :ORDer? (Returns quoted string)

    :REServed?|RSVD? (Returns quoted string)

    :PARity? (Returns quoted string)
              These commands query the message fields for RVCOrdCon (Reverse Voice
              Channel Order Confirmation Message). The message fields
              for RVCOrdCon are found on the CALL DATA screen.
```


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```
:CPR
  :SPOMESSAGE1|SPOM1

    :TYPE|T1T2 '<character_data>' (2 chars required, valid chars: 01)
    :TYPE?|T1T2? (Returns quoted string)

    :DCCode '<character_data>' (2 chars required, valid chars: 01)
    :DCCode? (Returns quoted string)

    :SIDentify '<character_data>' (14 chars required, valid chars: 01)
    :SIDentify? (Returns quoted string)

    :REServed|RSVD '<character_data>' (3 chars required, valid chars: 01)
    :REServed?|RSVD? (Returns quoted string)

    :NAWComing '<character_data>' (3 chars required, valid chars: 01)
    :NAWComing? (Returns quoted string)

    :OVERhead '<character_data>' (3 chars required, valid chars: 01)
    :OVERhead? (Returns quoted string)

    :PARity? (Returns quoted string)
                  THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR SPC WORD1
                  (SYSTEM PARAMETER OVERHEAD MESSAGE WORD 1). THE MESSAGE
                  FIELDS FOR SPC WORD1 ARE FOUND ON THE CALL BIT SCREEN.
```


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```
:CPR
  :SPOMESSAGE2|SPOM2

    :TYPE|T1T2 '<character_data>' (2 chars required, valid chars: 01)
    :TYPE?|T1T2? (Returns quoted string)

    :DCCode '<character_data>' (2 chars required, valid chars: 01)
    :DCCode? (Returns quoted string)

    :SERial|S  '<character_data>' (1 char required, valid chars: 01)
    :SERial?|S? (Returns quoted string)

    :EXTended|E '<character_data>' (1 char required, valid chars: 01)
    :EXTended?|E? (Returns quoted string)

    :RHOMe|REGHome '<character_data>' (1 char required, valid chars: 01)
    :RHOMe?|REGHome? (Returns quoted string)

    :RROam|REGRoam '<character_data>' (1 char required, valid chars: 01)
    :RROam?|REGRoam? (Returns quoted string)

    :DTX '<character_data>' (2 chars required, valid chars: 01)
    :DTX? (Returns quoted string)

    :NPAGe|Nfield '<character_data>' (5 chars required, valid chars: 01)
    :NPAGe?|Nfield? (Returns quoted string)

    :RCFiller '<character_data>' (1 char required, valid chars: 01)
    :RCFiller? (Returns quoted string)

    :CPACcess|CPA '<character_data>' (1 char required, valid chars: 01)
    :CPACcess?|CPA? (Returns quoted string)

    :CMAXimum '<character_data>' (7 chars required, valid chars: 01)
    :CMAXimum? (Returns quoted string)

    :END '<character_data>' (1 char required, valid chars: 01)
    :END? (Returns quoted string)

    :OVERhead '<character_data>' (3 chars required, valid chars: 01)
    :OVERhead? (Returns quoted string)

    :PARity? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR SPC WORD2
            (SYSTEM PARAMETER OVERHEAD MESSAGE WORD 2). THE MESSAGE
            FIELDS FOR SPC WORD2 ARE FOUND ON THE CALL BIT SCREEN.
```


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```
:CPR
  :ACCess

    :TYPE|T1T2 '<character_data>' (2 chars required, valid chars: 01)
    :TYPE?|T1T2? (Returns quoted string)

    :DCCode '<character_data>' (2 chars required, valid chars: 01)
    :DCCode? (Returns quoted string)

    :ACTion '<character_data>' (4 chars required, valid chars: 01)
    :ACTion? (Returns quoted string)

    :BISTate|BIS '<character_data>' (1 char required, valid chars: 01)
    :BISTate?|BIS? (Returns quoted string)

    :REServed|RSVD '<character_data>' (15 chars required, valid chars: 01)
    :REServed?|RSVD? (Returns quoted string)

    :END '<character_data>' (1 char required, valid chars: 01)
    :END? (Returns quoted string)

    :OVERhead '<character_data>' (3 chars required, valid chars: 01)
    :OVERhead? (Returns quoted string)

    :PARity? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR ACCESS
                (ACCESS TYPE PARAMETERS GLOBAL ACTION MESSAGE). THE MESSAGE
                FIELDS FOR ACCESS ARE FOUND ON THE CALL BIT SCREEN.
  :RINCrement

    :TYPE|T1T2 '<character_data>' (2 chars required, valid chars: 01)
    :TYPE?|T1T2? (Returns quoted string)

    :DCCode '<character_data>' (2 chars required, valid chars: 01)
    :DCCode? (Returns quoted string)

    :ACTion '<character_data>' (4 chars required, valid chars: 01)
    :ACTion? (Returns quoted string)

    :RINCrement '<character_data>' (12 chars required, valid chars: 01)
    :RINCrement? (Returns quoted string)

    :REServed|RSVD '<character_data>' (4 chars required, valid chars: 01)
    :REServed?|RSVD? (Returns quoted string)

    :END '<character_data>' (1 char required, valid chars: 01)
    :END? (Returns quoted string)

    :OVERhead '<character_data>' (3 chars required, valid chars: 01)
    :OVERhead? (Returns quoted string)

    :PARity? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR REG INC
              (REGISTRATION INCREMENT GLOBAL ACTION MESSAGE). THE MESSAGE FIELDS FOR
              REG INC ARE FOUND ON THE CALL BIT SCREEN.
```


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```
:CPR

  :RIDentify

    :TYPE|T1T2 '<character_data>' (2 chars required, valid chars: 01)
    :TYPE?|T1T2? (Returns quoted string)

    :DCCode '<character_data>' (2 chars required, valid chars: 01)
    :DCCode? (Returns quoted string)

    :IDENtify|REGID '<character_data>' (20 chars required, valid chars: 01)
    :IDENtify?|REGID? (Returns quoted string)

    :END '<character_data>' (1 char required, valid chars: 01)
    :END? (Returns quoted string)

    :OVERhead '<character_data>' (3 chars required, valid chars: 01)
    :OVERhead? (Returns quoted string)

    :PARity? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR REG ID
                (REGISTRATION ID MESSAGE). THE MESSAGE FIELDS FOR
                REG ID ARE FOUND ON THE CALL BIT SCREEN.
```


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```
:CPR
  :CFMessage

    :TYPE|T1T2 '<character_data>' (2 chars required, valid chars: 01)
    :TYPE?|T1T2? (Returns quoted string)

    :DCCode '<character_data>' (2 chars required, valid chars: 01)
    :DCCode? (Returns quoted string)

    :FIELD1|FIEL1|F1 '<character_data>' (6 chars required, valid chars: 01)
    :FIELD1?|FIEL1?|F1? (Returns quoted string)

    :CMACode '<character_data>' (3 chars required, valid chars: 01)
    :CMACode? (Returns quoted string)

    :RESERVED1|RES1|RSVD1 '<character_data>' (2 chars req'd, valid chars: 01)
    :RESERVED1?|RES1?|RSVD1? (Returns quoted string)

    :FIELD2|FIEL2|F2 '<character_data>' (2 chars required, valid chars: 01)
    :FIELD2?|FIEL2?|F2? (Returns quoted string)

    :RESERVED2|RES2|RSVD2 '<character_data>' (2 chars req'd, valid chars: 01)
    :RESERVED2?|RES2?|RSVD2? (Returns quoted string)

    :FIELD3|FIEL3|F3 '<character_data>' (1 char required, valid chars: 01)
    :FIELD3?|FIEL3?|F3? (Returns quoted string)

    :WFOMessage '<character_data>' (1 char required, valid chars: 01)
    :WFOMessage? (Returns quoted string)

    :FIELD4|FIEL4|F4 '<character_data>' (4 chars required, valid chars: 01)
    :FIELD4?|FIEL4?|F4? (Returns quoted string)

    :OVERhead '<character_data>' (3 chars required, valid chars: 01)
    :OVERhead? (Returns quoted string)

    :PARity? (Returns quoted string)
```

THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR C-FILMESS (CONTROL-FILLER MESSAGE). THE MESSAGE FIELDS FOR C-FILMESS ARE FOUND ON THE **CALL BIT** SCREEN.

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```
:CPR
  :MSWord

    :TYPE|T1T2 '<character_data>' (2 chars required, valid chars: 01)
    :TYPE?|T1T2? (Returns quoted string)

    :DCCode '<character_data>' (2 chars required, valid chars: 01)
    :DCCode? (Returns quoted string)

    :MINumber '<character_data>' (24 chars required, valid chars: 01)
    :MINumber? (Returns quoted string)

    :PARity? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR MS WORD1 (FCC MOBILE
              STATION CONTROL MESSAGE WORD 1 - ABBREVIATED ADDRESS WORD). THE MESSAGE
                  FIELDS FOR MS WORD1 ARE FOUND ON THE CALL BIT SCREEN.


  :MSORder

    :TYPE|T1T2 '<character_data>' (2 chars required, valid chars: 01)
    :TYPE?|T1T2? (Returns quoted string)

    :SCCode '<character_data>' (2 chars required, valid chars: 01)
    :SCCode? (Returns quoted string)

    :MINumber '<character_data>' (10 chars required, valid chars: 01)
    :MINumber? (Returns quoted string)

    :REServed|RSVD '<character_data>' (1 char required, valid chars: 01)
    :REServed?|RSVD? (Returns quoted string)

    :LOCal '<character_data>' (5 chars required, valid chars: 01)
    :LOCal? (Returns quoted string)

    :ORDQualifier '<character_data>' (3 chars required, valid chars: 01)
    :ORDQualifier? (Returns quoted string)

    :ORDer '<character_data>' (5 chars required, valid chars: 01)
    :ORDer? (Returns quoted string)

    :PARity? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR MSMESSORD (FCC MOBILE
              STATION CONTROL MESSAGE EXTENDED ADDRESS WORD - ORDER). THE MESSAGE
              FIELDS FOR MSMESSORD ARE FOUND ON THE CALL BIT SCREEN.
```


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```
:CPR
  :MSVoice

    :TYPE|T1T2 '<character_data>' (2 chars required, valid chars: 01)
    :TYPE?|T1T2? (Returns quoted string)

    :SCCode '<character_data>' (2 chars required, valid chars: 01)
    :SCCode? (Returns quoted string)

    :MINumber '<character_data>' (10 chars required, valid chars: 01)
    :MINumber? (Returns quoted string)

    :VMACode '<character_data>' (3 chars required, valid chars: 01)
    :VMACode? (Returns quoted string)

    :CHANnel '<character_data>' (11 chars required, valid chars: 01)
    :CHANnel? (Returns quoted string)

    :PARity? (Returns quoted string)
             THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR MSINTVCH (FCC MOBILE
             STATION CONTROL MESSAGE EXTENDED ADDRESS WORD - VOICE CHANNEL
             ASSIGNMENT). THE MESSAGE FIELDS FOR MSINTVCH ARE FOUND ON THE CALL BIT
             SCREEN.


  :FVORder

    :TYPE|T1T2 '<character_data>' (2 chars required, valid chars: 01)
    :TYPE?|T1T2? (Returns quoted string)

    :SCCode '<character_data>' (2 chars required, valid chars: 01)
    :SCCode? (Returns quoted string)

    :PSCCode '<character_data>' (2 chars required, valid chars: 01)
    :PSCCode? (Returns quoted string)

    :REServed|RSVD '<character_data>' (9 chars required, valid chars: 01)
    :REServed?|RSVD? (Returns quoted string)

    :LOCal '<character_data>' (5 chars required, valid chars: 01)
    :LOCal? (Returns quoted string)

    :ORDQualifier '<character_data>' (3 chars required, valid chars: 01)
    :ORDQualifier? (Returns quoted string)

    :ORDer '<character_data>' (5 chars required, valid chars: 01)
    :ORDer? (Returns quoted string)

    :PARity? (Returns quoted string)
               THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR FVC O MES (FCC MOBILE
               STATION CONTROL ORDER MESSAGE). THE MESSAGE FIELDS FOR FVC O MES ARE
               FOUND ON THE CALL BIT SCREEN.
```


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```
:CPR
  :FVVoice

    :TYPE|T1T2 '<character_data>' (2 chars required, valid chars: 01)
    :TYPE?|T1T2? (Returns quoted string)

    :SCCode '<character_data>' (2 chars required, valid chars: 01)
    :SCCode? (Returns quoted string)

    :PSCCode '<character_data>' (2 chars required, valid chars: 01)
    :PSCCode? (Returns quoted string)

    :REServed|RSVD '<character_data>' (8 chars required, valid chars: 01)
    :REServed?|RSVD? (Returns quoted string)

    :VMACode '<character_data>' (3 chars required, valid chars: 01)
    :VMACode? (Returns quoted string)

    :CHANnel '<character_data>' (11 chars required, valid chars: 01)
    :CHANnel? (Returns quoted string)

    :PARity? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR FVC V MES (FCC MOBILE
              STATION CONTROL VOICE CHANNEL ASSIGNMENT MESSAGE). THE MESSAGE FIELDS FOR
              FVC V MES ARE FOUND ON THE CALL BIT SCREEN.
```


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```
:CPR
  :AMPS
    :AUTH
      :AKEY '<character_data> (26 chars maximum, valid chars: decimal)'
      :AKEY? (Returns quoted string)

      :AKEY
        :GENerate
                This immediate action command generates a new A_key for use
                in the mobile station. The resultant checksum will be
                displayed in the last 6 digits of the A_KEY field. The
                A_Key field is found on the AUTHENTICATION screen. There is
                no manual (front panel) operation that generates a new
                A_key in this manner.

      :ONOFF 'On'
             'Off'
      :ONOFF? (Returns quoted string)
           These commands select/query the analog authentication
           state. The Authent field is found on the AUTHENTICATION
           screen.


      :OON (See "Integer Number Setting Syntax" on page 197, does not include
                :INCRement command)
                This command sets the number of times the System Parameter
                Overhead Message is sent. The 1 of N field is found on the
                AUTHENTICATIONN screen.

      :ESNumber '<character_data> (10 chars maximum, valid chars: hex)'
      :ESNumber? (Returns quoted string)
                This command sets/queries the ESN (Electronic Serial Number) of the
                mobile station. Registering the mobile station retrieves ESN and enters
                it automatically in the ESN field (see "CPR:REG" to register the
                mobile station). The ESN field is found on the AUTHENTICATION
                screen.


      :CCORder 'SSD Upd'
               'Uniq Ch'
      :CCORder? (Returns quoted string)
                These commands send/query an order type mobile station
                control message on the forward control channel to the mobile station.
                The string 'SSD Upd' performs a SSD (Shared Secret Data) update. The
                string 'Uniq Ch' performs a unique challenge. Authentication must be
                "On" before using these commands. See "CPR:AMPS:AUTH:ONOFF '<ON/
                OFF>'" to turn authentication on. The CC Order field is found on the
                CALL CONTROL screen when the Authent field on the AUTHENTICATION
                screen is "On" and a call is not connected.
```


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```
:CPR
  :AMPS
    :AUTH
      :VCORder 'Chng PL 0'
               'Chng PL 1'
               'Chng PL 2'
               'Chng PL 3'
               'Chng PL 4'
               'Chng PL 5'
               'Chng PL 6'
               'Chng PL 7'
               'Mainten'
               'Alert'
      :VCORder? (Returns quoted string)
                THIS COMMAND SENDS/QUERIES A VOICE CHANNEL ORDER TO THE MOBILE STATION.
                AUTHENTICATION MUST BE ON AND A CALL CONNECTED (CONNECT ANNUNCIATOR
                LIT) FOR THIS COMMAND TO BE SUCCESSFUL. THE VC ORDER FIELD IS
                FOUND ON THE CALL CONTROL SCREEN WHEN THE AUTHENT FIELD ON THE
                AUTHENTICATION SCREEN IS "ON" AND THE MOBILE STATION AND TEST SET
                ARE ON A VOICE CHANNEL.
                TO SEND AN ORDER TYPE MESSAGE WHEN AUTHENTICATION IS OFF, SEE
                "CPR:ORD" FOR NON-NAMPS CALLS AND "CPR:NAMP:NORD" FOR NAMPS
                CALLS.


      :SSDA '<character_data> (16 chars: hex)'
      :SSDA? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE 64 MOST SIGNIFICANT BITS OF SHARED
                SECRET DATA, SSDA. THERE IS NO FIELD ON THE TEST SET'S DISPLAY FOR
                THIS FUNCTION.


        :NEW '<character_data> (16 chars: hex)'
        :NEW? (Returns quoted string)
                      THESE COMMANDS SET/QUERY THE 64 MOST SIGNIFICANT BITS OF NEW
                      SHARED SECRET DATA, SSDA_NEW. THERE IS NO FIELD ON THE TEST
                      SET'S DISPLAY FOR THIS FUNCTION.

      :SSDB '<character_data> (16 chars: hex)'
      :SSDB? (Returns quoted string)
                      THESE COMMANDS SET/QUERY THE 64 LEAST SIGNIFICANT BITS OF SHARED
                      SECRET DATA, SSDB. THERE IS NO FIELD ON THE TEST SET'S
                      DISPLAY FOR THIS FUNCTION.


        :NEW '<character_data> (16 chars: hex)'
        :NEW? (Returns quoted string)
                      THESE COMMANDS SET/QUERY THE 64 LEAST SIGNIFICANT BITS OF NEW
                      SHARED SECRET DATA, SSDB_NEW. THERE IS NO FIELD ON THE TEST
                      SET'S DISPLAY FOR THIS FUNCTION.


      :ASCProcedure '<character_data> (31 chars: hex)'
      :ASCProcedure
        :RESult? (Returns quoted string)
```


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```
:CPR
  :AMPS
    :AUTH
      :RAND

        :A '<character_data>' (4 chars required: hex)
        :A? (Returns quoted string)
             THESE COMMANDS SET/QUERY THE 16 MOST SIGNIFICANT BITS OF RAND,
             WHICH IS USED IN THE AUTHENTICATION PROCESS. THE RAND_A FIELD
             IS FOUND ON THE AUTHENTICATION SCREEN.

        :B '<character_data>' (4 chars required: hex)
        :B? (Returns quoted string)
             THESE COMMANDS SET/QUERY THE 16 LEAST SIGNIFICANT BITS OF RAND,
             WHICH IS USED IN THE AUTHENTICATION PROCESS. THE RAND_B FIELD
             IS FOUND ON THE AUTHENTICATION SCREEN.

        :U '<character_data>' (6 chars required: hex)
        :U? (Returns quoted string)
             THESE COMMANDS SET/QUERY RAND_U, A 24-BIT NUMBER ISSUED BY THE BASE
             STATION IN A UNIQUE CHALLENGE ORDER. THE RAND_U FIELD IS FOUND ON THE
             AUTHENTICATION SCREEN.

        :SSD1 '<character_data>' (6 chars required: hex)
        :SSD1? (Returns quoted string)
             THESE COMMANDS SET/QUERY THE 24 MOST SIGNIFICANT BITS OF RANDSSD,
             ISSUED BY THE BASE STATION DURING A SSD UPDATE ORDER. THE RANDSSD_1 FIELD
             IS FOUND ON THE AUTHENTICATION SCREEN.


        :SSD2 '<character_data>' (6 chars required: hex)
        :SSD2? (Returns quoted string)
             THESE COMMANDS SET/QUERY THE 24 BITS BETWEEN RANDSSD_1 AND RANSSD_3.
             RANDSSD IS ISSUED BY THE BASE STATION DURING A SSD UPDATE ORDER. THE
             RANDSSD_2 FIELD IS FOUND ON THE AUTHENTICATION SCREEN.

        :SSD3 '<character_data>' (2 chars required: hex)
        :SSD3? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE 24 LEAST SIGNIFICANT BITS OF RANDSSD,
                ISSUED BY THE BASE STATION DURING A SSD UPDATE ORDER. THE RANDSSD_3
                FIELD IS FOUND ON THE AUTHENTICATION SCREEN.
```


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```
:CPR
  :AMPS
    :RCA
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :DCCode  '<character_data>' (2 chars required: binary)
      :DCCode? (Returns quoted string)

      :ACTion  '<character_data>' (4 chars required: binary)
      :ACTion? (Returns quoted string)

      :RANDA  '<character_data>' (16 chars required: binary)
      :RANDA? (Returns quoted string)

      :END  '<character_data>' (1 char required: binary)
      :END? (Returns quoted string)

      :OVERhead  '<character_data>' (3 chars required: binary)
      :OVERhead? (Returns quoted string)

      :PARity? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR RANDCHALA (RANDOM
                CHALLENGE A GLOBAL ACTION MESSAGE). THE MESSAGE FIELDS FOR
                RANDCHALA ARE FOUND ON THE CALL BIT SCREEN.



    :RCB
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :DCCode  '<character_data>' (2 chars required: binary)
      :DCCode? (Returns quoted string)

      :ACTion  '<character_data>' (4 chars required: binary)
      :ACTion? (Returns quoted string)

      :RANDB  '<character_data>' (16 chars required: binary)
      :RANDB? (Returns quoted string)

      :END  '<character_data>' (1 char required: binary)
      :END? (Returns quoted string)

      :OVERhead  '<character_data>' (3 chars required: binary)
      :OVERhead? (Returns quoted string)

      :PARity? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR RANDCHALB (RANDOM
            CHALLENGE B GLOBAL ACTION MESSAGE). THE MESSAGE FIELDS FOR
            RANDCHALB ARE FOUND ON THE CALL BIT SCREEN.
```


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```
:CPR
  :AMPS
    :RSSD1
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :SCCode  '<character_data>' (2 chars required: binary)
      :SCCode? (Returns quoted string)

      :RANDSSD1  '<character_data>' (24 chars required: binary)
      :RANDSSD1? (Returns quoted string)

      :PARity? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR RAND SSD1 (FIRST SSD
            UPDATE ORDER WORD). THE MESSAGE FIELDS FOR RAND SSD1 ARE FOUND ON THE
            CALL BIT SCREEN.


    :RSSD2
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :SCCode  '<character_data>' (2 chars required: binary)
      :SCCode? (Returns quoted string)

      :RANDSSD2  '<character_data>' (24 chars required: binary)
      :RANDSSD2? (Returns quoted string)

      :PARity? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR RAND SSD2 (SECOND SSD
            UPDATE ORDER WORD). THE MESSAGE FIELDS FOR RAND SSD2 ARE FOUND ON THE
            CALL BIT SCREEN.


    :RSSD3
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :SCCode  '<character_data>' (2 chars required: binary)
      :SCCode? (Returns quoted string)

      :RSVD1  '<character_data>' (2 chars required: binary)
      :RSVD1? (Returns quoted string)

      :RANDSSD3  '<character_data>' (12 chars required: binary)
      :RANDSSD3? (Returns quoted string)

      :RSVD2  '<character_data>' (4 chars required: binary)
      :RSVD2? (Returns quoted string)

      :PARity? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR RAND SSD3 (THIRD SSD
            UPDATE ORDER WORD). THE MESSAGE FIELDS FOR RAND SSD3 ARE FOUND ON THE
            CALL BIT SCREEN.
```


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```
:CPR
  :AMPS
    :BSCC
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :SCCode  '<character_data>' (2 chars required: binary)
      :SCCode? (Returns quoted string)

      :RSVD1  '<character_data>' (2 chars required: binary)
      :RSVD1? (Returns quoted string)

      :AUTHBS  '<character_data>' (18 chars required: binary)
      :AUTHBS? (Returns quoted string)

      :RSVD2  '<character_data>' (4 chars required: binary)
      :RSVD2? (Returns quoted string)

      :PARity? (Returns quoted string)
            These commands set/query the message fields for BSChalCon (Base Station
            Challenge Order Confirmation Word). The message fields for BSChalCon are
            found on the CALL BIT screen.


    :UCORder
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :SCCode  '<character_data>' (2 chars required: binary)
      :SCCode? (Returns quoted string)

      :RANDU  '<character_data>' (24 chars required: binary)
      :RANDU? (Returns quoted string)

      :PARity? (Returns quoted string)
                These commands set/query the message fields for UniqChOrd (Unique
                Challenge Order Word). The message fields for UniqChOrd are
                found on the CALL BIT screen.


    :FVCSSD1
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :RANDSSD1  '<character_data>' (24 chars required: binary)
      :RANDSSD1? (Returns quoted string)

      :RSVD  '<character_data>' (2chars required: binary)
      :RSVD? (Returns quoted string)

      :PARity? (Returns quoted string)
            These commands set/query the message fields for FVC SSD1 (First SSD
            Update Order Word). The message fields for FVC SSD1 are found on the
            CALL BIT screen.
```


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```
:CPR
  :AMPS
    :FVCSSD2
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :RANDSSD2  '<character_data>' (24 chars required: binary)
      :RANDSSD2? (Returns quoted string)

      :RSVD  '<character_data>' (2 chars required: binary)
      :RSVD? (Returns quoted string)

      :PARity? (Returns quoted string)
             These commands set/query the message fields for FVC SSD2 (Second SSD
             Update Order Word). The message fields for FVC SSD2 are found on the
             CALL BIT screen.


    :FVCSSD3
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :RANDSSD3  '<character_data>' (24 chars required: binary)
      :RANDSSD3? (Returns quoted string)

      :RSVD  '<character_data>' (2 chars required: binary)
      :RSVD? (Returns quoted string)

      :PARity? (Returns quoted string)
             These commands set/query the message fields for FVC SSD3 (Third SSD
             Update Order Word). The message fields for FVC SSD3 are found on the
             CALL BIT screen.

    :FVCBSC
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :RSVD1  '<character_data>' (4 chars required: binary)
      :RSVD1? (Returns quoted string)

      :AUTHBS  '<character_data>' (18 chars required: binary)
      :AUTHBS? (Returns quoted string)

      :RSVD2  '<character_data>' (4 chars required: binary)
      :RSVD2? (Returns quoted string)

      :PARity? (Returns quoted string)
                 These commands set/query the message fields for FVCBSCon (Base
                 Station Challenge Order Confirmation). The message fields for
                 FVCBSCon are found on the CALL BIT screen.
```


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```
:CPR
  :AMPS
    :FVCUC
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :RSVD  '<character_data>' (2 chars required: binary)
      :RSVD? (Returns quoted string)

      :RANDU  '<character_data>' (24 chars required: binary)
      :RANDU? (Returns quoted string)

      :PARity? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR FVCUNIQCH (UNIQUE
            CHALLENGE ORDER WORD). THE MESSAGE FIELDS FOR FVCUNIQCH ARE FOUND ON THE
            CALL BIT SCREEN.


    :BSCOrder
      :FWORd? | F? (Returns quoted string)

      :NAWComing? (Returns quoted string)

      :RANDBS? (Returns quoted string)

      :PARity? (Returns quoted string)
            THESE COMMANDS QUERY THE MESSAGE FIELDS FOR BSCHALORD (BASE STATION
            CHALLENGE WORD). THE MESSAGE FIELDS FOR BSCHALORD ARE FOUND ON THE
            CALL DATA SCREEN.


    :AWORd
      :FWORd? | F? (Returns quoted string)

      :NAWComing? (Returns quoted string)

      :COUNT? (Returns quoted string)

      :RANDC? (Returns quoted string)

      :AUTHR? (Returns quoted string)

      :PARity? (Returns quoted string)
            THESE COMMANDS QUERY THE MESSAGE FIELDS FOR AUTHWORD (AUTHENTICATION
            WORD). THE MESSAGE FIELDS FOR AUTHWORD ARE FOUND ON THE CALL DATA SCREEN.
```


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```
:CPR
  :AMPS
    :UCC
      :FWORd? | F? (Returns quoted string)

      :NAWComing? (Returns quoted string)

      :RSVD? (Returns quoted string)

      :AUTHU? (Returns quoted string)

      :PARity? (Returns quoted string)
                 THESE COMMANDS QUERY THE MESSAGE FIELDS FOR UNIQCHCON (UNIQUE
                 CHALLENGE ORDER CONFIRMATION WORD). THE MESSAGE FIELDS FOR UNIQCHCON
                 ARE FOUND ON THE CALL DATA SCREEN.


    :RVCOrder
      :FWORd? | F? (Returns quoted string)

      :NAWComing? (Returns quoted string)

      :T? (Returns quoted string)

      :LOCal? (Returns quoted string)

      :ORDQ? (Returns quoted string)

      :ORDer? (Returns quoted string)

      :RSVD? (Returns quoted string)

      :PARity? (Returns quoted string)
             THESE COMMANDS QUERY THE MESSAGE FIELDS FOR RVCORD (REVERSE VOICE CHANNEL
             GENERIC ORDER). THE MESSAGE FIELDS FOR RVCORDARE FOUND ON THE CALL DATA
             SCREEN.


    :RVCBSC
      :FWORd? | F? (Returns quoted string)

      :NAWComing? (Returns quoted string)

      :T? (Returns quoted string)

      :RANDBS? (Returns quoted string)

      :PARity? (Returns quoted string)
             THESE COMMANDS QUERY THE MESSAGE FIELDS FOR RVCBSCHAL (BASE STATION
             CHALLENGE ORDER WORD). THE MESSAGE FIELDS FOR RVCBSCHALARE FOUND ON THE
             CALL DATA SCREEN.
```


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:CPR
:NAMPs
:NDMMode 'NData'
'NMeas'
:NDMMode? (Returns quoted string)
THESE COMMANDS SET/QUERY THE TYPE OF INFORMATION DISPLAYED ON THE **CALL CONTROL** SCREEN WHEN AN ANALOG CALL IS CONNECTED AND THE SYSTEM TYPE FIELD ON THE **CALL CONTROL** SCREEN IS SET TO "NAMPS". THIS COMMAND CAN BE SENT DURING ANY CALL PROCESSING STATE. THE DISPLAY FIELD IS FOUND ON THE **CALL CONTROL** SCREEN. FOR NON-NAMPS CALLS, SEE "CPR:MODE".

:CEXTension
:ACTual? (Returns quoted string)
THIS COMMAND QUERIES THE NAMPS CHANNEL LOCATION (LOWER, MIDDLE, UPPER, WIDE CHANNEL) FOR A CALL CURRENTLY CONNECTED. THE CH LOC FIELD IS FOUND ON THE **CALL CONTROL** SCREEN WHEN THE SYSTEM TYPE FIELD ON THE **CALL CONTROL** SCREEN IS SET TO "NAMPS".

:SETTing 'Wide'
'Lower'
'Middle'
'Upper'
:SETTing? (Returns quoted string)
THIS COMMAND SETS/QUERIES THE NAMPS CHANNEL LOCATION (LOWER, MIDDLE, UPPER, WIDE CHANNEL) TO BE USED DURING THE NEXT CALL OR HANDOFF. THE CH LOC FIELD IS FOUND ON THE **CALL CONTROL** SCREEN WHEN THE SYSTEM TYPE FIELD ON THE **CALL CONTROL** SCREEN IS SET TO "NAMPS".

:DSAT
:MEASurement? (Returns quoted string)

[:RESult?] (Returns quoted string)
:SELect 'DSAT'
'Data'
:SELect? (Returns quoted string)

:SETTing '<character_data>'
:SETTing? (Returns quoted string)
THIS COMMAND SETS/QUERIES THE NAMPS DSAT (DIGITAL SUPERVISORY AUDIO TONE) TO BE USED DURING THE NEXT CALL OR HANDOFF. THE DSAT FIELD IS FOUND ON THE **CALL CONTROL** SCREEN WHEN THE SYSTEM TYPE FIELD ON THE **CALL CONTROL** SCREEN IS SET TO "NAMPS".

:ACTual? (Returns quoted string)
THIS COMMAND QUERIES THE NAMPS DSAT (DIGITAL SUPERVISORY AUDIO TONE) FOR A CALL CURRENTLY CONNECTED. THE DSAT FIELD IS FOUND ON THE **CALL CONTROL** SCREEN WHEN THE SYSTEM TYPE FIELD ON THE **CALL CONTROL** SCREEN IS SET TO "NAMPS".

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```
:CPR
  :NAMP
    :MRI
      :RSETting  'Imm Resp'
                 '-75 dBm'
                 '-80 dBm'
                 '-85 dBm'
                 '-90 dBm'
                 '-95 dBm'
                 '-100 dBm'
                 '-105 dBm'

      :RSETting? (Returns quoted string)
             THESE COMMANDS SET/QUERY THE MRI (MOBILE REPORTED INTERFERENCE)
             RSSI THRESHOLD. THE RSSI THRESH FIELD IS FOUND ON THE CALL
             CONFIGURE SCREEN WHEN THE SYSTEM TYPE FIELD ON THE CALL CONTROL
             SCREEN IS SET TO "NAMPS"

      :RSSI '<character_data>'
      :RSSI? (Returns quoted string)

      :BSETting? (Returns integer number)
      :BSETting (See "Integer Number Setting Syntax" on page 197, valid range: 0 to
                 100)
             THESE COMMANDS SET/QUERY THE BER (BIT ERROR RATE) THRESHOLD. THE BER
             THRESH FIELD IS FOUND ON THE CALL CONFIGURE SCREEN WHEN THE SYSTEM TYPE
             FIELD ON THE CALL CONTROL SCREEN IS SET TO "NAMPS".

      :BERate? (Returns quoted string)

    :NORDer      'Chng PL 0'
                 'Chng PL 1'
                 'Chng PL 2'
                 'Chng PL 3'
                 'Chng PL 4'
                 'Chng PL 5'
                 'Chng PL 6'
                 'Chng PL 7'
                 'MRI'
                 'Mainten'
                 'Alert'
    :NORDer? (Returns quoted string)
             THESE COMMANDS SEND/QUERY THE ORDER MESSAGE TO A MOBILE STATION ON A VOICE
             CHANNEL WHEN THE SYSTEM TYPE FIELD HAS "NAMPS" SELECTED. THE ORDER FIELD
             IS FOUND ON THE CALL CONTROL SCREEN WHEN THE AUTHENT FIELD ON THE
             AUTHENTICATION SCREEN IS "OFF".
```


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```
:CPR
  :NAMP
    :NOConfirm
      :TYPE? | T1T2? (Returns quoted string)

      :AWComing? (Returns quoted string)

      :LOCal? (Returns quoted string)

      :OQUalifier? | ORDQ? (Returns quoted string)

      :ORDer? (Returns quoted string)

      :DSCCode? (Returns quoted string)

      :VMACode? (Returns quoted string)

      :OEVen? | OE? (Returns quoted string)

      :RSVD? (Returns quoted string)

      :PARity? (Returns quoted string)
                THESE COMMANDS QUERY THE MESSAGE FIELDS FOR NRVC ORD (NARROW ORDER
                OR ORDER CONFIRMATION MESSAGE). THE MESSAGE FIELDS FOR NRVC ORD ARE
                FOUND ON THE CALL DATA SCREEN.


    :MRIOrder
      :TYPE? | T1T2? (Returns quoted string)

      :AWComing? (Returns quoted string)

      :RSV1? (Returns quoted string)

      :RSSI? (Returns quoted string)

      :OQUalifier? | ORDQ? (Returns quoted string)

      :ORDer? (Returns quoted string)

      :DSCCode? (Returns quoted string)

      :VMACode? (Returns quoted string)

      :OEVen? | OE? (Returns quoted string)

      :BERate? (Returns quoted string)

      :RSV2? (Returns quoted string)

      :PARity? (Returns quoted string)
            THESE COMMANDS QUERY THE MESSAGE FIELDS FOR MRI ORD (MRI ORDER MESSAGE).
            THE MESSAGE FIELDS FOR MRI ORD ARE FOUND ON THE CALL DATA SCREEN.
```


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```
:CPR
  :NAMP
    :EPFControl | EXTP
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :SCCode  '<character_data>' (2 chars required: binary)
      :SCCode? (Returns quoted string)

      :MINumber  '<character_data>' (10 chars required: binary)
      :MINumber? (Returns quoted string)

      :EFCIndicator | EF  '<character_data>' (1 char required: binary)
      :EFCIndicator? | EF? (Returns quoted string)

      :EPMLength | MSL  '<character_data>' (5 chars required: binary)
      :EPMLength? | MSL? (Returns quoted string)

      :EPMType | MST  '<character_data>' (8 chars required: binary)
      :EPMType? | MST? (Returns quoted string)

      :PARity? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR EXT PROT (FCC MOBILE
            STATION CONTROL MESSAGE). THE MESSAGE FIELDS FOR EXT PROT ARE FOUND ON
            THE CALL BIT SCREEN.


    :NCAMessage | NCHA
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :DSCCode  '<character_data>' (3 chars required: binary)
      :DSCCode? (Returns quoted string)

      :RSVD  '<character_data>' (7 chars required: binary)
      :RSVD? (Returns quoted string)

      :CB13 | C13  '<character_data>' (1 char required: binary)
      :CB13? | C13? (Returns quoted string)

      :CB12 | C12  '<character_data>' (12 chars required: binary)
      :CB12? | C12? (Returns quoted string)

      :VMACode  '<character_data>' (3 chars required: binary)
      :VMACode? (Returns quoted string)

      :CHANnel  '<character_data>' (11 chars required: binary)
      :CHANnel? (Returns quoted string)

      :PARity? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR NCH ASN (FCC NARROW
                CHANNEL ASSIGNMENT MESSAGE). THE MESSAGE FIELDS FOR NCH ASN ARE
                FOUND ON THE CALL BIT SCREEN.
```


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```
:CPR
  :NAMP
    :NFVMessage | NFVC
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :DSCCode  '<character_data>' (3 chars required: binary)
      :DSCCode? (Returns quoted string)

      :PDCCode | PDSCcode '<character_data>' (3 chars required: binary)
      :PDCCode? | PDSCcode? (Returns quoted string)

      :EFCIndicator | EF  '<character_data>' (1 char required: binary)
      :EFCIndicator? | EF? (Returns quoted string)

      :RSVD  '<character_data>' (5 chars required: binary)
      :RSVD? (Returns quoted string)

      :OEVen | OE  '<character_data>' (1 char required: binary)
      :OEVen? | OE? (Returns quoted string)

      :LOCal  '<character_data>' (5 chars required: binary)
      :LOCal? (Returns quoted string)

      :OQU | ORDQ  '<character_data>' (3 chars required: binary)
      :OQU? | ORDQ? (Returns quoted string)

      :ORDer  '<character_data>' (5 chars required: binary)
      :ORDer? (Returns quoted string)

      :PARity? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR NMS FVC (FVC MOBILE
            STATION CONTROL MESSAGE). THE MESSAGE FIELDS FOR NMS FVC ARE
            FOUND ON THE CALL BIT SCREEN.
```


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```
:CPR
  :NAMP
    :MRIMessage | NMRI
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :DSCCode  '<character_data>' (3 chars required: binary)
      :DSCCode? (Returns quoted string)

      :PDCCode  '<character_data>' (3 chars required: binary)
      :PDCCode? (Returns quoted string)

      :EFCIndicator | EF  '<character_data>' (1 char required: binary)
      :EFCIndicator? | EF? (Returns quoted string)

      :RSSI  '<character_data>' (3 chars required: binary)
      :RSSI? (Returns quoted string)

      :BERate  '<character_data>' (2 chars required: binary)
      :BERate? (Returns quoted string)

      :OEVen | OE  '<character_data>' (1 char required: binary)
      :OEVen? | OE? (Returns quoted string)

      :BLSBit | BERLsb  '<character_data>' (5 chars required: binary)
      :BLSBit? | BERLsb? (Returns quoted string)

      :OQU | ORDQ  '<character_data>' (3 chars required: binary)
      :OQU? | ORDQ? (Returns quoted string)

      :ORDer  '<character_data>' (5 chars required: binary)
      :ORDer? (Returns quoted string)

      :PARity? (Returns quoted string)
                  THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR MRI MES (MRI
                  PARAMETER MESSAGE). THE MESSAGE FIELDS FOR MRI MES ARE FOUND ON THE
                  CALL BIT SCREEN.
```


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```
:CPR
  :NAMP
    :WNHMessage
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :SCCode  '<character_data>' (2 chars required: binary)
      :SCCode? (Returns quoted string)

      :PSCCode  '<character_data>' (2 chars required: binary)
      :PSCCode? (Returns quoted string)

      :CTYPe  '<character_data>' (1 char required: binary)
      :CTYPe? (Returns quoted string)

      :DSCCode  '<character_data>' (3 chars required: binary)
      :DSCCode? (Returns quoted string)

      :RSVD  '<character_data>' (2 chars required: binary)
      :RSVD? (Returns quoted string)

      :CB13 | C13  '<character_data>' (1 char required: binary)
      :CB13? | C13? (Returns quoted string)

      :CB12 | C12  '<character_data>' (1 char required: binary)
      :CB12? | C12? (Returns quoted string)

      :VMACode  '<character_data>' (3 chars required: binary)
      :VMACode? (Returns quoted string)

      :CHANnel  '<character_data>' (11 chars required: binary)
      :CHANnel? (Returns quoted string)

      :PARity? (Returns quoted string)
            These commands set/query the message fields for WNHO MES (Wide to Narrow
            Handoff Message). The message fields for WNHO MES are found on the
            CALL BIT screen.
```


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```
:CPR
  :NAMP
    :NHOMessage
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :DSCCode  '<character_data>' (3 chars required: binary)
      :DSCCode? (Returns quoted string)

      :PDCCode  '<character_data>' (3 chars required: binary)
      :PDCCode? (Returns quoted string)

      :CTYPe  '<character_data>' (1 char required: binary)
      :CTYPe? (Returns quoted string)

      :OEVen | OE  '<character_data>' (1 char required: binary)
      :OEVen? | OE? (Returns quoted string)

      :RSVD  '<character_data>' (2 chars required: binary)
      :RSVD? (Returns quoted string)

      :CB13 | C13  '<character_data>' (1 char required: binary)
      :CB13? | C13? (Returns quoted string)

      :CB12 | C12  '<character_data>' (1 char required: binary)
      :CB12? | C12? (Returns quoted string)

      :VMACode  '<character_data>' (3 chars required: binary)
      :VMACode? (Returns quoted string)

      :CHANnel  '<character_data>' (11 chars required: binary)
      :CHANnel? (Returns quoted string)

      :PARity? (Returns quoted string)
                  THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR NHO MES (NARROW
                  HANDOFF MESSAGE). THE MESSAGE FIELDS FOR NHO MES ARE FOUND ON THE
                  CALL BIT SCREEN.
```


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```
:CPR

  :NTACS
    :CEXTension
      :ACTual? (Returns quoted string)
                This command queries the NTACS channel location (narrow, wide chan)
                for a call currently connected. The Ch Loc field is found on the
                CALL CONTROL screen when the System Type field on the CALL CONTROL
                screen is set to "NTACS".

      :SETTing 'Narrow'
               'Wide Chan'
      :SETTing? (Returns quoted string)
                This command sets/queries the NTACS channel location (narrow, wide
                chan) to be used during the next call or handoff. The ch Loc field is
                found on the CALL CONTROL screen when the System type field on the
                CALL CONTROL screen is set to "NTACS".

    :WNTHMessage
      :TYPE | T1T2  '<character_data>' (2 chars required: binary)
      :TYPE? | T1T2? (Returns quoted string)

      :SCCode  '<character_data>' (2 chars required: binary)
      :SCCode? (Returns quoted string)

      :PSCCode  '<character_data>' (2 chars required: binary)
      :PSCCode? (Returns quoted string)

      :CTYPe  '<character_data>' (1 char required: binary)
      :CTYPe? (Returns quoted string)

      :DSCCode  '<character_data>' (3 chars required: binary)
      :DSCCode? (Returns quoted string)

      :RSVD  '<character_data>' (2 chars required: binary)
      :RSVD? (Returns quoted string)

      :BIT12 '<character_data>' (1 char required: binary)
      :BIT12? (Returns quoted string)

      :VMACode  '<character_data>' (3 chars required: binary)
      :VMACode? (Returns quoted string)

      :CHANnel  '<character_data>' (11 chars required: binary)
      :CHANnel? (Returns quoted string)

      :PARity? (Returns quoted string)
                These commands set/query the message fields for WNTHO MES (NTACS
                Wide to Narrow Handoff Message). The message fields for WNTHO MES
                are found on the CALL BIT screen.
```


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```
:CPR
  :NTACS

    :NTHOMessage
      :T1T2  '<character_data>' (2 chars required: binary)
      :T1T2? (Returns quoted string)

      :DSCCode  '<character_data>' (3 chars required: binary)
      :DSCCode? (Returns quoted string)

      :PDSCcode  '<character_data>' (3 chars required: binary)
      :PDSCcode? (Returns quoted string)

      :CTYPe '<character_data>' (1 char required: binary)
      :CTYPe? (Returns quoted string)

      :RSVD  '<character_data>' (3 chars required: binary)
      :RSVD? (Returns quoted string)

      :OEVen '<character_data>' (1 char required: binary)
      :OEVen? | C13? (Returns quoted string)

      :BIT12 '<character_data>' (1 char required: binary)
      :BIT12? | C12? (Returns quoted string)

      :VMACode  '<character_data>' (3 chars required: binary)
      :VMACode? (Returns quoted string)

      :CHANnel  '<character_data>' (11 chars required: binary)
      :CHANnel? (Returns quoted string)

      :PARity? (Returns quoted string)
                These commands set/query the message fields for NTHO MES (TACS Narrow
                Handoff Message). The message fields for NTHO MES are found on the
                CALL BIT screen.
```


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```
:CPR
  :NTACS

    :NTFVMESSAGE
      :T1T2  '<character_data>' (2 chars required: binary)
      :T1T2? (Returns quoted string)

      :DSCCode  '<character_data>' (3 chars required: binary)
      :DSCCode? (Returns quoted string)

      :PDSCcode  '<character_data>' (3 chars required: binary)
      :PDSCcode? (Returns quoted string)

      :RSVD  '<character_data>' (3 chars required: binary)
      :RSVD? (Returns quoted string)

      :OEVen '<character_data>' (1 char required: binary)
      :OEVen? | C13? (Returns quoted string)

      :LOCall '<character_data>' (1 char required: binary)
      :LOCall? (Returns quoted string)

      :OQU '<character_data>' (3 chars required: binary)
      :OQU? (Returns quoted string)

      :ORDer '<character_data>' (5 chars required: binary)
      :ORDer? (Returns quoted string)

      :PARity? (Returns quoted string)
```

These commands set/query the message fields for the NMS FVC and NTMS FVC (FVC Mobile Station Control Message and FVC TACS Mobile Station Control Message). These fields are found on the **CALL BIT** screen.

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```
:CPR
  :NTACS
    :NTCAMessage
      :T1T2 '<character_data>' (2 chars required: binary)
      :T1T2? (Returns quoted string)

      :DSCCode  '<character_data>' (3 chars required: binary)
      :DSCCode? (Returns quoted string)

      :RSVD  '<character_data>' (7 chars required: binary)
      :RSVD? (Returns quoted string)

      :CTYPe  '<character_data>' (1 char required: binary)
      :CTYPe? (Returns quoted string)

      :BIT12 '<character_data>' (1 char required: binary)
      :BIT12? (Returns quoted string)

      :VMACode  '<character_data>' (3 chars required: binary)
      :VMACode? (Returns quoted string)

      :CHANnel  '<character_data>' (11 chars required: binary)
      :CHANnel? (Returns quoted string)

      :PARity? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE MESSAGE FIELDS FOR NTCH ASN (FCC TACS
                NARROW CHANNEL ASSIGNMENT MESSAGE). THE MESSAGE FIELDS FOR NTCH ASN
                ARE FOUND ON THE CALL BIT SCREEN.
```


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CDMA

:CDMA

:AUTHenticate

:AKEY (String entry

:AKEY? (Returns quoted string)

These commands enter/query the value in the A-Key field. This value can be up to 20 digits in length. the maximum value is 18446744073709551615. If less than 20 digits are entered, the remainder of the display is padded with leading zeroes. This field is located on the **CDMA AUTHENTICATION** screen.

:CDIGits? (Returns quoted string)

This command queries the Authentication Key Check Digits. The Check Digits field is located on the **CDMA CALL CONTROL** screen.

:SSDupdate

This command initiates a CDMA SSD (Shared Secret Data) update. To perform an SSD Update on the paging channel, a mobile station must be registered (see "CDMA:MOB:REG"). To perform an SSD Update on the traffic channel, a mobile station must be connected (see "CDMA:CALL:MAKE"). The SSD Update, Execute field performs the same function as this command. The SSD Update field is located on the **CDMA AUTHENTICATION** screen.

:UCHallenge

This command initiates a CDMA unique challenge. To perform a unique challenge on the paging channel, a mobile station must be registered (see "CDMA:MOB:REG"). To perform a unique challenge on the traffic channel, a mobile station must be connected (see "CDMA:CALL:MAKE").The Uniq Chall, Execute field performs the same function as this command. The Uniq Chall field is located on the **CDMA AUTHENTICATION** screen.

:DATA? (Returns unquoted string)

This command queries the currently displayed data in the CDMA Authentication Data table. The Authentication Data Table is located on the **CDMA AUTHENTICATION** screen. Refer to the Authentication Data Table field description in the Test Set's Reference Guide, Fields chapter, for a description of the returned string.

:DATA

:CLEar

This command clears the data displayed in the CDMA Authentication Data table. The Authentication Data Table is located on the **CDMA AUTHENTICATION** screen. Refer to the Authentication Data Table field description in the Test Set's Reference Guide, Fields chapter, for a description of data that is cleared by this command.

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```
:CDMA
  :AWGN
   [:BWPower] (See "Real Number Setting Syntax" on page 199 :STATe command not
      included under optional command [:BWPower])
      This command sets the AWGN (Additive White Gaussian Noise) level. The AWGN
      field is found on the CDMA GENERATOR CONTROL and CDMA MOBILE
      RECEIVER TEST screens.

  :TX
    :POWer
      :MEASurement 'Chan Power'
                   'Avg Power'
                   'Acc Prb Pwr'
      :MEASurement? (Returns quoted string)
            These commands select/query a power measurement. Acc Prb Pwr measurements
            are made during mobile station registration or call attempts. Chan Power and
            Avg Power measurements are designed to be used when a call is connected.
            All three choices of power measurements are multiplexed into one field. This
            field is located on the CDMA CALL CONTROL, CDMA TRANSMITTER POWER
            RANGE, and CDMA CELLULAR MOBILE TRANSMITTER TEST screens. A query
            returns the value of the power measurement currently selected.

  :RHO
    :MEASurement 'Traffic Rho'
                 'TM Rho'
    :MEASurement? (Returns quoted string)
      :FERRor 'Freq Error'
              'Ampl Error'
              'Time Offset'
      :FERRor? (Returns quoted string)

      :PERRor 'Phs Error'
              'Carrier'
      :PERRor? (Returns quoted string)
            Each of these commands select/query one transmitter modulation quality
            measurements from three multiplexed fields, collectively referred to as the
            "rho suite". With the exception of TM Rho (Test Mode Rho), a call must be
            connected to use these measurements. The three fields that return the rho
            suite measurements are located on the CDMA CELLULAR MOBILE TRANSMITTER
            TEST screen. All rho suite measurements are available at the end of each
            measurement cycle.

  :RFPower? (Returns real value)
  :RFPower
    :STATe? (Returns 1 or 0, 1 = ON, 0 = OFF)
          These commands query the contents and state of CDMA forward channel RF
          Power, a display-only field found on the CDMA GENERATOR CONTROL and
          CDMA CELLULAR MOBILE TEST screens.

  :RFCHannel (See "Integer Number Setting Syntax" on page 197)
          This command sets the CDMA forward RF Channel field. If a call is connected
          when this command is sent, a CDMA-to-CDMA hard handoff is performed. The RF
          Channel field is located on the CDMA CALL CONTROL screen.
```


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```
:CDMA
  :STNoise? (Returns real value)
        THIS COMMAND QUERIES THE CONTENTS OF THE EB/NT FIELD. THIS COMMAND WILL RETURN
        AN EB/NT VALUE WHEN THE AWGN FIELD IS ON AND THE DATA TYPE FIELD
        IS NOT SET TO ECHO. THIS FIELD IS LOCATED ON THE CDMA CELLULAR
        MOBILE RECEIVER TEST AND CDMA GENERATOR CONTROL SCREENS.

  :CALL
    :AHANdoff
     [:EXECute]
        THIS COMMAND EXECUTES A CDMA TO ANALOG HANDOFF. A CDMA CALL MUST BE CONNECTED
        (CONNECTED ANNUNCIATOR LIT) AND THE MOBILE STATION UNDER TEST MUST BE COMPATIBLE
        WITH THE CURRENT ENTRY IN THE SYSTEM TYPE FIELD (SEE
        "CDMA:CALL:AHAN:STYP"),  FOUND ON THE CDMA CALL CONTROL SCREEN.

      :CHANnel (See "Integer Number Setting Syntax" on page 197)
        THIS COMMAND SETS THE ANALOG VOICE CHANNEL NUMBER FOR CDMA TO ANALOG HANDOFFS.
        THIS SETTING WILL BE SIGNALED TO THE MOBILE STATION WHEN THE
        "CDMA:CALL:AHAN" COMMAND IS SENT. THE CHANNEL FIELD IS FOUND ON THE CDMA
        CALL CONTROL SCREEN.

      :PLEVel (See "Integer Number Setting Syntax" on page 197, does not include
                :INCR command, valid range 0 to 7)
        THIS COMMAND SETS THE VMAC (VOICE MOBILE ATTENUATION CODE) FOR CDMA TO ANALOG
        HANDOFFS. THIS SETTING WILL BE SIGNALED TO THE MOBILE STATION WHEN THE
        "CDMA:CALL:AHAN" COMMAND IS SENT. THE PWR LEVEL FIELD IS FOUND ON THE CDMA
        CALL CONTROL SCREEN.

      :SATone '5970hz'
              '6000hz'
              '6030hz'

      :SATone? (Returns quoted string)
        THESE COMMANDS SET/QUERY THE SAT (SUPERVISORY AUDIO TONE) FOR CDMA
        TO ANALOG HANDOFFS. THIS SETTING WILL BE SIGNALED TO THE MOBILE STATION
        WHEN THE "CDMA:CALL:AHAN" COMMAND IS SENT. THE SAT FIELD IS FOUND ON
        THE CALL CONTROL SCREEN.

      :STYPe 'AMPS'
             'NAMPS LOW'
             'NAMPS MID'
             'NAMPS UPPR'
             'NAMPS WIDE'
             'TACS'
             'TSB-74' !J-STD-008 must be selected in Protocol field
             'J-STD-008' !TSB-74 must be selected in Protocol field
             'NTACS NRW' !Arib T53 must be selected in Protocol field
             'NTACS WIDE' !Arib T53 must be selected in Protocol field
             'JTACS' !Arib T53 must be selected in Protocol field
             'TIA/EIA-95B' !TIA/EIA-95B must be selected in Protocol field
      :STYPe? (Returns quoted string)
             THESE COMMANDS SET/QUERY THE SYSTEM TYPE FOR CDMA TO ANALOG OR CDMA TO
             CDMA INTERBAND HANDOFFS. THE SYSTEM TYPE FIELD IS FOUND ON THE CALL
             CONTROL SCREEN.
```


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```
:CDMA
  :CALL
    :AHANdoff

      :DSATone '0 2556CB'
               '1 255B2B'
               '2 256A9B'
               '3 25AD4D'
               '4 26AB2B'
               '5 26B2AD'
               '6 2969AB'
      :DSATone?
```

THESE COMMANDS SET/QUERY THE DSAT (DIGITAL SUPERVISORY AUDIO TONE) FOR CDMA TO ANALOG HANDOFFS. THIS SETTING WILL BE SIGNALED TO THE MOBILE STATION WHEN THE "CDMA:CALL:AHAN" COMMAND IS SENT.THE DSAT FIELD IS DISPLAYED ON THE **CALL CONTROL** SCREEN WHEN NAMPS IS SELECTED IN THE SYSTEM TYPE FIELD.

```
      :CSTandard? (returns quoted string)

      :CSTtandard 'MS AMPS'
                  'US PCS'
                  'MS TACS'
                  'MS JTACS'
                  'Japan CDMA'
                  'Kor PCS P0'
                  'Kor PCS P1'
```

THESE COMMANDS SET/QUERY THE CHAN STD FIELD. THE CHAN STD FIELD SPECIFIES THE DESTINATION RF CHANNEL STANDARD FOR IS-95B CDMA-TO-CDMA HARD (INTERSYSTEM) HANDOFFS. THE CHAN STD FIELD IS LOCATED ON THE CDMA CALL CONTROL SCREEN, AND IS DISPLAYED WHEN THE SYSTEM TYPE FIELD IS SET TO TIA/EIA-95B. SEE "CDMA:CALL:AHAN".

```
    :ANSWer
```

THIS COMMAND ANSWERS A MOBILE STATION ORIGINATED CALL WHEN THE ANSWER MODE FIELD ON THE **CDMA CELL SITE CONFIGURATION SCREEN** IS SET TO MANUAL. AN INCOMING CALL MUST BE PRESENT (ACCESS PROBE ANNUNCIATOR LIT) FOR THIS COMMAND TO COMPLETE THE CALL. AFTER THIS COMMAND IS SENT, THE CONNECTED ANNUNCIATOR WILL LIGHT. THE ANS KEY ON THE TEST SET'S FRONT PANEL ALSO PERFORMS THIS FUNCTION.

```
      :MODE 'Auto'
            'Manual'
      :MODE? (Returns quoted string)
```

THESE COMMANDS SELECT/QUERY THE TEST SET'S ANSWER MODE, DETERMINING WHETHER OR NOT THE ANS KEY MUST BE PRESSED TO ANSWER A MOBILE STATION ORIGINATED CALL. THE ANSWER MODE FIELD IS LOCATED ON THE **CDMA CELL SITE CONFIGURATION** SCREEN.

```
      :MAKE
```

THIS COMMAND CAUSES THE TEST SET TO ATTEMPT A CALL. A MOBILE STATION MUST BE REGISTERED (TO PROVIDE THE MS DATABASE FIELD ON THE **CDMA CALL CONTROL** SCREEN WITH THE MOBILE STATION IDENTIFICATION) FOR A TEST SET ORIGINATED CALL TO BE SUCCESSFUL. THIS COMMAND PERFORMS THE SAME FUNCTION AS THE **CALL** KEY.

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```
:CDMA
 :CALL
   :END
```

THIS COMMAND CAUSES THE TEST SET TO END A CALL THAT IS CURRENTLY CONNECTED, OR END A REGISTRATION ATTEMPT. THIS COMMAND PERFORMS THE SAME FUNCTION AS THE **END CALL** KEY.

```
   :SHOType 'Soft'
            'Softer'
   :SHOType?

  [:SOFTer]
   :SHANdoff  'Off'
              'On'
   :SHANdoff? (Returns quoted string)
```

THESE COMMANDS SELECT BETWEEN SOFT OR SOFTER HANDOFFS AND TURN THE SELECTED FEATURE ON AND OFF. WHEN "ON" THE TEST SET SIGNALS THE MOBILE STATION TO INCLUDE SECTOR B IN ITS ACTIVE SET OF PILOTS. THE SOFTER HANDOFF FIELD IS LOCATED ON THE **CDMA MOBILE REPORTING** SCREEN. NOTE: A CALL MUST BE CONNECTED AND SECTOR B POWER MUST BE ON TO TURN ON SOFTER HANDOFFS.

```
   :LIMit     'None'
              'Page'
   :LIMit? (Returns quoted string)
```

WHEN "PAGE" IS SELECTED, THE TEST SET WILL NOT RESPOND TO ACCESS PROBES FROM THE MOBILE STATION. A CALL CANNOT BE CONNECTED IN THIS STATE! THIS FEATURE IS USED FOR TESTING MOBILE STATION ACCESS PROBE POWER. THE CALL LIMIT FIELD IS LOCATED ON THE C**DMA CELL SITE CONFIGURATION** SCREEN.

```
   :DTIMer 'ON'
           'OFF'
   :DTIMer? (Returns quoted string)
```

THESE COMMANDS ARE USED TO TURN OFF THE TEST SET'S CALL DROP TIMER. "OFF" IS USEFUL WHEN MOBILE STATION POWER IS TOO LOW FOR RELIABLE DEMODULATION OF REVERSE TRAFFIC CHANNEL SIGNALING MESSAGES, BUT YOU WANT THE CALL TO REMAIN CONNECTED. THE DROP TIMER FIELD IS LOCATED ON THE **CDMA TRANSMITTER POWER RANGE TEST** SCREEN.

```
   :TRAFfic
     :TYPE 'None'
           'Primary'
     :TYPE? (returns string)
```

THIS COMMAND SETS AND QUERIES THE TYPE FIELD. SERVICE OPTION 6 OR SERVICE OPTION 14 MUST BE SELECTED IN THE TRAFFIC DATA MODE FIELD TO DISPLAY THE TYPE FIELD SEE "CDMA:CALL:TRAF:DATA:MODE". IT SETS THE FOR_TRAFFIC AND REV_TRAFFIC PARAMETERS IN THE BASE STATION TO '0' (NONE) OR '1' (PRIMARY). THIS FIELD APPEARS IN THE CDMA CALL CONTROL, CDMA RX TEST, CDMA TX TEST, AND CDMA RANGE TEST SCREENS.

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```
:CDMA
  :CALL
    :TRAF
      :DATA
        :MODE 'Svc Opt 1'
              'Svc Opt 2'
              'Svc Opt 3'
              'Svc Opt 6'
              'Svc Opt 9'
              'Svc Opt 14'
              'SO 32768'
        :MODE? (Returns quoted string)
```

THESE COMMANDS SELECT/QUERY THE TRAFFIC DATA MODE FIELD, WHICH DETERMINE THE SERVICE OPTION USED DURING A CALL. THESE COMMANDS CAN BE SENT BEFORE OR AFTER A CALL IS CONNECTED. IF A CALL IS CONNECTED AND THE SERVICE REQUESTED IS NOT SUPPORTED BY THE MOBILE STATION, THE MOBILE STATION WILL REJECT THE REQUEST AND AN ERROR MESSAGE WILL BE DISPLAYED ON THE TEST SET. THE TRAFFIC DATA MODE FIELD IS LOCATED ON THE **CDMA CALL CONTROL**, **CDMA TRANSMITTER POWER RANGE TEST**, **CDMA CELLULAR MOBILE RECEIVER TEST**, AND **CDMA CELLULAR MOBILE TRANSMITTER TEST** SCREENS.

```
        :RATE 'Full'
              'Half'
              'Quarter'
              'Eighth'
              'Random'
        :RATE? (Returns quoted string)
```

THESE COMMANDS SELECT/QUERY THE DATA RATE FIELD. DATA RATE APPLIES TO VARIABLE TRANSMISSION RATES ON THE FORWARD TRAFFIC CHANNEL. THE MOBILE STATION WILL TRANSMIT THE SAME DATA RATE IF SERVICE OPTION 2 IS SELECTED AND THE MOBILE STATION IS NOT ERASING FRAMES. DATA RATE IS NOT APPLICABLE WHEN THE DATA TYPE FIELD IS SET TO "ECHO". THE DATA RATE FIELD IS LOCATED ON THE **CDMA CALL CONTROL**, **CDMA TRANSMITTER POWER RANGE TEST**, **CDMA CELLULAR MOBILE RECEIVER TEST**, AND **CDMA CELLULAR MOBILE TRANSMITTER TEST** SCREENS.

```
        :TYPE 'PRBS'
              'Echo'
              '1kHz Tone'
              '400Hz'
              'Chirp'
        :TYPE? (Returns quoted string)
```

THESE COMMANDS SELECT/QUERY THE DATA TYPE FIELD. THESE COMMANDS CAN BE SENT BEFORE OR AFTER A CALL IS CONNECTED. THE DATA TYPE YOU CHOOSE WILL DETERMINE INFORMATION DATA TRANSMITTED ON THE FORWARD TRAFFIC CHANNEL AT THE RATE THAT IS SELECTED IN THE DATA RATE FIELD (SEE "CDMA:CALL:TRAF:DATA:RATE"). THE DATA TYPE FIELD IS LOCATED ON THE **CDMA CALL CONTROL**, **CDMA TRANSMITTER POWER RANGE TEST**, **CDMA CELLULAR MOBILE RECEIVER TEST**, AND **CDMA CELLULAR MOBILE TRANSMITTER TEST** SCREENS.

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```
:CDMA
 :CALL
  :TRAF
   :ECHO
    :DELay          '0 seconds'
                    '2 seconds'
                    '5 seconds'
    :DELay? (Returns quoted string)
```

THESE COMMANDS SELECT/QUERY THE ECHO DELAY FIELD. ECHO DELAY IS APPLIED ONLY TO SERVICE OPTION 1 OR 32768 CALLS (SEE "CDMA:CALL:TRAF:DATA:MODE") AND THE DATA TYPE FIELD IS "ECHO" (VOICE LOOPBACK). THE ECHO DELAY FIELD IS LOCATED ON THE **CDMA CALL CONTROL, CDMA TRANSMITTER POWER RANGE TEST, CDMA CELLULAR MOBILE RECEIVER TEST,** AND **CDMA CELLULAR MOBILE TRANSMITTER TEST** SCREENS.

```
 :CELL
  :PROTocol 'IS-95'
            'TSB-74'
            'IS-95A'
            'J-STD-008'
            'ARIB T53'
            'Kor PCS'
            'EIA/TIA-95B'
  :PROTocol? (RETURNS QUOTED STRING)
```

THESE COMMANDS SELECT/QUERY THE PROTOCOL FIELD. SENDING THIS COMMAND DURING A CALL WILL CAUSE THE CALL TO DROP. THE PROTOCOL FIELD IS FOUND ON THE **CDMA CALL CONTROL AND CDMA CELL SITE CONFIGURATION** SCREENS.

```
  :CONFigure
   :NID (See "Integer Number Setting Syntax" on page 197, :INCRement not included,
                valid range 0 to 65534)
```

THIS COMMAND SETS THE CELL'S NETWORK ID. THIS FIELD IS LOCATED ON THE **CDMA CELL SITE CONFIGURATION** SCREEN.

```
   :SID (See "Integer Number Setting Syntax" on page 197, :INCRement not included
                valid range 0 to 32767)
```

THIS COMMAND SETS THE CELL'S SYSTEM ID. THIS FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

```
   :RNID (See "Integer Number Setting Syntax" on page 197, :INCRement not included,
                valid range 0 to 65534)
```

THIS COMMAND SETS THE CELL'S ALTERNATE (REGISTRATION) NETWORK ID. THE RGSTR NID FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

```
   :RSID (See "Integer Number Setting Syntax" on page 197, :INCRement not included,
                valid range 0 to 32767)
```

THIS COMMAND SETS THE CELL'S ALTERNATE (REGISTRATION) SYSTEM ID. THE RGSTR SID FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

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:CDMA
:CELL
:CONF

:BID (See "Integer Number Setting Syntax" on page 197, :INCRement not included valid range 0 to 32767)

THIS COMMAND SETS THE CELL'S BASE STATION ID. THE BASE ID FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

:AWIN (See "Integer Number Setting Syntax" on page 197, :INCRement not included valid range 0 to 15)

THIS COMMAND SETS THE CELL'S SEARCH-WINDOW SIZE FOR THE ACTIVE AND CANDIDATE SETS. THE SRCH WIN A FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

:NWIN (See "Integer Number Setting Syntax" on page 197, :INCRement not included valid range 0 to 15)

THIS COMMAND SETS THE CELL'S SEARCH-WINDOW SIZE FOR THE NEIGHBOR SET. THE SRCH WIN N FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

:PINcrement (See "Integer Number Setting Syntax" on page 197, :INCRement not included valid range 1 to 15)

THIS COMMAND SETS THE INCREMENT BETWEEN PILOT PN OFFSETS IN THE NEIGHBOR SET. THE PILOT INC FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

:RWIN (See "Integer Number Setting Syntax" on page 197, :INCRement not included valid range 0 to 15)

THIS COMMAND SETS THE CELL'S SEARCH-WINDOW SIZE FOR THE REMAINING SET. THE SRCH WIN R FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

:NOMinal
:POWer (See "Integer Number Setting Syntax" on page 197, :INCRement not included, valid range -8 to 7)

THIS COMMAND SETS THE NOMINAL TRANSMIT POWER OFFSET TO THE OPEN LOOP (POWER CONTROL) ESTIMATE. THE NOM POWER FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

:EXT(See "Integer Number Setting Syntax" on page 197, :INCRement not included, valid range 0 to 1)

:INITial
:POWer (See "Integer Number Setting Syntax" on page 197, :INCRement not included, valid range 0 to 15)

THIS COMMAND SETS THE INITIAL TRANSMIT POWER OFFSET FOR SYSTEM ACCESS. THE INIT POWER FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

:STEP
:POWer (See "Integer Number Setting Syntax" on page 197, :INCRement not included, valid range 0 to 7)

THIS COMMAND SETS THE STEP INCREASE IN TRANSMIT POWER BETWEEN ACCESS PROBES. THE POWER STEP FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

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```
:CDMA
  :CELL
    :CONF
```

:PAMSize (See **"Integer Number Setting Syntax" on page 197**, :INCRement not included, valid range 0 to 15)

This command sets the access channel preamble length. The Pam Size field is located on the CDMA CELL SITE CONFIGURATION screen.

:PAGE
:RATE 'Full'
'Half'
:RATE? (Returns quoted string)

These commands set the data rate for the forward channel paging channel. The Page Rate field is located on the CDMA CELL SITE CONFIGURATION screen.

:NUMStep (See **"Integer Number Setting Syntax" on page 197**, :INCRement not included, valid range 0 to 15)

This command sets the number of power steps in an access probe sequence. The Num Step field is located on the CDMA CELL SITE CONFIGURATION screen.

:MAXReqrspseq (See **"Integer Number Setting Syntax" on page 197**, :INCRement not included, valid range 0 to 15)

This command sets the maximum number of access probe sequences for an access channel request or response. The Max Req Seq, Max Rsp Seq field is located on the CDMA CELL SITE CONFIGURATION screen.

:NPAGes (See **"Integer Number Setting Syntax" on page 197**, :INCRement not included, valid range 1 to 3)

This command sets the number of page attempts the Test Set will perform when a call is made from the Test Set. The Num Pages field is located on the CDMA CELL SITE CONFIGURATION screen.

:EMODe 'On'
'Off'
:EMODe? (Returns quoted string)

These commands set/query the escape mode. When "On", escape mode eliminates the need to set specific values in the Cntry Code and Netwrk Code fields. The Esc Mode field is located on the CDMA CELL SITE CONFIGURATION screen when IS-95A, TSB-74, or J-STD-008 is selected in the Protocol field.

:MSCindex (See **"Integer Number Setting Syntax" on page 197**)

This field sets/queries the Slot Cycle used by the Test Set to page a mobile station. Default value is 0, and the rage is from 0 to 7. Note that a value of 7 causes the cycle to be very long at about 163 seconds.

:BCCode(See **"Integer Number Setting Syntax" on page 197**, :INCRement not included, valid range 0 to 999)

This command sets the base station country code. The Cntry Code field is found on the CDMA CELL SITE CONFIGURATION screen when the Protocol field is set to IS-95A, TSB-74, or J-STD-008.

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```
:CDMA
  :CELL
    :CONF
      :BNCode(See "Integer Number Setting Syntax" on page 197, :INCRement not
                  included, valid range 0 to 99)
              THIS COMMAND SETS THE BASE STATION NETWORK CODE. THE NETWRK CODE
              FIELD IS FOUND ON THE CDMA CELL SITE CONFIGURATION SCREEN WHEN THE
              PROTOCOL FIELD IS SET TO IS-95A, TSB-74, OR J-STD-008.

      :EXNB         'On'
                    'Off'
      :EXNB? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE ENABLEMENT AND DISABLEMENT OF THE CUSTOM
              NEIGHBOR LIST. WHEN THE COMMAND IS SET TO "ON" THE CUSTOM NEIGHBOR LIST
              IS ENABLED.

      :NBFR (See "Integer Number Setting Syntax" on page 197, :INCRement not
                  included, valid range 0 to 799)
      :NBFR? (Returns integer)
              THESE COMMANDS SET/QUERY THE NEIGHBOR FREQUENCY (CHANNEL NUMBER) IN THE
              CUSTOM NEIGHBOR LIST.

      :PURegister  'On'
                   'Off'
      :PURegister? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE POWER UP REGISTRATION MODE. WHEN POWER UP
              REGISTRATION IS "ON", THE MOBILE STATION WILL BE SIGNALED TO
              AUTONOMOUSLY REGISTER AFTER IT HAS POWERED UP AND FOUND CDMA SERVICE.
              WHEN POWER UP REGISTRATION IS "OFF", USE THE REGISTER FIELD ON THE
              CDMA CALL CONTROL SCREEN TO REGISTER THE MOBILE STATION. THE PWR UP
              REG FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.

      :PDRegister  'On'
                   'Off'
      :PDRegister? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE POWER DOWN REGISTRATION MODE. WHEN POWER DOWN
              REGISTRATION IS "ON", THE MOBILE STATION WILL BE SIGNALED TO REGISTER
              AUTONOMOUSLY AS IT IS POWERED DOWN.

      :SCPR         'Low'
                    'Medium'
                    'High'
                    'Very High'
      :SCPR? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE SEARCH PRIORITY IN THE CUSTOM NEIGHBOR LIST.
```


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```
:CDMA
  :CELL
    :CONF
      :AUTHenticate
        :MODE  'On'
               'Off'
        :MODE? (Returns quoted string)
               THESE COMMANDS SET/QUERY THE AUTHEN FIELD. THE AUTHEN FIELD IS FOUND
               ON THE CDMA AUTHENTICATION SCREEN.

        :RAND (hex string)
        :RAND? (Returns quoted string)
               THESE COMMANDS ENTER/QUERY VALUES IN THE RAND FIELD. THE RANGE OF VALUES
               ARE 00000000 TO FFFFFFFF. THE RAND FIELD IS FOUND ON THE CDMA CELL
               SITE CONFIGURATION SCREEN.

        :RANDSsd (hex string)
        :RANDSsd? (Returns quoted string)
               THESE COMMANDS ENTER/QUERY VALUES IN THE RANDSSD FIELD. THE RANGE OF
               VALUES ARE 00000000000000 TO FFFFFFFFFFFFFF. THE RAND FIELD IS FOUND
               ON THE CDMA CELL SITE CONFIGURATION SCREEN.

        :RANDU (hex string)
        :RANDU? (Returns quoted string)
                  THESE COMMANDS ENTER/QUERY VALUES IN THE RANDU FIELD. THE RANGE OF VALUES
                  ARE 00000000 TO FFFFFFFF. THE RANDU FIELD IS FIELD IS FOUND ON THE
                  CDMA CELL SITE CONFIGURATION SCREEN.

      :PAGE
        :SNDM           'None
                        'AO-AK'
                        'AO-NA'
                        'GP'
                        'AO-AK/GP'
                        'AO-NA/GP'
        :SNDM? (Returns quoted string)
                  THESE COMMANDS SET/QUERY THE MESSAGE(S)TO BE SENT (OR NOT) ON THE
                  PAGING CHANNEL.

    :TREGister
      :MODE 'On'
            'Off'
      :MODE?
            THESE COMMANDS SET/QUERY THE TIMER REG FIELD. THIS COMMAND CAN BE SENT
            ANY TIME, BUT WILL AFFECT MOBILE STATION OPERATION (BY FORCING TIMER BASED
            REGISTRATIONS) ONLY DURING THE "MOBILE STATION IDLE" CALL PROCESSING
            STATE. THE TIMER REG FIELD IS LOCATED ON THE CDMA AUTHENTICATION AND
            CDMA CELL SITE CONFIGURATION SCREENS.

      :PERiod (See "Integer Number Setting Syntax" on page 197, :INCRement not
                     included, valid range 29 to 85)
      :PERiod?
            THESE COMMANDS SET/QUERY THE REG PERIOD FIELD. THE REG PERIOD
            FIELD IS LOCATED ON THE CDMA CELL SITE CONFIGURATION SCREEN.
```


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```
:CDMA
  :CELL
    :ASECtor
      [:BWPower] (See "Real Number Setting Syntax" on page 199 :STATe command not
                  included under optional command [:BWPower])
           THIS COMMAND SETS THE TOTAL SECTOR A POWER. IF SECTOR A POWER IS CHANGED
           DURING A CALL, THE MOBILE STATION WILL ADJUST ITS OUTPUT POWER FOLLOWING
           OPEN LOOP POWER CONTROL FORMULAS. THE SCTR A PWR FIELD IS LOCATED ON THE
           CDMA CALL CONTROL, CDMA GENERATOR CONTROL, CDMA
           CELLULAR MOBILE RECEIVER TEST, CDMA TRANSMITTER POWER RANGE
           TEST, CDMA MOBILE REPORTING, AND CDMA CELLULAR MOBILE
           TRANSMITTER TEST SCREENS.

      :PILot
        [:POWer] (See "Real Number Setting Syntax" on page 199)
           THIS COMMAND SETS SECTOR A PILOT CHANNEL POWER, RELATIVE TO THE TOTAL
           SECTOR A POWER (SCTR A PWR FIELD). THE PILOT (SECTOR A POWER) FIELD IS
           LOCATED ON THE CDMA GENERATOR CONTROL SCREEN.

      :SYNC
        [:POWer] (See "Real Number Setting Syntax" on page 199)
           THIS COMMAND SETS SECTOR A SYNC CHANNEL POWER, RELATIVE TO THE TOTAL
           SECTOR A POWER (SCTR A PWR FIELD). THE SYNC (SECTOR A POWER) FIELD IS
           LOCATED ON THE CDMA GENERATOR CONTROL SCREEN.

      :PAGing
        [:POWer] (See "Real Number Setting Syntax" on page 199)
             THIS COMMAND SETS SECTOR A PAGING CHANNEL POWER, RELATIVE TO THE TOTAL
             SECTOR A POWER (SCTR A PWR FIELD). THE PAGING (SECTOR A POWER) FIELD IS
             LOCATED ON THE CDMA GENERATOR CONTROL SCREEN.

      :TRAFfic
        [:POWer] (See "Real Number Setting Syntax" on page 199)
           THIS COMMAND SETS SECTOR A TRAFFIC CHANNEL POWER, RELATIVE TO THE
           TOTAL SECTOR A POWER (SCTR A PWR FIELD). THE TRAFFIC FIELD FOR
           SECTOR A POWER IS LOCATED ON THE CDMA GENERATOR CONTROL, CDMA
           CELLULAR MOBILE RECEIVER TEST, CDMA MOBILE REPORTING, AND
           CDMA TRANSMITTER POWER RANGE TEST SCREENS.

        :WALSh (See "Integer Number Setting Syntax" on page 197, :INCRement not
                    included, valid range 2 to 63 excluding
                    duplicate walsh code settings)
             THIS COMMAND SELECTS THE WALSH CODE FOR THE SECTOR A TRAFFIC CHANNEL.
             THE WALSH FIELD FOR TRAFFIC (SECTOR A POWER)IS LOCATED ON THE CDMA
             GENERATOR CONTROL SCREEN.
```


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```
:CDMA
  :CELL
    :ASEC
      :ORTHogonal

        [:POWer]? (Returns real value)
              THIS COMMAND QUERIES OCNS (SECTOR A POWER) POWER. OCNS IS NOT A
              SETTABLE PARAMETER. THE OCNS (SECTOR A POWER)FIELD IS LOCATED ON THE
              CDMA GENERATOR CONTROL SCREEN.

        :WALSh (See "Integer Number Setting Syntax" on page 197, :INCRement not
                    included, valid range 2 to 63 excluding
                    duplicate walsh code settings)
              THIS COMMAND SELECTS THE WALSH CODE FOR THE SECTOR A OCNS (ORHOGONAL
              CHANNEL NOISE SOURCE)CHANNEL. THE WALSH FIELD FOR OCNS (SECTOR A
              POWER)IS LOCATED ON THE CDMA GENERATOR CONTROL SCREEN.

        :STATe? (Returns 1 or 0, 1 = ON, 0 = OFF)
              THIS COMMAND QUERIES THE STATE OF OCNS (SECTOR A POWER). THE OCNS
              (SECTOR A POWER) FIELD IS LOCATED ON THE CDMA GENERATOR CONTROL
              SCREEN.

      :PNOFfset (See "Integer Number Setting Syntax" on page 197, :INCRement not
                    included, valid range 0 to 511)
              THIS COMMAND SETS THE PN OFFSET FOR THE SECTOR A CODE CHANNELS. THE
              PN OFFSET FIELD FOR SECTOR A IS LOCATED ON THE CDMA GENERATOR
              CONTROL SCREEN.

      :STRength? (Returns integer value)
              THIS COMMAND QUERIES THE EXPECTED STRENGTH NUMBER THE MOBILE STATION
              SHOULD BE REPORTING IN THE PILOT STRENGTH MESSAGE IT SENDS TO THE
              TEST SET. THE EXPECTED STRENGTH FIELD IS FOUND ON THE CDMA MOBILE
              REPORTED PILOT STRENGTH SCREEN.
```


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```
:CDMA
  :CELL
    :BSEC
    :BSECtor
      [:BWPower] (See "Real Number Setting Syntax" on page 199, :STATe command not
                  included under optional command [:BWPower])
            THIS COMMAND SETS THE TOTAL SECTOR B POWER. THE SCTR B PWR FIELD IS
            LOCATED ON THE CDMA GENERATOR CONTROL AND CDMA MOBILE
            REPORTING SCREENS.

      :PILot
        [:POWer] (See "Real Number Setting Syntax" on page 199)
            THIS COMMAND SETS SECTOR B PILOT CHANNEL POWER, RELATIVE TO THE TOTAL
            SECTOR B POWER (SCTR B PWR FIELD). THE PILOT (SECTOR B POWER) FIELD IS
            LOCATED ON THE CDMA GENERATOR CONTROL SCREEN.

      :TRAFfic

        [:POWer] (See "Real Number Setting Syntax" on page 199)
            THIS COMMAND SETS SECTOR B TRAFFIC CHANNEL POWER, RELATIVE TO THE
            TOTAL SECTOR B POWER (SCTR B PWR FIELD). THE TRAFFIC FIELD FOR
            SECTOR B POWER IS LOCATED ON THE CDMA GENERATOR CONTROL AND
            CDMA MOBILE REPORTING SCREENS.

        :WALSh (See "Integer Number Setting Syntax" on page 197, :INCRement not
            included, valid range 1 to 63 excluding
            duplicate walsh code settings)
            THIS COMMAND SELECTS THE WALSH CODE FOR THE SECTOR B TRAFFIC CHANNEL.
            THE WALSH FIELD FOR TRAFFIC (SECTOR B POWER)IS LOCATED ON THE CDMA
            GENERATOR CONTROL SCREEN.

      :ORTHogonal

        [:POWer]? (Returns real value)
            THIS COMMAND QUERIES OCNS (SECTOR B POWER) POWER. THE OCNS (SECTOR
            B POWER)FIELD IS LOCATED ON THE CDMA GENERATOR CONTROL SCREEN.

        :WALSh (See "Integer Number Setting Syntax" on page 197, valid range 2 to 63,
                    excluding duplicate settings with other channels)
            THIS COMMAND SELECTS THE WALSH CODE FOR THE SECTOR B OCNS (ORHOGONAL
            CHANNEL NOISE SOURCE)CHANNEL. THE WALSH FIELD FOR OCNS (SECTOR B
            POWER)IS LOCATED ON THE CDMA GENERATOR CONTROL SCREEN.

      :STATe? (Returns 1 or 0, 1 = ON, 0 = OFF)
            THIS COMMAND QUERIES THE STATE OF OCNS (SECTOR B POWER). THE OCNS
            (SECTOR B POWER) FIELD IS LOCATED ON THE CDMA GENERATOR CONTROL
            SCREEN.
```


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```
:CDMA
  :MOB
      :PNOFfset (See "Integer Number Setting Syntax" on page 197, :INCRement not
                        included, valid range 0 to 511)
                THIS COMMAND SETS THE PN OFFSET FOR THE SECTOR B CODE CHANNELS. THE
                PN OFFSET FIELD FOR SECTOR B IS LOCATED ON THE CDMA GENERATOR
                CONTROL SCREEN.

      :STRength? (Returns integer value)
                THIS COMMAND QUERIES THE EXPECTED STRENGTH NUMBER THE MOBILE STATION
                SHOULD BE REPORTING IN THE PILOT STRENGTH MESSAGE IT SENDS TO THE
                TEST SET. THE EXPECTED STRENGTH FIELD IS FOUND ON THE CDMA MOBILE
                REPORTED PILOT STRENGTH SCREEN.

    :BCLass? (Returns integer value)
    :BCLass (See "Integer Number Setting Syntax" on page 197, :INCRement not
                        included, valid range 0 to 4)
                THESE COMMANDS SET/QUERY THE BAND CLASS FIELD. THE BAND CLASS FIELD IS
                DISPLAYED ON THE CDMA CALL CONTROL SCREEN WHEN THE PROTOCOL FIELD IS
                SET TO TIA/EIA-95B AND THE RF CHAN STD FIELD IS SET TO USER-DEF.

  :MOBile
    :POWer
      :MPOWer (See "Real Number Setting Syntax" on page 199, :STATe not included,
                        valid range +30 dBm to -110 dBm)
      :MPOWer? (Returns real value)
                THESE COMMANDS SET/QUERY THE MOBILE PWR FIELD. THE MOBILE PWR FIELD IS
                LOCATED ON THE CDMA TRANSMITTER POWER RANGE TEST SCREEN, AND IS
                DISPLAYED WHEN THE MOBILE POWER MODE FIELD IS SET TO "USER".

      :MODE 'Normal'
            'User'
      :MODE? (Returns quoted string)
                THESE COMMANDS SELECT/QUERY THE MOBILE POWER MODE FIELD.
                THE MOBILE POWER MODE FIELD IS FOUND ON THE CDMA
                TRANSMITTER POWER RANGE TEST SCREEN.

      :IDEAl? (Returns real value)
                THIS COMMAND QUERIES THE IDEAL MOBILE STATION POWER LEVEL, BASED ON
                OPEN LOOP POWER CONTROL. THE IDEAL MOBILE POWER FIELD IS LOCATED ON
                THE CDMA CALL CONTROL AND CDMA TRANSMITTER POWER RANGE TEST
                SCREENS.

      :MINimum? (Returns real value)
      :MAXimum? (Returns real value)
                THESE COMMANDS QUERY THE RESULTS OF THE MIN/MAX POWER MEASUREMENT. THE
                MIN/MAX PWR FIELD IS LOCATED ON THE CDMA TRANSMITTER POWER RANGE
                TEST SCREEN.

    :REGister
        THIS COMMAND CAUSES THE MOBILE STATION TO REGISTER WITH THE TEST SET. A MOBILE
        STATION MUST BE IN THE "MOBILE STATION IDLE" STATE FOR A SUCCESSFUL REGISTRATION.
        THE REGISTER FIELD IS LOCATED ON THE CDMA CALL CONTROL SCREEN.
```


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```
:CDMA
  :MOB
    :REPort
      :CLEar
              This command clears the numbers displayed in the CDMA Mobile Reporting
              table. The Pilot Meas, Clear field is found on the CDMA MOBILE
              REPORTED PILOT STRENGTH screen.

    :PILot
      :STRength? (Returns variable length array of real numbers.)
                        (Numbers are separated by commas. Example: 3,6,8)
              This command queries the following mobile reporting pilot values:
              Status, PN Offset, Strength, and Keep bit. Refer to the "Status"
              field description in the Test Set's Reference Guide for a programming
              example. The CDMA Mobile Reporting table is located on the
              CDMA MOBILE REPORTING screen.

      :CLEar
              This command clears the contents of the CDMA Mobile Reported Pilot
              Strength table. This Pilot Meas (Clear) field is found on the CDMA
              MOBILE REPORTED PILOT STRENGTH screen.

    :MSID 'Auto'
          'Phone Num' (Available when Protocol field is IS-95)
          'Min' (Available when Protocol field is IS-95)
          'IMSI' (Available when Protocol field is IS-95A,
                  TSB-74, or J-STD-008)
    :MSID? (Returns quoted string)
              These commands select/query the mode the test set uses to determine
              the identity of a mobile station for paging. If IMSI is selected, see
              "CDMA:MOB:MSID:MCC", "CDMA:MOB:MSID:MNC", and
              "CDMA:MOB:MSID:MSIN" to enter the mobile station identification (all
              three subfields are required to fully identify the mobile station). The
              list of choices vary depending on the Protocol field selection. The MS
              ID field is located on the CDMA CALL CONTROL screen.

      :IMSI 'MCC'
            'MNC'
            'MSIN'
      :IMSI? (Returns quoted string)
              These commands select/query the displayed IMSI subfield. These fields
              are available when the MS ID field is set to IMSI. The MS ID field
              is located on the CDMA CALL CONTROL screen.

      :MCC '<character data>' (3 chars required, valid characters: integers)
      :MCC? (Returns quoted string)
              This command sets/queries the IMSI subfield MCC (Mobile Country
              Code. This field can be displayed only when the MS ID field is set
              to IMSI. The MS ID field is located on the CDMA CALL CONTROL
              screen.

      :MNC '<character data>' (2 chars required, valid characters: integers)
      :MNC? (Returns quoted string)
              This command sets/queries the IMSI subfield MNC (Mobile Network code).
              This field can be displayed only when the MS ID field is set to IMSI.
              The MS ID field is located on the CDMA CALL CONTROL screen.
```


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```
:CDMA
  :MOB
    :MSID
      :MSIN '<character data>' (up to 10 chars, valid characters: integers)
      :MSIN? (Returns quoted string)
              This command sets/queries the IMSI subfield MSIN (Mobile Station
              Identification Number). This field can be displayed only when the
              MS ID field is set to IMSI. The MS ID field is located on the
              CDMA CALL CONTROL screen.

    :PHONe
      [:NUMBer] '<character_data>' (10 chars max, valid chars: 0123456789)
      [:NUMBer]? (Returns quoted string)
              These commands select/query the phone number used for identifying a
              mobile station being paged when the MS ID field is set to Phone Num.
              The Protocol field must be set to IS-95 to allow mobile station
              identification by phone number To use Phone Num, the mobile station
              must be non-slotted. The Phone Num field is displayed when Phone Num
              is selected in the MS ID field, and is located on the CDMA CALL
              CONTROL screen.

    :MIN '<character_data)' (9 chars max, valid chars: 0123456789ABCDEF)
    :MIN? (Returns quoted string)
              These commands select/query the MIN number used for paging when the
              MS ID field is set to MIN. In this mode, the mobile station
              must be operating non-slotted, and MIN numbers obtained during
              registration will not be used. The MIN field is displayed when
              MIN is selected in the MS ID field, and is located on the
              CDMA CALL CONTROL screen.
```


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```
:CDMA
 :MOB
   :DATabase 'ESN' (ALL CHANNEL STANDARDS)
             'MIN1' (IS-95)
             'MIN2' (IS-95)
             'Phone Num' (IS-95)
             'Dual Mode' (ALL CHANNEL STANDARDS)
             'Slot Class' (ALL CHANNEL STANDARDS)
             'Slot Index' (ALL CHANNEL STANDARDS)
             'Prot Rev' (ALL CHANNEL STANDARDS)
             'Pwr Class' (IS-95, IS-95A, TSB-74)
             'TX Mode' (IS-95, IS-95A, TSB-74)
             'Called Num' (IS-95A, TSB-74, J-STD-008)
             'MCC' (IS-95A, TSB-74, J-STD-008)
             'MNC' (IS-95A, TSB-74, J-STD-008)
             'MSIN' (IS-95A, TSB-74, J-STD-008)
             'Band Class' (J-STD-008)
             'EIRP Class' (J-STD-008)
             'Op Modes' (J-STD-008)
             'C Max EIRP' (TIA/EIA-95B)
             'P Max EIRP' (TIA/EIA-95B)
             'C Op Modes' (TIA/EIA-95B)
             'P Op Modes' (TIA/EIA-95B)
             'Pwr Step' (TIA/EIA-95B)
             'Clr All*' (ALL CHANNEL STANDARDS)
   :DATabase? (Returns quoted string)
         THESE COMMANDS SELECT/QUERY THE DESIRED INDICATOR FROM THE LIST OF MS
         DATABASE CHOICES. THE MIN1, MIN2, AND PHONE NUM FIELDS ARE NOT
         AVAILABLE WHEN THE PROTOCOL FIELD HAS IS-95A, J-STD-008, OR TSB-74
         SELECTED. THE "MCC", "MNC", AND "MSIN" FIELDS ARE AVAILABLE ONLY WHEN
         THE PROTOCOL FIELD HAS IS-95A, J-STD-008, OR TSB-74 SELECTED. THE
         BAND CLASS, EIRP CLASS, AND OP MODES FIELDS AREAVAILABLE ONLY WHEN
         THE PROTOCOL FIELD HAS J-STD-008 SELECTED. THE PWR CLASS AND TX MODE
         FIELDS ARE NOT AVAILABLE WHEN THE PROTOCOL FIELD HAS J-STD-008
         SELECTED. WHEN THE MS DATABASE FIELD ISLOCATED ON THE CDMA CALL
         CONTROL SCREEN.

   :VALue? (Returns quoted string)
         THIS COMMAND QUERIES THE VALUE OF THE INDICATOR SELECTED FROM THE LIST
         OF MS DATABASE CHOICES. THE MS DATABASE FIELD IS LOCATED ON THE CDMA
         CALL CONTROL SCREEN.
```


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```
:CDMA
 :MOB
    :PARM (Quoted string, refer to the Test Set's "Mobile Parm" field for
                          Parameter Identifier strings.)
    :PARM? (Returns quoted string)
                THESE COMMANDS SELECT/QUERY THE MOBILE STATION'S PARAMETER IDENTIFIER
                FROM THE LIST OF MOBILE PARM CHOICES. A MOBILE STATION MUST BE ON A CALL
                TO SELECT A MOBILE STATION PARAMETER FROM THIS LIST. THE SET OF PARAMETER
                IDENTIFIERS AVAILABLE DEPENDS ON THE PROTOCOL FIELD SETTING ON THE CDMA
                CALL CONTROL SCREEN. THE MOBILE PARM FIELD IS LOCATED ON THE CDMA
                MOBILE REPORTED FER SCREEN.

    :VALue?
                THIS COMMAND QUERIES THE VALUE OF THE MOBILE STATION'S PARAMETER
                IDENTIFIER SELECTED FROM THE LIST OF MOBILE PARM CHOICES. THE MOBILE
                PARM FIELD IS LOCATED ON THE CDMA MOBILE REPORTING SCREEN.

    :IADD? (Returns integer)
    :IADD (See "Integer Number Setting Syntax" on page 197, :INCRement not
                          included, valid range -32 to 31)
                THESE COMMANDS SET/QUERY THE VALUE FOR ADD INTCPT (ADD INTERCEPT). THE
                ADD INTCPT FIELD IS DISPLAYED ONLY WHEN TIA/EIA-95B IS SELECTED IN THE
                PROTOCOL FIELD. THE ADD INTCPT FIELD IS LOCATED ON THE CDMA MOBILE
                REPORTED PILOT STRENGTH SCREEN.

    :IDROp? (Returns integer)
    :IDROp (See "Integer Number Setting Syntax" on page 197, :INCRement not
                          included, valid range -32 to 31)
                THESE COMMANDS SET/QUERY THE VALUE FOR DROP INTCPT (DROP INTERCEPT). THE
                DROP INTCPT FIELD IS DISPLAYED ONLY WHEN TIA/EIA-95B IS SELECTED IN THE
                PROTOCOL FIELD. THE DROP INTCPT FIELD IS LOCATED ON THE CDMA MOBILE
                REPORTED PILOT STRENGTH SCREEN.

    :SSLope? (Returns integer)
    :SSLope (See "Integer Number Setting Syntax" on page 197, :INCRement not
                          included, valid range 0 to 63)
                THESE COMMANDS SET/QUERY THE VALUE FOR SOFT SLOPE. THE SOFT SLOPE FIELD
                IS DISPLAYED ONLY WHEN TIA/EIA-95B IS SELECTED IN THE PROTOCOL FIELD.
                THE SOFT SLOPE FIELD IS LOCATED ON THE CDMA MOBILE REPORTED PILOT
                STRENGTH SCREEN.

    :ETADd? (Returns integer, 0 to 63)
                THIS COMMAND QUERIES THE CURRENT VALUE FOR EXPECTED T_ADD. THE EXPECTED
                T_ADD FIELD IS DISPLAYED ONLY WHEN TIA/EIA-95B IS SELECTED IN THE
                PROTOCOL FIELD. THE EXPECTED T_ADD FIELD IS LOCATED ON THE CDMA MOBILE
                REPORTED PILOT STRENGTH SCREEN.

    :ETDRop? (Returns integer, 0 to 63)
                THIS COMMAND QUERIES THE CURRENT VALUE FOR EXPECTED T_DROP. THE EXPECTED
                T_DROP FIELD IS DISPLAYED ONLY WHEN TIA/EIA-95B IS SELECTED IN THE
                PROTOCOL FIELD. THE EXPECTED T_DROP FIELD IS LOCATED ON THE CDMA
                MOBILE REPORTED PILOT STRENGTH SCREEN.
```


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```
:CDMA
  :MOB
    :FER
    :TADD (See "Integer Number Setting Syntax" on page 197, :INCRement not included,
                valid range 0 to 63)
          THIS COMMAND SETS THE PILOT DETECTION THRESHOLD T_ADD. THE T_ADD
          FIELD IS LOCATED ON THE CDMA MOBILE REPORTING SCREEN.

    :TDROp (See "Integer Number Setting Syntax" on page 197, :INCRement not included,
                valid range 0 to 63)
          THIS COMMAND SETS THE PILOT DROP THRESHOLD T_DROP. THE T_DROP
          FIELD IS LOCATED ON THE CDMA MOBILE REPORTING SCREEN.

    :TCOMp (See "Integer Number Setting Syntax" on page 197, :INCRement not included
                valid range 0 to 63)
          THIS COMMAND SETS THE PILOT DETECTION THRESHOLD T_COMP. THE T_COMP
          FIELD IS LOCATED ON THE CDMA MOBILE REPORTING SCREEN.

    :TTDROp (See "Integer Number Setting Syntax" on page 197, :INCRement not included
                valid range 0 to 63)
          THIS COMMAND SETS THE HANDOFF DROP TIMER VALUE T_TDROP. THE T_TDROP
          FIELD IS LOCATED ON THE CDMA MOBILE REPORTING SCREEN.

    :FERasure? (Returns real value)
          THIS COMMAND QUERIES THE MOBILE STATION REPORTED FER (FRAME ERROR RATE) AND
          THE VALUE RETURNED IS FER EXPRESSED IN UNITS OF PERCENT. THE MS FER FIELD
          IS LOCATED ON THE CDMA MOBILE REPORTED FER SCREEN.
    :FERasure

      :ERRors? (Returns real value)
          THIS COMMAND QUERIES THE NUMBER OF MOBILE STATION REPORTED FRAME ERRORS
          REPORTED DURNG THE LAST FER REPORT INTERVAL. TO CAUSE THE MOBILE STATION TO
          REPORT FRAME ERRORS WHEN A GIVEN NUMBER OF ERRORS HAVE BEEN COUNTED, SEE
          "CDMA:MOB:FER:REP:BY:ERR" AND
          "CDMA:MOB:FER:REP:BY:ERR:STATE"REPORTED FER. THE ERRORS REPORTED
          FIELD IS LOCATED ON THE CDMA MOBILE REPORTED FER SCREEN.

      :FRAMes? (Returns real value)
            THIS COMMAND QUERIES THE NUMBER OF MOBILE STATION REPORTED FRAMES REPORTED
            DURING THE LAST FER REPORT INTERVAL. TO CAUSE THE MOBILE STATION TO REPORT
            FRAME ERRORS WHEN A GIVEN NUMBER OF FRAMES HAVE BEEN COUNTED, SEE
            "CDMA:MOB:FER:REP:INT" AND "CDMA:MOB:FER:REP:BY:FRAM:STATE". THE
            FRAMES REPORTED FIELD IS LOCATED ON THE CDMA MOBILE REPORTED FER
            SCREEN.

    :SNDM    'Null'
             'PltMeasReqO'
             'ExtHoDP1'
             'ExtHoDP1P2'
    :SNDM? (Returns quoted string)
             THESE COMMANDS SEND/QUERY THE SELECTED MESSAGE (OR NO MESSAGE) THIS FIELD IS
             LOCATED ON THE CDMA MOBILE REPORTED PILOT STRENGTH SCREEN.
             THE SELECTION OF MESSAGES VARIES, DEPENDENT UPON THE SETTING OF THE PROTOCOL
             FIELD ON THE CDMA CALL CONTROL SCREEN.
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```
:CDMA
  :MOB
    :FER
      :REPort
        :INTerval '5 Frames'
                  '10 Frames'
                  '20 Frames'
                  '40 Frames'
                  '80 Frames'
                  '160 Frames'
                  '320 Frames'
                  '640 Frames'
                  '905 Frames'
        :INTerval? (Returns quoted string)
              THESE COMMANDS SELECT/QUERY THE MS FER REPORT INTERVAL (THE
              NUMBER OF FRAMES THE MOBILE STATION WILL COUNT BEFORE REPORTING
              FRAME ERROR RATE). THE MS FER REPORT INTERVAL FIELD IS LOCATED
              ON THE CDMA MOBILE REPORTED FER SCREEN.

        :BY
          :ERRors (See "Integer Number Setting Syntax" on page 197 |:INCRement not
          included, valid range 1 to 31)
              THIS COMMAND SETS THE NUMBER OF FRAME ERRORS THAT DEFINE AN
              FER REPORT INTERVAL WHEN THE "BY # ERRORS" FUNCTION IS
              TURNED "ON". THIS FIELD IS LOCATED ON THE CDMA MOBILE
              REPORTED FER SCREEN.
            :STATe 'ON'
                   'OFF'
            :STATe? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE STATE OF THE "BY # ERRORS" FER REPORT
              INTERVAL FUNCTION. THIS FIELD IS LOCATED ON THE CDMA MOBILE
              REPORTING SCREEN.

          :FRAMes
            :STATe 'ON'
                   'OFF'
            :STATe? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE STATE OF THE BY # FRAMES FER REPORT
              INTERVAL FUNCTION. THE BY # FRAMES FIELD IS LOCATED ON THE CDMA
              MOBILE REPORTED FER SCREEN.

        :CLEar
            THIS COMMAND CLEARS THE MOBILE STATION FER REPORT.THE FER REPORT
            FIELD IS FOUND ON THE CDMA MOBILE REPORTED FER SCREEN.
```


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```
:CDMA
  :PCONtrol

    :MODE 'Open Loop'
          'Closed Loop'
          'Always Up'
          'Always Down'
          'Off'
    :MODE? (Returns quoted string)
          THESE COMMANDS SELECT/QUERY THE CLOSED LOOP POWER CONTROL MODE.
          THE CLOSED LOOP PWR CNTL FIELD IS LOCATED ON THE CDMA TRANSMITTER
          POWER RANGE TEST SCREEN.

    :CHANge 'n up'
            'n down'
            'ramp'
    :CHANge? (Returns quoted string)
          THESE COMMANDS SELECT/QUERY THE CHANGE FIELD, WHICH DETERMINES WHETHER THE
          NUMBER OF POWER CONTROL BITS SPECIFIED BY THE "CDMA:PCON:STEP" COMMAND
          CAUSES THE MOBILE STATION TO GO UP IN POWER, DOWN IN POWER, OR RAMP. THIS
          CHANGE TAKES EFFECT WHEN A MOBILE STATION IS ON A CALL AND THE EXECUTE FIELD
          IS SELECTED (SEE "CDMA:PCON:EXEC"). THIS FIELD (AND THE EXECUTE FIELD)
          ARE LOCATED ON THE CDMA TRANSMITTER POWER RANGE TEST SCREEN.

    :STEPs (See "Integer Number Setting Syntax" on page 197, valid range: 1 to 150)
        THIS COMMAND SETS THE NUMBER OF POWER CONTROL STEPS TO SEND
        TO THE MOBILE STATION WHEN THE EXECUTE FIELD IS SELECTED. THIS
        FIELD (AND EXECUTE) ARE LOCATED ON THE CDMA TRANSMITTER POWER
        RANGE TEST SCREEN.

      :SIZE? (Returns quoted string)
      :SIZE'1 dB'
        '0.5 dB'
        '0.25 dB'
          THESE COMMANDS SET/QUERY THE POWER CNTL STEP SIZE FIELD. THE POWER
          CNTL STEP SIZE FIELD IS DISPLAYED ONLY WHEN TIA/EIA-95B IS SELECTED
          IN THE PROTOCOL FIELD. WHEN AN IS-95B CALL IS MADE, THE TEST SET
          WILL REQUEST THE MOBILE STATION TO USE THIS POWER CONTROL STEP SIZE ON
          THE TRAFFIC CHANNEL.

    :EXECute
          THIS COMMAND SENDS POWER CONTROL BITS TO THE MOBILE STATION.
          THE NUMBER OF BITS TO SEND ARE ENTERED IN THE STEPS FIELD,
          AND THE DIRECTION OF POWER CONTROL IS ENTERED IN THE CHANGE
          FIELD. ALL OF THESE FIELDS ARE LOCATED ON THE CDMA
          TRANSMITTER POWER RANGE TEST SCREEN.
```


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```
:CDMA
  :SMService

    :MDMode  'ASCII'
             'Hex'
    :MDMode? (Returns quoted string)
             These commands select/query the SMS (Short Message Service) Data Mode field.
             The Data Mode field is located on the CDMA SHORT MESSAGE SERVICE screen.

    :ENCoding  'Octet'
               '7-bit ASCII'
    :ENCoding?
             These commands select/query the SMS (Short Message Service) encoding field.
             The Encodingfield is located on the CDMA SHORT MESSAGE SERVICE screen.

    :TERMination
      :ALERt 'On'
             'Off'
      :ALERt? (Returns quoted string)
               These commands set/query the Alert field. The Alert field is located on
               the CDMA SHORT MESSAGE SERVICE screen.

      :PRIority  'None'
                 'Normal'
                 'Interactive'
                 'Urgent'
                 'Emergency'
      :PRIority? (Returns quoted string)
               These commands select/query the Priority field. The priority field is
               located on the CDMA SHORT MESSAGE SERVICE screen.

      :PRIVacy 'None'
               'No Restrict'
               'Restricted'
               'Confidential'
               'Secret'
      :PRIVacy? (Returns quoted string)
               These commands select/query the Privacy field. The Privacy field is
               located on the CDMA SHORT MESSAGE SERVICE screen.

      :OADDress (String entry)
      :OADDress? (Returns quoted string)
               These commands are used to enter an originating address for SMS messages,
               or query the current setting. These commands perform the same function as
               the Orig Addr field. The Orig Addr field is located on the CDMA SHORT
               MESSAGE SERVICE screen.

      :SEND <command>
               This command sends the sms message entered in the User Data
               field (see "CDMA:SMS:TERM:DATA"). This command performs the same
               function as selecting the Send Msg, Execute field. The Send Msg field is
               located on the CDMA SHORT MESSAGE SERVICE screen.
```


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```
:CDMA
  :SMS
    :TERM
      :DUPLicate (See "Integer Number Setting Syntax" on page 197 |:INCRement not
                  included, valid range 0 to 255)
      :DUPLicate?
              These commands set the maximum number of copies of the SMS message
              entered in the User Data field that will be sent. These commands
              perform the same function as the Duplicate User Data field. This
              field is located on the CDMA SHORT MESSAGE SERVICE screen.

      :DATA
        :ASCii (string entry)
        :ASCii? (Returns quoted string)
        :HEX (string entry)
        :HEX? (Returns quoted string)
              These commands enter data into or query the User Data (ASCII) or User
              Data (Hex) fields. The User Data field is located on the CDMA SHORT
              MESSAGE SERVICE screen.

      :LENGth? (Returns quoted string)
            This command returns the length of the SMS message, in bytes. This field
            performs the same function as the Length field. The Length field is located
            on the CDMA SHORT MESSAGE SERVICE screen.

      :CCODe
        :VALue? (Returns quoted string)
            This command returns a number representing the MS Ack Cause Code.
            Sending this query returns the same value displayed in the MS Ack
            Cause Code field,or a -1 if no value is available. The MS Ack
            Cause Code: field is located on the CDMA SHORT MESSAGE SERVICE
            screen.
        :DESCription? (Returns quoted string)
            This command returns a textual description of the MS Ack Cause Code.
            Sending this query returns the same value displayed in the MS Ack
            Cause Code field,or a null string if no value is available. The
            MS Ack Cause Code: field is located on the CDMA SHORT MESSAGE
            SERVICE screen.
```


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```
:CDMA
  :GPOWer
    :CONTrols'Main'
             'Display'
             'CDMA Gen'
             'Traffic'
    :CONTrols?
          THESE COMMANDS SET/QUERY THE CDMA GATED POWER MEASUREMENT'S MENU OF FIELD
          CHOICES. THE CONTROLS FIELD IS FOUND ON THE CDMA GATED POWER SCREEN.

    :NAVG (See "Integer Number Setting Syntax" on page 197,valid range 2 to 1000)
    :NAVG? (Returns integer value)
          THESE COMMANDS SET/QUERY THE NUMBER OF AVERAGES USED DURING EACH CDMA GATED
          POWER MEASUREMENT TO PROVIDE AN ENSEMBLE AVERAGE.

    :GRID  'On'
           'Off'
    :GRID? (Returns quoted string)
          THESE COMMANDS TURN THE CDMA GATED POWER SCREEN GRID (DASHED LINES
          THAT MAP THE GATED POWER TRACE TO RELATIVE TIMES/LEVELS) ON OR OFF.

    :MARKer
      :TIME (See "Real Number Setting Syntax" on page 199, :STATe not included,
                    valid range ?? to ?? microseconds)
      :TIME?
          THESE COMMANDS SET/QUERY THE POSITION OF THE CDMA GATED POWER MEASUREMENT'S
          MARKER IN UNITS OF MICROSECONDS, RELATIVE TO THE CDMA 20 MS FRAME CLOCK.

  :DISP
   [:CSWPower] THIS COMMAND DISPLAYS THE CDMA SWEPT POWER MEASUREMENT SCREEN.

  :SWEPtpower
    :CONTrols  'Main'
               'Trigger'
               'Display'
               'Auxiliary'
    :CONTrols? (Returns quoted string)
               THESE COMMANDS SET/QUERY THE CDMA SWEPT POWER MEASUREMENT SCREEN
               MENU OF FIELD CHOICES.

    :GRID  'On'
           'Off'
    :GRID? (Returns quoted string)
          THESE COMMANDS TURN THE CDMA SWEPT POWER MEASUREMENT SCREEN GRID (DASHED
          LINES THAT MAP THE SWEPT POWER TRACE TO RELATIVE TIMES/LEVELS) ON OR OFF.

    :RLEVel '-25'
            '-15'
            '-5'
            '5'
            '15'
            '25'
            '35'
    :RLEVel? (Returns quoted string)
             THIS COMMAND SELECTS/QUERIES THE REFERENCE LEVEL FOR THE SWEPT POWER
```


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```
:CDMA
        MEASUREMENT.

  :TRIGger
    :AMPLitude  '-12 dB'
                '-18 dB'
                '-24 dB'
    :AMPLitude? (Returns quoted string)
                THESE COMMANDS SELECT/QUERY THE SETTING OF THE AMPLITUDE THAT WILL BE
                USED TO TRIGGER THE MEASUREMENT.

    :SLOPe  'Rising'
            'Falling'
    :SLOPe? (Returns quoted string)
            THESE COMMANDS SELECT/QUERY THE SETTING OF THE PULSE SLOPE THAT WILL BE
            USED TO TRIGGER THE MEASUREMENT.

  :MARKer
    :TIME  (See "Integer Number Setting Syntax" on page 197, :INCRement is included,
           valid range 0 to 100)
    :TIME? (Returns quoted string)
           THESE COMMANDS SELECT/QUERY THE SETTING OF THE MARKER THAT WILL BE
           USED ON THE CDMA SWEPT POWER MEASUREMENT SCREEN.
```


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```
:CDMA
  :OLTR
    :CONTrol 'Main'
             'Display'
             'CDMA Gen'
             'Traffic'
    :CONTrol? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE OPEN LOOP TIME RESPONSE MEASUREMENT'S MENU
              OF FIELD CHOICES. THE CONTROLS FIELD IS FOUND ON THE OPEN LOOP TIME
              RESPONSE SCREEN.


    :STEP  '-25 dB'
           '-20 dB'
           '-15 dB'
           '-10 dB'
           '+10 dB'
           '+15 dB'
           '+20 dB'
           '+25 dB'
    :STEP? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE STEP SIZE FOR THE STEP CHANGE IN SECTOR A
              POWER OUTPUT WHEN AN OPEN LOOP TIME RESPONSE MEASUREMENT IS EXECUTED.

    :MARKer
      :TIME (See "Real Number Setting Syntax" on page 199, :STATe not included,
                          valid range 0 to ??)
      :TIME?
              THESE COMMANDS SET/QUERY THE OPEN LOOP TIME RESPONSE
              MEASUREMENT'S MARKER IN UNITS OF MILLISECONDS.
```


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CELL

:CELL

:CONFigure

:RFCHannel (See **"Integer Number Setting Syntax" on page 197**, :INCRement not included, valid range: 1-4094)
THIS COMMAND SETS THE ANALOG VOICE CHANNEL THE MOBILE STATION WILL BE HANDED OFF TO WHEN A CDMA TO ANALOG HANDOFF IS EXECUTED. THIS COMMAND CHANGES THE CHANNEL FIELD FOUND ON THE **CDMA CALL CONTROL** SCREEN.

:SATColorcode (See **"Integer Number Setting Syntax" on page 197**, :INCRement not included, valid range: 0-2)
0=5970 Hz
1=6000 Hz
2=6030 Hz
THIS COMMAND SETS THE SAT (SUPERVISORY AUDIO TONE) FOR CDMA TO ANALOG HANDOFFS. THE SAT FIELD IS FOUND ON THE **CDMA CALL CONTROL** SCREEN.

:VMAC (See **"Integer Number Setting Syntax" on page 197**, :INCRement not included valid range: 0-7)
THIS COMMAND SETS THE POWER LEVEL (VOICE MOBILE ATTENUATION CODE)FOR CDMA TO ANALOG HANDOFFS. THE PWR LEVEL FIELD IS FOUND ON THE **CDMA CALL CONTROL** SCREEN

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Configure

```
:CONFigure

  :TBASe
   [:MODE] 'Int'
          'Auto'
   [:MODE?] (Returns quoted string)
            THESE COMMANDS SET/QUERY THE TIMEBASE SELECTION MODE. THE TIMEBASE FIELD IS
            FOUND ON THE CONFIGURE SCREEN.

    :STATus? (Returns quoted string)
            THIS COMMAND QUERIES THE CURRENT TIMEBASE SOURCE, INTERNAL OR EXTERNAL. THE
            CHARACTER STRING RETURNED BY THE TEST SET IS ALSO DISPLAYED BELOW THE
            TIMEBASE FIELD. THE TIMEBASE FIELD IS FOUND ON THE CONFIGURE SCREEN. SEE
            ALSO: BIT 10 IN THE OPERATION STATUS REGISTER.

  :SRLocation 'INTERNAL'
              'CARD'
              'RAM'
              'DISK'
  :SRLocation? (Returns quoted string)
           THESE COMMANDS SET/QUERY THE SAVE/RECALL MEMORY LOCATION. THE
           SAVE/RECALL FIELD IS FOUND ON THE I/O CONFIGURE SCREEN.


  :BADDress (See "Integer Number Setting Syntax" on page 197, valid range: 0-30)
               THIS COMMAND SETS THE GPIB ADDRESS. THE GPIB ADRS FIELD IS
               FOUND ON THE I/O CONFIGURE SCREEN.

  :BEEPer 'Off'
          'Quiet'
          'Loud'
  :BEEPer? (Returns quoted string)
           THESE COMMANDS SET THE BEEPER VOLUME. THE BEEPER FIELD IS FOUND
           ON THE CONFIGURE SCREEN.

  :DISPlay
    :MES | MESSages 'Yes'
                    'No'
    :MES? | MESSages? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE DISPLAY USER MSSGS FIELD. THIS FIELD IS FOUND
            ON THE CONFIGURE SCREEN.
```


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```
:CONF
  :BMODe 'Control'
         'Talk&Lstn'
  :BMODe? (Returns quoted string)
          THESE COMMANDS SET THE TEST SET'S GPIB MODE. THE MODE FIELD IS FOUND ON
          THE I/O CONFIGURE SCREEN.

  :DATE (See "Integer Number Setting Syntax" on page 197, 6 digits, format =
                  MM.DD.YY where MM = month, DD = day, YY = year)
          THIS COMMAND SETS THE DATE. THE DATE FIELD IS FOUND ON THE CONFIGURE
          SCREEN.

  :EDISk '<character_data>' (format = :,xxx,y where xxx = GPIB address and
                                                          y = unit number)
          THIS COMMAND ENTERS A MASS STORAGE DEVICE SPECIFIER IN THE EXTERNAL DISK
          SPECIFICATION FIELD. THE MASS STORAGE DEVICE SPECIFIED IN THIS FIELD WILL BE
          USED FOR DATA TRANSFER WHEN "DISK" IS SELECTED FROM THE LIST OF CHOICES
          AVAILABLE FROM THE SELECT PROCEDURE LOCATION FIELD FOUND ON THE TESTS (MAIN
          MENU) SCREEN. THE EXTERNAL DISK SPECIFICATION FIELD IS FOUND ON THE TESTS
          (EXTERNAL DEVICES) SCREEN.

  :EDISk? (Returns quoted string)


  :ANNunciate 'On'
              'Off'
  :ANNunciate? (Returns quoted string)
          THESE COMMANDS SELECT/QUERY A FEATURE OF THE TEST SET THAT ALLOWS THE USER TO
          TURN OFF THE ANNUNCIATORS R, L, AND T THAT APPEAR ON THE DISPLAY. THESE
          ANNUNCIATORS INDICATE WHETHER THE TEST SET IS IN R (REMOTE), L (LISTEN), OR
          T (TALK) MODES. THERE IS NO FRONT PANEL FIELD FOR SETTING THIS FEATURE.

:MEASure
     :INDefinite 'On'
                 'Off'
     :INDefinite? (Returns quoted string)
        THESE COMMANDS SELECT/QUERY A FEATURE OF THE TEST SET THAT ALLOWS ALTERNATE
        METHODS OF HANDLING MEASUREMENT QUERIES THAT CANNOT BE TERMINATED BECAUSE
        NO MEASUREMENT RESULTS ARE AVAILABLE. WHEN "ON", THE TEST SET WILL
        RETURN THEVALUE +1.7976931348623157 E+308 WHEN QUERYING MEASUREMENTS
        THAT RETURNREAL VALUES. WHEN "ON", THE TEST SET WILL RETURN THE VALUE
        2147483647 WHENQUERYING MEASUREMENTS THAT RETURN INTEGER VALUES. WHEN
        "OFF", THE TEST SET WILL HANG INDEFINITELY UNTIL THE BUS IS CLEARED.
        THIS COMMAND DOES NOT HAVE ANASSOCIATED FIELD ON THE TEST SET'S DISPLAY
        SCREENS.

     :NOTChmode 'AFGen1'
     'None'
  :NOTChmode? (Returns quoted string)
          THESE COMMANDS SELECT/QUERY A FEATURE OF THE TEST SET THAT ALLOWS
          A COUPLING TO EXIST BETWEEN THE AUDIO SOURCE AF GENERATOR 1 AND A
          NOTCH FILTER SETTABLE BY THE NOTCH FREQ FIELD. THE NOTCH COUPL
          FIELD, FOUND ON THE CONFIGURE SCREEN, DETERMINES WHETHER OR NOT THIS
          COUPLING EXISTS. THE NOTCH FREQ FIELD IS FOUND ON THE AF ANALYZER
          SCREEN.
```


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```
:CONF
  :OFLevel

    :MODE 'On'
          'Off'
    :MODE? (Returns quoted string)
          These commands set/query the RF Level Offset field. The RF level offset
          compensates for path loss between the Test Set and the mobile station. Offset
          values are entered according to the front panel connector being used (see
          following commands). The RF Level Offset field is found on the CONFIGURE
          screen.

    :ANTenna (See "Real Number Setting Syntax" on page 199, :STATe not included
              valid range: -100.0 to 100.0)
    :ANTenna? (Returns real value)
          These commands set/query the reverse path loss from the mobile station to the
          ANTENNA IN connector. This correction is applied when the RF Level Offset
          field is "ON" and Ant is selected in the Input Port field (this displays the
          Antenna In field). The Input Port, Antenna In, and RF Level Offset fields
          are found on the CONFIGURE screen.

    :DUPLex (See "Real Number Setting Syntax" on page 199, :STATe not included
             valid range: -100.0 to 100.0)
    :DUPLex? (Returns real value)
          These commands set/query the forward path loss from the DUPLEX OUT
          connector to the mobile station. This correction is applied when the RF Level
          Offset field is "ON" and Dupl is selected in the Output Port field (this
          displays the Duplex Out field). The Output Port, Duplex Out, and RF Level
          Offset fields are found on the CONFIGURE screen.

    :RF
      :IN (See "Real Number Setting Syntax" on page 199, :STATe not included
           valid range: -100.0 to 100.0)
      :IN? (Returns real value)
           These commands set/query the reverse path loss from the mobile station to
           the RF IN/OUT connector. This correction is applied when the RF Level
           Offset field is "ON" and RF In is selected in the Input Port field (this
           displays the RF In field). The Input Port, RF In, and RF Level Offset
           fields are found on the CONFIGURE screen.

      :OUT (See "Real Number Setting Syntax" on page 199, :STATe not included
           valid range: -100.0 to 100.0)
      :OUT? (Returns real value)
           These commands set/query the forward path loss from the RF IN/OUT
           connector to the mobile station. This correction is applied when the RF Level
           Offset field is "ON" and RF Out is selected in the Output Port field (this
           displays the RF Out field). The Output Port, RF Out, and RF Level Offset
           fields are found on the CONFIGURE screen.
```


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```
:CONF
  :OFRequency (See "Real Number Setting Syntax" on page 199, :STATe not included)
              THIS COMMAND SETS THE FREQUENCY OFFSET BETWEEN THE TEST SET'S GENERATOR AND
              ANALYZER, DISPLAYED IN THE (GEN)-(ANL) FIELD WHEN THE RF DISPLAY FIELD
              (CONF:RFD) IS SET TO "FREQ". THE RF OFFSET FIELD MUST BE "ON" FOR THE
              FREQUENCY OFFSET TO BE APPLIED. THE RF OFFSET AND (GEN)-(ANL)
              FIELDS ARE FOUND ON THE CONFIGURE SCREEN.

  :OMODe 'On'
         'Off'
  :OMODe? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE RF OFFSET FIELD, WHICH ENABLES OR DISABLES THE
              FREQUENCY OFFSET DISPLAYED IN THE (GEN)-(ANL) FIELD. THE RF OFFSET FIELD IS
              FOUND ON THE CONFIGURE SCREEN.

  :OPERation

    :AUTO
              THIS COMMAND ENABLES AUTORANGING ROUTINES IN THE
              TEST SET. THE RANGE HOLD FIELD IS FOUND ON THE CONFIGURE SCREEN.

    :HOLD
              THIS COMMAND DISABLES AUTORANGING ROUTINES IN THE
              TEST SET. THE RANGE HOLD FIELD IS FOUND ON THE CONFIGURE SCREEN.
  :PCMCia
    :CARD
      :STATus? (Returns quoted string)
      :TYPE? (Returns quoted string)
      :SIZE? (Returns quoted string)
              THESE COMMANDS QUERY INFORMATION FOUND BELOW THE PCMCIA FIELD. THIS
              INFORMATION IS DISPLAYED ON THE I/O CONFIGURE SCREEN.


  :PRINt

    :ADDRess (See "Integer Number Setting Syntax" on page 197, valid range: 0-30)
                THIS COMMAND SETS THE PRINTER ADDRESS USED WHEN "HP-IB" IS SELECTED
                IN THE PRINTER PORT: FIELD. THE PRINTER PORT: AND PRINTER ADRS
                FIELDS ARE FOUND ON THE PRINT CONFIGURESCREEN.

    :LINes|LINE (See "Integer Number Setting Syntax" on page 197, valid range: 5-120)
                THIS COMMAND SETS THE NUMBER OF LINES PRINTED PER PAGE. THE
                LINES/PAGE FIELD IS FOUND ON THE PRINT CONFIGURE SCREEN.

    :DESTination|PORTs 'Serial 9'
                       'HP-IB'
                       'Parallel 15'
    :DESTination?|PORTs? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE PRINTER PORT: FIELD SETTING. THE
                PRINTER PORT: FIELD IS FOUND ON THE PRINT CONFIGURE SCREEN.
```


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```
:CONF
  :PRIN
    :FFSTart 'Yes'
             'No'
    :FFSTart? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE FF AT START: FIELD, WHICH DETERMINES IF
                THERE WILL BE A FORM FEED AT THE START OF PRINTING. THE FF AT START:
                FIELD IS FOUND ON THE PRINT CONFIGURE SCREEN.

    :FFENd 'Yes'
           'No'
    :FFENd? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE FF AT END: FIELD, WHICH DETERMINES IF
                THERE WILL BE A FORM FEED AT THE END OF PRINTING. THE FF AT END:
                FIELD IS FOUND ON THE PRINT CONFIGURE SCREEN.


    :TITLe '<character_data>' (50 chars max, valid chars:              )
                ABCDEFGHIJKLMNOPQRSTUVWXYZ_012
                3456789 abcdefghijklmnopqrstuvwxyz
                !"#$%&'()*+,-./:;<=>?@[\]^'{|}~
    :TITLe? (Returns quoted string)
                THESE COMMANDS SETUP/QUERY THE PRINT TITLE: FIELD, WHICH DETERMINES WHAT
                WILL BE PRINTED AT THE TOP OF THE PRINTOUT. THE PRINT TITLE: FIELD IS
                FOUND ON THE PRINT CONFIGURE SCREEN.


    :PRINter|HPModel|HPMO 'ThinkJet'
                          'QuietJet'
                          'PaintJet'
                          'DeskJet'
                          'LaserJet'
                          'Epson FX-80'
                          'Epson LQ-850'
    :PRINter?|HPModel?|HPMO? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE MODEL: FIELD, WHICH DETERMINES WHAT MODEL OF
            PRINTER IS CONNECTED TO THE TEST SET. THE MODEL: FIELD IS FOUND ON THE
            PRINT CONFIGURE SCREEN.

  :RFIMpedance '50 ohm'
    'emf'
  :RFIMpedance? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE WAY RF GENERATOR VOLTAGES ARE
                EXPRESSED (ACROSS A 50 OHM LOAD OR OPEN CIRCUIT), AND THIS SETTING IS
                DISPLAYED IN THE RFGEN VOLTS FIELD. THE AMPLITUDE FIELD UNITS MUST BE
                SET TO V, MV, UV, OR DBUV FOR THIS FIELD TO HAVE AN EFFECT. THE RFGEN
                VOLTS FIELD IS FOUND ON THE CONFIGURE SCREEN.

  :SPSelect 'Port 9'
            'Port 10'
  :SPSelect? (Returns quoted string)
                THESE COMMANDS SET/QUERY THE SELECTION IN THE SERIAL PORT FIELD
                THE SERIAL PORT FIELD IS FOUND ON THE I/O CONFIGURE SCREEN.
```


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```
:CONF
  :SPOR9 | SPORT9 | SB9 | SP9

  :BAUD '150'
        '300'
        '600'
        '1200'
        '2400'
        '4800'
        '9600'
        '19200'
  :BAUD? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE SERIAL PORT 9 BAUD RATE. THE SERIAL
          BAUD FIELD IS FOUND ON THE I/O CONFIGURE SCREEN.

  :PARity 'None'
          'Odd'
          'Even'
          'Always 1'
          'Always 0'
  :PARity? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE SERIAL PORT PARITY. THE PARITY FIELD IS
          FOUND ON THE I/O CONFIGURE SCREEN.

  :DATA '7 Bits'
        '8 Bits'
  :DATA? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE NUMBER OF BITS USED FOR EACH WORD OF SERIAL
          DATA WHEN USING THE SERIAL PORT. THE DATA LENGTH FIELD IS FOUND ON THE
          I/O CONFIGURE SCREEN.


  :STOP '1 Bit'
        '2 Bits'
  :STOP? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE NUMBER OF STOP BITS USED FOR SERIAL
          COMMUNICATIONS WHEN USING THE SERIAL PORT. THE STOP LENGTH FIELD IS
          FOUND ON THE I/O CONFIGURE SCREEN.

  :FCONtrol | FLOW 'Xon'
                   'Xoff'
  :FCONtrol? | FLOW? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE FLOW CNTL FIELD FOR SERIAL PORT 9. THIS
          FIELD IS FOUND ON THE I/O CONFIGURE SCREEN.

  :SIN|SINPut 'Inst'
              'IBASIC'
  :SIN?|SINPut? (Returns quoted string)
            THESE COMMANDS SET/QUERY THE DESTINATION OF DATA CHARACTERS RECEIVED
            BY THE TEST SET VIA THE SERIAL PORT. 'INST' ALLOWS USE OF AN
            EXTERNAL KEYBOARD. 'IBASIC' ALLOWS THE IBASIC CONTROLLER TO READ
            THE SERIAL PORT WHILE A PROGRAM IS RUNNING. THE SERIAL IN FIELD IS
            FOUND ON THE I/O CONFIGURE SCREEN.
```


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```
:CONF
  :SPOR9
    :IBECho 'On'
            'Off'
    :IBECho? (Returns quoted string)
                  THESE COMMANDS SET/QUERY THE SCREEN AND ERROR MESSAGE ECHOING FROM
                  IBASIC. THE IBASIC ECHO FIELD IS FOUND ON THE I/O
                  CONFIGURE SCREEN.


    :IECHo 'On'
           'Off'
    :IECHo? (Returns quoted string)
                  THESE COMMANDS SET/QUERY THE CHARACTER AND SCREEN ECHOING WHEN USING
                  AN EXTERNAL ASCII RS-232 TERMINAL OR COMPUTER TO ENTER OR EDIT
                  IBASIC PROGRAMS. THE INST ECHO FIELD IS FOUND ON THE I/O
                  CONFIGURE SCREEN.

  :SPOR10 | SPORT10 | SB10 | SP10

    :BAUD '150'
          '300'
          '600'
          '1200'
          '2400'
          '4800'
          '9600'
          '19200'
    :BAUD? (Returns quoted string)


    :PARity 'None'
            'Odd'
            'Even'
            'Always 1'
            'Always 0'
    :PARity? (Returns quoted string)

    :DATA '7 Bits'
          '8 Bits'
    :DATA? (Returns quoted string)

    :STOP '1 Bit'
          '2 Bits'
    :STOP? (Returns quoted string)
```


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```
:CONF
  :SPOR10
    :FCONtrol | FLOW 'Xon'
                     'Xoff'
    :FCONtrol? | FLOW? (Returns quoted string)
                     THESE COMMANDS SET/QUERY THE FLOW CNTL FIELD FOR SERIAL PORT 9.
                     THIS FIELD IS FOUND ON THE I/O CONFIGURE SCREEN.

  :TIME (See "Real Number Setting Syntax" on page 199, :DUNits, :INCRement, :UNITs,
                                        :STATe not included)
    THIS COMMAND SETS THE TIME-OF-DAY. THE TIME FIELD IS FOUND ON THE
    CONFIGURE SCREEN.

  :INPut 'RF In'
         'Ant'
  :INPut? (Returns quoted string)
    THESE COMMANDS SET/QUERY THE INPUT PORT FIELD. THE INPUT PORT
    FIELD IS FOUND ON THE ADJACENT CHANNEL POWER, CONFIGURE, TX
    TEST, DUPLEX TEST, AND RF ANALYZER SCREENS. AN UN-NAMED VERSION OF
    THIS FIELD IS FOUND ON THE CDMA REVERSE CHANNEL SPECTRUM AND
    SPECTRUM ANALYZER SCREENS.

  :OUTPut 'RF Out'
    'Dupl'
  :OUTPut? (Returns quoted string)
    THESE COMMANDS SET/QUERY THE RF OUTPUT PORT. THE OUTPUT PORT FIELD IS
    FOUND ON THE CONFIGURE, RX TEST, DUPLEX TEST, AND RF GENERATOR
    SCREEN.


  :ATTenuator '0 dB'
              '5 dB'
              '10 dB'
              '15 dB'
              '20 dB'
              '25 dB'
              '30 dB'
              '35 dB'
  :ATTenuator? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE AMOUNT OF INPUT ATTENUATION
              IN THE PATH OF THE SELECTED INPUT PORT. SETTING THE INPUT
              ATTEN FIELD TO "HOLD" (CONF:ATT:MODE 'HOLD') PREVENTS THE
              RF AUTO-RANGING PROCESS FROM CHANGING THE ATTENUATION
              SETTING. THE INPUT ATTEN FIELD IS FOUND ON THE CONFIGURE, RF
              ANALYZER, SPECTRUM ANALYZER, AND CDMA REVERSE CHANNEL
              SPECTRUM SCREENS.
```


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:CONF
:ATTenuator
:MODE 'Auto'
'Hold'
:MODE? (Returns quoted string)
These commands set/query the RF auto-ranging mode. Setting the Input Atten field to "Hold" (CONF:ATT:MODE 'Hold') prevents the RF auto-ranging process from changing the attenuation setting.The Input Atten field is found on the **CONFIGURE, RF ANALYZER, SPECTRUM ANALYZER,** and **CDMA REVERSE CHANNEL SPECTRUM** screens.

:RFCStandard 'MS AMPS'
'US PCS'
'Kor PCS P0'
'Kor PCS P1'
'Japan CDMA'
'MSL NAMPS'
'MSM NAMPS'
'MSU NAMPS'
'MS TACS'
'MS ETACS'
'MS NTACS'
'MS JTACS'
'USER-DEF'

:RFCStandard? (Returns quoted string)
These commands set/query the RF Chan Std (RF Channel Standard) field. This setting determines the Test Set's RF Generator and RF Analyzer frequency mapping when "Chan" is selected in the RF Display field. The RF Chan Std field is displayed only when the RF Display field on the **CONFIGURE** screen has "Chan" selected. The RF Display field is found on the **CONFIGURE** screen. The RF Chan Std field is found on the **CONFIGURE** and **CDMA CALL CONTROL** screens.

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```
:CONF
  :USER

    :BASE (See "Real Number Setting Syntax" on page 199, :DUNits, :UNITs, :STATe,
                                        :INCRement not included)
                    THIS COMMAND SETS THE BASE FREQUENCY SETTING, DISPLAYED IN THE BASE
                    FREQ FIELD WHEN THE RF DISPLAY FIELD (CONF:RFD) IS SET TO "CHAN",
                    AND THE RF CHAN STD (CONF:RFCS) FIELD IS SET TO "USER-DEF"
                    (USER-DEFINED). THE BASE FREQ AND RF CHAN STD FIELDS ARE FOUND ON
                    THE CONFIGURE SCREEN.

    :SPACing (See "Real Number Setting Syntax" on page 199, :DUNits, :UNITs, :STATe,
                                        :INCRement not included)
                    THIS COMMAND SETS THE FREQUENCY SPACING BETWEEN CHANNELS, DISPLAYED
                    IN THE CHAN SPACE FIELD WHEN THERF DISPLAY FIELD (CONF:RFD) IS
                    SET TO "CHAN", AND THE RF CHAN STD (CONF:RFCS) FIELD IS SET TO
                    "USER-DEF" (USER-DEFINED). THE CHAN SPACE AND RF CHAN
                    STD FIELDS ARE FOUND ON THE CONFIGURE SCREEN.

    :DELTa (See "Real Number Setting Syntax" on page 199, :DUNits, :UNITs,
                        :STATe,:INCRement not included)
                        THIS COMMAND SETS THE FREQUENCY OFFSET BETWEEN THE TEST SET'S
                        GENERATOR AND ANALYZER, DISPLAYED IN THE (GEN)-(ANL) FIELD
                        WHEN THE RF CHAN STD FIELD (CONF:RFCS) IS SET TO
                        "USER-DEF" (USER-DEFINED), AND THE RF DISPLAY FIELD IS SET
                        TO "CHAN". THE(GEN)-(ANL) AND RF CHAN STD FIELDS ARE FOUND
                        ON THE CONFIGURE
                        SCREEN.
```


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```
:CONF
  :RFDisplay 'Freq'
             'Chan'
  :RFDisplay? (Returns quoted string)
```

THESE COMMANDS SET/QUERY THE FORMAT FOR ENTERING AND DISPLAYING THE TEST SET'S RF GENERATOR AND RF ANALYZER FREQUENCY SETTINGS (BY FREQUENCY OR BY CHANNEL NUMBER). THE RF DISPLAY FIELD IS FOUND ON THE **CONFIGURE** SCREEN.

```
  :EXTernal
    :FRAMe
          [:CLOCk]
                ' 1.25 ms' (Note leading space)
                '20.00 ms'
                '26.67 ms'
                '80.00 ms'
                ' 2.00 s' (Note leading space)
          [:CLOCk]? (Returns quoted string)
```

THESE COMMANDS SET/QUERY THE CDMA FRAME CLOCK OUTPUT FREQUENCY OUTPUT ON THE REAR-PANEL CDMA CLOCK MUX OUTPUT CONNECTOR. THE FRAME CLOCK FIELD IS FOUND ON THE **CONFIGURE** SCREEN.

```
  :ACSTandard | APMCbands 'None'
                          'Cell Bands'
                          'PCS Bands'
                          'All Bands'
                          'MS AMPS'
                          'US PCS'
                          'Kor PCS P0'
                          'Kor PCS P1'
                          'Japan CDMA'
                          'MSL NAMPS'
                          'MSM NAMPS'
                          'MSU NAMPS'
                          'MS TACS'
                          'MS ETACS'
                          'MS NTACS'
                          'MS JTACS'

  :ACSTandard | APMCbands? (Returns quoted string)
```

THESE COMMANDS SET/QUERY THE ALTERNATE CHANNEL POWER MEASUREMENT AND ACCESS PROBE POWER MEASUREMENT CALIBRATION BANDS. THE FREQUENCY RANGE(S) THAT CORRESPOND TO THIS SELECTION WILL BE CALIBRATED, ALONG WITH THE FREQUENCIES THAT MAP TO THE RF CHAN STD FIELD WHEN THE POWER MEAS CALIBRATION ROUTINE IS RUN. THE ALT PWR MEAS CAL BANDS FIELD IS FOUND ON THE **CONFIGURE** SCREEN.

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```
:CONF
  :APMC          'None'
                 'Cell Bands'
                 'PCS Bands'
                 'All Bands'
                 'MS AMPS'
                 'US PCS'
                 'Kor PCS P0'
                 'Kor PCS P1'
                 'Japan CDMA'
                 'MSL NAMPS'
                 'MSM NAMPS'
                 'MSU NAMPS'
                 'MS TACS'
                 'MS ETACS'
                 'MS NTACS'
                 'MS JTACS'

  :APMC? (RETURNS QUOTED STRING)
                 THESE COMMANDS SET/QUERY THE ALTERNATE CHANNEL POWER MEASUREMENT AND
                 ACCESS PROBE POWER MEASUREMENT CALIBRATION BANDS. THE FREQUENCY
                 RANGE(S) THAT CORRESPOND TO THIS SELECTION WILL BE CALIBRATED, ALONG
                 WITH THE FREQUENCIES THAT MAP TO THE RF CHAN STD FIELD WHEN
                 THE POWER MEAS CALIBRATION ROUTINE IS RUN. THE ALT PWR MEAS CAL
                 BANDS FIELD IS FOUND ON THE CONFIGURE SCREEN.


  :MMTOFFSET     'NORMAL'
                 '-5 us'
                 '-10 us'
  :MMToffset?    (returns quoted string)
                 These commands set/query the negative offset at which the
                 Test Set will start looking for a CDMA signal. They
                 correspond to the Time Offset field on the CONFIGURE screen.
```


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CSPectrum

```
:CSPectrum

  :ATTenuator '0 dB'
              '5 dB'
              '10 dB'
              '15 dB'
              '20 dB'
              '25 dB'
              '30 dB'
              '35 dB'
  :ATTenuator? (Returns quoted string)
              These commands set/query the input attenuation for the RF IN/
              OUT and ANT IN input ports. The Input Atten field is found on
              the CONFIGURE SCREEN AND THE CDMA REVERSE CHANNEL SPECTRUM SCREEN
              WHEN THE CONTROLS FIELD IS SET TO AUXILIARY.

    :MODE 'Auto'
          'Hold'
    :MODE? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE RF AUTO-RANGING MODE. SETTING THE INPUT
              ATTEN FIELD TO "HOLD" (CONF:ATT:MODE 'HOLD') PREVENTS THE
              RF AUTO-RANGING PROCESS FROM CHANGING THE ATTENUATION
              SETTING.THE INPUT ATTEN FIELD IS FOUND ON THE CONFIGURE SCREEN AND THE
              CDMA REVERSE CHANNEL SPECTRUM SCREEN WHEN THE CONTROLS FIELD IS SET TO
              AUXILIARY.

  :CONTrol 'Main'
           'CDMA Gen'
           'Marker'
           'Auxiliary'
  :CONTrol? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE SPECTRUM ANALYZER'S MENU OF
              CHOICES. THE CONTROLS FIELD IS FOUND ON THE CDMA REVERSE
              CHANNEL SPECTRUM SCREEN.

  :INPut 'RF In'
         'Ant'
  :INPut? (Returns quoted string)
              THESE COMMANDS SET/QUERY AN UN-NAMED FIELD THAT CORRELATES WITH THE INPUT
              PORT FIELD FOUND ON THE CONFIGURE SCREEN AND OTHERS. THIS UN-NAMED FIELD
              IS FOUND ON THE CDMA REVERSE CHANNEL SPECTRUM SCREEN, AND IS
              DISPLAYED WHEN "MAIN" IS SELECTED IN THE CONTROLS FIELD.
```


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:CSP

:OUTPut 'RF Out'
'Dupl'

:OUTPut? (Returns quoted string)
THESE COMMANDS SET/QUERY THE RF OUTPUT PORT. THE OUTPUT PORT FIELD IS DISPLAYED ON THE **CDMA REVERSE CHANNEL SPECTRUM** SCREEN WHEN "CDMA GEN" IS SELECTED IN THE CONTROLS FIELD. (THIS FIELD IS COUPLED TO THE OUTPUT PORT FIELD ON THE **CONFIGURE** SCREEN.)

:MARKer

:RLEVel
THIS COMMAND SETS THE REFERENCE LEVEL TO THE LEVEL THAT THE MARKER IS CURRENTLY POSITIONED. THE MARKER TO FIELD IS FOUND ON THE **CDMA REVERSE CHANNEL SPECTRUM** SCREEN, AND IS DISPLAYED WHEN "MARKER" IS SELECTED IN THE CONTROLS FIELD.

:NPEak
THIS COMMAND MOVES THE MARKER TO THE NEXT PEAK TO THE RIGHT. THE MARKER TO FIELD IS FOUND ON THE **CDMA REVERSE CHANNEL SPECTRUM** SCREEN, AND IS DISPLAYED WHEN "MARKER" IS SELECTED IN THE CONTROLS FIELD.

:PEAK
THIS COMMAND MOVES THE MARKER TO THE HIGHEST PEAK ON THE DISPLAY. THE MARKER TO FIELD IS FOUND ON THE **CDMA REVERSE CHANNEL SPECTRUM** SCREEN, AND IS DISPLAYED WHEN "MARKER" IS SELECTED IN THE CONTROLS FIELD.

:POSition (See **"Real Number Setting Syntax" on page 199**, :STATe not included, valid range 0-10)
THIS COMMAND POSITIONS THE MARKER. THE MARKER TO FIELD IS FOUND ON THE **CDMA REVERSE CHANNEL SPECTRUM** SCREEN, AND IS DISPLAYED WHEN "MARKER" IS SELECTED IN THE CONTROLS FIELD.

:RLEVel (See **"Real Number Setting Syntax" on page 199**, :STATe not included, valid range 52 to -54.9 dBm)
THIS COMMAND SETS THE AMPLITUDE REFERENCE LEVEL FOR THE TOP LINE OF THE DISPLAY. THE REF LEVEL FIELD IS FOUND ON THE **CDMA REVERSE CHANNEL SPECTRUM** SCREEN, AND IS DISPLAYED WHEN "MAIN" IS SELECTED IN THE CONTROLS FIELD.

:SPAN (See **"Real Number Setting Syntax" on page 199**, :STATe not included, valid range 5 kHz to 5 MHz)
THIS COMMAND SETS THE SPAN OF FREQUENCIES DISPLAYED ON THE SCREEN. THE SPAN FIELD IS FOUND ON THE **CDMA REVERSE CHANNEL SPECTRUM** SCREEN, AND IS DISPLAYED WHEN "MAIN" IS SELECTED IN THE CONTROLS FIELD.

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```
:CSP
  :TRACe
    :MHOLd 'No Pk/Avg'
           'Pk Hold'
           'Avg 1'
           'Avg 2'
           'Avg 3'
           'Avg 4'
           'Avg 5'
           'Avg 10'
           'Avg 20'
           'Avg 50'
           'Avg 100'
           'Off'
    :MHOLd? (Returns quoted string)
```

These commands set/query the peak hold and video averaging functions of the spectrum analyzer. The No Pk/Avg field is found on the **CDMA REVERSE CHANNEL SPECTRUM** screen, and is displayed when "Auxiliary" is selected in the Controls field.

```
  :NORMalize 'A Only'
             'A-B'
  :NORMalize? (Returns quoted string)
```

These commands set/query the normalize function of the spectrum analyzer, which allows display of the difference between two signals. The Normalize field is found on the **CDMA REVERSE CHANNEL SPECTRUM** screen, and is displayed when "Auxiliary" is selected in the Controls field.

```
  :SAVE
```

This command saves the currently displayed trace for use in the "A-B" operation (see CSP:NORM 'A-B'). The Normalize field is found on the **CDMA REVERSE CHANNEL SPECTRUM** screen, and is displayed when "Auxiliary" is selected in the Controls field.

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Decoder

```
:DECoder

  :ARM
    :MODE 'Single'
          'Cont'
    :MODE? (Returns quoted string)

  :MODE 'Func Gen'
        'Tone Seq'
        'DTMF'
        'CDCSS'
        'Digi Page'
        'AMPS-TACS'
        'NAMP-NTAC'
        'NMT'
        'MPT 1327'
        'LTR'
        'EDACS'
  :MODE? (Returns quoted string)

  :POLarity 'Norm'
            'Invert'
  :POLarity? (Returns quoted string)

  :LEVel

    :AM (See "Real Number Setting Syntax" on page 199, :STATe not included)

    :FM (See "Real Number Setting Syntax" on page 199, :STATe not included)

    :VOLTs (See "Real Number Setting Syntax" on page 199, :STATe not included)

  :STOP
```


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```
:DEC
  :AMPS|TACS

    :BLOCks (See "Integer Number Setting Syntax" on page 197, valid range: 1-18)

    :MESSage 'FOCC A&B'
             'FOCC A'
             'FOCC B'
             'RECC'
             'FVC'
             'RVC'
    :MESSage? (Returns quoted string)

    :GATE (See "Real Number Setting Syntax" on page 199, :STATe not included)

    :STANdard 'AMPS'
              'TACS'
              'JTACS'
    :STANdard? (Returns quoted string)

    :TRIGger
      :PATTern '<character_data>' (127 chars max, valid chars: .01)
      :PATTern? (Returns quoted string)

  :DPAGing

    :GATE (See "Real Number Setting Syntax" on page 199, :STATe not included)

    :STANdard 'GSC'
              'POCSAG'
    :STANdard? (Returns quoted string)

  :DTMF
    :GATE (See "Real Number Setting Syntax" on page 199, :STATe not included)

  :EDACs

    :DISPlay 'Radio'
             'Repeater'
    :DISPlay? (Returns quoted string)

    :DELay '2 slots'
           '3 slots'
           '5 slots'
           '8 slots'
    :DELay? (Returns quoted string)

    :STANdard '9600'
    '4800'
    :STANdard? (Returns quoted string)
```


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```
:DEC
  :FGENerator
    :GATE (See "Real Number Setting Syntax" on page 199, :STATe not included)

  :LTR

    :DISPlay 'Radio'
             'Repeater'
    :DISPlay? (Returns quoted string)

    :STANdard 'LTR'
    :STANdard? (Returns quoted string)

  :MPT1327
    :TIME
      :MODE 'SLOT'
            'RESPONSE'
      :MODE? (Returns quoted string)

  :NMT

    :FFNumber (See "Integer Number Setting Syntax" on page 197, valid range: 1-5000)

    :STANdard 'STD450'
              'STD900'
              'BENELUX'
              'FRANCE'
              'AUSTRIA'
              'SPAIN'
              'TURKEY'
              'THAILAND'
              'MALAYSIA'
              'SAUDI1'
              'SAUDI2'
              'CRO-SLOV'
              'HUNGARY'
              'BULGARIA'
    :STANdard? (Returns quoted string)
```


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```
:DEC
  :NMT
    :TEST

      :ENTer '<character_data>' (20 chars max, valid chars:          )
                                 ABCDEFGHIJKLMNOPQRSTUVWXYZ_012
                                 3456789 abcdefghijklmnopqrstuvwxyz
                                 !"#$%&'()*+,-./:;<=>?@[\]^'{|}~
      :ENTer? (Returns quoted string)

      :LOCation 'CARD'
                'RAM'
                'DISK'
      :LOCation? (Returns quoted string)

      :NAME '<character_data>'
      :NAME? (Returns quoted string)

      :RUN

      :STOP

  :NAMPs|NTACs

    :CHANnel 'Cntl'
             'Voice'
    :CHANnel? (Returns quoted string)

  :DTMF
    :GATE (See "Real Number Setting Syntax" on page 199, :STATe not included)

    :GATE (See "Real Number Setting Syntax" on page 199, :STATe not included)

    :RVC 'DSAT'
         'DATA'
         'DTMF'
    :RVC? (Returns quoted string)

    :STANdard 'NAMPS'
              'NTACS'
    :STANdard? (Returns quoted string)

    :TRIGger
    :PATTern '<character_data>' (127 chars max, valid chars: .01)
    :PATTern? (Returns quoted string)
```


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```
:DEC
  :TSEQuential

    :GATE (See "Real Number Setting Syntax" on page 199, :STATe not included)

  :STANdard 'CCIR1'
            'CCIR2'
            'CCITT'
            'EEA'
            'EIA'
            'Euro'
            'NATEL'
            'ZVEI1'
            'ZVEI2'
    :STANdard? (Returns quoted string)
```


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Display

:DISPlay
- ACNTrol
  displays the ANALOG SCREENS: CALL CONTROL screen
- ACPower
  displays the ANALOG SCREENS: ADJACENT CHANNEL POWER screen
- AFANalyzer
  displays the ANALOG SCREENS: AF ANALYZER screen
- AUTHentication
  displays the ANALOG SCREENS: CALL CONTROL: AUTHENTICATION screen
- CAUThenicate
  displays the CDMA AUTHENTICATION screen
- CBIT
  displays the ANALOG SCREENS: CALL BIT screen (p/o CALL CONTROL)
- CCNTrol
  displays the CDMA CALL CONTROL screen
- CCONfig
  displays the CDMA CELL SITE CONFIGURATION screen
- CCNFigure
  displays the ANALOG SCREENS: CALL CONFIGURE screen (p/o CALL CONTROL)
- CGENerator
  displays the CDMA SCREENS: CDMA GENERATOR CONTROL screen
- CGPower
  displays the CDMA GATED POWER screen
- CDATa
  displays the ANALOG SCREENS: CALL DATA screen (p/o CALL CONTROL)
- CFER
  displays the CDMA MOBILE REPORTED FER screen
- CMEasure
  displays the ANALOG SCREENS: ANALOG MEAS screen (p/o CALL CONTROL)
- CMOBreport
  displays the CDMA MOBILE REPORTING screen
- CONFigure
  displays the CONFIGURE screen
- COLT
  displays the CDMA OPEN LOOP TIME RESPONSE screen.
- CRXTest
  displays the CDMA CELLULAR MOBILE RECEIVER TEST screen
- CSMService
  displays the CDMA SHORT MESSAGE SERVICE screen
- CSPectrum
  displays the CDMA REVERSE CHANNEL SPECTRUM screen
- CTXRange
  displays the CDMA TRANSMITTER POWER RANGE TEST screen
- CTXTest
  displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen
- DECoder
  displays the ANALOG SCREENS: SIGNALING DECODER screen

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```
:DISP
        DUPLex
            displays the ANALOG SCREENS: DUPLEX screen
        ENCoder
            displays the ANALOG SCREENS: SIGNALING ENCODER screen
        HELP
            displays the HELP screen

        IOConfigure
            displays the I/O CONFIGURE screen
        MESSages
            displays the MESSAGE screen
        OSCilloscope
            displays the OSCILLOSCOPE screen
        PCONfigure
            displays the PRINT CONFIGURE screen
        REMote
            locks the display
        RFANalyzer
            displays the ANALOG SCREENS: RF ANALYZER screen
        RFGen
            displays the ANALOG SCREENS: RF GENERATOR screen
        RX
            displays the ANALOG SCREENS: RX TEST screen
        SANalyzer
            displays the ANALOG SCREENS: SPECTRUM ANALYZER screen
        SERVice
            displays the SERVICE screen
        TCONfigure
            displays the TESTS (External Devices) screen
        TESTs
            displays the TESTS (Main Menu) screen
        TEXec
            displays the TESTS (Execution Conditions) screen
        TFReq
            displays the TESTS (Channel Information) screen
        TIBasic
            displays the TESTS (IBASIC Controller) screen
        TMAKe
            displays the TESTS (Save/Delete Procedure) screen
        TPARm
            displays the TESTS (Test Parameters) screen
        TSEQn
            displays the TESTS (Order of Tests) screen
        TSPec
            displays the TESTS (Pass/Fail Limits) screen
        TX
            displays the TX TEST screen
:DISPlay? (Returns currently displayed screen name)
:FERasure
    :INTerim
      [:RESults] 'YES'
                 'NO'
      [:RESults]? (Returns quoted string)
                  These commands set/query the method of displaying FER test
```


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results. When “Yes” is selected, interim results will be displayed. When “No” is selected, only the final results will be displayed. The Display Interim Results field is found on the CDMA CELLULAR MOBILE RECEIVER TEST screen.

C:\manual\8820\OK_REF\ROOT\TEST\OM\display.eps
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C:\Inetpub\wwwroot\...\EBOOK\SECTION2\display.asp

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Measure

:MEASure

:RESet

THIS COMMAND RESTARTS ALL MEASUREMENTS THAT ARE IN PROGRESS. THIS FUNCTION IS ALSO PERFORMED BY PRESSING THE **MEAS RESET** KEY

:ACPower

:LRATio? (Returns real value)

THIS COMMAND QUERIES THE ADJACENT CHANNEL POWER MEASUREMENT, SPECIFICALLY THE RATIO OF SIGNAL POWER AT A FREQUENCY BELOW THE DUT'S (DEVICE-UNDER-TEST'S) CHANNEL FREQUENCY TO SIGNAL POWER AT THE DUT'S SELECTED CHANNEL FREQUENCY. THE LOWER ACP RATIO FIELD IS DISPLAYED ON THE **ADJACENT CHANNEL POWER** SCREEN.

:LRATio (See **"Number Measurement Syntax" on page 203**)

:URATio? (Returns real value)

THIS COMMAND QUERIES THE ADJACENT CHANNEL POWER MEASUREMENT, SPECIFICALLY THE RATIO OF SIGNAL POWER AT A FREQUENCY ABOVE THE DUT'S (DEVICE-UNDER-TEST'S) CHANNEL FREQENCY TO SIGNAL POWER AT THE DUT'S SELECTED CHANNEL FREQUENCY. THE UPPER ACP RATIO FIELD ISDISPLAYED ON THE **ADJACENT CHANNEL POWER** SCREEN.

:URATio (See **"Number Measurement Syntax" on page 203**)

:LLEVel? (Returns real value)

THIS COMMAND QUERIES THE ABSOLUTE SIGNAL POWER AT A FREQUENCY BELOW THE TEST SET'S TUNE FREQUENCY. THE LOWER ACP LEVEL FIELD IS DISPLAYED ON THE **ADJACENT CHANNEL POWER** SCREEN.

:LLEVel (See **"Number Measurement Syntax" on page 203**)

:ULEVel? (Returns real value)

THIS COMMAND QUERIES THE ABSOLUTE SIGNAL POWER AT A FREQUENCY ABOVE THE TEST SET'S TUNE FREQUENCY. THE UPPER ACP LEVEL FIELD IS DISPLAYED ON THE **ADJACENT CHANNEL POWER** SCREEN.

:ULEVel (See **"Number Measurement Syntax" on page 203**)

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```
:MEAS
  :AFRequency

    :ACLevel? (Returns real value)
              This command queries the AC Level measurement. The AC Level field is
              displayed on the AF ANALYZER, RF ANALYZER, TX TEST, and DUPLEX
              TEST screens when one of the following audio sources is selected from
              the AF Anl In field: SSB Demod, Audio In, radio Int, Ext Mod, Mic
              Mod, or Audio Out. (Use the "AFAN:INPut '" command).

    :ACLevel (See "Number Measurement Syntax" on page 203)

    :AM? (Returns real value)
              This command queries the AM Depth of modulation. The AM Depth field
              is displayed on the AF ANALYZER, RF ANALYZER, TX TEST, and
              DUPLEX TEST screens when AM Demod or AM Mod are selected from the
              AF Anl In field. (Use the "AFAN:INPut '" command) and SNR(Signal-
              To-Noise) is NOT selected from the audio frequency measurements.

    :AM (See "Number Measurement Syntax" on page 203)

    :CURRent? (Returns real value)
              This command queries the Current measurement. Current is displayed in
              an unnamed field on the AF ANALYZER, RF ANALYZER, TX TEST, and
              DUPLEX TEST screens when the Current measurement is selected(use the
              "MEAS:AFRequency:SELect 'Current'" command).


    :CURRent (See "Number Measurement Syntax" on page 203)

    :DCAM? (Returns real value)
              This command queries the DC AM measurement. The DC AM measurement is
              displayed in an unnamed field on the AF ANALYZER, RF ANALYZER, TX
              TEST, and DUPLEX TEST screens when; DC Level isselected (use the
              "MEAS:AFRequency:SELect 'DC Level'" command) and AM Demod or AM
              Mod are selected from the AF Anl In field. (Use the"AFAN:INPut '"
              command).
    :DCAM (See "Number Measurement Syntax" on page 203)

    :DCFM? (Returns real value)
              This command queries the DC FM measurement. The DC FM measurement is
              displayed in an unnamed field on the AF ANALYZER, RF ANALYZER, TX
              TEST, and DUPLEX TEST screens when; DC Level is selected (use the
              "MEAS:AFRequency:SELect 'DC Level'" command) and FM Demod or FM
              Mod are selected from the AF Anl In field. (Use the "AFAN:INPut'"
              command).

    :DCFM  (See "Number Measurement Syntax" on page 203)
```


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```
:MEAS
  :AFR
    :DCVolts? (Returns real value)
              This command queries the DC Voltage measurement. The DC
              Voltage measurement is displayed in an unnamed field on the AF
              ANALYZER, RF ANALYZER, TX TEST, and DUPLEX TEST screens
              when; DC Level is selected (use the "MEAS:AFRequency:SELect
              'DC Level'" command) and one of the following audio sources
              are selected from the AF Anl In field: SSB Demod, Audio In,
              Radio Int, Ext Mod, Mic Mod, or Audio Out. (Use the
              "AFAN:INPut ''" command.

    :DCVolts (See "Number Measurement Syntax" on page 203)

    :DISTortion?|DISTN? (Returns real value)
              This command queries the Distortion measurement. Distn is displayed in an
              unnamed field on the AF ANALYZER, RF ANALYZER, TX TEST, and DUPLEX
              TEST screens when Distn is selected (Use the "MEAS:AFRequency:SELect
              'Distn'" command).

    :DISTortion|DISTN (See "Number Measurement Syntax" on page 203)

    :FM? (Returns real value)
              This command queries the FM Deviation measurement. The FM Deviation
              measurement, which is sometimes duplexed with the SAT Deviation measurement
              on the same field, is available on the CALL CONTROL, AF ANALYZER, RF
              ANALYZER, TX TEST, and DUPLEX TEST screens when FM Mod or FM Demod
              is selected from the AF Anl In field (use the "AFAN:INPut ''" command)
              and SNR (Signal-To-Noise) is NOT selected from the audio frequency
              measurements.

    :FM (See "Number Measurement Syntax" on page 203)

    :FREQuency? (Returns real value)
              This command queries the Audio Frequency measurement. AF Freq is displayed
              in an unnamed field on the AF ANALYZER, RF ANALYZER, TX TEST, and
              DUPLEX TEST screens when AF Freq is selected (use the
              "MEAS:AFRequency:SELect 'AF Freq'" command).

    :FREQuency (See "Number Measurement Syntax" on page 203)

    :SELect 'SINAD'
            'Distn'
            'SNR'
            'AF Freq'
            'DC Level'
            'Current'
            These commands select the audio frequency analyzer measurement. The unnamed
            field that displays these measurements is located on the AF ANALYZER, RF
            ANALYZER, TX TEST, and DUPLEX TEST screens.

    :SELect? (Returns quoted string)
              This commands queries the audio frequency analyzer measurement. The unnamed
              field that displays these measurements is located on the AF ANALYZER,
              RFANALYZER, TX TEST, and DUPLEX TEST screens.
```


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```
:MEAS
  :AFR
    :SINAD? (Returns real value)
            This command queries the SINAD measurement. SINAD is displayed in an
            unnamed field on the AF ANALYZER, RF ANALYZER, TX TEST, and
            DUPLEX TEST screens when SINAD is selected (use the
            "MEAS:AFRequency:SELect 'SINAD'" command).

    :SINAD (See "Number Measurement Syntax" on page 203)

    :SNR? (Returns real value)
            This command queries the SNR (Signal-To-Noise) measurement. SNR is
            displayed in an unnamed field on the AF ANALYZER, RF ANALYZER, TX
            TEST, and DUPLEX TEST screens when SNR is selected (use the
            "MEAS:AFRequency:SELect 'SNR'" command).
    :SNR (See "Number Measurement Syntax" on page 203)

    :MODulation
      :SELect  'SAT Deviation'
               'FM Deviation'
      :SELect?
               These commands select the fm deviation and sat deviation
               measurements. The un-named field that provides these choices is displayed
               on the AF ANALYZER, RF ANALYZER, TX TEST, ANALOG TX TEST,
               ANALOG CALL CONTROL, and DUPLEX TEST screens when FM Demod is
               selected in the AF Anl In field.

    :SATDeviation?
               This command queries the SAT Deviation measurement.The un-named field
               that displays this measurement is found on the AF ANALYZER, RF
               ANALYZER, TX TEST (Analog), CALL CONTROL, and
               DUPLEX TEST screens when FM Demod is selected in the AF Anl In field
               and SAT Deviation is selected.
```


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```
:MEAS
  :OSC
    :MARKer
      :LEVel
        :AM? (Returns real value)
             THIS COMMAND QUERIES THE INSTANTANEOUS AM DEPTH OF MODULATION AT THE
             OSCILLOSCOPE LVL MARKER LOCATION. THE MARKER LVL FIELD ON THE
             OSCILLOSCOPE SCREEN DISPLAYS AM AT THE MARKER LOCATION WHEN AM
             DEMOD OR AM MOD ARE SELECTED FROM THE AF ANL IN FIELD (USE THE
             "AFAN:INPUT '/" COMMAND).

        :AM  (See "Number Measurement Syntax" on page 203, :METer not included)

        :FM? (Returns real value)
             THIS COMMAND QUERIES THE INSTANTANEOUS FM DEVIATION AT THE
             OSCILLOSCOPE MARKER LOCATION. THE MARKER LVL FIELD ON THE
             OSCILLOSCOPE SCREEN DISPLAYS FM AT THE MARKER LOCATION WHEN FM
             DEMOD OR FM MOD ARE SELECTED FROM THE AF ANL IN FIELD (USE THE
             "AFAN:INPUT '/" COMMAND).

        :FM  (See "Number Measurement Syntax" on page 203, :METer not included)

        :VOLTs? (Returns real value)
             THIS COMMAND QUERIES THE VOLTAGE LEVEL AT THE OSCILLOSCOPE
             MARKER LOCATION. THE MARKER LVL FIELD ON THE OSCILLOSCOPE
             SCREEN DISPLAYS VOLTAGE AT THE MARKER LOCATION WHEN ONE OF THE
             FOLLOWING AUDIO SOURCES ARE SELECTED FROM THE AF ANL IN FIELD:
             SSB DEMOD, AUDIO IN, RADIO INT EXT MOD, MIC MOD, OR AUDIO
             OUT (USE THE "AFAN:INPUT '/" COMMAND).
        :VOLTs  (See "Number Measurement Syntax" on page 203, :METer not included)

      :TIME? (Returns real value)
             THIS COMMAND QUERIES THE TIME ELAPSED FROM THE TRIGGER POINT TO
             THE CURRENT OSCILLOSCOPE MARKER LOCATION. THE TIME MARKER IS
             DISPLAYED ON THE OSCILLOSCOPE SCREEN.

      :TIME  (See "Number Measurement Syntax" on page 203, :METer not included)

    :TRACe? (Returns array of 417 real values)
                      0=first value (left side of trace display)
                      416=last value (right side of trace display)
```


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```
:MEAS
  :RFRequency
    :FREQuency
      :ABSolute? (Returns real value)
            This command queries the absolute Transmitter Frequency. A field named Tx
            Frequency displays the absolute transmitter frequency when the Tune Mode
            field is set to Auto (use the "RFAN:TMODe 'Auto'" command). (The Tune
            Mode field is displayed when the RF Display field on the CONFIGURE
            screen has "Freq" selected). The TX Frequency field is displayed on the
            RF ANALYZER, RF GENERATOR, TX TEST, and DUPLEX TEST screens

      :ABSolute (See "Number Measurement Syntax" on page 203)

      :ERRor? (Returns real value)
            This command queries the Transmitter Frequency Error measurement, relative
            to the Tune Frequency field setting. A field named TX Freq Error displays
            frequency error when the Tune Mode field is set to Manual (use the
            "RFAN:TMODe 'Manual'" command).(The Tune Mode field is displayed when
            the RF Display field on the CONFIGURE screen has "Chan" selected). The
            TX Freq Error field is displayed on the RF ANALYZER, RF GENERATOR,
            TX TEST, and DUPLEX TEST screens.

      :ERRor (See "Number Measurement Syntax" on page 203)

    :POWer? (Returns real value)
            This command queries the transmitter power measurement. The TX Power field
            is displayed on the RF ANALYZER, RF GENERATOR, TX TEST, and DUPLEX
            TEST screens.

    :POWer (See "Number Measurement Syntax" on page 203)
```


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```
:MEAS
  :SANalyzer
    :MARKer
     [:NORMal]
       :FREQuency? (Returns real value)
                   THIS COMMAND QUERIES THE FREQUENCY AT THE CURRENT SPECTRUM ANALYZER
                   FREQ MARKER POSITION. THE FREQ MARKER IS DISPLAYED ON THE SPECTRUM
                   ANALYZER SCREEN.

       :FREQuency  (See "Number Measurement Syntax" on page 203, :METer not
                                                                  included)

       :LEVel? (Returns real value)
                   THIS COMMAND QUERIES THE RF LEVEL AT THE CURRENT SPECTRUM ANALYZER
                   LVL MARKER POSITION. THE LVL MARKER IS DISPLAYED ON THE SPECTRUM
                   ANALYZER SCREEN.

       :LEVel  (See "Number Measurement Syntax" on page 203, :METer not included)

      :DELTa

       :FREQuency? (Returns real value)
                   THIS COMMAND QUERIES THE FREQUENCY AT THE CURRENT SPECTRUM ANALYZER
                   FREQ MARKER POSITION. THE FREQ MARKER IS DISPLAYED ON THE SPECTRUM
                   ANALYZER SCREEN.

       :FREQuency  (See "Number Measurement Syntax" on page 203, :METer not
                                                                  included)

       :LEVel? (Returns real value)
                   THIS COMMAND QUERIES THE RF LEVEL AT THE CURRENT SPECTRUM ANALYZER
                   LVL MARKER POSITION. THE LVL MARKER IS DISPLAYED ON THE SPECTRUM
                   ANALYZER SCREEN.

       :LEVel  (See "Number Measurement Syntax" on page 203, :METer not included)

    :TRACe? (Returns array of 417 real values)
              0=first value (left side of trace display)
              416=last value (right side of trace display)
```


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```
:MEAS
  :DECoder
    :AMPS|TACS
      :NBITs? (Returns integer value)

      :DATA? (Returns quoted string)

      :CDATa? (Returns quoted string)

    :CDCSs
      :BITS? (Returns quoted string)

      :CODes? (Returns quoted string)

      :RATE? (Returns real value)
      :RATE  (See "Number Measurement Syntax" on page 203, :METer not included)

    :DPAGing
      :DATA? (Returns quoted string)

      :PAGE (See "Integer Number Setting Syntax" on page 197, valid range: 1-5000)

      :CHAR (See "Integer Number Setting Syntax" on page 197, valid range: 1-5000)

      :RATE? (Returns real value)
      :RATE  (See "Number Measurement Syntax" on page 203, :METer not included)
```


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```
:MEAS
  :DEC
    :DTMF
      :LOW
        :FREQuency
          :ABSolute? (Returns up to 19 real values)
          :ABSolute (See "Multiple Number Measurement Syntax" on page 205)

          :ERRor? (Returns up to 19 real values)
          :ERRor (See "Multiple Number Measurement Syntax" on page 205)

          :DISPlay 'Freq'
                   'Frq Err'
          :DISPlay? (Returns quoted string)

      :HIGH
        :FREQuency
          :ABSolute? (Returns up to 19 real values)
          :ABSolute (See "Multiple Number Measurement Syntax" on page 205)

          :ERRor? (Returns up to 19 real values)
          :ERRor (See "Multiple Number Measurement Syntax" on page 205)

          :DISPlay 'Freq'
                   'Frq Err'
          :DISPlay? (Returns quoted string)

      :TIME
        :OFF? (Returns up to 19 real values)
        :OFF (See "Multiple Number Measurement Syntax" on page 205)

        :ON? (Returns up to 19 real values)
        :ON (See "Multiple Number Measurement Syntax" on page 205)

      :SYMBol? (Returns quoted string)

    :EDACs
      :DATA? (Returns quoted string of 74 characters)

    :FGENerator
      :FREQuency? (Returns real value)
      :FREQuency (See "Number Measurement Syntax" on page 203)
```


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```
:MEAS
  :DEC
    :LTR
      :DATA? (Returns quoted string)

      :DISPlay 'Radio'
               'Repeater'
      :DISPlay? (Returns quoted string)

      :RATE? (Returns real value)
      :RATE  (See "Number Measurement Syntax" on page 203, :METer not included)

    :MPT1327
      :TIME? (Returns integer value)

      :NSLots? (Returns integer value)

      :BUFFer?|SLOTs? (Returns quoted string)

      :DATA? (Returns quoted string)

      :RATE? (Returns real value)
      :RATE  (See "Number Measurement Syntax" on page 203, :METer not included)

    :NMT
      :NFRames? (Returns integer value)
        :STORed? (Returns integer value)

      :FRAMes? integer value (Returns quoted string)

      :ESTatus? (Returns quoted string)
```


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```
:MEAS
  :DEC
    :NAMPs|NTACs
    :NBITs? (Returns integer value)

      :DSAT
        :DATA? (Returns quoted string)

      :DTMF
      :LOW
      :DISPlay 'Freq'
               'Frq Err'
        :DISPlay? (Returns quoted string)

        :FREQuency
          :ABSolute? (Returns up to 17 real values)
          :ABSolute  (See "Multiple Number Measurement Syntax" on page 205)

          :ERRor? (Returns up to 17 real values)
          :ERRor  (See "Multiple Number Measurement Syntax" on page 205)

          :HIGH
        :DISPlay 'Freq'
                 'Frq Err'
        :DISPlay? (Returns quoted string)

        :FREQuency
          :ABSolute? (Returns up to 17 real values)
          :ABSolute  (See "Multiple Number Measurement Syntax" on page 205)

            :ERRor? (Returns up to 17 real values)
            :ERRor  (See "Multiple Number Measurement Syntax" on page 205)

      :SYMBol? (Returns quoted string)

      :TIME
        :ON? (Returns up to 17 real values)
        :ON  (See "Multiple Number Measurement Syntax" on page 205)

        :OFF? (Returns up to 17 real values)
        :OFF  (See "Multiple Number Measurement Syntax" on page 205)

      :RECC
        :DATA? (Returns quoted string)

      :RVC
        :DATA? (Returns quoted string)
```


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```
:MEAS
  :DEC
    :TSEQuential
      :FREQuency
        :ABSolute? (Returns up to 19 real values)
        :ABSolute  (See "Multiple Number Measurement Syntax" on page 205)

        :ERRor? (Returns up to 19 real values)
        :ERRor  (See "Multiple Number Measurement Syntax" on page 205)

      :TIME
        :OFF? (Returns up to 19 real values)
        :OFF  (See "Multiple Number Measurement Syntax" on page 205)

        :ON? (Returns up to 19 real values)
        :ON  (See "Multiple Number Measurement Syntax" on page 205)

      :SYMBol? (Returns quoted string)
```


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```
:MEAS
  :CDManalyzer
    :FERasure? (Returns real value)
          THIS COMMAND QUERIES THE FER (FRAME ERROR RATE) RATIO. A TEST RESULT
          IS AVAILABLE AFTER A TRIGGERED FER TEST HAS PASSED, FAILED, REACHED
          MAX FRAMES, OR AT ANY TIME DURING AN FER TEST IF THE DISPLAY INTERIM
          RESULTS FIELD IS SET TO YES (USE THE
          "DISPLAY:FERASURE:INTERIM:RESULTS 'YES'" COMMAND). THE FER FIELD
          IS DISPLAYED ON THE CDMA CELLULAR MOBILE RECEIVER TEST SCREEN.

    :FEReasure (See "Number Measurement Syntax" on page 203, :METer not included)
      :ERRors? (Returns integer value
          THIS COMMAND QUERIES THE NUMBER OF FRAME ERRORS COUNTED. A TEST RESULT
          IS AVAILABLE AFTER A TRIGGERED FER TEST HAS PASSED, FAILED, REACHED MAX
          FRAMES, OR AT ANY TIME DURING AN FER TEST IF THE DISPLAY INTERIM
          RESULTS FIELD IS SET TO YES (USE THE
          "DISPLAY:FERASURE:INTERIM:RESULTS 'YES'" COMMAND). THE ERRORS
          COUNTED FIELD IS DISPLAYED ON THE CDMA CELLULAR MOBILE RECEIVER
          TEST SCREEN.


      :FRAMes? (Returns integer value)
          THIS COMMAND QUERIES THE NUMBER OF FRAMES COUNTED. A TEST RESULT
          IS AVAILABLE AFTER A TRIGGERED FER TEST HAS PASSED,
          FAILED, REACHED MAX FRAMES, OR AT ANY TIME DURING AN FER TEST
          IF THE DISPLAY INTERIM RESULTS FIELD IS SET TO YES (USE THE
          "DISPLAY:FERASURE:INTERIM:RESULTS 'YES'" COMMAND). THE
          FRAMES COUNTED FIELD IS DISPLAYED ON THE CDMA CELLULAR
          MOBILE RECEIVER TEST SCREEN.


      :MAXimum
        :FRAMes (See "Integer Number Setting Syntax" on page 197, :INCRement not
                                                                  included)
          THIS COMMAND SETS THE MAXIMUM NUMBER OF FRAMES TO TEST BEFORE
          ENDING A FRAME ERROR RATE TEST. THE FRAMES COUNTED FIELD IS DISPLAYED
          ON THE CDMA CELLULAR MOBILE RECEIVER TEST SCREEN.


      :CONFidence
        :INTerval (See "Real Number Setting Syntax" on page 199, :INCRement:MODE
                                                                  not included)
        THIS COMMAND SETS THE CONFIDENCE INTERVAL TO APPLY TO FRAME ERROR RATE
        TESTS. THE CONFIDENCE INTERVAL IS NOMINALLY 95%. THE CONFIDENCE FIELD
        IS DISPLAYED ON THE CDMA CELLULAR MOBILE RECEIVER TEST SCREEN.

        :LIMit
        [:VALue] (See "Real Number Setting Syntax" on page 199, :INCRement:MODE
                                                  and :STATe not included))
        THIS COMMAND SETS THE FRAME ERROR RATE SPECIFICATION. THE TEST SET WILL
        APPLY CONFIDENCE INTERVAL TESTING TO THE FER SPECIFIED IN THIS FIELD. THE FER
        SPEC FIELD IS DISPLAYED ON THE CDMA CELLULAR MOBILE RECEIVER TEST SCREEN.
```


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```
:MEAS
  :CDM
    :MMPower
     [:EXECute]
```

This command executes a test of the mobile station's minimum and maximum transmitted power levels. The Min/Max Pwr field is displayed on the **CDMA TRANSMITTER POWER RANGE TEST** screen

```
    :AVGPower? (Returns real value)
```

This command queries the transmitter average power measurement if a value is available (field displays a value, not four dashes). The Avg Power field is displayed on the **CDMA CELLULAR MOBILE TRANSMITTER TEST, CDMA CALL CONTROL,** and **CDMA TRANSMITTER CLOSED LOOP RANGE TEST** screens when the Avg Power measurement is selected (use the "CDMA:TX:POWer:MEASurement 'Avg Power'"command).

```
    :AVGPower (See "Number Measurement Syntax" on page 203)
      :ZERO
```

This command zeroes the transmitter average power measurement. The Zero field is displayed on the **CDMA CELLULAR MOBILE TRANSMITTER TEST, CDMA CALL CONTROL,** and **CDMA TRANSMITTER CLOSED LOOP RANGE TEST** screens when the Avg Power measurement is selected (use the "CDMA:TX:POWer:MEASurement 'Avg Power'"command).

```
    :CHANpower? (Returns real value)
```

This command queries the transmitter channel power measurement if a value is available (field displays a value, not four dashes). The Chan Power field is displayed on the **CDMA CELLULAR MOBILE TRANSMITTER TEST, CDMA CALL CONTROL,** and **CDMA TRANSMITTER CLOSED LOOP RANGE TEST** screens when the Chan Power measurement is selected (use the "CDMA:TX:POWer:MEASurement'Chan Power'"command).

```
    :CHANpower (See "Number Measurement Syntax" on page 203)
      :UNCalibrated? (Returns 0 or 1)
```

This command queries the "uncal"annunciator, which indicates that the Channel Power measurement needs to be calibrated. The "Uncal" annunciator is displayed under the Chan Power field (when Chan Power is selected) on the **CDMA CELLULAR MOBILE TRANSMITTER TEST, CDMA CALL CONTROL,** and **CDMA TRANSMITTER CLOSED LOOP RANGE TEST** screens when the Chan Power measurement is selected (to select Channel Power measurements, use the "CDMA:TX:POWer:MEASurement'Chan Power'"command).

```
      :CALibrate
```

This command calibrates the channel power measurement (the Average Power Measurement is zeroed as part of this calibration process). The Calibrate field is displayed on the **CDMA CELLULAR MOBILE TRANSMITTER TEST, CDMA CALL CONTROL,** and **CDMA TRANSMITTER CLOSED LOOP RANGE TEST** screens when the Chan Power measurement is selected (to select Channel Power measurements, use the "CDMA:TX:POWer:MEASurement'Chan Power'"command).

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```
:MEAS
  :CDM
    :CHAN
      :INTerval ( See "Real Number Setting Syntax" on page 199)
      :INTerval?
            This command sets the interval for the Channel power
            measurement.
      :APPower? (Returns real value)$
            THIS COMMAND QUERIES THE ACCESS PROBE POWER MEASUREMENT IF A
            VALUE IS AVAILABLE (FIELD DISPLAYS A VALUE, NOT FOUR DASHES).THE
            ACC PRB PWR FIELD IS DISPLAYED ON THE CDMA CELLULAR MOBILE
            TRANSMITTER TEST, CDMA CALL CONTROL, AND CDMA TRANSMITTER
            CLOSED LOOP RANGE TEST SCREENS WHEN THE ACC PRB PWR MEASUREMENT IS
            SELECTED (USE THE "CDMA:TX:POWER:MEASUREMENT'ACC PRB PWR'"COMMAND).

      :APPower (See "Number Measurement Syntax" on page 203


      :RHO? (Returns real value)
            THIS COMMAND QUERIES THE TRANSMITTER TRAFFIC RHO MEASUREMENT. THE
            TRAFFIC RHO FIELD IS DISPLAYED ON THE CDMA CELLULAR MOBILE
            TRANSMITTER TEST SCREEN IF TRAFFIC RHO IS SELECTED (USE THE
            "CDMA:RHO:MEAS 'TRAFFIC RHO'" COMMAND).

      :RHO (See "Number Measurement Syntax" on page 203, :REFerence:DUNits,
                        :HLIMit:DUNits, :LLIMit:DUNits,
                        :METer:HEND:DUNits, :METer:LEND:DUNits
                         not included.)

      :FREQuency
        :ERRor? (Returns real value)
            THIS COMMAND QUERIES THE TRANSMITTER FREQUENCY ERROR MEASUREMENT. THE
            FREQ ERROR FIELD IS DISPLAYED ON THE CDMA CELLULAR MOBILE
            TRANSMITTER TEST SCREEN IF FREQ ERROR IS SELECTED (USE THE
            "CDMA:RHO:MEAS:FERR 'FREQ ERROR'" COMMAND).

        :ERRor (See "Number Measurement Syntax" on page 203, :METer not included)
```


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```
:MEAS
  :CDM
    :AMPLitude
      :ERRor? (Returns real value)
            This command queries the transmitter amplitude error measurement. The Ampl
            Error field is displayed on the CDMA CELLULAR MOBILE TRANSMITTER
            TEST screen if Ampl Error is selected (Use the "CDMA:RHO:MEAS:FERR
            'Ampl error'" command).

      :ERRor (See "Number Measurement Syntax" on page 203, :REFerence:DUNits,
                                        :AUNits, :HLIMit:DUNits, :LLIMit:DUNits,
                                        :DUNits, :UNITs, :METer not included)

    :PHASe
      :ERRor? (Returns real value)
            This command queries the transmitter phase error measurement. The Phs Error
            field is displayed on the CDMA CELLULAR MOBILE TRANSMITTER TEST
            screen if Phs Error is selected
            (Use the "CDMA:RHO:MEAS:PERR 'Phs error'" command).

      :ERRor (See "Number Measurement Syntax" on page 203, :REFerence:DUNits,
                                        :AUNits, :HLIMit:DUNits, :LLIMit:DUNits,
                                        :DUNits, :UNITs, :METer not included)

    :TIME
      :OFFSet? (Returns real value)
            This command queries the transmitter time offset measurement. The Time
            Offset field is displayed on the CDMA CELLULAR MOBILE TRANSMITTER
            TEST screen if Time Offset is selected
            (Use the "CDMA:RHO:MEAS:FERR 'Time offset'" command).

      :OFFSet (See "Number Measurement Syntax" on page 203, :REFerence:DUNits,
                                        :AUNits, :HLIMit:DUNits, :LLIMit:DUNits,
                                        :DUNits, :UNITs, :METer not included)

    :CARrier
      :FEEDthrough? (Returns real value)
            This command queries the transmitter carrier feedthrough measurement. The
            Carrier field is displayed on the CDMA CELLULAR MOBILE TRANSMITTER
            TEST screen if Carrier is selected
            (Use the "CDMA:RHO:MEAS:PERR 'Carrier'" command).

      :FEEDthrough (See "Number Measurement Syntax" on page 203, :REFerence:DUNits,
                                        :AUNits, :HLIMit:DUNits, :LLIMit:DUNits,
                                        :DUNits, :UNITs, :METer not included)
```


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:MEAS
:CSPectrum
:MARKer
:FREQuency? (Returns real value)
THIS COMMAND QUERIES THE FREQUENCY COUNT AT THE **CDMA REVERSE CHANNEL SPECTRUM** MARKER. THE FREQ MARKER IS DISPLAYED ON THE **CDMA REVERSE CHANNEL SPECTRUM** SCREEN.

:FREQuency (See **"Number Measurement Syntax" on page 203**, :METer not included)

:LEVel? (Returns real value)
THIS COMMAND QUERIES THE POWER LEVEL AT THE **CDMA REVERSE CHANNEL SPECTRUM** MARKER. THE LVL MARKER IS DISPLAYED ON THE **CDMA REVERSE CHANNEL SPECTRUM** SCREEN.

:LEVel (See **"Number Measurement Syntax" on page 203**, :METer not included)

:TRACe? (Returns array of 417 real values)

:GPOWer
:MARKer
:LEVel (See **"Number Measurement Syntax" on page 203**)
THIS COMMAND QUERIES THE CDMA GATED POWER MEASUREMENT'S POWER LEVEL IN dB, RELATIVE TO THE ENSEMBLE AVERAGE, AT THE DISPLAY MARKER'S POSITION. THE TIME DISPLACEMENT IS RELATIVE TO THE 20 MS FRAME CLOCK.THE LEVEL FIELD IS DISPLAYED ON THE **CDMA GATED POWER** SCREEN.
:LEVel? (Returns real value)

:TRACe? (Returns array of 400 real values)
THIS COMMAND QUERIES THE CDMA GATED POWER MEASUREMENT'S TRACE VALUES. THE FIRST VALUE RETURNED REPRESENTS THE LEVEL AT THE LEFT SIDE OF THE DISPLAY AND THE LAST VALUE REPRESENTS THE LEVEL AT THE RIGHT SIDE OF THE DISPLAY.

:ATTack
[:TIME]?
THIS COMMAND QUERIES THE CDMA GATED POWER MEASUREMENT'S ATTACK TIME. THE ATTACK TIME FIELD IS DISPLAYED ON THE **CDMA GATED POWER** SCREEN.

:RELease
[:TIME]?
THIS COMMAND QUERIES THE CDMA GATED POWER MEASUREMENT'S RELEASE TIME. THE RELEASE TIME FIELD IS DISPLAYED ON THE **CDMA GATED POWER** SCREEN.

:BURSt
[:TIME]?
THIS COMMAND QUERIES THE CDMA GATED POWER MEASUREMENT'S BURST TIME. THE BURST TIME FIELD IS DISPLAYED ON THE **CDMA GATED POWER** SCREEN.

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```
:MEAS
  :SWEPtpower
    :TRACe
      :CLEar
          THIS COMMAND CLEARS THE MEASUREMENT TRACE FROM THE DISPLAY.

    :MARKer
      :LEVel?
          THIS COMMAND QUERRIES THE MARKER LEVEL FOR THE MEASUREMENT.

  :OLTR
    :MARKer
      :LEVel (See "Number Measurement Syntax" on page 203)
          THIS COMMAND QUERIES THE OPEN LOOP TIME RESPONSE MEASUREMENT POWER LEVEL IN dB,
          RELATIVE TO THE 0 dB POINT, AT THE DISPLAY MARKER POSITION.THE LEVEL FIELD IS
          DISPLAYED ON THE OPEN LOOP TIME RESPONSE SCREEN.
      :LEVel? (Returns real value)

    :TRACe? (Returns array of 417 real values)
          THIS COMMAND QUERIES THE OPEN LOOP TIME RESPONSE MEASUREMENT'S TRACE VALUES. THE
          FIRST VALUE RETURNED REPRESENTS THE LEVEL AT THE LEFT SIDE OF THE DISPLAY AND THE
          LAST VALUE REPRESENTS THE LEVEL AT THE RIGHT SIDE OF THE DISPLAY.

    [:EXECute]
          THIS COMMAND EXECUTES AN OPEN LOOP TIME RESPONSE TEST OF THE MOBILE STATION'S
          OUTPUT POWER. THE EXECUTE FIELD IS DISPLAYED ON THE OPEN LOOP TIME RESPONSE
          SCREEN.
```


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Oscilloscope

:OSCilloscope

:CONTrol 'Main'
'Trigger'
'Marker'

:CONTrol? (Returns quoted string)

THESE COMMANDS SELECT/QUERY THE ANALOG OSCILLOSCOPE MENUS. THE CONTROLS FIELD IS LOCATED ON THE **OSCILLOSCOPE** SCREEN.

:MARKer

:NPEak

THIS COMMAND CAUSES THE MARKER TO MOVE TO THE MINIMUM VALUE OF THE *AVERAGE* LEVEL MEASURED ON THE DISPLAY. THE MARKER TO FIELD IS FOUND ON THE **OSCILLOSCOPE** SCREEN WHEN MARKER IS SELECTED IN THE CONTROLS FIELD.

:PPEak

THIS COMMAND CAUSES THE MARKER TO MOVE TO THE MAXIMUM VALUE OF THE *AVERAGE* LEVEL MEASURED ON THE DISPLAY. THE MARKER TO FIELD IS FOUND ON THE **OSCILLOSCOPE** SCREEN WHEN MARKER IS SELECTED IN THE CONTROLS FIELD.

:POSition (See **"Real Number Setting Syntax" on page 199**, :STATE not included, valid range 0 to 10)

THIS COMMAND POSITIONS THE MARKER ACCORDING TO THE NUMBER OF SCALE DIVISIONS FROM THE LEFT SIDE OF THE SCREEN. THE POSITION TO FIELD IS FOUND ON THE **OSCILLOSCOPE** SCREEN WHEN MARKER IS SELECTED IN THE CONTROLS FIELD.

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```
:OSC
  :SCALe
    :TIME '200 ms'
          '100 ms'
          '50 ms'
          '20 ms'
          '10 ms'
          '5 ms'
          '2 ms'
          '1 ms'
          '500 us'
          '200 us'
          '100 us'
          '50 us'
          '20 us'
          '10 us'
          '5 us'
          '2 us'
          '1 us'
    :TIME? (Returns quoted string)
```

These commands select/query the horizontal sweep time-per-division. The Time/div field is displayed on the OSCILLOSCOPE screen. The Time/div field is located on the **OSCILLOSCOPE** screen when Main is selected in the Controls field.

```
    :VERTical

      :AM '50%'
          '20%'
          '10%'
          '5%'
          '2%'
          '1%'
          '0.5%'
          '0.2%'
          '0.1%'
          '0.05%'
      :AM? (Returns quoted string)
```

These commands select/query the vertical axis amplitude-per-division when AM Mod or AM Demod are selected in the AF Anl Input field, located on the AF ANALYZER screen. The Vert/div field is located on the **OSCILLOSCOPE** screen when Main is selected in the Controls field.

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```
:OSC
  :SCAL
    :VERTical
      :FM '50 kHz'
          '20 kHz'
          '10 kHz'
          '5 kHz'
          '2 kHz'
          '1 kHz'
          '500 Hz'
          '200 Hz'
          '100 Hz'
          '50 Hz'
          '20 Hz'
          '10 Hz'
      :FM? (Returns quoted string)
```

THESE COMMANDS SELECT/QUERY THE VERTICAL AXIS AMPLITUDE-PER-DIVISION WHEN FM MOD OR FM DEMOD ARE SELECTED IN THE AF ANL INPUT FIELD, LOCATED ON THE AF ANALYZER SCREEN. THE VERT/DIV FIELD IS LOCATED ON THE **OSCILLOSCOPE** SCREEN WHEN MAIN IS SELECTED IN THE CONTROLS FIELD.

```
      :OFFSet (See "Real Number Setting Syntax" on page 199, :STATE not included,
                                                  valid range -4 to +4)
```

THIS COMMAND SELECTS THE VERTICAL AXIS (DC) OFFSET, MOVING THE DISPLAYED SIGNAL ABOVE OR BELOW THE OSCILLOSCOPE'S FIXED CENTERLINE. THE VERT OFFSET FIELD IS LOCATED ON THE **OSCILLOSCOPE** SCREEN WHEN MAIN IS SELECTED IN THE CONTROLS FIELD.

```
      :VOLTs '20 V'
             '10 V'
             '5 V'
             '2 V'
             '1 V'
             '500 mv'
             '200 mv'
             '100 mv'
             '50 mv'
             '20 mv'
             '10 mv'
             '5 mv'
             '2 mv'
             '1 mv'
             '500 uv'
             '200 uv'
             '100 uv'
             '50 uv'
             '20 uv'
      :VOLTs? (Returns quoted string)
```

THESE COMMANDS SELECT/QUERY THE VERTICAL AXIS AMPLITUDE-PER-DIVISION WHEN ANY CHOICE OTHER THAN FM MOD, FM DEMOD, AM MOD, OR AM DEMOD IS SELECTED IN THE AF ANL INPUT FIELD. THE AF ANL INPUT FIELD IS LOCATED ON THE AF ANALYZER SCREEN. THE VERT/DIV FIELD IS LOCATED ON THE **OSCILLOSCOPE** SCREEN WHEN MAIN IS SELECTED IN THE CONTROLS FIELD.

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```
:OSC
  :TRIGger

    :LEVel (See "Real Number Setting Syntax" on page 199, :STATE, :DUNits, :UNITs,
                                        :INCRement:MODE, :INCRement:DUNits,
                                         not included)
            THIS COMMAND SELECTS THE VERTICAL AXIS (DC) OFFSET, MOVING THE DISPLAYED
            SIGNAL ABOVE OR BELOW THE OSCILLOSCOPE'S FIXED CENTERLINE. THE VERT OFFSET
            FIELD IS LOCATED ON THE OSCILLOSCOPE SCREEN WHEN MAIN IS SELECTED IN THE
            CONTROLS FIELD.



    :MODE 'Cont'
          'Single'
    :MODE? (Returns quoted string)
            THESE COMMANDS SELECT/QUERY THE OSCILLOSCOPE TRIGGER MODE. IF THE CURRENTLY
            SELECTED TRIGGER MODE IS SINGLE, USE THE "TRIG" COMMAND TO TRIGGER EACH
            NEW MEASUREMENT. THE CONT/SINGLE FIELD IS LOCATED ON THE OSCILLOSCOPE
            SCREEN WHEN TRIGGER IS SELECTED IN THE CONTROLS FIELD.

    :DELay (See "Real Number Setting Syntax" on page 199, :STATE, :DUNits, :UNITs,
                                        :INCRement:MODE, :INCRement:DUNits,
                                         not included, valid range depends on
                                        Time/Div setting)
            THIS COMMAND SELECTS THE TRIGGER DELAY. POSITIVE VALUES DELAY THE
            MEASUREMENT TRIGGER, NEGATIVE VALUES APPLY A PRE-TRIGGER FUNCTION TO EACH
            MEASUREMENT. THE TRIG-DELAYFIELD IS LOCATED ON THE OSCILLOSCOPE SCREEN
            WHEN TRIGGER IS SELECTED IN THE CONTROLS FIELD.


    :PRETrigger (See "Real Number Setting Syntax" on page 199, :STATE, :DUNits,
                                        :UNITs, :INCRement:MODE,
                                        :INCRement:DUNits not included)
            THIS COMMAND APPLIES A PRE-TRIGGER FUNCTION TO EACH MEASUREMENT.



    :RESet
            THIS COMMAND TRIGGERS A MEASUREMENT. THE RESET FIELD IS DISPLAYED ON THE
            OSCILLOSCOPE SCREEN WHEN TRIGGER IS SELECTED IN THE CONTROLS FIELD
            APPLIES A PRE-TRIGGER FUNCTION TO EACH MEASUREMENT.

    :SENSe 'Pos'
           'Neg'
    :SENSe? (Returns quoted string)
            THESE COMMANDS SELECT/QUERY WHETHER TRIGGERING OCCURS ON THE POSITIVE OR
            NEGATIVE-GOING SLOPE OF THE INPUT SIGNAL. THE POS/NEG FIELD IS LOCATED ON
            THE OSCILLOSCOPE SCREEN WHEN TRIGGER IS SELECTED IN THE CONTROLS FIELD.


    :SOURce 'Internal'
            'Ext (TTL)'
            'Encoder'
    :SOURce? (Returns quoted string)
            THESE COMMANDS SELECT/QUERY THE TRIGGER SOURCE. THE INTERNAL FIELD IS
```


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:OSC
:TRIG

LOCATED ON THE **OSCILLOSCOPE** SCREEN WHEN TRIGGER IS SELECTED IN THE CONTROLS FIELD.

:TYPE 'Auto'
'Norm'
:TYPE? (Returns quoted string)

THESE COMMANDS SELECT/QUERY HOW THE TRIGGER LEVEL IS SET. AUTO TRIGGERS A MEASUREMENT IF A TRIGGERING SIGNAL IS NOT DETECTED WITHIN APPROXIMATELY 50 MS OF THE LAST TRIGGER. NORMAL REQUIRES A SPECIFIC TRIGGERING SIGNAL BEFORE TRIGGERING. THE AUTO/NORM FIELD IS LOCATED ON THE **OSCILLOSCOPE** SCREEN WHEN TRIGGER IS SELECTED IN THE CONTROLS FIELD.

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Program

The PROGram subsystem provides a set of commands which allow an external controller to generate and control an IBASIC program within the Test Set.

```
:PROGram

 [:SELected]

   :DEFine <#0><program><NL><END> (if length of program is not known)
           <#><number of digits in count filed><count field: number of data
               bytes in program><program data bytes> (if length of program
               is known)
           THIS COMMAND IS USED TO DOWNLOAD AN IBASIC PROGRAM INTO THE
           TEST SET. THE PROGRAM MUST BE TRANSFERRED AS IEEE 488.2
           ARBITRARY BLOCK PROGRAM DATA. REFER TO THE IEEE STANDARD 488.2-
           1987 FOR DETAILED INFORMATION ON THIS DATA TYPE.

   :DEFine? (Returns <program>)

   :EXECute <program_command>
           THIS COMMAND EXECUTES, FROM AN EXTERNAL CONTROLLER, AN IBASIC
           COMMAND IN THE TEST SET'S BUILT-IN IBASIC CONTROLLER.

   :STATe CONTinue
          PAUSe
          RUN
          STOP
            THESE COMMANDS SET, FROM AN EXTERNAL CONTROLLER, THE EXECUTION
            STATE OF THE IBASIC PROGRAM CURRENTLY LOADED IN THE TEST SET.

   :STATe? (Returns program state)
           THIS COMMAND QUERIES, FROM AN EXTERNAL CONTROLLER, THE CURRENT
           EXECUTION STATE OF THE IBASIC PROGRAM CURRENTLY LOADED IN THE
           TEST SET.
```


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```
:PROG
 [:SELected]
   :NUMBer <varname>{,<nvalues>}
            THIS COMMAND SETS, FROM AN EXTERNAL CONTROLLER, THE VALUE OF NUMERIC
            VARIABLES OR ARRAYS IN THE IBASIC PROGRAM CURRENTLY LOADED IN THE
            TEST SET.

   :NUMBer? <varname> (Returns value of <varname>)
            THIS COMMAND QUERIES, FROM AN EXTERNAL CONTROLLER, THE VALUE OF NUMERIC
            VARIABLES OR ARRAYS IN THE IBASIC PROGRAM CURRENTLY LOADED IN THE
            TEST SET.
   :STRing <varname>{,<svalues>}
            THIS COMMAND SETS, FROM AN EXTERNAL CONTROLLER, THE VALUE OF STRING
            VARIABLES OR STRING ARRAYS IN THE IBASIC PROGRAM CURRENTLY LOADED IN THE
            TEST SET.

   :STRing? <varname> (Returns value of <varname>)
            THIS COMMAND QUERIES, FROM AN EXTERNAL CONTROLLER, THE VALUE OF STRING
            VARIABLES OR STRING ARRAYS IN THE IBASIC PROGRAM CURRENTLY LOADED IN THE
            TEST SET.

   :WAIT
   :WAIT? (Returns integer value)

   :DELete
     :ALL
              THIS COMMAND DELETES THE IBASIC PROGRAM CURRENTLY LOADED IN
              THE TEST SET.
```


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RF Analyzer

```
:RFANalyzer

  :ATTenuator '0 dB'
              '5 dB'
              '10 dB'
              '15 dB'
              '20 dB'
              '25 dB'
              '30 dB'
              '35 dB'

  :ATTenuator? (Returns quoted string)
```

THESE COMMANDS SET/QUERY THE AMOUNT OF INPUT ATTENUATION IN THE PATH OF THE SELECTED INPUT PORT. SETTING THE INPUT ATTEN FIELD TO "HOLD" (CONF:ATT:MODE 'HOLD') PREVENTS THE RF AUTO-RANGING PROCESS FROM CHANGING THE ATTENUATION SETTING. THE INPUT ATTEN FIELD IS FOUND ON THE **CONFIGURE, RF ANALYZER, SPECTRUM ANALYZER,** AND **CDMA REVERSE CHANNEL SPECTRUM** SCREENS.

```
  :MODE 'Auto'
        'Hold'
  :MODE? (Returns quoted string)
```

THESE COMMANDS SET/QUERY THE RF AUTO-RANGING MODE. SETTING THE INPUT ATTEN FIELD TO "HOLD" (CONF:ATT:MODE 'HOLD') PREVENTS THE RF AUTO-RANGING PROCESS FROM CHANGING THE ATTENUATION SETTING.THE INPUT ATTEN FIELD IS FOUND ON THE **CONFIGURE, RF ANALYZER, SPECTRUM ANALYZER,** AND **CDMA REVERSE CHANNEL SPECTRUM** SCREENS.

```
  :FREQuency (See "Real Number Setting Syntax" on page 199, :STATe not included)
```

THIS COMMAND SETS TUNE FREQUENCY FOR THE RF ANALYZER. THE TUNE FREQ FIELD IS FOUND ON THE **RF ANALYZER** SCREEN **WHEN THE** RF D**ISPLAY FIELD ON THE CONFIGURE SCREEN IS SET TO FREQ. THE CENTER FREQ FIELD IS FOUND ON THE SPECTRUM ANALYZER** AND **CDMA REVERSE CHANNEL WHEN THE** CONTROLS FIELD IS SET TO MAIN, AND THE RF D**ISPLAY FIELD ON THE CONFIGURE SCREEN IS SET TO FREQ**.

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```
:RFAN

:GTIMe (See "Real Number Setting Syntax" on page 199, :DUNits, :UNITs only)
     THIS COMMAND SETS THE GATE TIME FOR THE RF FREQUENCY COUNTER. THE RF CNT
     GATE FIELD IS FOUND ON THE RF ANALYZER SCREEN.
:IFBW '15 kHz'
     '230 kHz'
:IFBW? (Returns quoted string)
     THESE COMMANDS SET/QUERY THE IF (INTERMEDIATE FREQUENCY) FILTER
     BANDWIDTH. THE IF FILTER FIELD IS FOUND ON THE RF ANALYZER SCREEN.
```


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```
:RFAN
  :INPut 'RF In'
         'Ant'
  :INPut? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE RF INPUT PORT. THE INPUT PORT
          FIELD IS FOUND ON THE CONFIGURE, TX TEST, AND RF ANALYZER SCREENS
          (THIS FIELD IS COUPLED TO THE RF IN/ANT UN-NAMED FIELD ON THE CDMA
          REVERSE CHANNEL SPECTRUM AND SPECTRUM ANALYZER SCREENS.

  :PMEasurement

    :DETector 'Peak'
              'Sample'
    :DETector? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE WAY ANALOG TRANSMITTER POWER MEASUREMENTS
              ARE MADE. THE TX PWR MEAS FIELD IS FOUND ON THE RF ANALYZER AND
              TX TEST SCREENS.

    :MILevel  '-10.0 dBm'
              '-5.0 dBm'
              '0.0 dBm'
    :MILevel? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE EXPECTED INPUT POWER LEVEL FOR ANALOG
              MEASUREMENTS. SETTING HIGHER VALUES FOR MINIMUM INPUT LEVEL SPEEDS UP
              ANALOG POWER MEASUREMENTS. THE MIN INP LVL FIELD IS FOUND ON THE RF
              ANALYZER, ANALOG MEAS, AND TX TEST SCREENS


    :ZERO
              THIS COMMAND ESTABLISHES A 0.0000 W REFERENCE FOR MEASURING
              RF POWER AT THE RF IN/OUT POR. THE TX PWR ZERO FIELD IS
              FOUND ON THE RF ANALYZER AND TX TEST SCREENS.

      :MODE   'Auto'
              'Manual'
      :MODE? (Returns quoted string)
              THESE COMMANDS SET/QUERY THE AUTO ZERO MODE FIELD. THIS FIELD IS FOUND ON
              THE RF ANALYZER SCREEN.

  :SENSitivity 'Normal'
               'High'
  :SENSitivity? (Returns quoted string)

  :SQUelch 'Pot'
           'Open'
           'Fixed'
  :SQUelch? (Returns quoted string)

  :TKEY 'On'
        'Off'
  :TKEY? (Returns quoted string)

  :TMODe 'Auto'
         'Manual'
```


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```
:RFAN
  :TMODe? (Returns quoted string)

  :RFCHannel (See "Integer Number Setting Syntax" on page 197)
```


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RF Generator

```
:RFGenerator

  :ATTenuator 'On'
              'Off'
  :ATTenuator? (Returns quoted string)
```

These commands set/query the attenuator hold function. The Atten Hold field is displayed on the **RF GENERATOR, RX TEST, OR DUPLEX TEST** screens. The Output Atten Hold field is found on the **CDMA TRANSMITTER POWER RANGE TEST** screen.

```
  :AMPLitude (See "Real Number Setting Syntax" on page 199)
```

This command sets the RF generator amplitude. The Amplitude field is found on the **RF GENERATOR, RX TEST, OR DUPLEX TEST** screens. The Amplitude field is found on the **SPECTRUM ANALYZER** screen when the Controls field is set to "RF Gen".

```
  :FM

    :COUPling 'AC'
              'DC'
    :COUPling? (Returns quoted string)
```

These commands set/query the type of coupling between the MODULATION INPUT rear-panel connector and the RF generator's FM modulator. The FM Coupling field is displayed on the **RFGENERATOR, DUPLEX TEST, AND VARIOUS ENCODER** screens.

```
    :DCZero
```

This command offsets any DC bias that exists when "DC" is selected in the command above. The DC FM Zero field is found on the **RF GENERATOR** screen.

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:RFG

:FREQuency (See "Real Number Setting Syntax" on page 199, :STATe not included)

THIS COMMAND SETS THE RF GENERATOR FREQUENCY. THE FREQUENCY ENTERED USING THIS COMMAND IS APPLIED WHEN THE RF DISPLAY FIELD ON THE **CONFIGURE** SCREEN IS SET TO FREQ. THE RF GEN FREQ FIELD IS FOUND ON THE **CDMA CALL CONTROL**, **RX TEST**, AND **DUPLEX TEST** SCREENS WHEN THE RF DISPLAY FIELD ON THE **CONFIGURE** SCREEN IS SET TO FREQ. THE RF GEN FREQ FIELD IS FOUND ON THE **CDMA REVERSE CHANNEL SPECTRUM** SCREEN WHEN THE CONTROLS FIELD IS SET TO "CDMA GEN", AND THE RF DISPLAY FIELD ON THE **CONFIGURE** SCREEN IS SET TO FREQ. THE RF GEN FREQ FIELD IS FOUND ON THE **SPECTRUM ANALYZER** SCREEN WHEN THE CONTROLS FIELD IS SET TO "RF GEN" AND THE RF DISPLAY FIELD ON THE **CONFIGURE** SCREEN IS SET TO FREQ.

:OUTPut 'RF Out'
'Dupl'

:OUTPut? (Returns quoted string)

THESE COMMANDS SET/QUERY THE RF OUTPUT PORT. THE OUTPUT PORT FIELD IS FOUND ON THE **CONFIGURE, RF GENERATOR, DUPLEX TEST, AND RX TEST SCREENS.** THE OUTPUT PORT FIELD IS FOUND ON THE **SPECTRUM ANALYZER SCREEN WHEN THE** CONTROLS FIELD IS SET TO "RF GEN". THE OUTPUT PORT FIELD IS FOUND ON THE **CDMA REVERSE CHANNEL SPECTRUM SCREEN WHEN THE** CONTROLS FIELD IS SET TO "CDMA GEN".

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```
:RFG
  :MODulation

    :AOUT 'AC'
          'DC'
    :AOUT? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE TYPE OF COUPLING BETWEEN THE DEMODULATED AUDIO
          AND THE AUDIO OUT FRONT-PANEL CONNECTOR. THE AUDIO OUT FIELD IS
          FOUND ON THE RF GENERATOR SCREEN.


    :EXTernal

      :AM (See "Real Number Setting Syntax" on page 199)
          THIS COMMAND SETS THE AM SENSITIVITY OF THE RF GENERATOR WHEN AM IS
          APPLIED THROUGH THE MODULATION INPUT REAR-PANEL CONNECTOR. THE MOD IN
          TO FIELD IS FOUND ON THE RF GENERATOR SCREEN.


      :DESTination 'AM (/Vpk)'
                   'FM (/Vpk)'
      :DESTination? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE TYPE OF MODULATION THAT WILL BE APPLIED TO THE
          RF GENERATOR, USING THE MODULATION INPUT REAR-PANEL CONNECTOR AS A
          MODULATION SOURCE. THE MOD IN TO FIELD IS FOUND ON THE RF GENERATOR
          SCREEN.


      :FM (See "Real Number Setting Syntax" on page 199)
          THIS COMMAND SETS THE FM SENSITIVITY OF THE RF GENERATOR WHEN FM IS
          APPLIED THROUGH THE MODULATION INPUT REAR-PANEL CONNECTOR. THE MOD IN
          TO FIELD IS FOUND ON THE RF GENERATOR SCREEN.


      :PEMPhasis 'On'
                 'Off'
      :PEMPhasis? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE MICROPHONE PRE-EMPHASIS STATE. THE MIC
          PRE-EMP FIELD IS FOUND ON THE RF GENERATOR SCREEN. THE MIC PRE-EMP
          MODE, (SEE COMMAND BELOW) MUST BE SET TO "HOLD" TO TURN PRE-EMPHASIS OFF.


        :MODE 'Auto'
              'Hold'
        :MODE? (Returns quoted string)
          THESE COMMANDS SET/QUERY THE MICROPHONE PRE-EMPHASIS MODE. THE MIC
          PRE-EMP FIELD IS FOUND ON THE RF GENERATOR SCREEN. THE MIC PRE-EMP
          MODE, MUST BE SET TO "HOLD" TO TURN PRE-EMPHASIS OFF (SEE COMMAND ABOVE).
```


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:RFG

:RFCHannel (See "Integer Number Setting Syntax" on page 197)

This command sets the RF channel, which maps to an RF generator/analyzer frequency pair. The channel number entered using this command is applied when the RF Display field on the **CONFIGURE** screen is set to Chan. The RF Channel field is found on the **CDMA CALL CONTROL**, **RX TEST**, and **DUPLEX TEST** screens when the RF Display field on the **CONFIGURE** screen is set to Chan. The RF Channel field is found on the **CDMA REVERSE CHANNEL SPECTRUM** screen when the Controls field is set to "Main" or "CDMA Gen", and the RF Display field on the **CONFIGURE** screen is set to Chan. The RF Channel field is found on the **SPECTRUM ANALYZER** screen when the Controls field is set to "Main" or "RF Gen" and the RF Display field on the **CONFIGURE** screen is set to Chan.

C:\Documents\CDMA\CDMA_REFBOOK\SCPI\RFG.fm 5 of 20

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Spectrum Analyzer

```
:SANalyzer

  :ATTenuator '0 dB'
    '5 dB'
    '10 dB'
    '15 dB'
    '20 dB'
    '25 dB'
    '30 dB'
    '35 dB'

  :ATTenuator? (Returns quoted string)

    :MODE 'Auto'
          'Hold'
    :MODE? (Returns quoted string)

  :CFRequency (See "Real Number Setting Syntax" on page 199, :STATe not included)

  :CONTrol 'Main'
    'RF Gen'
    'Marker'
    'Auxiliary'
  :CONTrol? (Returns quoted string)

  :DISPlay
    :SCALe '1 dB/div'
    '2 dB/div'
    '10 dB/div'
    :SCALe? (Returns quoted string)

  :INPut 'RF In'
    'Ant'
      THESE COMMANDS SET/QUERY AN UN-NAMED FIELD THAT CORRELATES WITH THE
      INPUT PORT FIELD FOUND ON THE CONFIGURE SCREEN AND OTHERS. THIS
      UN-NAMED FIELD IS DISPLAYED ON THE SPECTRUM ANALYZER SCREEN WHEN
      "MAIN" IS SELECTED IN THE CONTROLS FIELD.

  :INPut? (Returns quoted string)
```


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:SAN
:MARKer
:MODE 'Norm'
'Delta'
:MODE?
THESE COMMANDS SET/QUERY THE CONTROLS, NORM/DELTA FIELD. THIS FIELD IS FOUND ON THE **SPECTRUM ANALYZER** SCREEN.

:DELTa
:CFRequency
THIS COMMAND SETS THE DELTA MERKER AT THE CENTER FREQUENCY OF THE SPECTRUM ANALYZER'S MEASUREMENT TRACE. THE MARKER TO, CENTER FREQ FIELD IS FOUND ON THE **SPECTRUM ANALYZER** SCREEN.

:NPEak
THIS COMMAND SETS THE DELTA MERKER AT THE NEXT PEAK OF THE SPECTRUM ANALYZER'S MEASUREMENT TRACE. THE MARKER TO, NEXT PEAK FIELD IS FOUND ON THE **SPECTRUM ANALYZER** SCREEN.

:NPLEVEL (See **"Real Number Setting Syntax" on page 199**, :STATe not included)
:NPLEVEL?
THESE COMMANDS SET/QUERY THE LEVEL OF THE NEXT SIGNAL PEAK SIGNAL AT THE DELTA MARKER. THE LVL FIELD IS FOUND ON THE **SPECTRUM ANALYZER** SCREEN.

:PEAK
THIS COMMAND MOVES THE DELTA MARKER TO THE HIGHEST PEAK OF THE SIGNALS ON THE SPECTRUM ANALYZER DISPLAY TRACE. THE MARKER TO, PEAK FIELD IS FOUND ON THE **SPECTRUM ANALYZER** SCREEN.

:POSITION (See **"Real Number Setting Syntax" on page 199**, :STATe not included)
:POSITION?
THESE COMMANDS SET/QUERY THE POSITION OF THE DELTA MARKER ON THE SPECTRUM ANALYZER. THE POSITION FIELD IS FOUND ON THE **SPECTRUM ANALYZER** SCREEN.

:RLEVEL
THIS COMMAND MOVES THE SIGNAL AT THE DELTA MARKER TO THE REFERENCE LEVEL POSITION OF THE SPECTRUM ANALYZER.

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```
:SAN
  :MARK
    [:NORMal]
      :CFRequency
          This command sets the merker at the center frequency of the spectrum
          analyzer's measurement trace. The Marker To, Center Freq field is found on
          the SPECTRUM ANALYZER screen.

      :NPEak
          This command sets the merker at the next peak of the spectrum
          analyzer's measurement trace. The Marker To, Next Peak field is found on the
          SPECTRUM ANALYZER screen.

      :NPLevel (See "Real Number Setting Syntax" on page 199, :STATe not included)
      :NPLevel?
          These commands set/query the level of the next signal peak signal at the
          marker. The Lvl field is found on the SPECTRUM ANALYZER screen.

      :PEAK
          This command moves the marker to the highest peak of the signals on the
          spectrum analyzer display trace. The Marker To, Peak field is found on the
          SPECTRUM ANALYZER screen.

      :POSition (See "Real Number Setting Syntax" on page 199, :STATe not included)
      :POSition?
          These commands set/query the position of the marker on the spectrum
          analyzer. The Position field is found on the SPECTRUM ANALYZER screen.

      :RLEVel
          This command moves the signal at the marker to the reference level position
          of the spectrum analyzer.

:RFGenerator 'Track'
  'Fixed'
:RFGenerator? (Returns quoted string)

:RLEVel (See "Real Number Setting Syntax" on page 199, :STATe not included)

:SPAN (See "Real Number Setting Syntax" on page 199, :STATe not included)

:TGENerator

  :AMPLitude (See "Real Number Setting Syntax" on page 199)

  :DESTination 'RF Out'
  'Dupl'
  :DESTination? (Returns quoted string)

  :OFRequency (See "Real Number Setting Syntax" on page 199, :STATe not included)

  :SWEep 'Norm'
  'Invert'
  :SWEep? (Returns quoted string)
```


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```
:SAN
  :TRACe

    :MHOLd 'No Pk/Avg'
    'Pk Hold'
    'Avg 1'
    'Avg 2'
    'Avg 3'
    'Avg 4'
    'Avg 5'
    'Avg 10'
    'Avg 20'
    'Avg 50'
    'Avg 100'
    'Off'
    :MHOLd? (Returns quoted string)

    :NORMalize 'A-Only'
    'A-B'
    :NORMalize? (Returns quoted string)

    :SAVE
```


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Save/Recall Registers

```
[:REGister]
   :CLEar <integer_value>|'<character_data>'
   :ALL
   :RECall <integer_value>|'<character_data>'
   :SAVE <integer_value>|'<character_data>'
   :LIST? (Returns quoted string)
```


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Special (GPIB Only Commands)

```
:SPECial

  :DISPlay 'LOCKED'
           'UNLOCKED'
  :DISPlay? (Returns quoted string)
    These commands are used to speed up remote operation by "locking"
    the display. Refer to "Increasing Measurement Throughput" in the
    Operating Overview chapter of the Agilent Technologies 8924C User's
    Guide for more information.
```


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Status

```
:STATus

  :PRESet

  :CALibration

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)

  :COMMunicate

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)
```


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```
:STAT
  :CDMA

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)

  :SERIAL1|SER1

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)

  :SERIAL2|SER2

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)
```


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```
:STAT
  :HARDWARE1|HARD1

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)

  :HARDWARE2|HARD2

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)
```


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```
:STAT
  :OPERation

   :CONDition? (Returns integer value)

   :ENABle <integer_value>
   :ENABle? (Returns integer value)

  [:EVENt]? (Returns integer value)

   :NTRansition <integer_value>
   :NTRansition? (Returns integer value)

   :PTRansition <integer_value>
   :PTRansition? (Returns integer value)

  :CALibrating

   :CONDition? (Returns integer value)

   :ENABle <integer_value>
   :ENABle? (Returns integer value)

  [:EVENt]? (Returns integer value)

   :NTRansition <integer_value>
   :NTRansition? (Returns integer value)

   :PTRansition <integer_value>
   :PTRansition? (Returns integer value)
```


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```
:STAT
  :QUEStionable

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)

  :MEASuring

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)
```


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```
:STAT
  :CALLProc

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)

  :CDMA1

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)

  :CDMA2

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)
```


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```
:STAT
  :CAUThen

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)

  :CSMService

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)


  :GPOWer

    :CONDition? (Returns integer value)

    :ENABle <integer_value>
    :ENABle? (Returns integer value)

   [:EVENt]? (Returns integer value)

    :NTRansition <integer_value>
    :NTRansition? (Returns integer value)

    :PTRansition <integer_value>
    :PTRansition? (Returns integer value)
```


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```
:STAT
 :OLTR

  :CONDition? (Returns integer value)

  :ENABle <integer_value>
  :ENABle? (Returns integer value)

 [:EVENt]? (Returns integer value)

  :NTRansition <integer_value>
  :NTRansition? (Returns integer value)

  :PTRansition <integer_value>
  :PTRansition? (Returns integer value)
```


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System

```
:SYSTem
 [:ERRor]? (Returns integer value followed by quoted string)

  :RESTart
   THIS COMMAND FORCES ALL MICROPROCESSORS IN THE TEST SET TO REBOOT AND AS A
   RESULT REINITIALIZE CONTROLLED HARDWARE. THIS FUNCTION IS SIMILAR TO TURNING
   ON THE POWER (SWITCHING POWER STATE FROM STANDBY TO ON).
```


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Tests

```
:TESTs

  :COMMENT1|COMM1 '<character_data>' (50 chars max, valid chars:)
                                     ABCDEFGHIJKLMNOPQRSTUVWXYZ_012
                                     3456789 abcdefghijklmnopqrstuvwxyz
                                     !"#$%&'()*+,-./:;<=>?@[\]^'{|}~
  :COMMENT1?|COMM1? (Returns quoted string)

  :COMMENT2|COMM2 '<character_data>' (50 chars max, valid chars:)
                                     ABCDEFGHIJKLMNOPQRSTUVWXYZ_012
                                     3456789 abcdefghijklmnopqrstuvwxyz
                                     !"#$%&'()*+,-./:;<=>?@[\]^'{|}~
  :COMMENT2?|COMM2? (Returns quoted string)

  :CONFigure|CNFG <integer_value>,'<character_data>','<character_data>',
                  <integer_value>,'<character_data>'
  :CONFigure?|CNFG? <integer_value> (Returns unquoted string consisting of
                                     5 elements separated by commas)

  :EXECution

    :DESTination 'Crt
                 'Printer'
    :DESTination? (Returns quoted string)

    :FAILure 'Continue'
             'Stop'
    :FAILure? (Returns quoted string)

    :HEADING1|HEAD1 '<character_data>' (50 chars max, valid chars:)
                       ABCDEFGHIJKLMNOPQRSTUVWXYZ_012
                       3456789 abcdefghijklmnopqrstuvwxyz
                       !"#$%&'()*+,-./:;<=>?@[\]^'{|}~
    :HEADING1?|HEAD1? (Returns quoted string)

    :HEADING2|HEAD2 '<character_data>' (50 chars max, valid chars:)
                       ABCDEFGHIJKLMNOPQRSTUVWXYZ_012
                       3456789 abcdefghijklmnopqrstuvwxyz
                       !"#$%&'()*+,-./:;<=>?@[\]^'{|}~
    :HEADING2?|HEAD2? (Returns quoted string)

    :RESults 'All'
             'Failures'
    :RESults? (Returns quoted string)

    :RUN 'Continuous'
         'Single Step'
    :RUN? (Returns quoted string)
```


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```
:TESTs
  :FREQuency <integer_value>,<real_value>,'<character_data>',<real_value>,
             '<character_data>','YES|NO','YES|NO'
  :FREQuency? <integer_value> (Returns unquoted string consisting of
                               7 elements separated by commas)

  :LIBRary? (Returns unquoted string consisting of 3 elements
             separated by commas)

  :PARMameter|PARameter

   [:NUMBer] <integer_value>,<real_value>
   [:NUMBer]? <integer_value> (Returns unquoted string consisting of
                    2 elements separated by commas)

    :STRing '<character_data>',<real_value>
    :STRing? '<character_data>' (Returns unquoted string consisting of
                               2 elements separated by commas)

  :PROCedure

    :AUTostart|AUTO 'ON'
                    'OFF'
    :AUTostart?|AUTO? (Returns quoted string)

    :LOCation 'RAM'
              'ROM'
              'CARD'
              'Disk'
    :LOCation? (Returns quoted string)

    :NAME '<character_data>' (10 chars max, valid chars: )
                               ABCDEFGHIJKLMNOPQRSTUVWXYZ_0123456789
    :NAME? (Returns quoted string)

    :RUN

    :RUNTest
```


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```
:TESTs
  :SEQNumber
   [:NUMBer] <integer_value>,'<character_data>' (249 chars max, valid chars:)
                                                0123456789,YN
   [:NUMBer]? <integer_value> (Returns unquoted string consisting of
                       3 elements separated by commas)

  :SPEC

   [:NUMBer] <integer_value>,<real_value>,<real_value>,'Upper|Lower|Both|
                                                        None'
   [:NUMBer]? <integer_value> (Returns unquoted string consisting of
                       4 elements separated by commas)

    :STRing '<character_data>',<real_value>,<real_value>,'Upper|Lower|
                                                Both|None'
    :STRing? '<character_data>' (Returns unquoted string consisting of
                       4 elements separated by commas)
```


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Trigger

For a description of active measurements and the measurement triggering process, refer to “Measurement Triggering Process” in the Operating Overview chapter of the *E8285A User’s Guide*.

```
:TRIGger
 [:IMMediate]
          THIS COMMAND TRIGGERS ALL ACTIVE MEASUREMENTS.

          IN PERFORMING THE CDMA SWEPT POWER MEASUREMENT, IT IS NECESSARY TO SEND
          THE COMMAND “TRIGger:MODE:RETRiggerSINGle” ONCE BEFORE ARMING THE
          MEASUREMENT.

  :ABORt
          THIS COMMAND ENDS A MEASUREMENT CYCLE IN PROGRESS.

  :ASTate 'Arm'
          'Disarm'
          THESE COMMANDS TRIGGER/ABORT ALL ACTIVE MEASUREMENTS.
  :ASTate? (Returns quoted string)



  :MODE

    :RETRigger REPetitive
               SINGle
    :RETRigger? (Returns unquoted string)
          THESE COMMANDS SET/QUERY THE TRIGGER MODE. REPETITIVE TRIGGER
          MODE CAUSES THE TEST SET TO AUTOMATICALLY BEGIN A NEW
          MEASUREMENT CYCLE EACH TIME A MEASUREMENT CYCLE ENDS. SINGLE
          TRIGGER MODE CAUSES THE TEST SET TO WAIT FOR A TRIGGER (TRIG)
          COMMAND BEFORE BEGINNING A NEW MEASUREMENT CYCLE.
  :SETTling FAST
            FULL
  :SETTling? (Returns unquoted string)
          THESE COMMANDS SET/QUERY THE TRANSIENT SETTLING MODE. THESE
          COMMANDS DO NOT AFFECT CDMA MEASUREMENTS.
```


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Integer Number Setting Syntax

```
:Previous Syntax<integer_value>
  ? (Returns integer value)

  #B<binary integer_value> (Max 32 bits, ex.: #B10101010)
  #O<octal integer_value>
  #H<hexidecimal integer_value>

  :INCRement UP|DOWN
  :INCRement? (Returns integer value)
```


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Real Number Setting Syntax

```
:Previous Syntax<real_value>[display unit_of_measure] (ex: -75 or -75dBm)
                ? (Returns real value)

  :DUNits <display unit_of_measure>
  :DUNits? (Returns display units)

  :UNITs <GPIB unit_of_measure>
  :UNITs? (Returns GPIB units)

  :STATe 1|ON
         0|OFF
  :STATe? (Returns 1 or 0)

  :INCRement <incr_value>[display unit_of_meas] (Ex:3.5 or 3.5dBm)
  :INCRement UP|DOWN
  :INCRement? (Returns increment value)

    :DUNits <display unit_of_measure>
    :DUNits? (Returns INCRement display units)

    :MODE LINear|LOGarithm
    :MODE? (Returns LIN or LOG)

    :MULTiply (Multiplies current setting by 10)

    :DIVide (Divides current setting by 10)
```


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Multiple Real Number Setting Syntax

```
:Previous Syntax<integer_value>,<real_value>[display unit_of_measure]
  ? <integer_value> (Returns real value)

  :DUNits <integer_value>,<display unit_of_measure>
  :DUNits? <integer_value> (Returns display unit_of_measure)

  :UNITs <integer_value>,<GPIB unit_of_measure>
  :UNITs? <integer_value> (Returns GPIB unit_of_measure)

  :INCRement <integer_value>,<incr_value>[display unit_of_meas]
  :INCRement <integer_value>,UP|DOWN
  :INCRement? <integer_value> (Returns increment value)

    :DUNits <integer_value>,<display unit_of_measure>
    :DUNits? <integer_value> (Returns display unit_of_measure)

    :MODE <integer_value>,LINear|LOGarithm
    :MODE? <integer_value> (Returns LIN or LOG)

    :MULTiply <integer_value>

    :DIVide <integer_value>
```


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Number Measurement Syntax

```
:Previous Syntax

  :STATe 1|ON
         0|OFF
  :STATe? (Returns 1 or 0)

  :DUNits <display unit_of_measure>
  :DUNits? (Returns display unit_of_measure)

  :UNITs <GPIB unit_of_measure>
  :UNITs? (Returns GPIB unit_of_measure)

  :AUNits <Attribute unit_of_measure>
  :AUNits? (Returns attribute unit_of_measure)

  :AVERage[:VALue] <real_value>
  :AVERage[:VALue]? (Returns number of averages setting)

    :RESet

    :STATe 1|ON
           0|OFF
    :STATe? (Returns 1 or 0)

  :REFerence

   [:VALue] <real_value>[GPIB unit_of_measure for relative level]
   [:VALue]? (Returns reference value)

    :DUNits <display unit_of_measure>
    :DUNits? (Returns display unit_of_measure)

    :STATe 1|ON
           0|OFF
    :STATe? (Returns 1 or 0)

  :HLIMit

   [:VALue] <real_value>[display unit_of_measure]
   [:VALue]? (Returns real value)

    :DUNits <display unit_of_measure>
    :DUNits? (Returns display unit_of_measure)

    :RESet

    :EXCeeded? (Returns 1 or 0)
```


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```
  :STATe 1|ON
      0|OFF
  :STATe? (Returns 1 or 0)

:LLIMit

 [:VALue] <real_value>[display unit_of_measure]
 [:VALue]? (Returns real value)

  :DUNits <display unit_of_measure>
  :DUNits? (Returns display unit_of_measure)

  :RESet

  :EXCeeded? (Returns 1 or 0)

  :STATe 1|ON
        0|OFF
  :STATe? (Returns 1 or 0)

:METer

 [:STATe] 1|ON
          0|OFF
 [:STATe]? (Returns 1 or 0)

  :HEND <real_value>[display unit_of_measure]
  :HEND? (Returns real value)

    :DUNits <display unit_of_measure>
    :DUNits? (Returns display unit_of_measure)

  :LEND <real_value>[display unit_of_measure]
  :LEND? (Returns real value)

    :DUNits <display unit_of_measure>
    :DUNits? (Returns display unit_of_measure

  :INTerval <integer_value>
  :INTerval? (Returns integer value)
```


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Multiple Number Measurement Syntax

```
:Previous Syntax

  :DUNits <display unit_of_measure>
  :DUNits? (Returns display unit_of_measure)

  :UNITs <GPIB unit_of_measure>
  :UNITs? (Returns GPIB unit_of_measure)

  :STATe 1|ON
         0|OFF
  :STATe? (Returns 1 or 0)
```


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GPIB Common Commands

IEEE 488.2 Common Commands

The IEEE 488.2 Standard defines a set of common commands which provide for uniform communication between devices on the GPIB. These commands are common to all instruments which comply with the IEEE 488.2 Standard. These commands control some of the basic instrument functions, such as instrument identification, instrument reset, and instrument status reporting.

The following common commands are implemented in the Test Set:

Table 2 Test Set IEEE 488.2 Common Commands

Mnemonic	Command Name
*CLS	Clear Status Command
*ESE	Standard Event Status Enable Command
*ESE?	Standard Event Status Enable Query
*ESR?	Standard Event Status Register Query
*IDN?	Identification Query
*OPC	Operation Complete Command
*OPC?	Operation Complete Query
*OPT?	Option Identification Query
*PCB	Pass Control Back Command
*RCL	Recall Command
*RST	Reset Command
*SAV	Save Command
*SRE	Service Request Enable Command
*SRE?	Service Request Enable Query
*STB?	Read Status Byte Query
*TRG	Trigger Command
*TST?	Self-Test Query
*WAI	Wait-To-Continue Command

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Common Command Descriptions

*IDN? (Identification Query)

The *IDN? query causes a device to send its identification information over the bus. The Test Set responds to the *IDN? command by placing its identification information, in ASCII format, into the Output Queue. The response data is obtained by reading the Output Queue into a string variable of length 72. The response data is organized into four fields separated by commas. The field definitions are described in **table 3**.

Table 3 Device Identification

Field	Contents	Typical Response from Test Set
1	Manufacturer	Agilent Technologies
2	Model	E8285A
3	Serial Number	US12345678
4	Firmware Revision Level	A.02.04

NOTE: The Serial Number is formatted as follows:

```
AAXXXXXXXX
```

where
A = alpha character
X = numeric character
.

Example BASIC program

```
10 DIM A$[72]
20 OUTPUT 714;"*IDN?"
30 ENTER 714;A$
40 PRINT A$
50 END
```

Example response

```
Agilent Technologies,E8285A,US35210066,A.02.31
```


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*OPT? (Option Identification Query)

The *OPT? command tells the Test Set to identify any reportable device options or filters installed in the unit. The Test Set responds to the *OPT? command by placing information which describes any reportable installed options into the Output Queue. The data is in ASCII format. The response data is obtained by reading the Output Queue into a string variable. The response data is organized into fields separated by commas.

Example BASIC program

```
10 DIM A$[255]
20 OUTPUT 714;"*OPT?"
30 ENTER 714;A$
40 PRINT A$
50 END
```

Example response

```
SPECTRUM ANALYZER,CMESSAGE,6KHZBPF,0
```

NOTE: At the time of this printing, the fourth field is reserved for a future option and will always return a 0 (zero).

*RST (Reset)

The *RST command resets the Test Set. When the *RST command is received the majority of fields in the Test Set are “restored” to a default value, some fields are “maintained” at their current state and some are “initialized” to a known state. Other operational characteristics are also affected by the *RST command as follows:

- All pending operations are aborted.
- The Test Set’s display screen is in the UNLOCKED state.
- Measurement triggering is set to TRIG:MODE:SETT FULL;RETR REP.
- Any previously received Operation Complete command (*OPC) is cleared.
- Any previously received Operation Complete query command (*OPC?) is cleared.
- The power-up self-test diagnostics are not performed.
- The contents of the SAVE/RECALL registers are not affected.
- Calibration data is not affected.
- The GPIB interface is not reset (any pending Service Request is not cleared).
- All Enable registers are unaffected: Service Request, Standard Event, Communicate, Hardware #1, Hardware #2, Operation, Calibration, and Questionable Data/Signal.
- All Negative Transition Filter registers are unaffected: Communicate, Hardware #1, Hardware #2, Operational, Calibration, and Questionable Data/Signal.
- All Positive Transition Filter registers are unaffected: Communicate, Hardware #1, Hardware #2, Operational, Calibration, and Questionable Data/Signal.
- The contents of the RAM memory are unaffected.
- The contents of the Output Queue are unaffected.
- The contents of the Error Queue are unaffected.

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*TST? (Self-Test Query)

The *TST? self-test query causes the Test Set to execute a series of internal self-tests and place a numeric response into the Output Queue indicating whether or not the Test Set completed the self-test without any detected errors. The response data is obtained by reading the Output Queue into a numeric variable, real or integer. Upon successful completion of the self-test the Test Set settings are restored to their values prior to receipt of the *TST? command. The numeric response definition is as shown in table 4.

Table 4 Self-Test Response

Detected Error	Returned Error Code (Decimal)	Error Code Displayed on Test Set's CRT (Hexadecimal)
None (all self-tests passed)	0	0000
68000 Processor Failure	2	0002
ROM Checksum Failure	4	0004
Standard Non-Volatile System RAM Failure	8	0008
Non-Volatile System RAM Failure	16	0010
6840 Timer Chip Failure	32	0020
Real-time Clock Chip Failure	64	0040
Keyboard Failure (stuck key)	128	0080
RS-232 Chip (I/O option installed and not functioning correctly)	256	0010
Serial Bus Communications Failure with a Standard Board	512	0200
Signaling Board Self-Test Failure	1024	0400
CRT Controller Self-Test Failure	2048	0800
Miscellaneous Hardware Failure	4096	1000

NOTE: Refer to the *Agilent Technologies E8285A Assembly Level Repair Manual* for further information on Power-Up Self Test failures.

Example BASIC program

```
10 INTEGER Slf_tst_response
20 OUTPUT 714;"*TST?"
30 ENTER 714;Slf_tst_respons
40 PRINT Slf_tst_respons
50 END
```

Example response

```
512
```


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*OPC (Operation Complete)

The *OPC command allows for synchronization between the Test Set and an external controller. The *OPC command causes the Test Set to set bit 0, Operation Complete, in the Standard Event Status Register to the TRUE, logic 1, state when the Test Set completes all pending operations. Detection of the Operation Complete message can be accomplished by continuous polling of the Standard Event Status Register using the *ESR? common query command. However, using a service request eliminates the need to poll the Standard Event Status Register thereby freeing the controller to do other useful work.

NOTE: The *OPC command does not necessarily cause bit 0 in the Standard Event Status Register to be set true immediately following a measurement completion or the completion of a state or condition change in the Test Set. The instrument control processor is able to query the signal measurement instrumentation to determine if a measurement cycle has completed. However, the instrument control processor is not able to query the signal generation instrumentation to determine if the signal(s) have settled. In order to ensure that all signals have settled to proper values, the instrument control processor initiates a *one-second delay* upon receipt of the *OPC, *OPC? and *WAI commands. In parallel with the one-second timer the instrument control processor commands all active measurements to tell it when the measurement(s) are done. If an active (on) measurement displays four dashes (----) and the Test Set is configured with a PCS Interface, the *OPC, *OPC? and *WAI commands are never “done”. Turn off any measurements that may cause this condition, or command the Test Set to single trigger mode. If the Test Set is not configured with a PCS Interface, and an active measurement displays four dashes (----), the conditions required to satisfy *OPC, *OPC? and *WAI commands may be satisfied, but a valid measurement result will not be obtained.It is only when all active measurements are done and the one-second timer has elapsed, that the *OPC, *OPC? and *WAI commands are satisfied. Many state changes or measurement cycles take much less than one second. For this reason, *OPC should not be used when program execution speed is an issue.

CAUTION: The *OPC command should *not* be used for determining if a call processing state command has completed successfully. Using the *OPC command with a Call Processing Subsystem state command results in a deadlock condition.

For example, the following command sequence should not be used:

```
OUTPUT 714;"CALLP:ACTive;*OPC"
```

The *OPC command should not be used with any of the following Call Processing Subsystem commands: :ACTive, :REGister, :PAGE, :HANDoff, :RELease. The *OPC command should not be used with any of the following CDMA:CALL subsystem commands: :ANSWer, :MAKE, :END, :HANDoff.

The CDMA Status Register Group and the Call Processing Subsystem Status Register Group should be used to control program flow. Refer to “Controlling Program Flow” chapter in the Test Set’s Application Guide for information on controlling program flow using the Call Processing Subsystem Status Register Group.

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Example BASIC program: Using *OPC to generate a Service Request

```
10  OUTPUT 714;"*SRE 32" ! Enable SRQ on events in the Standard Event Status Register
20  OUTPUT 714;"*ESE 1" ! Enable Operation Complete bit in Standard Event Status Register
30  ON INTR 7,15 CALL Srvice_interupt ! Set up interrupt
40  ENABLE INTR 7;2 ! Enable SRQ interrupts
50  OUTPUT 714;"DISP RFG;RFG:OUTP 'Dupl';AMPL 0 dBm;FREQ 320 MHz;*OPC"
60  LOOP ! Dummy loop to do nothing
70    DISP "I am in a dummy loop."
80  END LOOP
90  END
100 SUB Srvice_interupt
110  PRINT "All operations complete."! Note: This interrupt service routine is
120  !not complete. Refer to "Status Byte/Service Request Enable Register" in
130  !Status Reporting in the Test Set's User's Guide for complete information.
140 SUBEND
```

The above program enables bit 0 in the Standard Event Status Enable Register and also bit 5 in the Service Request Enable Register so that the Test Set will request service whenever the OPC event bit becomes true. After the service request is detected the program can take appropriate action.

Refer to "Status Byte/Service Request Enable Register" in Status Reporting chapter of the Test Set's User's Guide for further information.

Example BASIC program: Using *OPC through polling of the Standard Event Status Register

```
10 INTEGER Stdevnt_reg_val
20 OUTPUT 714;"DISP RFG;RFG:OUTP 'Dupl';AMPL 0 dBm;FREQ 320 MHz;*OPC"
30 LOOP
40  OUTPUT 714;"*ESR?"                 ! Poll the register
50  ENTER 714;Stdevnt_reg_val
60  EXIT IF BIT(Stdevnt_reg_val,0)     ! Exit if Operation Complete bit set
70 END LOOP
80 PRINT "All operations complete."
90 END
```


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*OPC? (Operation Complete Query)

The *OPC? query allows for synchronization between the Test Set and an external controller by reading the Output Queue or by polling the Message Available (MAV) bit in the Status Byte Register. The *OPC? query causes the Test Set to place an ASCII character, 1, into its Output Queue when the Test Set completes all pending operations. A consequence of this action is that the MAV bit in the Status Byte Register is set to the 1 state.

NOTE: The Test Set contains signal generation and signal measurement instrumentation. The instrument control processor is able to query the signal measurement instrumentation to determine if a measurement cycle has completed. However, the instrument control processor is not able to query the signal generation instrumentation to determine if the signal(s) have settled. In order to ensure that all signals have settled to proper values, the instrument control processor initiates a one-second delay upon receipt of the *OPC, *OPC? and *WAI commands. In parallel with the one-second timer the instrument control processor commands all active measurements to tell it when the measurement(s) are done. When all active measurements are done and the one-second timer has elapsed, the *OPC, *OPC? and *WAI commands are satisfied.

CAUTION: The *OPC? command should ***not*** be used for determining if a Call Processing Subsystem state command has completed successfully. Call Processing Subsystem states do not complete, a state is either active or not active. Using the *OPC? command with a Call Processing Subsystem state command results in a deadlock condition. The control program will continuously query the Output Queue for a 1 but the 1 will never be placed in the Output Queue because the command never 'completes'.

For example, the following command sequence should not be used:

```
OUTPUT 714;"CALLP:ACTive;*OPC?"
```

The *OPC? command should not be used with any of the following Call Processing Subsystem commands: :ACTive, :REGister, :PAGE, :HANDoff, :RELease.

The Call Processing Subsystem Status Register Group should be used to control program flow. Refer to "Controlling Program Flow" chapter in the Test Set's Application Guide for information on controlling program flow using the Call Processing Subsystem Status Register Group.

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Using the *OPC? query by reading Output Queue

Bit 4 in the Service Request Enable Register is set to a value of zero (disabled). The *OPC? query is sent to the Test Set at the end of a command message data stream. The application program then attempts to read the *OPC? query response from the Test Set's Output Queue. The Test Set will not put a response to the *OPC? query into the Output Queue until the commands have all finished.

NOTE: Reading the response to the *OPC? query has the penalty that both the GPIB bus and the Active Controller handshake are in temporary holdoff state while the Active Controller waits to read the *OPC? query response from the Test Set.

Example BASIC program

```
10 INTEGER Output_que_val
20 OUTPUT 714;"*SRE 0"! Disable Service Requests
30 OUTPUT 714;"DISP RFG;RFG:OUTP 'Dupl';AMPL 0 dBm;FREQ 320 MHz;*OPC?"
40 ENTER 714;Output_que_val ! Program will wait here until all
50                           ! operations complete
60 PRINT "All operations complete."
70 END
```

Using the *OPC? query to set the MAV bit in the Status Byte Register

Bit 4 in the Service Request Enable Register is set to a value of 1 (enabled). The *OPC? query is sent to the Test Set at the end of a command message data stream. The Test Set will request service when the MAV bit in the Status Byte register is set to the TRUE, logic 1, state. After the service request is detected the application program can take appropriate action.

Refer to "Status Byte/Service Request Enable Register" in Status Reporting chapter of the Test Set's User's Guide for further information.

Example BASIC program

```
10  OUTPUT 714;"*SRE 16"                ! Enable SRQ on data available in
20                                      ! Output Queue (MAV bit)
30  ON INTR 7,15 CALL Srvice_interupt   ! Set up interrupt
40  ENABLE INTR 7;2                     ! Enable SRQ interrupts
50  OUTPUT 714;"DISP RFG;RFG:OUTP 'Dupl';AMPL 0 dBm;FREQ 320 MHz;*OPC?"
60  LOOP                                ! Dummy loop to do nothing
70   DISP "I am in a dummy loop."
80  END LOOP
90  END
100 SUB Srvice_interupt
110  ENTER 714;Output_que_val           ! Read the 1 returned by the *OPC?
120                                     ! query command
130  PRINT "All operations complete."
140  ! Note:
150  ! This interrupt service routine is not complete.
160  ! Refer to "Status Byte/Service Request Enable Register" in
170  !Status Reporting in the Test Set's User's Guide .
180 SUBEND
```


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*WAI (Wait To Complete)

The *WAI command stops the Test Set from executing any further commands or queries until all commands or queries preceding the *WAI command have completed.

Example BASIC statement

```
OUTPUT 714;"DISP RFG;RFG:OUTP 'Dupl';*WAI;AMPL 0 dBm"
```

NOTE: The Test Set contains signal generation and signal measurement instrumentation. The instrument control processor is able to query the signal measurement instrumentation to determine if a measurement cycle has completed. However, the instrument control processor is not able to query the signal generation instrumentation to determine if the signal(s) have settled. In order to ensure that all signals have settled to proper values, the instrument control processor initiates a one-second delay upon receipt of the *OPC, *OPC? and *WAI commands. In parallel with the one-second timer the instrument control processor commands all active measurements to tell it when the measurement(s) are done. When all active measurements are done and the one-second timer has elapsed, the *OPC, *OPC? and *WAI commands are satisfied.

CAUTION: The *WAI command should *not* be used for determining if a Call Processing Subsystem state command has completed successfully. Call Processing Subsystem states do not complete, a state is either active or not active. Using the *WAI command with a Call Processing Subsystem state command results in a deadlock condition. The Test Set will not process any further GPIB commands until the Call Processing Subsystem command preceding the *WAI command completes but the command never 'completes'.

For example, the following command sequence should not be used:

```
OUTPUT 714;"CALLP:ACTive;*WAI;:CALLP:REGister"
```

The *WAI command should not be used with any of the following Call Processing Subsystem commands: :ACTive, :REGister, :PAGE, :HANDoff, :RELease.

The Call Processing Subsystem Status Register Group should be used to control program flow. Refer to "Controlling Program Flow" chapter in the Test Set's Application Guide for information on controlling program flow using the Call Processing Subsystem Status Register Group.

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*CLS (Clear Status)

The *CLS command clears the contents (sets all bits to zero) of all Event Registers summarized in the Status Byte. The *CLS command also empties all queues (removes all current messages) which are summarized in the Status Byte, except the Output Queue. The following Event Registers are affected:

Hardware 1 Status Register
Hardware 2 Status Register
Questionable Data/Signal Register
Standard Event Status Register
Operational Status Register
Calibration Status Register
Communicate Status Register

The Following message queues are affected:

Error Message Queue

NOTE: The *CLS command does not clear the contents of the Message screen which is displayed on the CRT when SHIFT, RX is selected. This display is only cleared when the unit is powered on.

*ESE (Standard Event Status Enable)

The Test Set responds to the *ESE command. See “Standard Event Status Register Group” in Status Reporting chapter of the Test Set’s User’s Guide for a detailed explanation of the *ESE command.

*ESE? (Standard Event Status Enable Query)

The Test Set responds to the *ESE? command. See “Standard Event Status Register Group” in Status Reporting chapter of the Test Set’s User’s Guide for a detailed explanation of the *ESE? command.

*ESR? (Standard Event Status Register Query)

The Test Set responds to the *ESR? command. See “Standard Event Status Register Group” in Status Reporting chapter of the Test Set’s User’s Guide for a detailed explanation of the *ESR? command.

*PCB (Pass Control Back)

The Test Set accepts the *PCB command. Refer to “Passing Instrument Control” in Operating Overview chapter of the Test Set’s User’s Guide..

*SRE (Service Request Enable)

The Test Set responds to the *SRE command. See “Status Byte/Service Request Enable Register” in Status Reporting chapter of the Test Set’s User’s Guide for a detailed explanation of the *SRE command.

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*SRE? (Service Request Enable Query)

The Test Set responds to the *SRE? command. See “Status Byte/Service Request Enable Register” in Status Reporting chapter of the Test Set’s User’s Guide for a detailed explanation of the *SRE? command.

*STB? (Status Byte Query)

The Test Set responds to the *STB? command. See “Status Byte/Service Request Enable Register” in Status Reporting chapter of the Test Set’s User’s Guide for a detailed explanation of the *STB? command.

*TRG (Trigger)

The *TRG command is equivalent to the IEEE 488.1 defined Group Execute Trigger (GET) message and has the same effect as a GET when received by the Test Set. The Test Set responds to the *TRG command by triggering all currently active measurements.

*RCL
(Recall Instrument State)

The *RCL command restores the state of the Test Set from a file previously stored in battery-backed internal memory, on a memory card, on a RAM disk, or on an external disk. The *RCL command is followed by a decimal number in the range of 0 to 99 which indicates which Test Set SAVE/RECALL file to recall. The mass storage location for SAVE/RECALL files is selected using the **SAVE/RECALL** field on the I/O CONFIGURE screen.

The *RCL command cannot be used to recall files with names which contain non-numeric characters or a decimal number greater than 99. To recall SAVE/RECALL files saved with names which contain non-numeric characters or a decimal number greater than 99, use the REG:RECall filename command (“Programming RECALL” in Keys chapter of the Test Set’s Reference Guide).

*SAV
(Save Instrument State)

The *SAV command saves the present state of the Test Set into a file in battery-backed internal memory, on a memory card, on a RAM disk, or on an external disk. The *SAV command is followed by a decimal number in the range of 0 to 99 which indicates the name of the stored SAVE/RECALL file. The mass storage location for SAVE/RECALL files is selected using the **SAVE/RECALL** field on the I/O CONFIGURE screen.

The *SAV command cannot be used to save the present state of the Test Set to a file with a name which contains non-numeric characters or a decimal number greater than 99. To save the present state of the Test Set to a file with a name which contains non-numeric characters or a decimal number greater than 99, use the REG:SAVE filename command (“Programming SAVE” in Keys chapter of the Test Set’s Reference Guide).

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Remote Capabilities

Remote Operating Capabilities

Remote Operating Configurations

The General Purpose Interface Bus (GPIB) is Agilent Technologies's implementation of the IEEE 488.1-1987 Standard Digital Interface for Programmable Instrumentation. Incorporation of the GPIB into the Test Set provides several valuable remote operating configurations:

- Programs running in the Test Set's built-in IBASIC Controller can control all the Test Set's functions using its internal GPIB. This capability provides a single-instrument automated test system. (The Agilent Technologies 83217A Radio Test Software utilizes this capability.)
- Programs running in the Test Set's built-in IBASIC Controller can control other instruments connected to the external GPIB.
- An external controller, connected to the external GPIB, can remotely control the Test Set.
- A GPIB printer, connected to the external GPIB, can be used to print test results and full screen images.

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Remote Interface Functions

Interface Functions

The interface functions that the Test Set implements are listed in **table 5**.

Table 5 Test Set IEEE 488.1 Interface Function Capabilities

Function	Capability
Talker	T6: No Talk Only Mode
Extended Talker	T0: No Extended Talker Capability
Listener	L4: No Listen Only Mode
Extended Listener	LE0: No Extended Listener Capability
Source Handshake	SH1: Complete Capability
Acceptor Handshake	AH1: Complete Capability
Remote/Local	RL1: Complete Capability
Service Request	SR1: Complete Capability
Parallel Poll	PP0: No Parallel Poll Capability
Device Clear	DC1: Complete Capability
Device Trigger	DT1: Complete Capability
Controller	C1: System Controller C3: Send REN C4: Respond to SRQ C11: No Pass Control to Self, No Parallel Poll
Drivers	E2: Tri-State Drivers

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Interface Messages

The remote interface message capabilities of the Test Set and the associated IEEE 488.1 messages and control lines are listed in **table 6**.

Table 6 Test Set IEEE 488.1 Interface Message Capability

Message Type	Implemented	Response	IEEE 488.1 Message
Data	Yes	All front-panel functions, except as listed in "Non-Programmable Front-Panel Keys and Functions" in Keys chapter of the Test Set's Reference Guide, are programmable. The Test Set can send status byte, message and setting information. All measurement results (except dashed"- - - -" displays) and error messages are available through the bus.	DAB END MTA MLA OTA
Remote	Yes	Remote programming mode is entered when the Remote Enable (REN)bus control line is true and the Test Set is addressed to listen. The "R" annunciator will appear in the upper right corner of the display screen when the Test Set is in remote mode. All front panel keys are disabled (except for the LOCAL key, POWER switch, Volume control and Squelch control).When the Test Set enters remote mode the output signals and internal settings remain unchanged, except that triggering is reset to the state it was last set to in remote mode (Refer to "Measurement Triggering Process" chapter in the Test Set's User's Guide.)	REN MLA
Local	Yes	The Test Set returns to local operation (full front-panel control) when either the Go To Local (GTL) bus command is received, the front panel LOCAL key is pressed or the REN line goes false. When the Test Set returns to local mode the output signals and internal settings remain unchanged, except that triggering is reset to TRIG:MODE:SETT FULL:RETR REP.The LOCAL key will not function if the Test Set is in the local lockout mode.	GTL MLA
Local Lockout	Yes	Disables all front panel keys including the LOCAL key. Only the System Controller or the POWER switch can return the Test Set to local mode (front panel control).	LLO
Clear Lockout/ Set Local	Yes	The Test Set returns to local mode (front panel control) and local lockout is cleared when the REN bus control line goes false. When the Test Set returns to local mode the output signals and internal settings remain unchanged, except that triggering is set to TRIG:MODE:SETT FULL:RETR REP.	REN

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Table 6 **Test Set IEEE 488.1 Interface Message Capability (Continued)**

Message Type	Implemented	Response	IEEE 488.1 Message
Service Request	Yes	The Test Set sets the Service Request (SRQ) bus line true if any of the enabled conditions in the Status Byte Register, as defined by the Service Request Enable Register, are true.	SRQ
Status Byte	Yes	The Test Set responds to a Serial Poll Enable (SPE) bus command by sending an 8-bit status byte when addressed to talk. Bit 6 will be true, logic 1, if the Test Set has sent the SRQ message	SPE SPD STB MTA
Status Bit	No	The Test Set does not have the capability to respond to a Parallel Poll.	PPE PPD PPU PPC IDY
Clear	Yes	Clears the Input Buffer and Output Queue, clears any commands in process, puts the Test Set into the Operation Complete idle state and prepares the Test Set to receive new commands. The Device Clear (DCL) or Selected Device Clear(SDC) bus commands do not change any settings or stored data (except as noted previously), interrupt front panel I/O, interrupt any Test Set operation in progress (except as noted previously), or change the contents of the Status Byte Register (other than clearing the MAV bit as a consequence of clearing the Output Queue). The Test Set responds equally to DCL or SDC bus commands.	DCL SDC MLA
Trigger	Yes	If in remote programming mode and addressed to listen, the Test Set makes a triggered measurement following the trigger conditions currently in effect in the instrument. The Test Set responds equally to the Group Execute Trigger (GET) bus command or the *TRG Common Command.	GET MLA
Take Control	Yes	The Test Set begins to act as the Active Controller on the bus.	TCT MTA
Abort	Yes	The Test Set stops talking and listening	IFC

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Conformance to the IEEE 488.1-1987 Standard

For all IEEE 488.1 functions implemented, the Test Set adheres to the rules and procedures as outlined in that Standard.

Conformance to the IEEE 488.2-1987 Standard

For all IEEE 488.2 functions implemented, the Test Set adheres to the rules and procedures as outlined in that Standard with the exception of the *OPC Common Command. Refer to **"*OPC (Operation Complete)" on page 211**.

Extended Addressing

Extended addressing (secondary command) capability is not implemented in the Test Set.

Multiple Addressing

Multiple addressing capability is not implemented in the Test Set.

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GPIB Examples

Alphabetical list of fields with GPIB example

Abort Print

GPIB Example

```
Abort Print is not directly programmable over the GPIB.”
```

Acc Prb Pwr

GPIB Example

```
“DISP CCNT;CDMA:TX:POW:MEAS ‘Acc Prb Pwr’”
```

displays the CDMA CALL CONTROL screen and selects Access Probe Power measurements.

```
“MEAS:CDM:APP?”
```

queries the Access Probe Power measurement.

Access (annunciator)

GPIB Example

```
“STATus:CALLP:CONDITion?”
```

queries the analog Call Processing condition register. Bit four will be true (BCD 16) when an analog call is in the Access state. Also, the Access annunciator on the CALL CONTROL screen is lit when an analog call is in the Access state.

Access Probe (annunciator)

GPIB Example

```
“DISP CCNT;STATus:CDMA:CONDition?”
```

queries the CDMA condition register. Bit 0 will be set when the Access Probe annunciator is lit.

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AC Level

GPIB Example

```
"DISP AFAN;AFAN:INPUT 'SSB Demod';:MEAS:AFR:ACLevel?"
```

displays the AF ANALYZER screen, selects single-sideband demod from the AF Anl In field, then queries the AC Level field.

Active

GPIB Example

```
"CALLP:ACTive"
```

turns on the forward control channel.

Active (annunicator)

GPIB Example

```
"STATus:CALLP:COND?"
```

queries the analog Call Processing condition register. Bit zero will be true (BCD 1) when the forward channel is turned on. Also, the Active annunciator on the CALL CONTROL screen is lit when the forward control channel is on.

ACP Meas

GPIB Example

```
"DISP ACP;MEAS:ACP:LRATIO?"
```

displays the ADJACENT CHANNEL POWER screen and queries the Lower ACP Ratio field.

Add Intcpt

GPIB Example

```
"DISP CMOB;CDMA:MOBile:PARM:IADD 5"
```

displays the CDMA MOBILE REPORTED PILOT STRENGTH screen and sets the Add Intcpt field to 5.

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AF Anl In

GPIB Example

```
"DISP TX;AFAN:INPUT 'FM DEMOD'"
```

displays the TX TEST screen and selects FM Demod in the AF Anl In field.

Measurement displayed dependent on choice

"AC Level" on page 226
"AM Depth" on page 229
"FM Deviation" on page 249

AF Cnt Gate

GPIB Example

```
"DISP AFAN;AFAN:GTIME .08"
```

displays the AF ANALYZER screen and sets the AF Cnt Gate field to 80 ms.

AF Freq

GPIB Example

```
"DISP AFAN;MEAS:AFR:SELect 'AF Freq';FREQuency?"
```

displays the AF ANALYZER screen, selects the AF Freq measurement, and queries the AF Freq field.

AF Freq

GPIB Example

```
"DISP ACNT;MEAS:AFR:FREQuency?"
```

displays the CALL CONTROL screen and queries the AF Freq field.

AFGen1 Freq

GPIB Example

```
"DISP RFGenerator;AFGenerator1:FREQuency 1KHZ"
```

displays the RF GENERATOR screen and sets the AFGen1 Freq field to 1.000 kHz.

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AFGen1 Lvl

GPIB Example

```
"DISP TX;AFGenerator1:OUTPut 50MV"
```

displays the TX TEST screen and sets the AFGen1 Lvl field to 50 mV.

AFGen1 To

GPIB Example

```
"DISP RFGenerator;AFGenerator1:DESTination 'AM'"
```

displays the RF GENERATOR screen and sets the AFGen1 To field to "AM".

AFGen2 To

GPIB Example

```
"DISP RFGenerator;AFGenerator2:DESTination 'AM'"
```

displays the RF GENERATOR screen and sets the AFGen2 To field to "AM".

AFGen2 Freq

GPIB Example

```
"DISP RFGenerator;AFGenerator2:FREQuency 1KHZ"
```

displays the RF GENERATOR screen and sets the AFGen2 Freq field to 1.000 kHz.

A-key

GPIB Example

```
"DISP CAUT;CDMA:AUTHenticate:AKEY '0'"
```

displays the CDMA AUTHENTICATION screen and sets the A-key to 0.

A_Key

GPIB Example

```
"CALLP:AMPS:AUTH:AKEY '12345678901234567890123456'"
```

enters an authentication key into the A_KEY field (AUTHENTICATION screen)

```
"CALLP:AMPS:AUTH:AKEY:GEN"
```

generates a new authentication key

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Alert

GPIB Example

```
"DISP CSMS;CDMA:SMS:TERM:ALER 'On'"
```

displays the CDMA SHORT MESSAGE SERVICE screen and sets the Alert parameter to "On".

Alt Pwr Ms Cal Bands

GPIB Example

```
"CONF:APMC 'MS AMPS'"
```

selects MS AMPS in the Alt Pwr Ms Cal Bands field (CONFIGURE screen).

AM Depth

GPIB Example

```
"DISP AFAN;AFAN:INPut 'AM DEMOD';:MEAS:AFR:AM?"
```

displays the AF ANALYZER screen, selects "AM Demod" in the AF Anl In field, and queries the AM Depth field.

Ampl Error

GPIB Example

```
"DISP CTXT;MEASure:CDManalyzer:AMPL:ERRor?"
```

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen and queries the CDMA amplitude error measurement result.

Amplitude

GPIB Example

```
"DISP RX;RFGenerator:AMPLitude '-40'"
```

displays the RX TEST screen and sets the Amplitude field to -40 dBm.

GPIB Example

```
"DISP ACNT;RFGenerator:AMPLitude '-40'"
```

displays the CALL CONTROL screen and sets the Amplitude field to -40 dBm.

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GPIB Example

```
"DISP CSWP;CDMA:SWEPtpower:TRIGger:AMPLitude '-12 dB'"
```

displays the CDMA SWEPT POWER MEASUREMENT screen and sets the Amplitude field to -12 dB.

Answer Mode

GPIB Example

```
"DISP CCON;CDMA:CALL:ANSWer:MODE 'MANUAL'"
```

selects "Manual" answer mode.

```
"DISP CCON;CDMA:CALL:ANSWer"
```

answers a mobile station originated cal when the Answer Mode field is set to "Manual".

Antenna In

GPIB Example

```
"DISP CONF;CONF:INP 'Ant';:CONF:OFLevel:ANTenna -3"
```

displays the CONFIGURE screen, selects "Ant" in the Input Port field, and sets the RF Level Offset for the Antenna In field (CONFIGURE screen) to -3 dB. The Antenna In field is displayed only when the Input Port field is set to Ant.

Arm

GPIB Examples

```
"DISP CRXT;TRIG:MODE:RETR SINGle"
```

sets the remote operation trigger mode to "Single".

```
"DISP CRXT;TRIGger:IMMediate"
```

triggers all active measurements.

Attack Time

GPIB Example

```
"MEAS:GPOWer:ATTack:TIME?"
```

queries the CDMA gated power attack time.

Atten Hold

GPIB Example

```
"DISP RX;RFGenerator:ATTenuator 'ON'"
```

displays the RX TEST screen and sets the Atten Hold field to "On".

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Audio In Lo

GPIB Example

```
"DISP AFAN;AFANalyzer:AIN 'FLOAT'"
```

displays the AF ANALYZER screen and sets the Audio In Lo field to "Float".

Audio Out

GPIB Example

```
"DISP RFG;RFGenerator:MODulation:AOUT 'DC'"
```

displays the RF GENERATOR screen and sets the Audio Out field to "DC".

Authen

GPIB Example

```
"DISP CAUT;CDMA:CELL:CONF:AUTH:MODE 'On'"
```

displays the CDMA AUTHENTICATION screen and turns the CDMA authentication "ON".

Authen Data

GPIB Example

```
"DISP CAUT;CDMA:AUTH:DATA:CLE"
```

displays the CDMA AUTHENTICATION screen and "CLEars" the data from the Authentication Data Table. (Table includes Parameter, Expected, Received and Status data).

Authent

GPIB Example

```
"CALLP:AMPS:AUTH:ONOFF 'ON'"
```

turns authentication "On"

Auto/Norm

GPIB Example

```
"DISP OSC;OSC:TRIGger:TYPE 'NORM'"
```

sets the Controls - Trigger Auto/Norm field to "Norm"

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Auto Zero

GPIB Example

```
"DISP RFAN;RFAN:PME:ZERO:MODE 'Manual'"
```

displays the RF Analyzer screen and selects Manual in the Auto Zero field.

Averages

GPIB Example

```
"DISP CGP;CDMA:GPOWer:NAVG 100"
```

displays the CDMA GATED POWER screen and sets the Num Averages field to 100 averages.

Avg Power

GPIB Examples

```
"DISP CTXT;CDMA:TX:POW:MEAS 'Avg Power'"
```

selects the average power measurement.

```
"DISP CTXT;MEAS:CDM:AVGP?"
```

queries the average power measurement.

```
"DISP CTXT;MEAS:CDM:AVGP:ZERO"
```

zeroes the average power measurement.

AWGN

GPIB Examples

```
"CDMA:AWGN:BWPower -75dBm"
"CDMA:AWGN:STATe ON"
```

sets the AWGN generator's level to –75 dBm.

Band Class

GPIB Example

```
"DISP CCNT;CDMA:CELL:BCLass 0"
```

sets the Band Class field value to 0.

Base ID

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:BID 0"
```

sets the base identification of the simulated CDMA cell site to 0.

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Base Freq (User Defined)

GPIB Example

"CONF:RFCStandard 'USER-DEF';USER:BASe 870MHZ"

sets the RF Chan Std field (CONFIGURE screen) to USER-DEF (User Defined) and sets the Base Freq field to 871 MHz.

Beeper

GPIB Example

"CONF:BEEPer 'QUIET'"

sets the Beeper field (CONFIGURE screen) to "Quiet".

BER Thresh

GPIB Example

"CALLP:CSYStem 'NAMPS';NAMPS:MRI:BSET 20"

selects "NAMPS" in the System Type field (CALL CONTROL screen) and sets the BER Thresh field (CALL CONFIGURE screen) to 20.

Burst Time

GPIB Example

"MEAS:GPOWer:BURSt:TIME?"

queries the latest CDMA gated power measurement burst time.

by # errors

GPIB Example

"DISP CMOB;CDMA:MOBile:FERasure:REPort:BY:ERRors:STATe: 'ON'"

causes the mobile station to report FER whenever the number of errors counted by the mobile station reaches the value entered by the command below.

"DISP CMOB;CDMA:MOBile:FERasure:REPort::BY:ERRors 5"

causes the mobile station to report FER if the FER count reaches 5 within the number of frames specified in the MS FER Report Interval.

by # frames

GPIB Example

"DISP CCNT;CDMA:MOBile:FERasure:REPort:BY:FRAMes:STATe: 'ON'"

causes the mobile station to report FER based on frame count.LK

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Call Limit

GPIB Syntax

```
"DISP CCON;CDMA:CALL:LIMit 'PAGE'"
```

limits call progress to the paging channel.

Carrier

GPIB Example

```
"DISP CTXT;MEASure:CDManalyzer:CARrier:FEEDthrough?"
```

queries the carrier feedthrough measurement result.

Carrier Ref

GPIB Example

```
"DISP ACP;ACPower:RMODulation 'Mod'"
```

displays the ADJACENT CHANNEL POWER screen and selects "Mod" in the Carrier Ref field.

CC Order

GPIB Example

```
"CALLP:AMPS:AUTH:ONOFF 'ON';CCOR 'SSD UPD'"
```

selects "On" in the Authent field (AUTHENTICATION screen) and selects "SSD Upd" (shared secret update) on the CALL CONTROL screen.

Center Freq

GPIB Example

```
"DISP SAN;SANalyzer:CFRequency 4MHZ"
```

displays the SPECTRUM ANALYZER screen and sets the Center Freq field to 4 MHz.

Center Freq

GPIB Example

```
"DISP CSP;RFAN:FREQ 850MHZ"
```

displays the CDMA REVERSE CHANNEL SPECTRUM analyzer and sets the Center Freq field to 850 MHz. The RF Display field on the CONFIGURE screen must be set to "Freq" to display the Center Freq field.

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Change

GPIB Example

"DISP CTXR;CDMA:PCONtrol:CHANge 'n up'"

selects "n up" power control steps.

Chan:

GPIB Example

"CALLP:VCHannel 215"

sets the Chan: - field (CALL CONTROL screen) to 215.

Channel

GPIB Example

"DISP CCNT;CELL:CONF:RFCH 1"

displays the CDMA CALL CONTROL screen and sets the Channel field to 1.

Channel BW

GPIB Example

"DISP ACP;ACPower:CBANdwidth 9KHZ"

displays the ADJACENT CHANNEL POWER screen and sets the Channel BW field to 9 MHz.

Chan Power

GPIB Examples

"DISP CTXT;CDMA:TX:POW:MEAS 'Chan Power'"

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen and selects the Channel Power measurement.

"DISP CTXT;MEAS:CDM:CHAN?"

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen and queries the channel power measurement.

"DISP CTXT;MEAS:CDM:CHAN:CAL"

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen and calibrates channel power measurements.

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Chan Std

GPIB Example

```
"DISP CCNT;CDMA:CALL:AHANdoff:CSTandard 'MS AMPS'"
```

displays the CDMA CALL CONTROL screen and enters MS AMPS in the Chan Std field.

Check Digits

GPIB Example

```
"DISP CAUT;CDMA:AUTH:CDIG?"
```

displays the CDMA AUTHENTICATION screen and returns the Check DIGits value.

Ch Loc:

GPIB Example

```
"CALLP:CSYS 'NAMPS';NAMPS:CEXT:SETT 'LOWER'"
```

selects "NAMPS" in the System Type field (CALL CONTROL screen) and sets the Ch Loc: - field to "Lower".

GPIB Example

```
"CALLP:CSYS 'NTACS';NTACS:CEXT:SETT 'NARROW'"
```

selects "NTACS" in the System Type field (CALL CONTROL screen) and sets the Ch Loc: - field to "Narrow".

GPIB Example

```
"CALLP:CSYS 'NTACS';NTACS:CEXT:SETT:ACT?
```

verifies "NTACS" in the System Type field (CALL CONTROL screen), queries, then returns the setting of the Ch Loc: - field.

Ch Offset

GPIB Example

```
"DISP ACP;ACPower:COFFset 200khz"
```

displays the ADJACENT CHANNEL POWER field and sets the Ch Offset field to 200 kHz.

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Chan Space (User Defined)

GPIB Example

```
"CONF:RFCStandard 'USER-DEF';USER:SPACing 25KHZ"
```

sets the RF Chan Std field (CONFIGURE screen) to USER-DEF (User Defined) and sets the Chan Space field to 25 kHz.

Closed Loop Pwr Cntl

GPIB Example

```
"DISP CTXR;CDMA:PCONtrol:MODE 'Open Loop'"
```

displays the CDMA TRANSMITTER POWER RANGE TEST screen and selects "Open Loop" power control mode.

CMAX

GPIB Example

```
OUTPUT 714;"CALLP:CMAX 21"
```

sets the CMAX field (CALL CONFIGURE screen) to 21.

Cntl Chan

GPIB Example

```
OUTPUT 714;"CALLP:CCH 333"
```

sets the analog control channel to 333 in the Cntrl Chan field (CALL CONTROL screen).

Cntry Code

GPIB Syntax

```
"CDMA:CELL:PROT 'IS-95A';CONF:BCC 2"
```

selects IS-95A in the Protocol field (CDMA CELL SITE CONFIGURATION screen) and sets the Cntry Code (base station's country code) field to 2.

Confidence

GPIB Example

```
"DISP CRXT;MEASure:CDMAnalyzer:FERasure:CONFidence:INTerval 95"
```

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and sets a confidence interval of 95%.

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Connect (annunicator)

GPIB Example

"STATus:CALLP:CONDition?"

queries the analog Call Processing condition register. Bit five will be true (BCD 32) when an analog call is connected. Also, the "Connected" annunciator on the CALL CONTROL screen is lit when an analog call is connected.

Connected (annunciator)

GPIB Example

"DISP CRXT;STATus:CDMA:CONDition?"

queries the CDMA condition register. Bit 4 will be set when the mobile station is ringing, and Bit 3 will be set when the Connected annunciator is lit (call was answered).

Controls (CDMA Reverse Channel Spectrum Analyzer)

GPIB Example

"DISP CSP;CSPectrum:CONTrol 'Auxiliary'"

displays the CDMA REVERSE CHANNEL SPECTRUM screen and selects "Auxiliary" in the Controls field.

Controls (Spectrum Analyzer)

GPIB Example

"DISP SAN;SAN:CONTrol 'RF Gen'"

displays the SPECTRUM ANALYZER screen and selects "RF Gen" in the Controls field.

Controls (Oscilloscope)

GPIB Example

"DISP OSC;OSC:CONTrol 'Marker'"

displays the OSCILLOSCOPE screen and selects "Marker" in the Controls field.

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Controls (Open Loop Time Response)

GPIB Example

"CDMA:OLTR:CONTrol 'Main'"

selects "Main" in the OPEN LOOP TIME RESPONSE screen Control field.

Controls (CDMA Gated Power)

GPIB Example

"CDMA:GPOWer:CONTrol 'Main'"

selects "Main" in the CDMA GATED POWER screen Controls field.

Controls (CDMA Swept Power)

GPIB Example

"DISP CSWP;CDMA:SWEPtpower:CONTrol 'Main'"

selects "Main" in the CDMA SWEPT POWER MEASUREMENT screen Controls field.

Cont/Single

GPIB Example

"DISP OSC;OSC:CONTrol 'TRIGGER';TRIGger:MODE 'SINGLE'"

displays the OSCILLOSCOPE screen, selects "Trigger" in the Control field, and selects "Single" triggering.

Data Length

GPIB Example

"CONF:SPOR:DATA '8 BITS'"

selects "8 bits" in the Data Length field (I/O CONFIGURE screen).

Data Mode

GPIB Example

"DISP CSMS;CDMA:SMS:MDM 'ASCII'"

displays the CDMA SHORT MESSAGE SERVICE screen and sets the Data Mode field to ASCII. Selecting ASCII causes the User Data (ASCII) field to be displayed.

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Data Rate

GPIB Example

```
"DISP CCNT;CDMA:CALL:TRAFfic:DATA:MODE 'SVC OPT 2';RATE 'FULL'"
```

displays the CDMA CALL CONTROL screen, selects "Svc Opt 2" in the Traffic Data Mode field, and selects "Full" (full-rate data transmission) in the Data Rate field.

Data Spec

GPIB Example

```
"CALLP:DSP 'STD'"
```

selects "Std" in the Data Spec field (CALL BIT screen).

Data Type

GPIB Example

```
"DISP CCNT;CDMA:CALL:TRAFfic:DATA:MODE 'SVC OPT 1';TYPE 'PRBS'"
```

displays the CDMA CALL CONTROL screen, selects "Svc Opt 1" in the Traffic Data Mode field, and selects "PRBS" in the Data Type field. .

Date

GPIB Example

```
"CONF:DATE 010298"
```

sets the Date field (CONFIGURE screen) to January 2, 1998 .

DC Level

GPIB Example

```
"DISP AFAN;MEAS:AFRequency:SELect 'DC LEVEL';DCVolts?"
```

displays the AF ANALYZER screen, selects the "Current" measurement, and queries the "Current" measurement.

De-Emp Gain

GPIB Example

```
"DISP AFAN;AFANalyzer:RANGing 'HOLD';DEMPhasis:GAIN '10 DB'"
```

displays the AF ANALYZER screen, selects "Hold" in the Gain Cntl field, and selects "10 dB" in the De-Emp Gain field.

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De-Emphasis

GPIB Example

```
"DISP AFAN;AFANalyzer:DEMPhasis '750 US'"
```

displays the AF ANALYZER screen and selects "750 US" in the De-Emphasis field.

Detector

GPIB Example

```
"DISP AFAN;AFANalyzer:DETector 'PK-'"
```

displays the AF ANALYZER screen and selects "Pk-" in the Detector field.

Disarm

GPIB Example

```
"TRIGger:ASTate 'DISARM'"
```

stops any active measurements that are currently in progress.

Display

GPIB Example

```
"DISP ACNT;CALLP:MODE 'DATA'"
```

displays the CALL CONTROL screen and selects "Data" in the Display field.

Display Interim Results

GPIB Example

```
"DISP CRXT;DISPlay:FERasure:INTerim:RESults 'YES'"
```

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and selects "Yes" in the Display Interim Results field.

Display User Mssgs

GPIB Example

```
"DISP CONF;DISPlay:MESSages 'Yes'"
```

displays the CONFIGURE screen and selects Yes in the Display User Mssgs field.

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Display Word

GPIB Example

```
"CALLP:DATA 'RECCW A'"
```

selects "RECCW A" in the Display Word field (CALL DATA screen).

Distn

GPIB Example

```
"DISP AFAN;MEAS:AFRequency:SELect 'DISTN';DISTortion?"
```

displays the AF ANALYZER screen, selects the "Distn" measurement, and queries the "Distn" measurement.

Drop Intcpt

GPIB Example

```
"DISP CMOB;CDMA:MOBile:PARM:IDRop 3"
```

displays the CDMA MOBILE REPORTED PILOT STRENGTH screen and sets the Drop Intcpt field to 3.

Drop Timer

GPIB Example

```
"DISP CTXR;CDMA:CALL:DTIMER 'OFF'"
```

displays the CDMA TRANSMITTER POWER RANGE TEST screen and selects "Off" in the Drop Timer field.

DSAT

GPIB Example

```
"CDMA:CALL:AHAN:DSAT'0 2556CB'"
```

sets the DSAT field (CDMA CALL CONTROL) to 0 2556CB. (Call Control)

DSAT:

GPIB Example

```
"CALLP:CSYStem 'NAMPS';NAMP:DSAT:ACTual?"
```

queries the DSAT field (CALL CONTROL screen).

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DSAT/DST (hex)

GPIB Example

"CALLP:NAMP:DSAT:MEASurement?"

Call Control Screen

DSAT Meas

GPIB Example

"DISP ACNT;CPRocess:NAMPs:DSAT:MEAS:SEL 'Data'"

displays the CALL CONTROL screen and selects "Data" in the DSAT Meas field.

Duplex Out

GPIB Example

"DISP CONF;CONF:OUTP 'Dupl';:CONF:OFLevel:DUPLex -3"

displays the CONFIGURE screen, selects "Dupl" in the Output Port field, and sets the RF Level Offset for the Duplex Out field (CONFIGURE screen) to -3 dB. This field is displayed only when the Output Port field is set to "Dupl".

Duplicate User Data

GPIB Example

"DISP CSMS;CDMA:SMS:TERM:DUPL 1"

displays the CDMA SHORT MESSAGE SERVICE screen and sets the Duplicate User Data field to 1.

Eb/Nt

GPIB Example

"DISP CGEN;CDMA:STN?"

displays the CDMA GENERATOR CONTROL screen and queries the E_b/N_t field.

Echo Delay

GPIB Example

"DISP CCNT;CDMA:CALL:TRAFfic:ECHO:DELay '2 SECONDS'"

displays the CDMA CALL CONTROL screen and sets the Echo Delay field

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to “2 seconds”. The Traffic Data Mode field must be set to “Svc Opt 1”, “Svc Opt 3”, or “Svc Opt 32768” to display the Echo Delay field.

Encoding

GPIB Example

```
“DISP CSMS;CDMA:SMS:ENC ‘Octet’”
```

displays the CDMA SHORT MESSAGE SERVICE screen and sets the Encoding field to Octet.

Errors

GPIB Example

```
“DISP CMOB;CDMA:MOBile:FERasure:ERRors?”
```

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen and queries the number of errors counted by the mobile station during an FER report interval.

Errors Counted

GPIB Example

```
“DISP CRXT;MEASure:CDManalyzer:FERasure:ERRors?”
```

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and queries the FER errors measurement result.

Esc Mode

GPIB Syntax

```
“CDMA:CELL:CONF:EMOD ‘On’”
```

selects “On” in the Esc Mode field.

ESN

GPIB Example

```
"CALLP:AMPS:AUTH:ESN ’12D4E678’"
```

enters the number “12D4E678” into the Authen field (AUTHENTICATION screen).

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ESN (dec):

GPIB Example

"DISP ACNT;CALLP:RCDD2?"

displays the CALL CONTROL screen and queries the ESN (dec) line, displayed on the right-hand portion of the screen when the Display field is set to "Data".

ESN (hex):

GPIB Example

"DISP ACNT;CALLP:RCDD3?"

displays the CALL CONTROL screen and queries the ESN (hex) line, displayed on the right-hand portion of the screen when the Display field is set to "Data".

Execute

GPIB Example

"DISP CCNT;CDMA:CALL:AHAN:[EXEC] "

displays the CDMA CALL CONTROL screen and executes a CDMA to Analog handoff.

Execute (Closed Loop Power Control Change)

GPIB Example

"DISP CTXR;CDMA:PCONtrol:EXECute"

displays the CDMA TRANSMITTER POWER RANGE screen and causes the Test Set to output the selected number of steps in the direction selected in the **Change** field over the power control sub-channel.

Execute (Min/Max Pwr)

GPIB Example

"DISP CTXR;MEASure:CDManalyzer:MMPower[:EXECute]"

displays the CDMA TRANSMITTER POWER RANGE screen and causes the Test Set to execute a Min/Max Power measurement.

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Expected PN Offset

GPIB Example

```
"DISP CMOB;CDMA:CELL:ASECtor:PNOFfset?"
```

displays the CDMA MOBILE REPORTING screen and queries the Sector A Expected PN Offset field.

Expected Strength

GPIB Example

```
"DISP CMOB;CDMA:CELL:ASECtor:STRength?"
```

displays the CDMA MOBILE REPORTING screen and queries the Sector A Expected Strength field.

Expected T_Add

GPIB Example

```
"DISP CMOB;CDMA:MOBile:PARM:ETADd?"
```

displays the CDMA MOBILE REPORTED PILOT STRENGTH screen and queries the Expected T_Add field.

Expected T_Drop

GPIB Example

```
"DISP CMOB;CDMA:MOBile:PARM:ETDRop?"
```

displays the CDMA MOBILE REPORTED PILOT STRENGTH screen and queries the Expected T_Drop field.

External Reference

GPIB Example

```
"CONF:EXTernal:REFerence '10.0000 MHZ'"
```

selects 10 MHz in the External Reference field (CONFIGURE screen).

Ext Load R

GPIB Example

```
"DISP RX;AFAN:ELResistor 50'"
```

displays the RX TEST screen and selects 50 ohms in the Ext Load R (external load resistor) field.

C:\Documents and Settings\...\E7476A_E7478A_CDMA_MOBILE_Help.fm8 [strob]
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Ext NGBH

GPIB Example

"DISP CCON;CDMA:CELL:CONF:EXNB 'On'""

displays the CDMA CELL SITE CONFIGURATION screen and selects "On" in the Ext NGBH field.

Failed (annunciator)

GPIB Example

"DISP CRXT;STATus:CDMA:CONDition?"

queries the CDMA condition register. If bit 9 is set (a decimal value of 512), the failed condition is true..

GPIB Example

"STATus:CDMA2:EVENt?"

queries the CDMA_2 status event register. If bit 5 is set, the last gated power test passed. If bit 4 is set, the last gated power test failed.

FER

GPIB Example

"DISP CRXT;MEASure:CDManalyzer:FERasure?"

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and queries the currently displayed FER measurement result.

FER Report (Clear)

GPIB Example

"DISP CFER;CDMA:MOBile:FER:REPort:CLEar"

displays the CDMA MOBILE REPORTED FER screen and clears (sets to zero) the previous mobile reporting data for Errors Reported and Frames Reported.

FER Spec

GPIB Example

"DISP CRXT;MEASure:CDManalyzer:FERasure:CONFidence:LIMit 0.5"

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and sets the Confidence field to 0.5% (0.005).

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FF at End

GPIB Example

```
"CONF:PRIN:FFSTart 'YES'"
```

selects "Yes" in the FF at Start: field (PRINT CONFIGURE screen).

FF at Start

GPIB Example

```
"CONF:PRIN:FFENd 'YES'"
```

selects "Yes" in the FF at End: field (PRINT CONFIGURE screen).

Filter 1

GPIB Example

```
"DISP RX;AFAN:FILTER1 'C MESSAGE'"
```

displays the RX TEST screen and selects "C MESSAGE" in the Filter 1 field.

Filter 2

GPIB Example

```
"DISP RX;AFAN:FILTER2 '6KHZ BPF'"
```

displays the RX TEST screen and selects "6kHz BPF" in the Filter 2 field.

Flow Cntl

GPIB Example

```
"DISP IOC;CONFigure:SPORt10:FCONtrol?"
```

displays the I/O CONFIGURE screen and queries the Flow Cntl field.

FM Coupling

GPIB Example

```
"DISP RFG;RFGenerator:FM:COUPling 'DC'"
```

displays the RF GENERATOR screen and selects "DC" in the FM Coupling field.

C:\...\...\...

FM Deviation

GPIB Example

```
"DISP RFAN;MEAS:AFRequency:FM?"
```

displays the RF ANALYZER screen and queries the FM Deviation field.

Frame Clock

GPIB Example

```
"CONF:EXTernal:FRAMe '80.00 MS'"
```

selects "80.00 ms" in the Frame Clock field.

Frames

GPIB Example

```
"DISP CMOB;CDMA:MOBile:FERasure:ERRors?"
```

displays the CDMA MOBILE REPORTING screen and queries the Errors field.

Frames Counted

GPIB Example

```
"DISP CRXT;MEASure:CDManalyzer:FERasure:FRAMes?"
```

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and queries the Frames Counted field.

Freq Error (CDMA)

GPIB Example

```
"DISP CTXT;CDMA:RHO:MEASurement:FERRor 'Freq Error';
:MEAS:CDManalyzer;FREQuency:ERRor?"
```

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen, displays the Freq Error measurement field, and queries the Freq Error measurement results.

Freq Error (Analog)

GPIB Example

```
"DISP DUPL;MEAS:RFR:SEL 'Freq Error';:MEASure:RFRequency:FREQuency:ERRor?"
```

displays the DUPLEX TEST screen, displays the Freq Error measurement field, and queries the Freq Error measurement results.

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Frequency (Analog)

GPIB Example

```
"DISP DUPL;MEAS:RFR:SEL    'Frequency';:MEASure:RFRequency:FREQuency:ABSolute?"
```

displays the DUPLEX TEST screen, displays the Frequency measurement field, and queries the Frequency measurement results.

Gain Cntl

GPIB Example

```
"DISP AFAN;AFANalyzer:RANGing 'HOLD'"
```

displays the AF ANALYZER screen and selects "Hold" in the Gain Cntl field.

(Gen)-(Anl)

GPIB Example

```
"CONF:RFDisplay 'FREQ';OFRequency 50MHZ"
```

selects "Freq" in the RF Display field, and selects "50 MHz" in the (Gen)-(Anl) field.

(Gen)-(Anl) (User Defined)

GPIB Example

```
"CONF:RFDisplay 'CHAN';RFCStandard 'USER-DEF';USER:DELTa 50MHZ"
```

selects "Chan" in the RF Display field, selects "USER-DEF" in the RF Chan Std field, and selects "50 MHz" in the (Gen)-(Anl) field.

Grid

GPIB Example

```
"DISP CGP;CDMA:GPOWer:GRID 'Off'"
```

turns off the display grid.

GPIB Example

```
"DISP CSWP;CDMA:SWEPtpower:GRID 'Off'"
```

turns off the display grid.

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Handoff

GPIB Example

```
"DISP CCNT;CDMA:CALL:AHAN:[EXEC] "
```

displays the CDMA CALL CONTROL screen and selects the Execute (analog handoff) field.

GPIB Example

```
"CALLP:HAND"
```

selects the Handoff field on the CDMA CALL CONTROL screen.

Hard Handoff (annunciator)

GPIB Example

```
"DISP CCNT;STATus:CDMA:CONDition?"
```

queries the CDMA condition register. Bit 6 will be set when the Hard Handoff annunciator is lit.

HP-IB Adrs

HP-IB Example

```
NOT APPLICABLE.
```

HP-IB control of this field is not supported.

IBASIC Echo

GPIB Example

```
"DISP CONF;CONF:SPOR:IBECho 'ON'"
```

selects "On" in the IBASIC Echo field (I/O CONFIGURE screen).

Ideal Mobile Power

GPIB Example

```
"DISP CCNT;CDMA:MOB:POW:IDEA? "
```

selects the CDMA CALL CONTROL screen and queries the Ideal Mobile Power field.

IF Filter

GPIB Example

```
"DISP TX;RFANalayzer:IFBW '230 khz'"
```


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selects the TX TEST screen and selects “230 kHz” in the IF Filter field.

Init Power

GPIB Example

```
“DISP CCON;CDMA:CELL:CONFigure:INITial:POWer 0“
```

displays the CDMA CELL SITE CONFIGURATION screen and sets the Init Power field to 0.

Input Att

GPIB Example

```
“DISP CCNF;CPR:CRFA ‘20 dB’:
```

displays the CALL CONFIGURE screen and sets the Input Att field to 20 dB.

Input Atten

GPIB Example

```
“DISP RFAN;RFANalyzer:ATTenuator ‘35 DB’”
```

displays the RF ANALYZER screen and selects 35 dB in the Input Atten field.

Input Atten

GPIB Example

```
“DISP CSP;CSP:ATT:MODE ‘HOLD’”
```

displays the CDMA REVERSE CHANNEL SPECTRUM screen and selects attenuator hold mode.

Input Gain

GPIB Example

```
“DISP AFAN;AFANalyzer:GAIN ‘0 DB’”
```

displays the AF ANALYZER screen and selects “0 dB” in the Input Gain field.

Input Port

GPIB Example

```
“DISP CONF;CONF:INPut ‘ANT’”
```


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displays the CONFIGURE screen and selects “Ant” in the Input Port field.

Inst Echo

GPIB Example

```
"DISP CONF;CONF:SPOR:IECHo 'ON'"
```

selects “On” in the Inst Echo field (I/O CONFIGURE screen).

Internal

GPIB Example

```
"DISP OSC:OSC:CONTrol 'TRIGGER';TRIGger:SOURce 'INTERNAL'"
```

displays the OSCILLOSCOPE screen, selects “Trigger” in the Controls field, and selects “Internal” for the trigger source.

Keep

GPIB Example

```
"DISP CMOB;CDMA:MOB:PIL:STR?"
```

diplays the CDMA MOBILE REPORTING screen and queries the results displayed in the CDMA Mobile Reporting table.

Level (div)

GPIB Example

```
"DISP OSC;OSC:CONTrol 'TRIGGER';TRIGger:LEVel 1"
```

diplays the OSCILLOSCOPE screen, selects “Trigger” in the Controls field, and sets the Level (div) field to 1 division.

Length

GPIB Example

```
"DISP CSMS;CDMA:SMS:TERM:DATA:LENG?"
```

displays the CDMA SHORT MESSAGE SERVICE screen and queries the Length field.

Lower and Upper ACP (Ratio:Level)

GPIB Example

```
"DISP ACP;ACPower:MEASurement 'RATIO'"
```

diplays the ADJACENT CHANNEL POWER screen and sets the ACP

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Meas field to “Ratio”.

Lvl (Open Loop Time Response)

GPIB Example

“MEAS:OLTR:MARKer:LEVel?“

queries the level at the current marker position.

Lvl (CDMA Gated Power)

GPIB Example

“MEAS:GPOWer:MARKer:LEVel?“

queries the level at the current marker position.

Marker

Freq

GPIB Example

“DISP SAN;:MEASure:SANalyzer:MARKer:FREQuency?“

diplays the SPECTRUM ANALYZER screen and queries the Marker (Freq) field.

Lvl

GPIB Examples

“DISP SAN;:MEAS:SANalyzer:MARKer:LEVel?“

diplays the SPECTRUM ANALYZER screen and queries the Marker (Lvl) field.

“DISP OSC;:MEAS:OSCilloscope:MARKer:LEVel:VOLTs?“

diplays the OSCILLOSCOPE screen and queries the Marker (Lvl) voltage field.

Time

GPIB Example

“DISP OSC;:MEAS:OSCilloscope:MARKer:TIME?“

diplays the OSCILLOSCOPE screen and queries the Marker (Time) field.

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Marker

Freq

GPIB Example

"DISP CSP;MEAS:CSP:MARK:FREQ?

displays the CDMA REVERSE CHANNEL SPECTRUM analyzer and queries the frequency at the marker's present position.

Lvl

GPIB Example

"DISP CSP;MEAS:CSP:MARK:LEV?

displays the CDMA REVERSE CHANNEL SPECTRUM analyzer and queries the amplitude at the marker's present position.

Pos

GPIB Example

"DISP CSP;CSP:MARKer:POSition 5.0"

displays the CDMA REVERSE CHANNEL SPECTRUM analyzer and positions the marker in the center of the display.

Marker Time (Open Loop Time Response)

GPIB Example

"CDMA:OLTR:MARKer:TIME 0"

positions the marker at 0 milliseconds.

"MEAS:OLTR:MARKer:LEVel?"

queries the power level of the last time response to open loop power control test at the current marker position.

Marker Time (CDMA Gated Power)

GPIB Example

"CDMA:GPOWer:MARKer:TIME 0"

positions the marker at 0 microseconds.

"MEAS:GPOWer:MARKer:LEVel?"

queries the gated power ensemble average level at the current marker position.

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Marker Time (CDMA Swept Power)

GPIB Example

"DISP CSWP;CDMA:SWEPtpower:MARKer:TIME '5'"

positions the marker at 5 milliseconds.

"MEAS:SWEPtpower:MARKer:LEVel?"

queries the swept power ensemble average level at the current marker position.

Marker To:

GPIB Example

"DISP OSC;OSCilloscope:MARKer:CONTrol 'MARKER';MARKer:NPEak"

diplays the OSCILLOSCOPE screen, selects "Marker" in the Controls field, and selects the Marker To (Peak -) field.

Marker To:

Center Freq

GPIB Example

"DISP SAN;SANalyzer:CONTrol 'MARKER';MARKer:CFRequency"

diplays the SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects the Marker To (Center Freq) field.

Next Peak

GPIB Example

"DISP SAN;SANalyzer:CONTrol 'MARKER';MARKer:NPEak"

diplays the SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects the Marker To (Next Peak) field.

Peak

GPIB Example

"DISP SAN;SANalyzer:CONTrol 'MARKER';MARKer:PEAK"

diplays the SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects the Marker To (Peak) field.

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Ref Level

GPIB Example (SA screen)

```
"DISP SAN;SANalyzer:CONTrol 'MARKER';MARKer:RLEVel"
```

diplays the SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects the Marker To (Ref Level) field.

Marker To:

Next Peak

GPIB Example

```
"DISP CSP;CSP:CONTrol 'MARKER';MARKer:NPEAK"
```

diplays the CDMA REVERSE CHANNEL SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects the Marker To (Next Peak) field.

Peak

GPIB Example

```
"DISP CSP;CSP:CONTrol 'MARKER';MARKer:PEAK"
```

diplays the CDMA REVERSE CHANNEL SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects the Marker To (Peak) field.

Ref Level

GPIB Example

```
"DISP CSP;CSP:CONTrol 'MARKER';MARKer:RLEV"
```

diplays the CDMA REVERSE CHANNEL SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects the Marker To (Ref Level) field.

Max Frames

GPIB Example

```
"DISP CRXT;MEASure:CDMAnalyzer:FERasure:MAXimum:FRAMes 1000"
```

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and sets the maximum number of frames for FER measurements to 1000.

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Max Frames (annunciator)

GPIB Example

```
"DISP CRXT;STATus:CDMA:CONDition?"
```

queries the CDMA condition register. If bit 8 is set (a decimal value of 256), the maximum frames condition is true.

Max Power

GPIB Example

```
"DISP CTXR;MEASure:CDManalyzer:MMPower:[EXECute]"
```

displays the CDMA TRANSMITTER POWER RANGE TEST screen and executes a Min/Max Power measurement.

```
"DISP CTXR;CDMA:MOBile:POWer:MAXimum?"
```

displays the CDMA TRANSMITTER POWER RANGE TEST screen and queries the Max Power measurement value.

Max Req Seq, Max Rsp Seq

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:MAXReqrspseq 3"
```

displays the CDMA CELL SITE CONFIGURATION screen and sets the Max Req Seq, Max Rsp Seq field to 3.

Meas Cntl

GPIB Example

```
"DISP CRXT;TRIGger:MODE:RETRigger SINGle"
```

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and sets the remote measurement triggering mode to single.

Min/Max Pwr

GPIB Example

```
"DISP CTXR;MEASure:CDManalyzer:MMPower:[EXECute]"
```

displays the CDMA TRANSMITTER POWER RANGE TEST screen and executes a Min/Max Power measurement.

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Min Power

GPIB Example

```
"DISP RFAN;MEASure:CDManalyzer:MMPower:[EXECute]"
```

displays the CDMA TRANSMITTER POWER RANGE TEST screen and executes a Min/Max Power measurement.

```
"DISP CTXR;CDMA:MOBile:POWer:MINimum?"
```

displays the CDMA TRANSMITTER POWER RANGE TEST screen and queries the Min Power measurement value.

Mobile Parm

GPIB Example

```
"DISP CMOB;CDMA:MOBile:PARM 'MUX1_REV_1'"
```

displays the CDMA MOBILE REPORTING field and identifies the mobile station parameter MUX1_REV_1.

```
"DISP CMOB;CDMA:MOBile:PARM:VALue 0"
```

displays the CDMA MOBILE REPORTING field and sets the mobile station's MUX1_REV_1 parameter value to 0.

Mobile Power Mode

GPIB Example

```
"DISP CTXR;CDMA:MOBile:POWer:MODE 'User';MPOWer 0"
```

selects CDMA power measurements without a call connected, and enters an estimated mobile power level of 0 dBm.

Mobile Pwr

GPIB Example

```
"DISP CTXR;CDMA:MOBile:POWer:MODE 'User';MPOWer 0"
```

selects CDMA power measurements without a call connected, and enters an estimated mobile power level of 0 dBm.

Mode

GPIB Example

```
"DISP IOC;CONF:BMODe 'Control'"
```

displays the I/O CONFIGURE screen and sets the field to Control.

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Mod In To

GPIB Example

```
"DISP RFG;RFG:MODulation:EXTernal:DESTination 'AM (/VPK)'"
```

displays the RF GENERATOR screen and selects "AM (/Vpk) in the Mod In To field.

MS Ack Cause Code

GPIB Example

```
"DISP CSMS;CDMA:SMS:TERM:DATA:CCOD:VAL?"
```

displays the CDMA SHORT MESSAGE SERVICE screen and queries the VALue of the MS ACK CAUSE CODE in integer form.

```
"DISP CSMS;CDMA:SMS:TERM:DATA:CCOD:DESC?"
```

displays the CDMA SHORT MESSAGE SERVICE screen and queries a DESCription of the MS ACK CAUSE CODE in text form.

MS Ack Rcvd (annunicator)

GPIB Example

```
"STATus:CSMS:COND?"
```

queries the CDMA SMS Status Register. Bit 1 is assigned to the MS Acknowledge Received condition. The MS Ack Rcvd annunciator is located on the CDMA SHORT MESSAGE SERVICE screen.

MS Database

GPIB Example

```
"DISP CCNT;CDMA:MOBile:DAT 'ESN';:CDMA:MOBile:DAT:VALue?"
```

displays the CDMA CALL CONTROL screen, selects "ESN" in the MS Database field, and queries the 4-digit value for ESN.

MS FER

GPIB Example

```
"DISP CMOB;CDMA:FER?"
```

displays the CDMA MOBILE REPORTING screen and queries the MS FER field.

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MS FER Report Interval

GPIB Example

```
"DISP CMOB;CDMA:MOBile:FERasure:REPort:INTerval '160 FRAMES'"
```

displays the CDMA MOBILE REPORTING screensets the mobile station's FER report interval to 160 frames.

MS Id

GPIB Example

```
"DISP ACNT;CALLP:PNUM '2222222222'"
```

displays the CALL CONTROL screen and enters "2222222222" in the Phone Num field field.

MS ID

GPIB Examples

```
"DISP CCNT;CDMA:MOBile:MSID 'AUTO'"
```

displays the CDMA CALL CONTROL screen and selecs "Auto" in the MS ID field.

MS Report

GPIB Examples

```
"DISP CMOB;CDMA:MOBile:REPort:CLEar"
```

displays the CDMA Mobile Reporting screen and clears the CDMA Mobile Reporting table.

Network ID

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:NOMinal:POWer 0"
```

displays the CDMA CELL SITE CONFIGURATION screen and sets NOM_PWR to 0.

Netwrk Code

GPIB Syntax

```
"DISP CCON;CDMA:CELL:PROTocol 'IS-95A;CONF:BNC 2"
```

displays the CDMA CELL SITE CONFIGURATION screen, selects "IS-95A" in the Protocol field, and enters a 2 in the Netwrk Code (base station network code) field.

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NGBH Fq (Ch)

GPIB Example

```
"DISP CCON;CDMA:CELL:CONF:NBFR '283'""
```

displays the CDMA CELL SITE CONFIGURATION screen and selects channel 283 in the NGBH Fq (Ch) field.

Nom Power

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:NOMinal:POWer 0"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters a 0 in the Nom Power field.

Nom Pwr Ext

GPIB Example

```
"DISP CCON;CDMA:CELL:PROTocol 'J-STD-008';CONFigure:NOMinal:POW-
er:EXT 0"
```

displays the CDMA CELL SITE CONFIGURATION screen, selects "J-STD-008" in the Protocol field, and selects "0" in the Nom Pwr Ext field.

No Pk/Avg

GPIB Example

```
"DISP SAN;SANalyzer:CONTrol 'AUXILIARY';TRACE:MHOLD 'NO PK/AVG'"
```

displays the SPECTRUM ANALYZER screen, selects "Auxiliary" in the Controls field, and selects the No Pk/Avg field.

No Pk/Avg

GPIB Example

```
"DISP CSP;CSP:CONTrol 'AUXILIARY';TRACE:MHOLD 'No Pk/Avg'"
```

displays the CDMA REVERSE CHANNEL SPECTRUM screen, selects "Auxiliary" in the Controls field, and selects the No Pk/Avg field.

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Normalize

GPIB Example

```
"DISP CSP;CSP:CONTrol 'AUXILIARY';TRACE:NORM 'A only'"
```

displays the CDMA REVERSE CHANNEL SPECTRUM screen, selects "Auxiliary" in the Controls field, and selects "A only" in the Normalize field.

Norm/Delta

GPIB Example

```
"DISP SAN;SANalyzer:MARKer:MODE 'Delta';:MEASure:SANalyzer:MARKer:DELTa:FREQuency?"
```

displays the SPECTRUM ANALYZER screen, selects Delta in the Marker, Norm/Delta field and queries the Freq field.

Notch Freq

GPIB Example

```
"DISP AFAN;AFAN:NOTCh:FREQuency 2KHZ"
```

displays the AF ANALYZER screen and enters "2.0000 kHz" in the Notch Freq field.

Notch Gain

GPIB Example

```
"DISP AFAN;AFAN:RANGing 'HOLD';NOTCh:GAIN '10 DB'"
```

displays the AF ANALYZER screen, selects "Hold" in the Gain Cntl field, and enters "10 dB" in the Notch Gain field.

Notch Coupl

GPIB Example

```
"DISP CONF;CONF:NOTChmode 'NONE'"
```

displays the CONFIGURE screen and selects "None" in the Notch Coupl field.

GPIB Example

```
"DISP CGP;CDMA:GPOWer:NAVG 100"
```

displays the CDMA Gated Power screen and sets the Num Averages field to 100 averages.

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Num Pages

GPIB Example

```
"DISP CCON;CDMA:CELL:CONF:NPAG 2"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters a "2" in the Num Pages field.

Num Step

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:NUMStep 3"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters a "3" in the Num Step field.

OCNS (Sector A Power)

GPIB Example

```
"DISP CGEN;CDMA:CELL:ASECtor:ORTHogonal:WALSh 17"
```

displays the CDMA GENERATOR CONTROL screen and sets the OCNS (Walsh) field to 17 for Sector A.

OCNS (Sector B Power)

GPIB Example

```
"DISP CGEN;CDMA:CELL:BSECtor:ORTHogonal:WALSh 17"
```

displays the CDMA GENERATOR CONTROL screen and sets the OCNS (Walsh) field to 17 for Sector B.

Offset Freq

GPIB Example

```
"DISP SAN;SAN:TGEN:OFR? "
```

displays the SPECTRUM ANALYZER screen and queries the frequency offset value.

Open Loop Time Response (Execute)

GPIB Example

```
"MEAS:CDMAnalyzer:OLTR:EXECute"
```

executes a time response to open loop power control test.

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Orig Addr

GPIB Example

```
DISP CSMS;CDMA:SMS:TERM:OADD?"
```

displays the CDMA SHORT MESSAGE SERVICE screen and queries the Orig Addr field.

Order

GPIB Example

```
OUTPUT 714;"CALLP:ORD 'CHNG PL 0'"
OUTPUT 714;"CALLP:ORD?"
ENTER 714;Last_ord_sent$
OUTPUT 714;"CALLP:ORD?"
```

Call Control Screen

Output Atten Hold

GPIB Example

```
"DISP RFG:RFG:ATT 'ON'"
```

displays the RF GENERATOR screen and selects "On" in the Atten Hold field.

Output Port

GPIB Example

```
"DISP CONF;CONF:OUTP 'Rf Out'"
```

displays the CONFIGURE screen and selects "RF OUT" in the Output Port field.

Page

GPIB Example

```
"DISP ACNT;CALLP:PAGE"
```

displays the CALL CONTROL screen and selects the "Page" field.

Page (annunciator)

GPIB Example

```
"STATus:CDMA:CALLP:COND?"
```

queries the analog Call Processing condition register. Bit three will be true (BCD 8) when the "Page" annunciator is lit.

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Page Send

GPIB Example

```
"DISP CCON;CDMA:CELL:CONF:PAGE:SNDMode 'GP'""
```

displays the CDMA CELL SITE CONFIGURATION screen and selects the General Page Message in the Page Send field.

Page Sent (annunciator)

GPIB Example:

```
"DISP CCNT;STATus:CDMA:CONDition?"
```

queries the CDMA condition register. Bit 1 will be set when the Page Sent annunciator is lit.

Page Rate

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:PAGE:RATE 'FULL'"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters "Full" in the Page Rate fieldl.

Paging (Sector A Power)

GPIB Example

```
"DISP CGEN;CDMA:CELL:ASECtor:PAGing:POWer -16dB"
```

displays the CDMA GENERATOR CONTROL field and enters "-17 dB" in the Paging field.

Pam Size

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:PINcrement 12"
```

displays the CDMA CELL SITE CONFIGURATION screen and sets the Pilot Inc field to 12.

Parity

GPIB Example

```
"DISP CONF;CONF:SPOR:PARity 'ODD'"
```

selects "Odd" in the Parity field (I/O CONFIGURE screen).

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Passed (annunciator)

GPIB Example

"DISP CRXT;STATus:CDMA:CONDition?"

queries the CDMA condition register. If bit 10 is set (a decimal value of 1024), the passed condition is true.

GPIB Example

"STATus:CDMA2:EVENt?"

queries the CDMA_2 status event register. If bit 5 is set, the last gated power test passed. If bit 4 is set, the last gated power test failed.

PCMCIA

GPIB Example

"DISP IOC;:CONFigure:PCMCia:CARD:STATus?"

displays the I/O CONFIGURE screen and queries whether a PCMCIA card is inserted in the slot.

Phone Num:

GPIB Example

"DISP ACNT;CALLP:RCDD1?"

displays the CALL CONTROL screen and queries the Phone Num: line, displayed on the right-hand portion of the screen when the Display field is set to "Data".

Phs Error

GPIB Example

"DISP CTXT;CDMA:RHO:MEAS:PERR 'PHS ERROR';"MEASure:CDManalyzer:PHASe:ERRor?"

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen, selects "Phs Error" as one of the measurement fields, and queries the Phs Error field.

Pilot (Sector A Power)

GPIB Example

"DISP CGEN;CDMA:CELL:ASECtor:PILot:POWer -7"

displays the CDMA GENERATOR CONTROL screen and sets the Pilot field to -7 for Sector A.

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Pilot (Sector B Power)

GPIB Example

```
"DISP CGEN;CDMA:CELL:BSECtor:PILot:POWer -7"
```

displays the CDMA GENERATOR CONTROL screen and sets the Pilot field to -7 for Sector B.

Pilot Inc

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:PINcrement 12"
```

displays the CDMA CELL SITE CONFIGURATION screen and sets the Pilot Inc field to 12.

Pilot Meas (Clear)

GPIB Example

```
"DISP CMOB;CDMA:MOBile:PILot:CLEar"
```

displays the CDMA MOBILE REPORTED PILOT STRENGTH screen and clears the contents of the CDMA Mobile Reporting table.

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Pk Det To

GPIB Example

```
"DISP AFAN;AFAN:DETector:PKLocation 'DE-EMP'"
```

displays the AF ANALYZER screen and selects "De-Emp" in the Pk Det To field.

PN Offset

GPIB Example

```
"DISP CMOB;CDMA:MOB:PIL:STR?"
```

displays the CDMA MOBILE REPORTING screen and queries the results displayed in the CDMA Mobile Reporting table.

PN Offset (Sector A Power)

GPIB Example

```
"DISP CGEN;CDMA:CELL:ASECtor:PNOFfset 0"
```

displays the CDMA GENERATOR CONTROL screen and sets the pilot PN offset index to 0 for Sector A.

PN Offset (Sector B Power)

GPIB Example

```
"DISP CGEN;CDMA:CELL:BSECtor:PNOFfset 0"
```

displays the CDMA GENERATOR CONTROL screen and sets the pilot PN offset index to 0 for Sector B.

Port /Sweep

GPIB Example

```
"DISP SAN;SANalyzer:TGENenerator:DESTination 'RF Out';SWEEP 'Norm'"
```

diplays the SPECTRUM ANALYZER screen, selects "RF Out" as the connector, and selects "Norm" in the Port/Sweep field.

Position

GPIB Example

```
"DISP SAN;SANalyzer:CONTrol 'MARKER';MARKer:POSition 5"
```

diplays the SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects "5" in the Position field.

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Power Meas

GPIB Example

"DISP CCNT;MEASure:CDMAnalyzer:CHANpower:CALibrate"

displays the CDMA CALL CONTROL screen and calibrates Channel Power and Access Probe Power measurements.

Power Step

GPIB Example

"DISP CCON;CDMA:CELL:CONFigure:STEP:POWer 0"

displays the CDMA CELL CONFIGURATION screen and sets PWR_STEP to 0.

Printer Port:

GPIB Example

"DISP PCON;CONF:PRIN:DESTination 'GPIB'"

displays the PRINT CONFIGURE screen and selects "GPIB" in the Printer Port: field.

Print Title

GPIB Example

"DISP PCON;CONF:PRIN:TITLe 'TEST PRINTOUT'"

displays the PRINT CONFIGURE screen and enters the text string "TEST PRINTOUT " in the Print Title: field.

Priority

GPIB Example

"DISP CSMS;CDMA:SMS:TERM:PRI 'None'"

displays the CDMA SHORT MESSAGE SERVICE screen and sets the Priority field to None.

Privacy

GPIB Example

"DISP CSMS;CDMA:SMS:TERM:PRIV 'None'"

displays the CDMA SHORT MESSAGE SERVICE screen and sets the Privacy field to None.

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Protocol

GPIB Example

```
"DISP CCON;CDMA:CELL:PROT'IS-95A'"
```

displays the CDMA CALL CONTROL screen and selects IS-95A in the Protocol field.

Pwr Level

GPIB Example

```
"DISP CCNT;CDMA:CALL:AHANdoff:PLEVel 4"
```

displays the CDMA CALL CONTROL screen and selects "4" in the Pwr Level field.

Pwr Lvl:

GPIB Example

```
"DISP ACNT;CALLP:VMAC 3"
```

displays the CALL CONTROL screen and enters "3" in the Pwr Lvl field.

Pwr Up Reg

GPIB Example

```
"DISP CCON;CDMA:CELL:CONF:PUR 'On'""
```

displays the CDMA CELL SITE CONFIGURATION screen and selects "On" in the Pwr Up Reg field.

Pwr Dwn Reg

GPIB Example

```
"DISP CCON;CDMA:CELL:CONF:PDR 'On'""
```

displays the CDMA CELL SITE CONFIGURATION screen and selects "On" in the Pwr Dwn Reg field.

RAND

GPIB Example

```
"DISP CCON;CDMA:CELL:CONF:AUTH:RAND '34AB05F'"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters 34AB057 INTO the RAND field.

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RAND_A

GPIB Example

```
"DISP AUTH;AMPS:AUTH:RAND:A '4F5A'"
```

displays the AUTHENTICATION screen and enters "4F5A" in the RAND_A field.

RAND_B

GPIB Example

```
"DISP AUTH;CALLP:AMPS:AUTH:RAND:B '4F5A'"
```

displays the AUTHENTICATION screen and enters "4F5A" in the RAND_B field.

RANDSSD

GPIB Example

```
"DISP CCON;CDMA:CELL:CONF:AUTH:RANDS '4D18EEAA05895C'"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters 4D18EEAA05895C into the RANDSSD field.

RANDSSD_1

GPIB Example

```
"DISP AUTH;CALLP:AMPS:AUTH:RAND:SSD1 '4F5A26'"
```

displays the AUTHENTICATION screen and enters "4F5A26" in the RANDSSD_1 field.

RANDSSD_2

GPIB Example

```
"DISP AUTH;CALLP:AMPS:AUTH:RAND:SSD2 '4F5A26'"
```

displays the AUTHENTICATION screen and enters "4F5A26" in the RANDSSD_2 field.

RANDSSD_3

GPIB Example

```
"DISP AUTH;CALLP:AMPS:AUTH:RAND:SSD3 '4F'"
```

displays the AUTHENTICATION screen and enters "4F" in the RANDSSD_3 field.

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RAND_U

GPIB Example

```
"DISP AUTH;CALLP:AMPS:AUTH:RAND:U '4F5A26'"
```

displays the AUTHENTICATION screen and enters "4F5A26" in the RAND_U field.

RANDU

GPIB Example

```
"DISP CCON;CDMA:CELL:CONF:AUTH:RANDU '5357DF'"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters 5357DF into the RANDU field.

Range Hold

GPIB Example

```
"DISP CONF;CONFigure:OPERation:HOLD"
```

displays theCONFIGURE screen and selects the Range Hold, Hold All field.

Rcv Pace

GPIB Example

```
"DISP IOC;CONF:SPOR:RPACe 'NONE'"
```

displays the I/O CONFIGURE screen and selects "None" in the Rcv Pace field.

Ref Level

GPIB Example

```
"DISP SAN;SANalyzer:CONTrol 'MAIN';RLEVel 10 DBM"
```

displays the SPECTRUM ANALYZER screen, selects "Main" in the Controls field, and enters "10.0 dBm" in the Ref Level field.

GPIB Example

```
"DISP CSP;CSP:CONTrol 'MAIN';RLEVel 0"
```

displays the CDMA REVERSE SPECTRUM screen, selects "Main" in the Controls field, and enters "0.0 dBm" in the Ref Level field.

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GPIB Example

```
"DISP CSWP;CDMA:SWEPtpower:RLEVel 5.0"
```

displays the CDMA SWEPT POWER MEASUREMENT screen, selects "Main" in the Controls field, and enters "5.0" in the Ref Level field.

Register

GPIB Example

```
"DISP ACNT;CALLP:REGister"
```

displays the CALL CONTROL screen and selects the "Register" field.

Register

GPIB Example

```
"DISP CCNT;CDMA:MOBile:REGister"
```

displays the CDMA CALL CONTROL screen and selects the Register field.

Register (annunciator)

GPIB Example

```
"DISP ACNT;STATus:CDMA:CALLP:COND?"
```

displays the CALL CONTROL screen and queries the analog Call Processing condition register. Bit one will be true (BCD 2) when the "Register" annunciator is lit.

Registering (annunciator)

GPIB Example:

```
"DISP CCNT;STATus:CDMA:EVENt?"
```

queries the CDMA event register. Bit 11 in the CDMA Status Event Register will be set upon completion of a successful Registration attempt. No Condition Register is implemented for this bit.

Reg Period

GPIB Example

```
"DISP CCON;CDMA:CELL:CONF:TREG:PER 29"
```

displays the CDMA CELL SITE CONFIGURATION screen and sets the Reg Period field to 29.

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Release

GPIB Example

"DISP ACNT;CALLP:REL"

displays the CALL CONTROL screen and releases the call that is currently connected.

Release Time

GPIB Example

"MEAS:GPOWer:RELease:TIME?"

queries the CDMA gated power release time.

Res BW

GPIB Example

"DISP ACP;ACPower:RBW '1 KHZ'"

displays the ADJACENT CHANNEL POWER screen and selects "1 kHz' in the Res BW field.

Reset

GPIB Example

"DISP OSC;OSC:TRIGger:RESet"

displays the OSCILLOSCOPE screen and selects the Reset field.

RF Channel

GPIB Example

"DISP RFAN;CONFigure:RFCS 'US PCS';:RFAN:RFCHannel 283"

displays the RF ANALYZER screen, selects US PCS as the RF Channel standard, and enters "283" in the RF Channel field.

RF Channel

GPIB Example

"DISP CCNT;CDMA:RFCHannel 283"

displays the CDMA CALL CONTROL screen and enters "283" in the RF Channel field.

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RF Chan Std

GPIB Example

```
"DISP CCNT;CONF:RFCS 'USER-DEF'"
```

displays the CDMA CALL CONTROL screen and selects “USER-DEF” in the RF Chan Std field.

RF Cnt Gate

GPIB Example

```
"DISP RFAN;RFANalyzer:GTIMe 200MS"
```

displays the RF ANALYZER screen and enters “200.0 ms” in the RF Cnt Gate field

RF Display

GPIB Example

```
"DISP CONF;CONF:RFDisplay 'FREQ'"
```

displays the CONFIGURE screen and selects “Freq” in the RF Display field.

RF Gen Freq

GPIB Example

```
"CONF:RFDisplay 'FREQ';:DISP RFG;RFGenerator:FREQuency 870MHz"
```

selects “Freq” in the RF Display field (CONFIGURE screen), displays the RF GENERATOR screen, and enters “870.000000 MHz” in the RF Gen Freq field.

RF Gen Freq

GPIB Example

```
"DISP RFG;RFG:FREQ 815MHZ"
```

sets the RF generator to 815 MHz.

RF Gen Lvl

GPIB Example

```
"DISP CONF;CONF:RFSource:CALibrate"
```

selects the RF Gen Lvl (Calibrate) field (CONFIGURE screen).

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RF Gen Volts

GPIB Example

```
"DISP CONF;CONF:RFIMpedance 'EMF'"
```

selects "emf" in the RFGen Volts field.

RF In/Ant

GPIB Example

```
"DISP CSP;CSP:CONTrol 'MAIN';INPut 'RF In'"
```

displays the CDMA REVERSE CHANNEL SPECTRUM screen, selects "Main" in the Controls field, and selects "RF In" in the Controls subfield.

```
"DISP CSP;SAN:CONTrol 'MAIN';INPut 'RF In'"
```

displays the SPECTRUM ANALYZER screen, selects "Main" in the Controls field, and selects "RF In" in the Controls subfield.

RF In

GPIB Example

```
"DISP CONF;CONFigure:INPut 'RF In'"
```

displays the CONFIGURE screen and selects RF In in the Input Port field.

RF Level Offset

GPIB Example

```
"DISP CONF;CONF:OFLevel:MODE 'ON'"
```

displays the CONFIGURE screen and selects "On" in the RF Level Offset field.

RF Offset

GPIB Example

```
"DISP CONF;CONF:RFDisplay 'FREQ';OMODe 'ON'"
```

displays the CONFIGURE screen, selects "Freq" in the RF Display field, and selects "On" in the RF Offset field.

RF Out

GPIB Example

```
"DISP CONF;CONF:OUTP 'RF Out';:CONF:OFLevel:RF:OUT -3"
```

displays the CONFIGURE screen, selects RF Out in the Output Port field,

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and sets the RF Level Offset for the RF Out field (CONFIGURE screen) to -3 dB. This field is displayed only when the Output Port is set to RF Out.

RF Power

GPIB Example

```
"CDMA:RFP?"
```

queries the RF Power field (CDMA GENERATOR CONTROL screen).

Rgstr NID

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:RNID 0"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters “0” in the Rgstr NID field.

Rgstr SID

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:RSID 0"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters “0” in the Rgstr SID field.

RSSI Thresh

GPIB Example

```
"DISP CALLP;CALLP:NAMPS:MRI:RSET 'Imm Resp'"
```

SAT:

GPIB Example

```
"DISP ACNT;CALLP:SAT '5970HZ'"
```

displays the CALL CONTROL screen and selects “5970Hz” in the SAT: field.

SAT:

GPIB Example

```
"DISP CCNT;CDMA:CALL:AHANdoff:SAT '6000Hz'"
```

displays the CDMA CALL CONTROL screen and selects “6000Hz” in the the SAT field.

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SAT Deviation:

GPIB Example

```
"DISP DUPL;AFAN:INPUT 'FM Demod';:MEASure:AFRequency:MODulation:SE-
Lect 'SAT Deviation'"
```

displays the DUPLEX TEST screen, selects FM Demod in the AF Anl In field, and selects the "SAT Deviation" measurement.

Sat Tol

GPIB Example

```
"DISP CALLP;CPR:STOLerance 'NARROW'"
```

displays the CALL CONFIGURE screen and selects "Narrow" in the Sat Tol field.

Save/Recall

GPIB Example

```
"DISP IOC;CONF:SRLocation 'CARD'"
```

displays the I/O CONFIGURE screen and selects "Card" in the Save/Recall field.

SCM:

GPIB Example

```
"DISP ACNT;CALLP:RCDD4?"
```

displays the CALL CONTROL screen and queries the SCM: line, displayed on the right-hand portion of the screen when the Display field is set to "Data".

SC Priority

GPIB Example

```
"DISP CCON;CDMA:CELL:CONF:SCPR 'Medium'""
```

displays the CDMA CELL SITE CONFIGURATION screen and selects "Medium" in the SC Priority field.

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Scope To

GPIB Example

```
"DISP AFAN;AFAN:SMPoint 'INPUT'"
```

displays the AF ANALYZER screen and selects “Input” in the Scope To field.

Sctr A Pwr

GPIB Example

```
"DISP CGEN;CDMA:CELL:ASECtor:STATe ON"
```

displays the CDMA GENERATOR CONTROL screen and selects the “On” state for the Sctr A Pwr field.

Sctr B Pwr

GPIB Example

```
"DISP CGEN;CDMA:CELL:BSECtor:STATe ON"
```

displays the CDMA GENERATOR CONTROL screen and selects the “On” state for the Sctr B Pwr field.

Send Msg

GPIB Example

```
"DISP CSMS;CDMA:SMS:TERM:SEND"
```

displays the CDMA SHORT MESSAGE SERVICE screen and sends the SMS message that is currently defined in either the User Data (ASCII) or User Data (Hex) message fields. The Data Mode field defines which message is sent (ASCII or Hex).

GPIB Example

```
"DISP CMOB;CDMA:MOB:SNDM"
```

displays the CDMA REPORTED PILOT STRENGTH screen and sends the message that is currently defined in the Send Msg field. The message selection varies, Dependent upon the setting of the Protocol field on the CDMA CALL CONTROL screen.

Send Word

GPIB Example

```
"DISP CBIT;CALLP:SWORd"
```

displays the CALL BIT screen and selects the Send Word field.

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Sensitivity

GPIB Example

```
"DISP RFAN;RFAN:SENSitivity 'HIGH'"
```

displays the RF ANALYZER screen and selects “High” in the Sensitivity field.

Sensitivity

GPIB Example

```
"DISP SAN;SANalyzer:CONTrol 'AUXILIARY';:RFAN:SENSitivity 'HIGH'"
```

displays the SPECTRUM ANALYZER screen, selects “Auxiliary” in the Controls field, and selects “High” in the Sensitivity field.

Sensitivity

GPIB Example

```
"DISP CSP;CSPectrum:CONTrol 'AUXILIARY';:RFAN:SENSitivity 'HIGH'"
```

displays the CDMA REVERSE CHANNEL SPECTRUM screen, selects “Auxiliary” in the Controls field, and selects “High” in the Sensitivity field.

Serial Baud

GPIB Example

```
"DISP IOC;CONF:SPORt:BAUD '9600'"
```

displays the I/O CONFIGURE screen and selects “9600” in the Serial Baud field.

Serial In

GPIB Example

```
"DISP IOC;CONF:SPORt:SINput 'INST'"
```

displays the I/O CONFIGURE screen and selects “Inst” in the Serial In field.

Set Message

GPIB Example

```
"DISP CBIT;CALLP:MESS 'SPC WORD1'"
```

displays the CALL BIT screen and selects “SPC WORD1” in the Set Mesage field.

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Settling

GPIB Example

```
"DISP AFAN;AFAN:DETector:SETTling 'FAST'"
```

displays the AF ANALYZER screen and selects “Fast” in the Settling field.

SID MSB

GPIB Example

```
"DISP ACNT;CALLP:SID 231"
```

displays the CALL CONTROL screen and enters 231 in the SID field.

SINAD

GPIB Example

```
"DISP RX;MEAS:AFR:SELect 'SINAD';SINAD?"
```

displays the RX TEST screen, displays the “Sinad” field and queries the SINAD measurement.

GPIB Example

```
"DISP CRXT;TRIGger:MODE:RETRigger SINGle"
```

sets the measurement mode to single.

Slope

GPIB Example

```
"DISP CSWP;CDMA:SWEPtpower:TRIGger:SLOPe 'Rising'"
```

displays the CDMA SWEPT POWER MEASUREMENT screen and sets the Slope field to Rising.

SMS In Progress (annunciator)

GPIB Example

```
"STATus:CSMService:CONDition?"
```

queries the CDMA SMS Status register. Bit 0 is assigned to the SMS In Progress condition. The SMS In Progress annunciator is located on the CDMA SHORT MESSAGE SERVICE screen.

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SNR

GPIB Example

```
"DISP RX;MEAS:AFR:SELect 'SNR';SNR?"
```

displays the RX TEST screen, displays the "SNR" field and queries the SNR measurement.

Softer Handoff

GPIB Example

```
"DISP CCNT;CDMA:CELL:BSECtor:STATe ON;:CDMA:CALL:SOFT:HAND 'END'"
```

displays the CDMA CALL CONTROL screen, turns on Sctr B Pwr (CDMA GENERATOR CONTROL screen, and *begins* a softer handoff.

Softer Handoff (annunciator)

GPIB Example

```
"DISP CCNT;STATus:CDMA:CONDition?"
```

queries the CDMA condition register. Bit 5 will be set when a CDMA call is in the softer handoff state.

Soft Slope

GPIB Example

```
"DISP CMOB;CDMA:MOBile:PARM:SSLope 1"
```

displays the CDMA MOBILE REPORTED PILOT STRENGTH screen and sets the Soft Slope field to 1.

Span

GPIB Example

```
"DISP SAN;SANalyzer:CONTrol 'MAIN';SPAN 300KHZ"
```

displays the SPECTRUM ANALYZER screen, selects "Main" in the Controls field, and enters 300 kHz in the Span field.

Span

GPIB Example

```
"DISP CSP;CSP:SPAN 3 MHZ"
```

displays the CDMA REVERSE CHANNEL SPECTRUM screen, and sets the Span field to 3 MHz.

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Speaker ALC

GPIB Example

```
"DISP AFAN;AFAN:SPEaker:MODE 'ON'"
```

displays the AF ANALYZER screen and selects “On” in the Speaker ALC field.

Speaker Vol

GPIB Example

```
"DISP AFAN;AFAN:SPEaker:VOLume 'OFF'"
```

displays the AF ANALYZER screen and selects “Off” in the Speaker Vol field.

Squelch

GPIB Example

```
"DISP RFAN;RFAN:SQUelch 'OPEN'"
```

displays the RF ANALYZER screen and selects “Open” in the Squelch field.

Srch Win A

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:AWIN 5"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters 5 in the Srch Win A field.

Srch Win N

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:NWIN 5"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters 5 in the Srch Win N field.

Srch Win R

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:RWIN 5"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters 5 in the Srch Win R field.

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SSD Update

GPIB Example

"DISP CAUT;CDMA:AUTH:SSD"

displays the CDMA AUTHENTICATION screen and Executes the SSD (Shared Secret Data) Update field.

SSD_A= (annunicator)

GPIB Example

"STATus:CAUThen:CONDition?"

reads the CDMA Authentication Status register. Bit 3 is assigned to the SSD_A=0 annunciator. The SSD_A=0 annunciator is located on the CDMA AUTHENTICATION screen.

Status (CDMA Authentication)

GPIB Example

CDMA:AUTHenticate:DATA?"

queries the CDMA Authentication Data Table.

Status (CDMA Mobile Reported Pilot Strength)

GPIB Example

"DISP CMOB;CDMA:MOB:PIL:STR?"

displays the CDMA MOBILE REPORTED PILOT STRENGTH screen and queries the results displayed in the CDMA Mobile Reporting table.

GPIB Example

"STATus:MEASuring:CONDition?"

queries the MEASuring status condition register. If bit 2 is set, the gated power test is running. If bit 2 is not set, the gated power measurement is idle.

Steps

GPIB Example

"DISP CTXR;CDMA:PCONtrol:STEPs 100"

displays the CDMA TRANSMITTER POWER RANGE TEST screen and enters 100 in the Steps field.

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Step Size

GPIB Example

```
"CDMA:OLTR:STEP '+20 dB'"
```

selects a step increase of +20 dB when the next time response to open loop power control test is executed.

Stop Length

GPIB Example

```
"DISP IOC;CONF:SPORt:STOP '1 BIT'"
```

displays the I/O CONFIGURE screen and selects "1 Bit" in the Stop Length field.

Strength

GPIB Example

```
"DISP CMOB;CDMA:MOB:PIL:STR?"
```

displays the CDMA MOBILE REPORTING screen and queries the results displayed in the CDMA Mobile Reporting table.

Svc Opt 2 (annunciator)

GPIB Example

```
"DISP CRXT;STATus:CDMA:CONDition?"
```

queries the CDMA condition register. If bit 7 is set (a decimal value of 128), a Service Option 2 call is connected.

Sync (Sector A Power)

GPIB Example

```
"DISP CGEN;CDMA:CELL:ASECtor:SYNC:POWer -16dB"
```

displays the CDMA GENERATOR CONTROL screen and sets the Sync field (Sector A) to –16 dB.

System ID

GPIB Example

```
"DISP CCON;CDMA:CELL:CONFigure:SID 0"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters 0 in the System ID field.

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System Type

GPIB Example

```
"DISP ACNT;CALLP:CSYS 'AMPS'"
```

displays the CALL CONTROL screen and selects “AMPS” in the System Type field.

GPIB Example

```
"DISP ACNT;CALLP:CSYS 'NTACS'"
```

displays the CALL CONTROL screen and selects “NTACS” in the System Type field.

GPIB Example

```
"DISP CCNT;CDMA:CALL:AHANdoff:STYPe 'AMPS'"
```

displays the CDMA CALL CONTROL screen and selects “AMPS” in the System Type field.

T_Add

GPIB Example

```
"DISP CMOB;CDMA:MOBile:TADD 32"
```

displays the CDMA MOBILE REPORTING screen and enters 32 in the T_Add field.

T_Comp

GPIB Example

```
"DISP CMOB;CDMA:MOBile:TCOMp 3"
```

displays the CDMA MOBILE REPORTING screen and enters 3 in the T_Comp field.

T_Drop

GPIB Example

```
"DISP CMOB;CDMA:MOBile:TDRop 40"
```

displays the CDMA MOBILE REPORTING screen and enters 40 in the T_DROP field.

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T_Tdrop

GPIB Example

```
"DISP CMOB;CDMA:MOBile:TTDRop 2"
```

displays the CDMA MOBILE REPORTING screen and enters 2 in the T_TDROP field.

Testing (annunciator)

GPIB Example

```
"DISP CRXT;STATus:MEAS:CONDition?"
```

queries the Measuring condition register. If bit 0 (BCD 1) is true, a CDMA FER test is running.

Time (Configure)

GPIB Example

```
"DISP CONF;CONF:TIME?"
```

displays the CONFIGURE screen and queries the Time field.

TimeBase

GPIB Example

```
"DISP CONF;CONF:TBASE:MODE 'AUTO'"
```

displays the CONFIGURE screen and selects “Auto” in the TimeBase field.

Time/div

GPIB Example

```
"DISP OSC;OSCilloscope:CONTrol 'MAIN';SCALe:TIME '1 ms'"
```

displays the OSCILLOSCOPE screen, selects “Main” in the Controls field, and selects “1 ms” in the Time/div field.

Time Offset

GPIB Example

```
"DISP CTXT;CDMA:RHO:MEAS:FERR 'TIME OFFSET';:MEASure:CDManalyzer:TIME:OFFSet?"
```

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen, displays the Time Offset measurement field, and queries the Time Offset measurement result.

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Timer Reg

GPIB Example

```
"DISP CAUT;CDMA:CELL:CONF:TREG:MODE 'On'"
```

displays the CDMA AUTHENTICATION screen and sets the Timer REG field to 'On'.

TM Rho

GPIB Example

```
"DISP CTXT;CDMA:RHO:MEAS 'TM RHO';:MEASure:CDManalyzer:RHO?"
```

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen, displays the TM Rho measurement field, and queries the TM Rho measurement result.

To Screen

These are the GPIB syntax commands to display a screen.

CDMA

- **CALL CNTL** - DISP CCNTrol
- **CELL CONF** - DISP CCONfigure
- **CDMA GEN** - DISP CGENerator
- **RX TEST** - DISP CRXTest
- **TX TEST** - DISP CTXTest
- **MOBL RPT** - DISP CMOBreport
- **MOBL FER** - DISP CMOBreport
- **RNG TEST** - DISP CTXRange
- SMS - DISP CAUThenicate
- AUTHEN - DISP CSMService
- **REV SPEC** - DISP CSPectrum

Analog

- **RX TEST** - DISP RX
- **TX TEST** - DISP TX
- **DUPLEX** - DISP DUPLex
- **RF GEN** - DISP RFGen
- **RF ANL** - DISP RFANalyzer
- **AF ANL** - DISP AFANalyzer
- **AD CH PWR** - DISP ACPower
- **ENCODER** - DISP ENCoder
- **DECODER** - DISP DECoder
- **SPEC ANL** - DISP SANalyzer
- **SCOPE** - DISP OSCilloscope
- **CALL CNTL** - DISP ACNTrol
  - AUTHEN - DISP AUTHentication
  - CALL BIT - DISP CBIT
  - CALL CNFG - DISP CCNFigure

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- CALL DATA - DISP CDATa
- ANLG MEAS - DISP CMEasure

Config

- **TESTS** - DISP TESTs
- **CONFIG** - DISP CONFigure
- **IO CONFIG** - DISP IOConfigure
- **PRNT CNFG** - DISP PCONfigure

Trace

GPIB Example

```
"DISP CSWP;MEAS:SWEPtpower:TRACe:CLEar"
```

clears the measurement trace from the CDMA SWEPT POWER MEASUREMENT screen.

Traffic (Sector A Power)

GPIB Example

```
"DISP CGEN;CDMA:CELL:ASECtor:TRAFfic:POWer -15dB"
```

displays the CDMA GENERATOR CONTROL screen and sets the Traffic field (Sector A) to –15 dB.

Traffic (Sector B Power)

GPIB Example

```
"DISP CGEN;CDMA:CELL:BSECtor:TRAFfic:POWer -15dB"
```

displays the CDMA GENERATOR CONTROL screen and sets the Traffic field (Sector B) to –15 dB.

Traffic Data Mode

GPIB Example

```
"DISP CCNT;CDMA:CALL:TRAFfic:DATA:MODE 'SVC OPT 1'"
```

displays the CDMA CALL CONTROL screen and selects “Svc Opt 1” in the Traffic Data Mode field.

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Traffic Rho

GPIB Example

"DISP CTXT;CDMA:RHO:MEAS 'Traffic Rho';:MEAS:CDManalyzer:RHO?"

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen, displys the Traffic Rho measurement field, and queries the Traffic Rho measurement results.

Transmitting (annunciator)

GPIB Example:

"DISP CCNT;STATus:CDMA:CONDition?"

queries the CDMA condition register. Bit 2 will be set whenever the Transmitting annunciator is lit.

Trig-Delay

GPIB Example

"DISP OSC;OSCilloscope:CONTrol 'TRIGGER';TRIGger:DELay 1MS"

diplays the OSCILLOSCOPE screen, selects "Trigger" in the Controls field, and enters 1.000 ms in the Trig-Delay field.

Tune Freq

GPIB Example

"CONF:RFDisplay 'FREQ';:DISP TX;RFANalyzer:FREQuency 825MHZ"

selects "Freq" in the RF Display field (CONFIGURE screen), displays the TX TEST screen, and enters 825.000000 MHz in the Tune Freq field.

TX Power

GPIB Example

"DISP TX;MEAS:RFRequency:POWer?"

displays the TX TEST screen and queries the TX Power field measurement results.

TX Power

GPIB Example

"DISP ACNT;MEAS:RFRequency:POWer?"

displays the CALL CONTROL screen and queries the TX Power field measurement results.

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TX Pwr Meas

GPIB Example

```
"DISP TX;RFAN:PMEasurement:DETector 'Sample'"
```

displays the TX TEST screen and selects "Sample" in the TX Pwr Meas field.

TX Pwr Zero

GPIB Example

```
"DISP TX;RFAN:PMEasurement:ZERO"
```

displays the TX TEST screen and selects the TX Pwr Zero field.

Type

GPIB Example

```
"DISP CCNT;:CDMA:CALL:TRAFfic:TYPE 'None'"
```

displays the CDMA CALL CONTROL screen and selects None in the Type field. (The Type field is displayed only when Service Option 6 or 14 is selected in the Traffic Data Mode field.)

Uniq Chall

GPIB Example

```
"DISP CAUT;CDMA:AUTH:UCH"
```

displays the CDMA AUTHENTICATION screen and executes a Unique Challenge.

Uniq Chall (annunciator)

GPIB Example

```
"DISP CAUT;STAT:CAUThen:CONDition?"
```

.displays the CDMA AUTHENTICATION screen and queries the CDMA Authentication Status register. Bit 2 is assigned to the Uniq Chall annunciator.

User Data (ASCII):

GPIB Example

```
"DISP CSMS;CDMA:SMS:TERM:DATA:ASC
'ABCDEFGHIJKLMNOPQRSTUVWXYZ_01234abcdefghijklmnopqrstuvwxyz#56789'"
```

displays the CDMA SHORT MESSAGE SERVICE screen and enters data into the User Data (ASCII) field. Data Mode must be ASCII.

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User Data (Hex):

GPIB Example

```
"DISP CSMS;CDMA:SMS:TERM:DATA:HEX
'414243444546474849 4A4B4C4D4E4F505152535455565758595A5F30313233346
16263646566676869 6A6B6C6D6E6F707172737475767778797A233536373839"
```

displays the CDMA SHORT MESSAGE SERVICE screen and enters data into the User Data (Hex) field. Data Mode must be Hex.

VC Order

GPIB Example

```
"CALLP:AMPS:VCORD 'CHNG PL 0'"
```

displays the TX TEST screen and selects the TX Pwr Zero field.

Vert/div

GPIB Example

```
"AFAN:INP 'FM Demod';
:DISP OSC;OSCilloscope:CONTrol 'MAIN';SCALe:VERTical:FM '1 KHZ'"
```

selects "FM Demod" in the AF Anl In field (AF ANALYZER screen), displays the OSCILLOSCOPE screen, selects "Main" in the Controls field, and selects "1 kHz" in the Vert/div field.

Vert Offset

GPIB Example

```
"DISP OSC;OSCilloscope:CONTrol 'MAIN';SCALe:VERTical:OFFSet 1"
```

displays the OSCILLOSCOPE screen, selects "Main" in the Controls field, and enters "1.00" in the Vert Offset field.

Walsh (Sector A)

GPIB Example

```
"DISP CGEN;CDMA:CELL:ASEC:TRAF:WALS 8"
```

displays the CDMA GENERATOR CONTROL screen and enters "8" in the Walsh (Sector A) field.

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Walsh (Sector B)

GPIB Example

```
"DISP CGEN;CDMA:CELL:BSEC:TRAF:WALS 12"
```

displays the CDMA GENERATOR CONTROL screen and enters “12” in the Walsh (Sector B) field.

Xmt Pace

GPIB Example

```
"DISP IOC;CONF:SPOR:XPACe 'NONE'"
```

displays the I/O CONFIGURE screen and selects “None” in the Xmt Pace field.

1 of N

GPIB Example

```
"DISP AUTH;CALLP:AMPS:AUTH:OON 2"
```

displays the AUTHENTICATION screen and enters 2 in the 1 of N field.

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