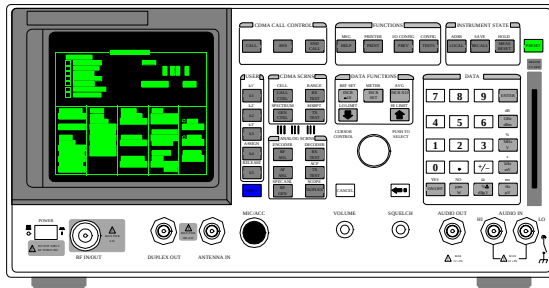


HP 8924C CDMA Mobile Station Test Set

Condensed Programming Reference Guide

Firmware Version A.06.00 and above



HP Part No. 08924-90048

Printed in U. S. A.

October 1998

Rev. E

Notice

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Hewlett-Packard Company
Learning Products Department
24001 E. Mission
Liberty Lake, WA 99019-9599
U.S.A.

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

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 uninterrupted 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.

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 autotransformer (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 may 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.

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.

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

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.

CERTIFICATION *Hewlett-Packard Company certifies that this product met its published specifications at the time of shipment from the factory. Hewlett-Packard further certifies that its calibration measurements are traceable to the United States National Institute of Standards and Technology, to the extent allowed by the Institute's calibration facility, and to the calibration facilities of other International Standards Organization members*

WARRANTY This Hewlett-Packard instrument product is warranted against defects in material and workmanship for a period of one year from date of shipment. During the warranty period, Hewlett-Packard Company will at its option, either repair or replace products which prove to be defective.

For warranty service or repair, this product must be returned to a service facility designated by HP. Buyer shall prepay shipping charges to HP and HP shall pay shipping charges, duties, and taxes for products returned to HP from another country.

HP warrants that its software and firmware designated by HP for use with an instrument will execute its programming instructions when properly installed on that instrument. HP does not warrant that the operation of the instrument, or software, or firmware will be uninterrupted or error free.

LIMITATION OF WARRANTY The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance by Buyer, Buyer-supplied software or interfacing, unauthorized modification or misuse, operation outside of the environmental specifications for the product, or improper site preparation or maintenance.

NO OTHER WARRANTY IS EXPRESSED OR IMPLIED. HP SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

EXCLUSIVE REMEDIES THE REMEDIES PROVIDED HEREIN ARE BUYER'S SOLE AND EXCLUSIVE REMEDIES. HP SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY.

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

DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: Hewlett-Packard Co.
Manufacturer's Address: Spokane Division
24001 E. Mission Avenue
Liberty Lake, Washington 99019-9599
USA

declares that the product

Product Name: CDMA Mobile Station Test Set
Model Number: HP 8924C
Product Options: This declaration covers all options of the above product.

conforms to the following Product specifications:

Safety: IEC 1010-1:1990+A1 / EN 61010-1:1993
EMC: CISPR 11:1990/EN 55011:1991- Group 1, Class A
EN 50082-1 : 1992
IEC 801-2:1991 - 4kV CD, 8kV AD
IEC 801-3:1984 3V/m
IEC 801-4:1988 0.5 kV Sig. 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 October 17, 1996


Vince Roland
Reliability & Regulatory
Engineering Manager

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

HP 8924C 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 HP 8924C CDMA Mobile Station Test Set Application Guide (HP P/N 08924-90021)
- Calibration and repair information are in the HP 8924C CDMA Mobile Station Test Set Assembly Level Repair Manual - this manual (HP P/N 08924-90001).

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

Repair assistance is available for the HP 8924C CDMA Mobile Test Set from the factory by phone and e-mail. Internal Hewlett-Packard users can contact the factory through HP Desk or cc:Mail® (Lotus Corporation). Parts information is also available from Hewlett-Packard.

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

- Instrument model number (HP 8924C)
- 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 (HP Direct Parts Ordering, U.S. only)
1 916 783 0804 (HP Service Parts Identification, U.S. & Intl.)

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

HP Desk: Spokane Service / HP1000/21

cc:Mail: SERVICE, SPOKANE /HP-Spokane,desk1

Table 1 Regional Sales and Service Offices

Eastern USA Sales Office Hewlett-Packard Company 2101 Gather Rd. Rockville, MD 20850 Tel: (301) 258-2000	Eastern USA Service Center Hewlett-Packard Company 150 Green Pond Road Rockaway, NJ 07866 Tel: (201) 586-5400	Midwestern USA Sales and Service Hewlett-Packard Company 5201 Tollview Drive Rolling Meadows, IL 60008 Tel: (708) 342-2000
Southern USA Sales and Service Hewlett-Packard Company 1995 North Park Place Atlanta, GA 30339 Sales Tel: (404) 955-1500 Fax: (404) 980-7292 Service Tel: (404) 850-2544 Fax: (404) 980-7292	Southern USA Service Center Hewlett-Packard Company 930 E. Campbell Road Richardson, TX 75081 Tel: (214) 699-4331	Western USA Service Center Hewlett-Packard Company 301 E. Evelyn Avenue Mountain View, CA 94041 Tel: (415) 694-2000 Fax: (415) 694-0601
Western USA Sales and Service Hewlett-Packard Company 24 Inverness Place East Englewood, CO 80112 Sales Tel: (303) 649-5000 Fax: (303) 649-5787 Service Tel: (303) 649-5512 Fax: (303) 649-5787	Western USA Sales and Service Hewlett-Packard Company 1421 South Manhattan Avenue Fullerton, CA 92631 Sales Tel: (714) 999-6700 Fax: (714) 778-3033 Service Tel: (714) 758-5490 Fax: (714) 778-3033	United States of America Customer Information Center Hewlett-Packard Company Tel: (800) 752-0900 6:00 am to 5:00 pm Pacific Time Parts Direct: 1-800-227-8164
South Eastern Europe Sales and Service Hewlett-Packard Ges. m.b.h. Liebigasse 1 P.O. Box 72 A-1222 Vienna, Austria Telephone: 43 222 2500 0 Telex: 13 4425	European Multicountry Region Sales and Service Hewlett-Packard S.A. P.O. Box 95 150, Route dv Nant_dL_AVRIL CH-1217 Meyrin 2 Geneva, Switzerland Telephone: (41/22) 780-8111 Fax: (41/22) 780-8542	Northern Europe Sales and Service Hewlett-Packard Nederland B.V. Startbaan 16 1187 XR Amstelveen, The Netherlands P.O. Box 667 Telephone: 31/20 5476911 X 6631 Fax: 31-20-6471825NL

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Asia Sales and Service Hewlett-Packard Asia Ltd. 22-30/F Peregrine Tower Lippo Center 89 Queensway, Central Hong Kong G.P.O. Box 863 Hong Kong Telephone: 852-848-7777 Fax: 852-868-4997	Japan Sales and Service Yokogawa-Hewlett-Packard Ltd. 3-29-21, Takaide-Higashi Suginami-Ku, Tokyo 168 Telephone: 81 3 3331-6111 Fax: 81 3 3331-6631	International Sales Branch Headquarters Sales and Service Hewlett-Packard S.A. 39 Rue Veyrot P.O. Box 365 1217 Meyrin 1 Geneva, Switzerland Telephone: 41-22-780-4111 Fax: 41-22-780-4770
Australia, New Zealand Sales and Service Hewlett-Packard Ltd. P.O. Box 221 31-41 Joseph Street Blackburn, Victoria 3130 Telephone: (61/3) 895-2895 Fax: (61/3) 898-9257	Canada Sales and Service Hewlett-Packard (Canada) Ltd. 5150 Spectrum Way Mississauga, Ontario L4W 5G1 Canada Telephone: (416) 206-4725 Fax: (416) 206-4739	Canada Service Center Hewlett-Packard Company 17500 Transcanada Highway S. Serv Road Kirkland, Quebec H9J 2X8 Canada Telephone: (416) 206-3295
Canada Service Center Hewlett-Packard Ltd. 11120 178 Street Edmonton, Alberta T5S 1P2 Canada Telephone: (403) 486-6666 Fax: (403) 489-8764	Latin America Hewlett-Packard Company LAHQ Mexico City Col. Lomas de Virreyes 11000 Mexico D.F. Mexico Telephone: (52/5) 326-4000 Fax: (52/5) 202 7718	United Kingdom Sales and Service Hewlett-Packard Ltd. Cain Road Amen Corner Bracknell, Berkshire RG12 1HN United Kingdom Telephone: 44 344 360000 Fax: 44 344 363344

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Remote/Local Modes

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. 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.

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.

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 HP-IB 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 HP-IB 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 \(HP-IB Operation\)](#)” or “[Triggering CDMA Measurements in Remote Mode \(HP-IB Operation\)](#)” in Measurement Triggering Process chapter of the *HP 8924C 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.

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 lose control of the Test Set,.
 2. Instrument configuration is reset to the power up condition thereby losing 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.

HP-IB Command Syntax

HP-IB Command Syntax Listings

Instrument Command Syntax Listings

"Adjacent Channel Power (ACP)" on page 29.
"AF Analyzer" on page 31.
"AF Generator 1" on page 37.
"AF Generator 2 Pre-Modulation Filters" on page 59.
"AFGenerator2|Encoder" on page 39.
"CALL Process" on page 61.
"CDMA" on page 103.
"CELL" on page 129.
"CSpectrum" on page 143.
"Decoder" on page 147.
"Oscilloscope" on page 171.
"RF Analyzer" on page 179.
"RF Generator" on page 181.
"Spectrum Analyzer" on page 185.

Instrument Number Setting Command Syntax Listings

"Integer Number Setting Syntax" on page 211.
"Real Number Setting Syntax" on page 213.
"Multiple Real Number Setting Syntax" on page 215.

Measurement Command Syntax Listings

"Measure" on page 155.
"Trigger" on page 209.

Measurement Number Setting Command Syntax Listings

"Number Measurement Syntax" on page 217.
"Multiple Number Measurement Syntax" on page 219.

Instrument Function Command Syntax Listings

"Configure" on page 131.
"Display" on page 153.
"Program" on page 177.
"Save/Recall Registers" on page 187.
"Status" on page 195.
"System" on page 203.
"Tests" on page 205.

HP-IB Only Command Syntax Listings

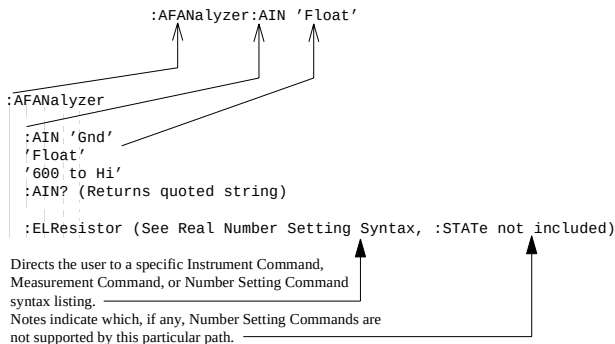
"Special (HP-IB Only Commands)" on page 189.

Command Listing Conventions

Command listings are used to define the Test Set's HP-IB 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.

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.

Adjacent Channel Power (ACP)

:ACPower

:CBW|CBANDwidth (See ["Real Number Setting Syntax" on page 213](#), :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 213](#), :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 POWER** SCREEN.

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.

```

```

: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 ANALYZER screen.

:ELRESISTOR (See "Real Number Setting Syntax" on page 213, :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.

```



```

: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 213, :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'
        'Radio Int'
        'Ext Mod'
        'Mic 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.

```

```

: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 213, :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.

```

```
: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 ANALYZER screen.

: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. THE SPEAKER VOL FIELD IS FOUND ON THE
      AF ANALYZER screen.
```

AF Generator 1

:AFGENERATOR1|AFG1

:AM (See ["Real Number Setting Syntax" on page 213](#))

:DESTination 'AM'
'FM'
'Audio Out'

:DESTination? (Returns quoted string)

:FM (See ["Real Number Setting Syntax" on page 213](#))

:FREQuency (See ["Real Number Setting Syntax" on page 213](#), :STATe not included)

:OUTPut (See ["Real Number Setting Syntax" on page 213](#))



AFGenerator2|Encoder

```

:AFGENERATOR2|AFG2|ENCoder

:AM (See "Real Number Setting Syntax" on page 213)

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

:FM (See "Real Number Setting Syntax" on page 213)

:FREQuency (See "Real Number Setting Syntax" on page 213, :STATe not
           included)

:OUTPut (See "Real Number Setting Syntax" on page 213)

:BURSt (See "Integer Number Setting Syntax" on page 211)

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

```

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

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

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

:STOP
```


:AFG2

```

:AMPS|TACS

:BUSY 'Idle'
      'Busy'
      'WS Delay'
      '1stBitDly'
:BUSY? (Returns quoted string)

:DELAY (See "Integer Number Setting Syntax" on page 211, 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 213)

:FM (See "Real Number Setting Syntax" on page 213)

:LEVel (See "Real Number Setting Syntax" on page 213)

:RATE (See "Real Number Setting Syntax" on page 213, :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

```

```

:AFG2
:AMPS|TACS
:FCMessage '<character_data>' (7 chars required, valid chars:)
    0123456789ABCDEF
:FCMessage? (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 213)

:FM (See "Real Number Setting Syntax" on page 213)

:FREQuency (See "Real Number Setting Syntax" on page 213, :STATe not
    included)

:LEVel (See "Real Number Setting Syntax" on page 213)

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

```

:AFG2
:CDCSS
:CODE '<character_data>' (2 char min, 3 char max, valid chars: 0 thru 7)
:CODE? (Returns quoted string)
:RATE (See ["Real Number Setting Syntax" on page 213](#), :STATE not included)
:STANDARD 'CDCSS'
:STANDARD? (Returns quoted string)
:TOCTime (See ["Real Number Setting Syntax" on page 213](#), :STATE not included) (valid range: 0-32000)

```
:AFG2
:DPAGing

:CODE '<character_data>' (6 chars max, valid chars: 0 thru 9)
:CODE? (Returns quoted string)

:EBIT (See "Integer Number Setting Syntax" on page 211, valid range: 0
      -1500)

:RATE (See "Real Number Setting Syntax" on page 213, :STATE not included)

:STANdard 'GSC'
          'POCSAG'
:STANdard? (Returns quoted string)

:MLENgtH (See "Integer Number Setting Syntax" on page 211, valid range:
          1-60)
```

```

:AFG2
:DPAG
:GSC
:FUNCTION (See "Integer Number Setting Syntax" on page 211, valid range:
1-4)

:MESSAGE '<character_data>' (60 chars max, valid chars:)
_0123456789 abcdefghijklmnopqr
stuvwxyz!#$%&'()*+,-./:;<=>?'{}

:MESSAGE? (Returns quoted string)

:NMESSAGE '<character_data>' (60 char max, valid chars: 0123456789U -=E)
:NMESSAGE? (Returns quoted string)

:TYPE 'Tone-Only'
'ToneVoice'
'Numeric'
'Apha-Num'
:TYPE? (Returns quoted string)

:POC
:FUNCTION '00'
'01'
'10'
'11'
:FUNCTION? (Returns quoted string)

:MESSAGE '<character_data>' (60 chars max, valid characters:)
ABCDEFGHIJKLMNOPQRSTUVWXYZ_012
3456789 abcdefghijklmnopqrstuvwxyz
!"#$%&'()*+,-./:;<=>?@[\\]^'_{|}~

:MESSAGE? (Returns quoted string)

:NMESSAGE '<character_data>' (60 char max, valid chars: 0123456789U -[])
:NMESSAGE? (Returns quoted string)

:TYPE 'Tone-Only'
'ToneVoice'
'Numeric'
'Apha-Num'
:TYPE? (Returns quoted string)

```

```

:AFG2
:DTMF

:FREQuency

:COLumn (See "Multiple Real Number Setting Syntax" on page 215)

:ROW (See "Multiple Real Number Setting Syntax" on page 215)

:OFFTime (See "Real Number Setting Syntax" on page 213, :STATe not
included)

:ONTime (See "Real Number Setting Syntax" on page 213, :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 213, :STATe and
:INCRement not included)

```

```

:AFG2
:EDACs

[:CALLER]
    :LGID|LID (See "Integer Number Setting Syntax" on page 211, valid range:)
        1 to 16382

    :GPID|GID (See "Integer Number Setting Syntax" on page 211, valid range:)
        1 to 2048)

    :SITEid|STID|SID (See "Integer Number Setting Syntax" on page 211, valid
        range: 0 to 32)

    :CNChannel (See "Integer Number Setting Syntax" on page 211)

    :WKChannel (See "Integer Number Setting Syntax" on page 211)

    :RXSend

    :RXStart

    :RATE (See "Real Number Setting Syntax" on page 213, :STATE not included |
        valid range 4000 to 10000)

    :CNRX (See "Real Number Setting Syntax" on page 213, :STATE not included)

    :CNTX (See "Real Number Setting Syntax" on page 213, :STATE not included)

    :WKRX (See "Real Number Setting Syntax" on page 213, :STATE not included)

    :WKTX (See "Real Number Setting Syntax" on page 213, :STATE not included)

    :SIGNaling|SIG
        :AM (See "Real Number Setting Syntax" on page 213)

        :FM (See "Real Number Setting Syntax" on page 213)

        :OUTput (See "Real Number Setting Syntax" on page 213)

    :SUBaudible
        :AM (See "Real Number Setting Syntax" on page 213)

        :FM (See "Real Number Setting Syntax" on page 213)

        :OUTput (See "Real Number Setting Syntax" on page 213)

    :STANDARD '9600'
        '4800'

    :STANDARD? (Returns quoted string)

```

```
: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)
```



```

:AFG2
:LTR

:AREA1|ARE1 (See "Integer Number Setting Syntax" on page 211, valid range:
0-1)

:AREA2|ARE2 (See "Integer Number Setting Syntax" on page 211, valid range:
0-1)

:FREE1|FRE1 (See "Integer Number Setting Syntax" on page 211, valid range
0-31)

:FREE2|FRE2 (See "Integer Number Setting Syntax" on page 211, valid range
0-31)

:GOT01|GOT1 (See "Integer Number Setting Syntax" on page 211, valid range:
1-31)

:GOT02|GOT2 (See "Integer Number Setting Syntax" on page 211, valid range:
1-31)

:HOME1|HOM1 (See "Integer Number Setting Syntax" on page 211, valid range:
1-20)

:HOME2|HOM2 (See "Integer Number Setting Syntax" on page 211, valid range:
1-20)

:ID1 (See "Integer Number Setting Syntax" on page 211, valid range: 0-255)

:ID2 (See "Integer Number Setting Syntax" on page 211, valid range: 0-255)

:MESSAge 'Message1'
'Message2'

:MESSAge? (Returns quoted string)

:RATE (See "Real Number Setting Syntax" on page 213, :STATE not included)
(valid range: 0.1-2400)

:STANDARD 'LTR'

:STANDARD? (Returns quoted string)

```

```

:AFG2
:MPT1327

:ALOHa (See "Integer Number Setting Syntax" on page 211, valid range: 1-15)

:CHANnel
:CONTRol
:NUMBER (See "Integer Number Setting Syntax" on page 211, valid range:
0-1023)

:TRAFfic
:NUMBER (See "Integer Number Setting Syntax" on page 211, valid range:
0-1023)

:FILLer
:CLEar <integer_value> (valid range: 1 thru 32)

:DATA <integer_value>,'<character_data>' (integer valid range:)
1 thru 32
(maximum chars: 300)

:RESet

:UPDate|UPDAT

:IDENTity
:RUUT (See "Integer Number Setting Syntax" on page 211, valid range: 0
-8191)

:SCU (See "Integer Number Setting Syntax" on page 211, valid range: 0
-8191)

:MESSAge
:CONTRol
:CLEar <integer_value> (valid range: 1 thru 32)

:DATA <integer_value>,'<character_data>' (integer valid range:)
1 thru 32 (maximum chars: 300)
:RESet

:TRAFfic
:CLEar <integer_value> (valid range: 1 thru 32)

:DATA <integer_value>,'<character_data>' (integer valid range:)
1 thru 32 (maximum chars: 300)
:RESet

```

```

:AFG2
:MPT1327
:PREFIX
:RUUT (See "Integer Number Setting Syntax" on page 211, valid range: 0
-127)
:SCU (See "Integer Number Setting Syntax" on page 211, valid range: 0
-127)
:QUALifier (See "Integer Number Setting Syntax" on page 211, valid range:
0-20)
:RDElay (See "Integer Number Setting Syntax" on page 211, valid range: 0-7)
:SIDentity (See "Integer Number Setting Syntax" on page 211, valid range:
0-32767)
:STANDARD 'MPT1327'
:STANDARD? (Returns quoted string)
:SYNC (See "Integer Number Setting Syntax" on page 211, valid range: 0
-65535)
:SYNT (See "Integer Number Setting Syntax" on page 211, valid range: 0
-65535)
:TMode 'Off'
      'Control'
      'Traffic'
      '1200Hz'
      '1800Hz'
      'Dotting'
:TMode? (Returns quoted string)

```

```

:AFG2
: NMT
: AINformation '<character_data>' (10 chars required, valid chars:)
    0123456789ABCDEF
: AINformation? (Returns quoted string)

: ALEVel
:   LOW (See "Integer Number Setting Syntax" on page 211, valid range: 0-15)
:   HIGH (See "Integer Number Setting Syntax" on page 211, valid range: 0
-15)
: ANUMber (See "Integer Number Setting Syntax" on page 211, valid range: 1
-4)
: BSAve (See "Integer Number Setting Syntax" on page 211, valid range: 0-7)
: BSIDentity '<character_data>' (3 chars required, valid chars:)
    0123456789ABCDEF
: BSIDentity? (Returns quoted string)

: CHANnel
:   ACCEss
:     NUMber (See "Integer Number Setting Syntax" on page 211, valid range:
1-2023)
:     POWer (See "Integer Number Setting Syntax" on page 211, valid range:
0-3)
:   CALlIng
:     NUMber (See "Integer Number Setting Syntax" on page 211, valid range:
1-2023)
:     POWer (See "Integer Number Setting Syntax" on page 211, valid range:
0-3)

```

```

:AFG2
: NMT
:   :TRAFFIC
:     :ALternate
:       :NUMBer (See "Integer Number Setting Syntax" on page 211, valid
:         range: )1-2023)
:       :POWer (See "Integer Number Setting Syntax" on page 211, valid
:         range: 0-3)
:     [:MAIN]
:       :NUMBer (See "Integer Number Setting Syntax" on page 211, valid range:)
:         1-2023)
:       :POWer (See "Integer Number Setting Syntax" on page 211, valid range:
:         0-3)
:     :DUTest 'MS'
:       'BS'
:       'MTX'
:     :DUTest? (Returns quoted string)

```

```

:AFG2
:MSNumber '<character_data>' (7 chars required, valid chars:)
    0123456789ABCDEF
:MSNumber? (Returns quoted string)

:MAINTenance '<character_data>' (6 chars required, valid chars:)
    0123456789ABCDEF
:MAINTenance? (Returns quoted string)

:MCHannel (See "Integer Number Setting Syntax" on page 211, valid range: 1
    ~2023)

:MFSTrength (See "Integer Number Setting Syntax" on page 211, valid range:
    0-99)

:PASSword '<character_data>' (3 chars required, valid chars:)
    0123456789ABCDEF
:PASSword? (Returns quoted string)

:PSISignal (See "Integer Number Setting Syntax" on page 211, valid range: 0
    ~15)

:RATE (See "Real Number Setting Syntax" on page 213, :STATE not included)
    (valid range: 10-2400)

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

:SISResponse '<character_data>' (4 chars required, valid chars:)
    0123456789ABCDEF
:SISResponse? (Returns quoted string)

:STANDARD 'STD450'
    'STD900'
    'BENELUX'
    'FRANCE'
    'AUSTRIA'
    'SPAIN'
    'TURKEY'
    'THAILAND'
    'MALAYSIA'
    'SAUDI1'
    'SAUDI2'
    'CRO-SLOV'
    'HUNGARY'
    'BULGARIA'
:STANDARD? (Returns quoted string)

```

:AFG2
:TArea
:ALternate (See ["Integer Number Setting Syntax" on page 211](#),
valid range: 0-255)
:MAIN (See ["Integer Number Setting Syntax" on page 211](#),
valid range: 0-255)
:TCINfo (See ["Integer Number Setting Syntax" on page 211](#),
valid range: 0-99)

```

:AFG2
:NAMPS|NTACS

:BUSY 'Idle'
      'Busy'
      'WS Delay'
      '1stBitDly'
:BUSY? (Returns quoted string)

:DElay (See "Integer Number Setting Syntax" on page 211,
      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 213)

: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 213)

:LEVel (See "Real Number Setting Syntax" on page 213)

: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 213, :STATE not
      included)

```



```

:AFG2
:NAMP|NTAC

:FVC
:AM (See "Real Number Setting Syntax" on page 213)
:FM (See "Real Number Setting Syntax" on page 213)
:LEVel (See "Real Number Setting Syntax" on page 213)
:MESSAge '<character_data>' (7 chars required, valid chars:)
    0123456789ABCDEF
:MESSAge? (Returns quoted string)

:RATE (See "Real Number Setting Syntax" on page 213, :STATE not
included)

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

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

```

```

:AFG2
:TSEquential

:AMPLitude (See "Multiple Real Number Setting Syntax" on page 215)

:FREquency (See "Multiple Real Number Setting Syntax" on page 215)

:OFFTime (See "Multiple Real Number Setting Syntax" on page 215)

:ONTTime (See "Multiple Real Number Setting Syntax" on page 215)

:SEquence '<character_data>' (16 chars maximum, valid chars:)
                                0123456789 ABCDEF
:SEquence? (Returns quoted string)

:STANdard 'CCIR1'
          'CCIR2'
          'CCITT'
          'EEA'
          'EIA'
          'Euro'
          'NATEL'
          'ZVEI1'
          'ZVEI2'
:STANdard? (Returns quoted string)

```

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 HP-IB 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)
```



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 IS CONNECTED. THE DISPLAY FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

:Active

THIS COMMAND TURNS ON THE FORWARD CONTROL CHANNEL OF THE SIMULATED BASE STATION. IF A CALL IS IN ANY OTHER CALL-PROCESSING STATE, SENDING THE “ACT” 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 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 AND THE MS ID FIELDS (PHONE NUM/MIN) MUST HAVE CORRECT VALUES ENTERED FOR A PAGE ATTEMPT TO BE SUCCESSFUL. THE PAGE FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

:HANDOff

THIS COMMAND INITIATES A HANDOFF TO ANOTHER VOICE CHANNEL. THE COMMANDS TO SET THE VOICE CHANNEL, POWER LEVEL, AND SAT ARE “CPR:VCH|VMAC|SAT” RESPECTIVELY. THE TEST SET MUST BE IN THE CONNECTED STATE FOR A HANDOFF ATTEMPT TO BE SUCCESSFUL. THE HANDOFF FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

:CPR
:RElease

THIS COMMAND TERMINATES AN ACTIVE VOICE CHANNEL CONNECTION WITH THE MOBILE STATION. THE TEST SET MUST BE IN THE CONNECTED STATE FOR A RELEASE ATTEMPT TO BE SUCCESSFUL. THE RELEASE FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

: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 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 211](#), valid range: 1-1023)

THIS COMMAND SETS THE CONTROL CHANNEL NUMBER. THE CNTRL CHAN FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

:CSYSem 'AMPS'
 'TACS'
 'JTACS'
 'NAMPS'
 'NTACS'

:CSYSem? (Returns quoted string)

THESE COMMANDS SET/QUERY THE TYPE OF CELLULAR SYSTEM IN USE. THE SYSTEM TYPE FIELD IS LOCATED ON THE **CALL BIT** SCREEN.

:VCHannel (See ["Integer Number Setting Syntax" on page 211](#), valid range: 1-1023)

THIS COMMAND SETS THE VOICE CHANNEL NUMBER THAT THE MOBILE STATION WILL BE ASSIGNED TO DURING A CALL SETUP OR HANDOFF. THE VOICE CHAN FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

:SIDentify (See ["Integer Number Setting Syntax" on page 211](#), valid range: 1-4094)

THIS COMMAND SETS THE (BASE STATION) SYSTEM IDENTIFICATION NUMBER. THE SID FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

:AMPLitude (See ["Real Number Setting Syntax" on page 213](#), 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.

```

:CPR
:NMMode 'PHONE NUM'
      'MIN2 MIN1'
:NMMode? (Returns quoted string)
      THIS COMMAND SETS/QUERIES THE FORMAT FOR ENTERING THE MOBILE STATION'S
      IDENTIFICATION. THE "CPR:PNUM" COMMAND SETS THE PHONE NUMBER, AND
      THE "CPR:MIN" COMMAND SETS MIN 1 AND MIN 2. 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 MOBILE STATION IDENTIFICATION NUMBER. THE
      "CPR:NMOD" COMMAND SELECTS WHICH FORMAT (PHONE NUMBER OR MIN) THE TEST
      SET WILL USE FOR CALL PROCESSING. THE MS ID FIELD IS FOUND ON THE CALL
      CONTROL SCREEN.

: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.

:CRFatten '0 dB'
          '20 dB'
          '40 dB'
:CRFatten? (Returns quoted string)
      THESE COMMANDS SET/QUERY THE INPUT ATTENUATION FOR THE RF IN/OUT AND
      ANTENNA IN CONNECTORS 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.

:CMAXimum (See "Integer Number Setting Syntax" on page 211, 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.

```

```

:CPR
: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. THE SAT FIELD IS FOUND ON THE
        CALL CONTROL SCREEN.

:VMACode (See "Integer Number Setting Syntax" on page 211, valid range: 0-7)
        THIS COMMAND SETS/QUERIES THE VMAC (VOICE MOBILE ATTENUATION CODE) TO
        BE USED DURING THE NEXT CALL SETUP OR HANDOFF. VMAC CONTROLS THE POWER
        LEVEL TRANSMITTED FROM THE MOBILE STATION. THE PWR LVL FIELD IS FOUND
        ON THE CALL CONTROL SCREEN.

: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'
:ORDER? (Returns quoted string)
        THESE COMMANDS SEND AN ORDER TYPE MOBILE STATION CONTROL MESSAGE ON
        THE FORWARD VOICE CHANNEL TO 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".

:MESSAge 'SPC WORD1'
        'SPC WORD2'
        'ACCESS'
        'REG INC'
        'REG ID'
        'C-FILMESS'
        'MS Word 1'
        'MSMessOrd'
        'MS IntVCh'
        'FVC 0 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 DATA SCREEN IF THE AUTHENT FIELD ON THE
        AUTHENTICATION SCREEN IS SET TO "Off".

```



```

: 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.

```

:CPR
:AVCNumber? (Returns quoted string)
THIS COMMAND QUERIES THE VOICE CHANNEL NUMBER FOR THE CALL CURRENTLY CONNECTED. 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. VMAC DETERMINES THE MOBILE STATION'S TRANSMITTED POWER LEVEL. 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. THE SAT FIELD IS FOUND ON THE **CALL CONTROL** SCREEN.

: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.

```

:CPR
: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.

```

```

: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.

```

```

: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.

```

```
: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.
```

```

: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.

```

```
: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)

:BISRate|BIS '<character_data>' (1 char required, valid chars: 01)
:BISRate?|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.
```



```

:CPR
: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.

```

```
: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.
```

```

: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.

```

```

: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.

```

```

:CPR
: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.

```

```
: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.
```

```

:CPR
: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 0 MES (FCC MOBILE
    STATION CONTROL ORDER MESSAGE). THE MESSAGE FIELDS FOR FVC 0 MES ARE
    FOUND ON THE CALL BIT SCREEN.

```

```

:CPR
:FWVoice

: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.

```



```

:CPR
:AMPS
:AUTHenticate 'off'
      'On'
:AUTHenticate? (Returns quoted string)
      THESE COMMANDS SELECT/QUERY THE ANALOG AUTHENTICATION
      STATE. THE AUTHENT FIELD IS FOUND ON THE AUTHENTICATION
      SCREEN.
: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)

:OON (See "Integer Number Setting Syntax" on page 211, 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
AUTHENTICATION SCREEN.

:ESNumber '<character_data> (10 chars maximum, valid chars: hex)'
:ESNumber? (Returns quoted string)
      THIS COMMAND SETS THE ESN (ELECTRONIC SERIAL NUMBER) OF THE
      MOBILE STATION. THE ESN FIELD IS FOUND ON THE AUTHENTICATION
      SCREEN.

:CCORder 'SSD Upd'
      'Uniq Ch'
:CCORder? (Returns quoted string)
      THIS COMMAND SENDS/QUERIES AN ORDER TYPE MOBILE STATION
      CONTROL MESSAGE ON THE FORWARD CONTROL CHANNEL TO THE MOBILE STATION.
      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.

```

CALL Process

: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 AN ORDER TYPE MOBILE STATION CONTROL MESSAGE ON THE VOICE CHANNEL TO THE MOBILE STATION. 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.

:SSDA '<character_data> (16 chars: hex)'

:SSDA? (Returns quoted string)

:NEW '<character_data> (16 chars: hex)'

:NEW? (Returns quoted string)

:SSDB '<character_data> (16 chars: hex)'

:SSDB? (Returns quoted string)

:NEW '<character_data> (16 chars: hex)'

:NEW? (Returns quoted string)

:ASCPcedure '<character_data> (31 chars: hex)'

:ASCPcedure

:RESult? (Returns quoted string)

```

: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 RANDSSD_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.

```

CALL Process

```
: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.
```

```

:CPR
:AMPS
: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 RANDCHALA (RANDOM
    CHALLENGE A GLOBAL ACTION MESSAGE). THE MESSAGE FIELDS FOR
    RANDCHALA ARE FOUND ON THE CALL BIT SCREEN.

: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.

```

CALL Process

```
:CPR
:AMPS
: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.
```

```

: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.

```

CALL Process

```
:CPR
:AMPS
:FVCCSSD1
: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.

:FVCCSSD2
: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.

:FVCCSSD3
: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.
```



```

:CPR
:AMPS
: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.

```

CALL Process

```
: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 FVCUNIQC (UNIQUE
    CHALLENGE ORDER WORD). THE MESSAGE FIELDS FOR FVCUNIQC 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.
```

```

: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 UNIQCChCon (UNIQUE
    CHALLENGE ORDER CONFIRMATION Word). THE MESSAGE FIELDS FOR UNIQCChCon
    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.

```

```

: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". THE DISPLAY FIELD IS FOUND ON THE CALL CONTROL SCREEN.

: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".

```

```

:CPR
:NAMPS
: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 211, valid range: $$$)
    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".

```

CALL Process

```
:CPR
:NAMPS
: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.
```

```

:CPR
:NAMPS
: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.

: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.

```

CALL Process

```
:CPR
:  :NAMPS
:    :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.
```



```

:CPR
:NAMPs
:NVFMessage | 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)

:PDCCCode | PDSCCode '<character_data>' (3 chars required: binary)
:PDCCCode? | 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)

:L0Cal '<character_data>' (5 chars required: binary)
:L0Cal? (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.

```

CALL Process

```
:CPR
:NAMPS
: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.
```

```

: CPR
: NAMPs
: 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.

```

CALL Process

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

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

:PDCode '<character_data>' (3 chars required: binary)
:PDCode? (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.
```

```

: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".

:TIMEout <string>,<integer value>
    THIS COMMAND SELECTS THE TIMEOUT PERIOD USED DURING PAGES OR REGISTRATIONS. THE
    STRING VALUE MUST BE "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.

```


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 SHARED SECRET DATA UPDATE. THE SSD UPDATE, EXECUTE FIELD PERFORMS THE SAME FUNCTION. THE SSD UPDATE FIELD IS LOCATED ON THE **CDMA AUTHENTICATION** SCREEN.

:UCHallenge

THIS COMMAND INITIATES A CDMA UNIQUE CHALLENGE. THE UNIQ CHALL, EXECUTE FIELD PERFORMS THE SAME FUNCTION. THE UNIQ CHALL FIELD IS LOCATED ON THE **CDMA AUTHENTICATION** SCREEN.

:DATA? (Returns unquoted string)

THIS COMMAND QUERIES THE CDMA AUTHENTICATION DATA TABLE. THE AUTHENTICATION DATA TABLE IS LOCATED ON THE **CDMA AUTHENTICATION** SCREEN. REFER TO THE HP 8924C REFERENCE GUIDE, FIELDS, FOR A PROGRAMMING EXAMPLE.

:DATA

:CLear

THIS COMMAND CLEARS THE CDMA AUTHENTICATION DATA TABLE. THE AUTHENTICATION DATA TABLE IS LOCATED ON THE **CDMA AUTHENTICATION** SCREEN. REFER TO THE HP 8924C REFERENCE GUIDE, FIELDS, FOR A PROGRAMMING EXAMPLE.

:AWGN

[[:BWPow]] (See ["Real Number Setting Syntax" on page 213](#) :STATE command not included under optional command [[:BWPow]])

THIS COMMAND SETS THE **AWGN** (ADDITIVE WHITE GAUSSIAN NOISE) LEVEL. THIS FIELD IS FOUND ON THE **CDMA GENERATOR CONTROL** AND **CDMA MOBILE RECEIVER TEST** SCREENS.

```

:CDMA
:TX
:Power
:MEASurement 'Chan Power'
              'Avg Power'
              'Acc Prb Pwr'
:MEASurement? (Returns quoted string)
THESE COMMANDS SELECT/QUERY A POWER MEASUREMENT. THE TWO CHOICES OF POWER
MEASUREMENTS, AVERAGE OR CHANNEL POWER, ARE MULTIPLEXED INTO ONE FIELD. THIS
FIELD IS LOCATED ON THE CDMA CALL CONTROL, CDMA TRANSMITTER POWER RANGE
CELLULAR MOBILE AND CDMA CELLULAR MOBILE TRANSMITTER TEST SCREENS. A QUERY
(?) RETURNS THE VALUE OF THE POWER MEASUREMENT CURRENTLY SELECTED.

```



```

:CDMA
: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 MEASUREMENTS FROM THREE
    MULTIPLEXED FIELDS, COLLECTIVELY REFERRED TO AS THE "RHO SUITE". 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, TRIGGERED BY USING THE "TRIG" HP-IB COMMAND.

:RFPower? (Returns real value)
:RFPower
    :STATE? (Returns 1 or 0, 1 = ON, 0 = OFF)
    THESE COMMANDS QUERY THE CONTENTS OF 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 211)
    THIS COMMAND SETS THE RF CHANNEL FIELD. THIS FIELD IS LOCATED ON THE
CDMA CALL CONTROL SCREEN.

:STNoise? (Returns real value)
    THIS COMMAND QUERIES THE CONTENTS OF THE  $E_b/N_f$  FIELD. THIS FIELD
    DISPLAYS A 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.

```

```

:CDMA
:CALL

:AHAndoff
[:EXECute]
:CHANnel (See "Integer Number Setting Syntax" on page 211)

:PLEvel (See "Integer Number Setting Syntax" on page 211, does not include
:INCR command, valid range 0 to 7)

:SATone '5970hz'
       '6000hz'
       '6030hz'
THESE COMMANDS SET THE SAT (SUPERVISORY AUDIO TONE) FOR CDMA
TO ANALOG HANDOFFS. THE SAT FIELD IS FOUND ON THE CALL CONTROL SCREEN.
:SATone? (Returns quoted string)

:SType 'AMPS'
       'NAMPS-WIDE'
       'TACS'

:SType? (Returns quoted string)
THESE COMMANDS SET/QUERY THE SYSTEM TYPE FOR CDMA TO ANALOG
HANDOFFS. THE SYSTEM TYPE FIELD IS FOUND ON THE CALL CONTROL SCREEN.

: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. THE DSAT FIELD IS DISPLAYED ON THE CALL CONTROL
SCREEN WHEN NAMPS IS SELECTED IN THE SYSTEM TYPE FIELD.

```

```

:CDMA
:CALL
: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. 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. THIS COMMAND
    PERFORMS THE SAME FUNCTION AS THE CALL KEY.

: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 CDMA 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

```

CDMA

:CDMA
:CALL

TIMER FIELD IS LOCATED ON THE **CDMA TRANSMITTER POWER RANGE TEST** SCREEN.

```
:CDMA
:CALL
:TRAF
:Traffic
```

```
:DATA
```

```
:MODE 'Svc Opt 1'
      'Svc Opt 2'
      'Svc Opt 3'
      'Svc Opt 9'
      'SO 32768'
```

```
:MODE? (Returns quoted string)
```

THESE COMMANDS SELECT/QUERY THE TRAFFIC DATA MODE FIELD, WHICH DETERMINED THE SERVICE OPTION USED DURING A CALL.

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. THE DATA TYPE YOU CHOOSE, WITH THE EXCEPTION OF "ECHO" (VOICE LOOPBACK), WILL BE TRANSMITTED ON THE FORWARD TRAFFIC CHANNEL AT THE RATE THAT IS SELECTED IN THE DATA RATE FIELD. 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.

CDMA

:CDMA
:CELL
:CONF
:ECHO

:DElay '0 seconds'
'2 seconds'
'5 seconds'

:DElay? (Returns quoted string)

These commands select/query the Echo Delay field. This field is only applicable when a Service Option 1 or 32768 call is connected and the Data Type field is "Echo" (voice loopback). 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.

:PROToCol 'IS-95'
'TSB-74'
'IS-95A'
'J-STD-008'
'ARIB T53'
'KOR PCS'

:PROToCol? (Returns quoted string)

These commands select/query the Protocol field. 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 211](#), :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 211](#), :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 211](#), :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 211](#), :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.

:BID (See ["Integer Number Setting Syntax" on page 211](#), :INCRement not included, valid range 0 to 32767)

THIS COMMAND SETS THE CELL'S BASE STATION ID. THE BASE ID FIELD IS LOCATED

:CDMA
:CELL
:CONF

ON THE **CDMA CELL SITE CONFIGURATION** SCREEN.

:AWIN (See ["Integer Number Setting Syntax" on page 211](#), :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 211](#), :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 211](#), :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 211](#), :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 211](#), :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 211](#), :INCRement not included, valid range 0 to 1)

:INITial

:Power (See ["Integer Number Setting Syntax" on page 211](#), :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 211](#), :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.

CDMA

:CDMA

:CELL

:CONF

:PAMSize (See ["Integer Number Setting Syntax" on page 211](#), :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 211](#), :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 211](#), :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 211](#), :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.

:CELL

:CONF

:BCCode(See ["Integer Number Setting Syntax" on page 211](#), :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.

:BNCode(See ["Integer Number Setting Syntax" on page 211](#), :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.

: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 SIGNALLED 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.

: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 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 0000000000000000 TO FFFFFFFFFFFFFFFF. THE RAND FIELD IS 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.

:CDMA
:CELL
:TREGISTER
:MODE 'ON'
:MODE? 'OFF'
:MODE?
THESE COMMANDS SET/QUERY THE TIMER REG FIELD. THE TIMER REG FIELD IS LOCATED ON THE **CDMA AUTHENTICATION** AND **CDMA CELL SITE CONFIGURATION** SCREENS.
:PERIOD (See ["Integer Number Setting Syntax" on page 211](#), :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.

```

:CDMA
:CELL
:ASEC
:ASEctor

```

```

[ :BWPow] (See "Real Number Setting Syntax" on page 213) :STATE command not
included under optional command [ :BWPow])
THIS COMMAND SETS THE TOTAL SECTOR A POWER. 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

```

```

[ :Powe] (See "Real Number Setting Syntax" on page 213)
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

```

```

[ :Powe] (See "Real Number Setting Syntax" on page 213)
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

```

```

[ :Powe] (See "Real Number Setting Syntax" on page 213)
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.

```

```

:CDMA
:CELL
:TRAFFIC
[:Power] (See "Real Number Setting Syntax" on page 213)
    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 211, :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.

:ORTHogonal

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

:WALSh (See "Integer Number Setting Syntax" on page 211, :INCRement not
    included, valid range 2 to 63 excluding
    duplicate walsh code settings)
    THIS COMMAND SELECTS THE WALSH CODE FOR THE SECTOR A OCNS (ORTHOGONAL
    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 211, :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
REPORTING SCREEN.

```

```

:CDMA
:CELL
  :BSEC
  :BSECTOR
    [:BWPow] (See "Real Number Setting Syntax" on page 213, :STATE command not
              included under optional command [:BWPow])
              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
    [:PWPow] (See "Real Number Setting Syntax" on page 213)
              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
    [:PWPow] (See "Real Number Setting Syntax" on page 213)
              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 211, :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
    [:PWPow]? (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 211, valid range 2 to 63,
              excluding duplicate settings with other channels)
              THIS COMMAND SELECTS THE WALSH CODE FOR THE SECTOR B OCNS (ORTHOGONAL
              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.

```

:CDMA

:PNOffset (See ["Integer Number Setting Syntax" on page 211](#), :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 REPORTING** SCREEN.

```

:CDMA
:MOB
:MOBILE

:Power

:MPower (See "Real Number Setting Syntax" on page 213, :STATE not included,
        valid range +30 dBm to -110 dBm)
:MPower? (Returns real value)
    THESE COMMANDS SET THE/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. THE
    REGISTER FIELD IS LOCATED ON THE CDMA CALL CONTROL SCREEN.

:REPORT
:CLEAR
    THIS COMMAND CLEARS THE CDMA MOBILE REPORTING TABLE. THE MS
    REPORT (CLEAR) FIELD IS FOUND ON THE CDMA MOBILE REPORTING
    SCREEN.

:PILOT
:STrength? (Returns variable length array of real numbers.)
    (Numbers are separated by commas. Ex.: 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 HP 8924C REFERENCE GUIDE FOR A PROGRAMMING
    EXAMPLE.
    THE CDMA MOBILE REPORTING TABLE IS LOCATED ON THE
    CDMA MOBILE REPORTING SCREEN.

```

```

:CDMA
:MOB
: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. 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: hex)
: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: hex)
: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.

: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.

```


:CDMA
:MOB
:PHONE
[:NUMBER] '<character_data>' (10 chars max, valid chars: 0123456789)
[:NUMBER]? (Returns quoted string)
THESE COMMANDS SELECT/QUERY THE PHONE NUMBER USED FOR PAGING WHEN THE MS ID FIELD IS SET TO PHONE NUM. IN THIS MODE, THE MOBILE STATION MUST BE OPERATING NON-SLOTTED, AND PHONE NUMBERS OBTAINED DURING REGISTRATION WILL NOT BE USED. 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.

CDMA

: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)
'*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 ARE AVAILABLE 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 IS LOCATED 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.

: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 DEPEND ON THE PROTOCOL FIELD SETTING ON THE **CDMA CALL CONTROL** SCREEN. THE MOBILE PARM FIELD IS LOCATED ON THE **CDMA MOBILE REPORTING** 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.

:CDMA
:MOB

:TADD (See ["Integer Number Setting Syntax" on page 211](#), :INCRement not included, valid range 0 to 63)

THIS COMMAND SETS THE PILOT DETECTION THRESHOLD T_ADD. THIS FIELD IS LOCATED ON THE **CDMA MOBILE REPORTING** SCREEN.

:TDROP (See ["Integer Number Setting Syntax" on page 211](#), :INCRement not included, valid range 0 to 63)

THIS COMMAND SETS THE PILOT DROP THRESHOLD T_DROP. THIS FIELD IS LOCATED ON THE **CDMA MOBILE REPORTING** SCREEN.

:TCOMP (See ["Integer Number Setting Syntax" on page 211](#), :INCRement not included, valid range 0 to 63)

THIS COMMAND SETS THE PILOT DETECTION THRESHOLD T_COMP. THIS FIELD IS LOCATED ON THE **CDMA MOBILE REPORTING** SCREEN.

:TTDROP (See ["Integer Number Setting Syntax" on page 211](#), :INCRement not included, valid range 0 to 63)

THIS COMMAND SETS THE HANDOFF DROP TIMER VALUE T_TDROP. THIS FIELD IS LOCATED ON THE **CDMA MOBILE REPORTING** SCREEN.

```

:CDMA
:FERasure? (Returns real value)
    THIS COMMAND QUERIES THE MOBILE STATION REPORTED FER (FRAME ERROR RATE).
    THE MS FER FIELD IS LOCATED ON THE CDMA MOBILE REPORTING SCREEN.

:FERasure

:ERrors? (Returns real value)
    THIS COMMAND QUERIES THE NUMBER OF FRAME ERRORS COUNTED IN THE CURRENT FER
    REPORT INTERVAL. THE ERRORS FIELD IS LOCATED ON THE CDMA MOBILE
    REPORTING SCREEN.

:FRAMES? (Returns real value)
    THIS COMMAND QUERIES THE NUMBER OF FRAMES COUNTED IN THE CURRENT FER
    REPORT INTERVAL. THE FRAMES FIELD IS LOCATED ON THE CDMA MOBILE
    REPORTING SCREEN.

: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 REPORTING SCREEN.

:BY
:ERRors (See "Integer Number Setting Syntax" on page 211 | :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
    REPORTING 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. THIS FIELD IS LOCATED ON THE CDMA MOBILE
    REPORTING SCREEN.

```

```

:CDMA
:SMS

: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.
      THIS 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 (DIRECTION OF
        POWER CONTROL STEPS WHEN THE EXECUTE FIELD IS SELECTED). THIS
        FIELD (AND EXECUTE) ARE LOCATED ON THE CDMA TRANSMITTER POWER RANGE
        TEST SCREEN.

:STEPs (See "Integer Number Setting Syntax" on page 211, 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.

: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.

:SMSService

:MDMode 'ASCII'
        'Hex'
:MDMode? (Returns quoted string)
        THESE COMMANDS SELECT/QUERY THE SMS (SHORT MESSAGE SERVICE) DATA MODE FIELD.
        THIS FIELD IS LOCATED ON THE CDMA SHORT MESSAGE SERVICE SCREEN.

:ENC 'Octet'
      '7-bit ASCII'
:ENC?
        THESE COMMANDS SELECT/QUERY THE SMS (SHORT MESSAGE SERVICE) ENCODING FIELD.
        THIS FIELD IS LOCATED ON THE CDMA SHORT MESSAGE SERVICE SCREEN.

```

```

:CDMA
:SMS
:TERM
:TERMination
:DATA
:AScii? (Returns quoted string)
:AScii (String entry)
:HEX? (Returns quoted string)
:HEX (String entry)
THESE COMMANDS ENTER DATA INTO OR QUERY THE USER DATA (ASCII) OR USER DATA
(HEX) FIELDS. THESE FIELDS ARE LOCATED ON THE CDMA SHORT MESSAGE SERVICE
SCREEN.

:ALERT 'On'
      'Off'
:ALERT? (Returns quoted string)
THESE COMMANDS SET/QUERY THE ALERT FIELD. THIS 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. THIS FIELD IS LOCATED ON THE CDMA
SHORT MESSAGE SERVICE SCREEN.

:PRIVacy      'None'
              'No Restrict'
              'Restricted'
              'Confidentl
              'Secret'
:PRIVacy? (Returns quoted string)
THESE COMMANDS SELECT/QUERY THE PRIVACY FIELD. THIS 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. THIS FIELD IS LOCATED ON THE CDMA SHORT MESSAGE SERVICE SCREEN.

:SEND <command>
THIS COMMAND SENDS THE SMS MESSAGE ENTERED IN THE USER DATA (ASCII OR HEX)
FIELD. THIS COMMAND PERFORMS THE SAME FUNCTION AS SELECTING THE SEND MSG,
EXECUTE FIELD. THIS FIELD IS LOCATED ON THE CDMA SHORT MESSAGE SERVICE SCREEN

```

:DUPLICATE (See ["Integer Number Setting Syntax" on page 211](#) | :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.

: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. THIS 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. THIS 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. THIS FIELD IS LOCATED ON THE **CDMA SHORT MESSAGE SERVICE** SCREEN

CELL

:CELL

:CONFigure

:RFChannel (See ["Integer Number Setting Syntax" on page 211](#), :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 211](#), :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 211](#), :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

Configure

```
:CONFigure

: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.

:ARTSwitching 'Auto'
             'Manual'

:ARTSwitching? (Returns quoted string)
    THESE COMMANDS SET/QUERY THE RX/TX CNTL SETTINGS. RX/TX CNTL REFERS TO
    THE TEST SET'S ABILITY TO AUTOMATICALLY SWITCH BETWEEN THE RX TEST AND
    TX TEST SCREENS WHEN A CARRIER OR MICROPHONE PTT (PUSH-TO-TALK) IS
    DETECTED. THE Rx/TX CNTL FIELD IS FOUND ON THE CONFIGURE SCREEN.

:BADdress (See "Integer Number Setting Syntax" on page 211, valid range: 0-30)
    THIS COMMAND SETS THE HP-IB ADDRESS. THE HP-IB 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.

:BMODe 'Control'
       'Talk&Lstn'

:BMODe? (Returns quoted string)
    THESE COMMANDS SET THE TEST SET'S HP-IB MODE. THE MODE FIELD IS FOUND ON
    THE I/O CONFIGURE SCREEN.

:DATE (See "Integer Number Setting Syntax" on page 211, 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.
```

```

:CONF
:EDISK '<character_data>' (format = :,xxx,y where xxx = HP-IB 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)

:INTensity (See "Integer Number Setting Syntax" on page 211, valid range: 1-8)
    THIS COMMAND SETS THE SCREEN (CRT) INTENSITY. THE INTENSITY FIELD IS
    FOUND ON THE CONFIGURESCREEN.

: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.

```

```

: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. VALUES
      ARE ENTERED IN THE FIELDS THAT CORRESPOND WITH THE FRONT PANEL
      CONNECTOR BEING USED (SEE NEXT THREE COMMANDS). THE RF LEVEL OFFSET FIELD IS
      FOUND ON THE CONFIGURE SCREEN.

:Antenna (See "Real Number Setting Syntax" on page 213, :STATe not included
      valid range: -100.0 to 100.0)
      THIS COMMAND SETS THE PATH LOSS FROM THE MOBILE STATION TO THE ANTENNA IN
      CONNECTOR. THIS CORRECTION IS APPLIED WHEN THE RF LEVEL OFFSET FIELD IS
      "ON". THE ANTENNA IN AND RF LEVEL OFFSET FIELDS ARE FOUND ON THE
      CONFIGURE SCREEN.

:DUPlex (See "Real Number Setting Syntax" on page 213, :STATe not included
      valid range: -100.0 to 100.0)
      THIS COMMAND SETS THE PATH LOSS FROM THE DUPLEX OUT CONNECTOR (WHEN THE
      PCS INTRFC CNTRL FIELD ON THE CONFIGURE SCREEN IS SET TO "Off"), OR THE
      RF OUT ONLY FIELD (WHEN THE PCS INTRFC CNTRL FIELD ON THE CONFIGURE
      SCREEN IS SET TO "On"). THIS CORRECTION IS APPLIED WHEN THE RF LEVEL OFFSET
      FIELD IS "ON". THE DUPLEX OUT, RF OUT ONLY, AND RF LEVEL OFFSET FIELDS
      ARE FOUND ON THE CONFIGURE SCREEN.

:RFINout (See "Real Number Setting Syntax" on page 213, :STATe not included
      valid range: -100.0 to 100.0)
      THIS COMMAND SETS THE PATH LOSS FROM THE RF IN/OUT CONNECTOR TO THE MOBILE
      STATION. THIS CORRECTION IS APPLIED WHEN THE RF LEVEL OFFSET FIELD IS "ON".
      THE RF IN/OUT AND RF LEVEL OFFSET FIELDS ARE FOUND ON THE CONFIGURE
      SCREEN.

```

```

:CONF
:OFRequency (See "Real Number Setting Syntax" on page 213, :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 AND AUTOTUNING ROUTINES IN THE
    TEST SET. THE RANGE HOLD FIELD IS FOUND ON THE CONFIGURE SCREEN.

:  HOLD
    THIS COMMAND DISABLES AUTORANGING AND AUTOTUNING ROUTINES IN THE
    TEST SET. THE RANGE HOLD FIELD IS FOUND ON THE CONFIGURE SCREEN.

:PRINT

:ADdRes (See "Integer Number Setting Syntax" on page 211, 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 CONFIGURE SCREEN.

:LINes|LINE (See "Integer Number Setting Syntax" on page 211, 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'
                  'HPIB'
                  'Parallel'
: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.

```

```

: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.

```

```

:CONF
:RFCStandard 'MS AMPS'
'US PCS' (available when PCS Mode is "On")
'Kor PCS P0' (available when PCS Mode is "On")
'Kor PCS P1' (PCS Mode "On")
'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. SOME
STANDARDS REQUIRE AN HP 83236B WITH OPTION 700 (JAPAN CDMA AND ALL
TACS VARIANTS). 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.

: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.

:RTSwitching 'Carrier'
'PTT'

:RTSwitching? (Returns quoted string)
THESE COMMANDS SET/QUERY THE SIGNAL THAT WILL CAUSE AUTOMATIC SWITCHING
BETWEEN THE RX TEST AND TX TEST SCREENS WHEN THE RX/TX CNTL FIELD IS
SET TO AUTO. "CARRIER" WILL CAUSE THE TEST SET TO AUTOMATICALLY SWITCH
TO THE TX TEST SCREEN WHEN AN RF CARRIER IS DETECTED. PTT (PUSH-TO-
TALK) CAUSES THE TEST SET TO AUTOMATICALLY SWITCH TO THE RX TEST SCREEN
WHEN A MICROPHONE CONNECTED TO THE MIC/ACC CONNECTOR IS KEYED. THE
RX/TX CNTL FIELD IS FOUND ON THE CONFIGURE SCREEN.

```



```

:CONF
:USER

:BASE (See "Real Number Setting Syntax" on page 213, :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 213, :DUNits, :UNITS, :STATE,
      :INCRement not included)
      THIS COMMAND SETS THE FREQUENCY SPACING BETWEEN CHANNELS, DISPLAYED
      IN THE CHAN SPACE 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 CHAN SPACE AND RF CHAN
      STD FIELDS ARE FOUND ON THE CONFIGURE SCREEN.

:DELta (See "Real Number Setting Syntax" on page 213, :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.

:SPORT

:BAUD '150'
      '300'
      '600'
      '1200'
      '2400'
      '4800'
      '9600'
      '19200'

:BAUD? (Returns quoted string)
      THESE COMMANDS SET/QUERY THE SERIAL PORT 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.

```

Configure

```
:CONF
:SPOR
:DATA '7 Bits'
:DATA '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'
:STOP '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.

:RPAce 'Xon/Xoff'
:RPAce? (Returns quoted string)
    THESE COMMANDS SET/QUERY THE Xon/Xoff CAPABILITY USED FOR CONTROLLING THE
    PACE OF SERIAL COMMUNICATIONS WHEN THE TEST SET IS RECEIVING DATA VIA
    THE SERIAL PORT. THE Rcv PACE FIELD IS FOUND ON THE I/O
    CONFIGURE SCREEN.

:XPACe 'Xon/Xoff'
:XPACe? (Returns quoted string)
    THESE COMMANDS SET/QUERY THE Xon/Xoff CAPABILITY USED FOR CONTROLLING THE
    PACE OF SERIAL COMMUNICATIONS WHEN THE TEST SET IS TRANSMITTING DATA VIA
    THE SERIAL PORT. THE XMT PACE FIELD IS FOUND ON THE I/O
    CONFIGURE SCREEN.

:SIN|SINPut 'Inst'
:SIN|SINPut '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.
```

```

:CONF
:SPOR
: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.

:SPB

: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)

:RPACe 'Xon/Xoff'
      'None'
:RPACe? (Returns quoted string)

:XPACe 'Xon/Xoff'
      'None'
:XPACe? (Returns quoted string)

```

```

:CONF
:TIME (See "Real Number Setting Syntax" on page 213, :DUNits, :INCRement, :UNITS,
:STATe not included)
    THESE 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 RF INPUT PORT. THE INPUT PORT
    FIELD IS FOUND ON THE CONFIGURE, TX TEST, AND RF ANALYZER SCREENS
    WHEN THE PCS MODE FIELD ON THE CONFIGURE SCREEN IS SET
    TO OFF AND THE POWER HAS BEEN CYCLED TO TURN PCS MODE OFF.

:OUTPut 'RF Out'
        'Dupl'
        'only'

:OUTPut? (Returns quoted string)
    THESE COMMANDS SET/QUERY THE RF OUTPUT PORT. "Dupl" IS AVAILABLE WHEN
    THE PCS MODE FIELD IS "Off". THE CHOICE "ONLY" IS AVAILABLE WHEN THE
    PCS MODE FIELD IS "On". THE OUTPUT PORT FIELD IS FOUND ON THE
    CONFIGURE SCREEN.

:ATTenuator '0 dB'
            '20 dB'
            '40 dB'
            '60 dB' (available when PCS Intrfc Control is "On")
            '20 dB LC' (available when PCS Intrfc Control is "On")

: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.

```

```

: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

:REfErEncE
  [:FREquency]
    '1.0000 MHz'
    '1.2288 MHz'
    '2.0000 MHz'
    '2.4576 MHz'
    '4.9152 MHz'
    '5.0000 MHz'
    '9.8304 MHz'
    '10.0000 MHz'
    '15.0000 MHz'
    '19.6608 MHz'
  [:FREquency]? (Returns quoted string)
    THESE COMMANDS SET/QUERY THE REFERENCE FREQUENCY FOR THE REF INPUT
    REAR-PANEL CONNECTOR. THE EXTERNAL REFERENCE FIELD IS FOUND ON THE
    CONFIGURE SCREEN.

: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.

:PCSMODE 'On'
      'Off'
:PCSMODE? (RETURNS QUOTED STRING)
      THESE COMMANDS SET/QUERY THE TEST SET'S PCS MODE. TO TURN PCS MODE
      "On", YOU MUST HAVE AN HP 83236 PCS INTERFACE CONNECTED AS DESCRIBED
      IN THE HP 83236 OPERATORS GUIDE. AFTER SENDING THE COMMAND TO TURN PCS
      MODE "On", POWER MUST BE CYCLED TO THE TEST SET (THIS CANNOT BE DONE
      REMOTELY). THE PCS MODE FIELD IS FOUND ON THE CONFIGURE SCREEN.

```

Configure

```
:CONF
:RFSOURCE
:CALIBRATE

THIS COMMAND CALIBRATES THE RF POWER LEVEL WHEN THE TEST SET IS
CONFIGURED WITH AN HP 83236 PCS INTERFACE (THE PCS MODE FIELD MUST
BE "ON"). THE RF GEN LVL FIELD IS FOUND ON THE CONFIGURE SCREEN.

:ACSTANDARD '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? (RETURNS QUOTED STRING)

THESE COMMANDS SET/QUERY THE ALTERNATE CHANNEL STANDARD. THE
FREQUENCIES THAT MAP TO THE RF CHANNEL STANDARD SELECTED BY THIS
COMMAND WILL BE CALIBRATED WHEN THE CHANNEL POWER CALIBRATION ROUTINE
IS RUN, ALONG WITH THE FREQUENCIES THAT MAP TO THE RF CHANNEL STANDARD
SELECTED BY THE "CONF:RFCS" COMMAND. THE ALT CHN STD FIELD IS FOUND
ON THE CONFIGURE SCREEN.
```

CSpectrum

:CSpectrum

```
:ATTenuator '0 dB'
           '20 dB'
           '40 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 THE RF INPUT PORT. THE RF IN/ANT FIELD IS FOUND ON THE **CDMA REVERSE CHANNEL SPECTRUM** SCREEN, AND IS DISPLAYED WHEN "MAIN" IS SELECTED IN THE CONTROLS FIELD AND THE PCS MODE FIELD ON THE **CONFIGURE** SCREEN IS SET TO OFF AND THE POWER HAS BEEN CYCLED TO TURN PCS MODE OFF. (THIS FIELD IS COUPLED TO THE INPUT PORT FIELD ON THE **CONFIGURE**, **TX TEST**, AND **RF ANALYZER** SCREENS.)

```

:CSP
:OUTPut 'RF Out'
'Dupl'(available when Test Set is not configured for PCS operation)
'Only' (available when Test Set is configured for PCS operation)
:OUTPut? (Returns quoted string)
    THESE COMMANDS SET/QUERY THE RF OUTPUT PORT. THE OUTPUT PORT
    FIELD IS FOUND ON THE CDMA REVERSE CHANNEL SPECTRUM SCREEN, AND
    IS DISPLAYED 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.

:POStion (See "Real Number Setting Syntax" on page 213, :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 213, :StAtE not included, valid
    range 5 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 213, :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.

```



```

: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.

```



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 213, :STATE not included)

:FM (See "Real Number Setting Syntax" on page 213, :STATE not included)

:VOLTs (See "Real Number Setting Syntax" on page 213, :STATE not included)

:STOP

```

```

:DEC
:AMPS|TACS

:BLOCKs (See "Integer Number Setting Syntax" on page 211, 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 213, :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 213, :STATE not included)

:STANdard 'GSC'
          'POCSAG'
:STANdard? (Returns quoted string)

:DTMF

:GATE (See "Real Number Setting Syntax" on page 213, :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)

```

```

:DEC
:FGenerator
:GATE (See "Real Number Setting Syntax" on page 213, :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 211, valid range: 1-5000)

:STANdard 'STD450'
      'STD900'
      'BENELUX'
      'FRANCE'
      'AUSTRIA'
      'SPAIN'
      'TURKEY'
      'THAILAND'
      'MALAYSIA'
      'SAUDI1'
      'SAUDI2'
      'CRO-SLOV'
      'HUNGARY'
      'BULGARIA'
:STANdard? (Returns quoted string)

```

Decoder

```
: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 213, :STATE not included)

:GATE (See "Real Number Setting Syntax" on page 213, :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)
```

```
:DEC
: TSequential
: GATE (See "Real Number Setting Syntax" on page 213, :STATE not included)
: STANDARD 'CCIR1'
:          'CCIR2'
:          'CCITT'
:          'EEA'
:          'EIA'
:          'Euro'
:          'NATEL'
:          'ZVEI1'
:          'ZVEI2'
: STANDARD? (Returns quoted string)
```


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
	CAUTHen	displays the CDMA AUTHENTICATION screen
	CBIT	displays the ANALOG SCREENS: CALL BIT screen (p/o CALL CONTROL)
	CCNFigure	displays the ANALOG SCREENS: CALL CONFIGURE screen (p/o CALL CONTROL)
	CDATa	displays the ANALOG SCREENS: CALL DATA screen (p/o CALL CONTROL)
	CMEasure	displays the ANALOG SCREENS: ANALOG MEAS screen (p/o CALL CONTROL)
	CONFigure	displays the CONFIGURE screen
	CSMService	displays the CDMA SHORT MESSAGE SERVICE screen
	DECoder	displays the ANALOG SCREENS: SIGNALING DECODER screen
	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
	RFAAnalyzer	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

```

:DISP
    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
    CGENerator
        displays the CDMA SCREENS: CDMA GENERATOR CONTROL screen
    CMEasure
        displays the ANALOG MEAS screen
    CCNTrol
        displays the CDMA CALL CONTROL screen
    CMOBreport
        displays the CDMA MOBILE REPORTING screen
    CRXTest
        displays the CDMA CELLULAR MOBILE RECEIVER TEST screen
    CSPpectrum
        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
    CCONfig
        displays the CDMA CELL SITE CONFIGURATION screen
    REMote
        locks the display
: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
    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.

```

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 217](#))

: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 FREQUENCY TO SIGNAL POWER AT THE DUT'S SELECTED CHANNEL FREQUENCY. THE UPPER ACP RATIO FIELD IS DISPLAYED ON THE **ADJACENT CHANNEL POWER** SCREEN.

:URatio (See ["Number Measurement Syntax" on page 217](#))

: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 217](#))

: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 217](#))

: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 217)

: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 217)

: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 217)

: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 217)

: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 217)

```

: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 217)

: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 217)

:FM? (Returns real value)
    THIS COMMAND QUERIES THE FM DEVIATION MEASUREMENT. THE FM DEVIATION FIELD
    IS DISPLAYED ON THE AF ANALYZER, RF ANALYZER, TX TEST, AND DUPLEX
    TEST SCREENS WHEN FM DEMOD OR FM MOD 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 217)

: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 217)

: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.

```

Measure

: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 217](#))

: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 217](#))

:OSCilloscope

: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 217](#), :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 217](#), :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 217](#), :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 217](#), :METer not included)

```

:MEAS
:OSC
:TRACe? (Returns array of 417 real values)
        0=first value (left side of trace display)
        416=last value (right side of trace display)

: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 217)

: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 217)

: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 217)

```

```

:MEAS
:SANalyzer

:MARKer

: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 217, :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 217, :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)

: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 217, :METER not included)

:DPAGIng

:DATA? (Returns quoted string)

:PAGE (See "Integer Number Setting Syntax" on page 211, valid range: 1-5000)

:CHAR (See "Integer Number Setting Syntax" on page 211, valid range: 1-5000)

:RATE? (Returns real value)
:RATE (See "Number Measurement Syntax" on page 217, :METER not included)

```



```

:MEAS
:DEC
:DTMF

:LOW
:FREQuency

:ABSolute? (Returns up to 19 real values)
:ABSolute (See "Multiple Number Measurement Syntax" on page 219)

:ERRor? (Returns up to 19 real values)
:ERRor (See "Multiple Number Measurement Syntax" on page 219)

: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 219)

:ERRor? (Returns up to 19 real values)
:ERRor (See "Multiple Number Measurement Syntax" on page 219)

:DISPlay 'Freq'
          'Frq Err'
:DISPlay? (Returns quoted string)

:TIME

:OFF? (Returns up to 19 real values)
:OFF (See "Multiple Number Measurement Syntax" on page 219)

:ON? (Returns up to 19 real values)
:ON (See "Multiple Number Measurement Syntax" on page 219)

:SYMBOL? (Returns quoted string)

:EDACs
:DATA? (Returns quoted string of 74 characters)

:FGEnerator
:FREQuency? (Returns real value)
:FREQuency (See "Number Measurement Syntax" on page 217)

```

Measure

```
: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 217, :METer not included)

:MPT1327

:TIME? (Returns integer value)

:NSLots? (Returns integer value)

:BUFFer?|SL0Ts? (Returns quoted string)

:DATA? (Returns quoted string)

:RATE? (Returns real value)
:RATE (See "Number Measurement Syntax" on page 217, :METer not included)

:NMT

:NFRames? (Returns integer value)
:STORed? (Returns integer value)

:FRAMES? integer value (Returns quoted string)

:ESTatus? (Returns quoted string)
```

```

: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 219)

:ERROR? (Returns up to 17 real values)
:ERRor (See "Multiple Number Measurement Syntax" on page 219)

: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 219)

:ERROR? (Returns up to 17 real values)
:ERRor (See "Multiple Number Measurement Syntax" on page 219)

:SYMBol? (Returns quoted string)

:TIME

:ON? (Returns up to 17 real values)
:ON (See "Multiple Number Measurement Syntax" on page 219)

:OFF? (Returns up to 17 real values)
:OFF (See "Multiple Number Measurement Syntax" on page 219)

:RECC
:DATA? (Returns quoted string)

:RVC
:DATA? (Returns quoted string)

```

Measure

```
:MEAS
:DEC
:TSSequential
:FREquency
:ABSolute? (Returns up to 19 real values)
:ABSolute (See "Multiple Number Measurement Syntax" on page 219)
:ERRor? (Returns up to 19 real values)
:ERRor (See "Multiple Number Measurement Syntax" on page 219)
:TIME
:OFF? (Returns up to 19 real values)
:OFF (See "Multiple Number Measurement Syntax" on page 219)
:ON? (Returns up to 19 real values)
:ON (See "Multiple Number Measurement Syntax" on page 219)
:SYMBol? (Returns quoted string)
```

```

: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.

:FERasure (See "Number Measurement Syntax" on page 217, :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 211, :INCRe ment 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.

:CONFI dence
:INTERval (See "Real Number Setting Syntax" on page 213, :INCRe ment: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 213, :INCRe ment: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.

```

```
: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

```
:AVGPow? (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).

```
:AVGPow (See "Number Measurement Syntax" on page 217)
```

```
: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 217)
```

```
: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).

```

:MEAS
:CDM
: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 217

:RHO? (Returns real value)
    THIS COMMAND QUERIES THE TRANSMITTER TRAFFIC RHO MEASUREMNT. 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 217, :REfERENCE:DUNits,
    :HLIMit:DUNits, :LLIMit:DUNits,
    :METer:HEND:DUNits, :METer:LEND:DUNits
    not included.)

:RHO? (Returns real value)
    THIS COMMAND QUERIES THE TRANSMITTER TRAFFIC RHO MEASUREMNT. 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 217, :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 MEASUREMNT. 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 217, :METer not included)

:AMPlitude
:ERror? (Returns real value)
    THIS COMMAND QUERIES THE TRANSMITTER AMPLITUDE ERROR MEASUREMNT. 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 217, :REfERENCE:DUNits,
    :AUNits, :HLIMit:DUNits, :LLIMit:DUNits,
    :DUNits, :UNITS, :METer not included)

```

Measure

```
:MEAS
:CDM
: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 217, :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 217, :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 217, :REFERENCE:DUNits,
        :AUNits, :HLIMIT:DUNits, :LLIMIT:DUNits,
        :DUNits, :UNITS, :METER not included)
```



```

: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 217, :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 217, :METer not included)

:TRACe? (Returns array of 417 real values)

```



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 213](#), :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.

```

: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.

```

```

: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 213, :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.

```

```

:OSC
:TRIGger

:LEVel (See "Real Number Setting Syntax" on page 213, :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 213, :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 213, :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

```

: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.



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 field><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.

Program

```
: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.
```

RF Analyzer

:RFAnalyzer

```
:ATTenuator '40 dB'
           '20 dB'
           '0 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 213](#), :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 DISPLAY 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 DISPLAY FIELD ON THE **CONFIGURE** SCREEN IS SET TO **FREQ**.

:GTIME (See ["Real Number Setting Syntax" on page 213](#), :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.

```

: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
      WHEN THE PCS MODE FIELD ON THE CONFIGURE SCREEN IS SET
      TO QEE AND THE POWER HAS BEEN CYCLED TO TURN PCS MODE OFF. (THIS FIELD
      IS COUPLED TO THE RF IN/ANT FIELD ON THE CDMA REVERSE CHANNEL
      SPECTRUM AND SPECTRUM ANALYZER SCREENS.

:PMMeasurement

: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 WHEN THE PCS INTR.

: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.

: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'
:TMOde? (Returns quoted string)

:RFChannel (See "Integer Number Setting Syntax" on page 211)

```

RF Generator

:RFGenerator

:ATTenuator 'On'
'Off'

:ATTenuator? (Returns quoted string)

THESE COMMANDS SET/QUERY THE ATTENUATOR HOLD FUNCTION. ATTENUATOR HOLD WILL APPLY TO EITHER THE TEST SET OR THE PCS INTERFACE, DEPENDING ON THE CURRENT PCS MODE. THE ATTN HOLD FIELD IS DISPLAYED ON THE **RF GENERATOR, RX TEST, or DUPLEX TEST** SCREENS. THE OUTPUT ATTN HOLD FIELD IS FOUND ON THE **CDMA TRANSMITTER POWER RANGE TEST** SCREEN.

:AMPLitude (See ["Real Number Setting Syntax" on page 213](#))

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.

:RFG

:FREquency (See ["Real Number Setting Syntax" on page 213](#), :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' (PCS mode "Off")

'Only' (PCS mode "On")

: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".

```

: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 213)
      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 213)
      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).

```

:RFG

:RFChannel (See ["Integer Number Setting Syntax" on page 211](#))

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.

Spectrum Analyzer

```

:SAAnalyzer

:ATTenuator '40 dB'
           '20 dB'
           '0 dB'
:ATTenuator? (Returns quoted string)

:MODE 'Auto'
      'Hold'
:MODE? (Returns quoted string)

:CFrequency (See "Real Number Setting Syntax" on page 213, :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'
:INPut? (Returns quoted string)

:MARKer

:CFrequency

:NPEak

:EXCURsion (See "Integer Number Setting Syntax" on page 211)

:NPLEvel (See "Real Number Setting Syntax" on page 213, :STATE not included)

:PEAK

:POSition (See "Real Number Setting Syntax" on page 213, :STATE not included)

:RLEVel

```

```

:SAN
:RFGenerator 'Track'
          'Fixed'
:RFGenerator? (Returns quoted string)

:RLeVel (See "Real Number Setting Syntax" on page 213, :STATE not included)

:SPAN (See "Real Number Setting Syntax" on page 213, :STATE not included)

:TGeNerator

:AMPLitude (See "Real Number Setting Syntax" on page 213)

:DESTination 'RF Out'
          'Dupl'
:DESTination? (Returns quoted string)

:OFRequency (See "Real Number Setting Syntax" on page 213, :STATE not included)

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

: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

```

Save/Recall Registers

[:REGister]

:CLear <integer_value>| '<character_data>'
:ALL
:RECall <integer_value>| '<character_data>'
:SAVE <integer_value>| '<character_data>'
:LIST? (Returns quoted string)

Special (HP-IB 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 *HP 8924C User’s Guide* for more information.

```

: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)

```

```

: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)

```

```
: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)
```



```

: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)

```

```
: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)
```

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)
```

```
: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)
```

```

: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)

```

```
: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)
```

```

: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)

```

```
: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)
```



```

: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)

```

System

:SYSTem
[:ERRor]? (Returns integer value followed by quoted string)

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)
```

```

:TEST
: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

```

```

:TEST
: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)

```


Trigger

For a description of active measurements and the measurement triggering process, refer to [“Measurement Triggering Process”](#) in Operating Overview chapter of the *HP 8924C User’s Guide*.

```
:TRIGger
[:IMMediate]
    THIS COMMAND TRIGGERS ALL ACTIVE MEASUREMENTS.

: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.
```

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<hexadecimal integer_value>  
  
:INCRement UP|DOWN  
:INCRement? (Returns integer value)
```


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 <HP-IB unit_of_measure>
:UNITS? (Returns HP-IB 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)

```


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>,<HP-IB unit_of_measure>
:UNITS? <integer_value> (Returns HP-IB 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>

```


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 <HP-IB unit_of_measure>
:UNITS? (Returns HP-IB unit_of_measure)

:AUNits <Annunicator unit_of_measure>
:AUNits? (Returns annunicator unit_of_measure)

:AVERage[:VALUE] <real_value>
:AVERage[:VALUE]? (Returns number of averages setting)

:RESet

:STATE1|ON
      0|OFF
:STATE? (Returns 1 or 0)

:REfERENCE

[:VALUE] <real_value>[HP-IB unit_of_measure for relative level]
[:VALUE]? (Returns reference value)

:DUNits <display unit_of_measure>
:DUNits? (Returns display unit_of_measure)

:STATE1|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)
```

```

:STATe1|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)

:STATe1|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)

```

Multiple Number Measurement Syntax

:Previous Syntax

```
:DUNits <display unit_of_measure>  
:DUNits? (Returns display unit_of_measure)  
  
:UNITS <HP-IB unit_of_measure>  
:UNITS? (Returns HP-IB unit_of_measure)  
  
:STATE 1|ON  
        0|OFF  
:STATE? (Returns 1 or 0)
```

HP-IB 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 HP-IB. 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

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	Comments
1	Manufacturer	Hewlett-Packard	
2	Model	8924C	
3	Serial Number	US12345678	ASCII character "0", decimal value 48, if not available
4	Firmware Revision Level	A.02.04	ASCII character "0", decimal value 48, if not available

NOTE: The Serial Number format can take one of two forms:

```
AAXXXXXXX
or
XXXXAXXXXX
```

A = alpha character
X = numeric character

The form returned will depend upon the manufacturing date of the Test Set being queried.

Example BASIC program

```
10 DIM A$(72)
20 OUTPUT 714; "*IDN?"
30 ENTER 714;A$
40 PRINT A$
50 END
```

Example response

Hewlett-Packard, 8924C, US35210066, A.02.31

***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

```
CCITT, 6KHZ BPF
```

***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 HP-IB 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.

***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 *HP 8924C 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

***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 *HP 8924C Application Guide* for information on controlling program flow using the Call Processing Subsystem Status Register Group.

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 Srvce_interrupt ! 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 Srvce_interrupt
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 HP 8924C 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 *HP 8924C 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

```

***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 *HP 8924C Application Guide* for information on controlling program flow using the Call Processing Subsystem Status Register Group.

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 HP-IB 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_queue_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_queue_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 *HP 8924C 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 Srvce_intrupt ! 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 Srvce_intrupt
110 ENTER 714;Output_queue_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 HP 8924C User's Guide .
180 SUBEND
```

***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 HP-IB 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 *HP 8924C Application Guide* for information on controlling program flow using the Call Processing Subsystem Status Register Group.

***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 *HP 8924C 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 *HP 8924C 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 *HP 8924C 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 *HP 8924C 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 *HP 8924C User's Guide* for a detailed explanation of the *SRE command.

***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 *HP 8924C 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 *HP 8924C 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 *HP 8924C 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 *HP 8924C Reference Guide*).

Remote Capabilities

Remote Operating Capabilities

Remote Operating Configurations

The Hewlett-Packard Interface Bus (HP-IB) is Hewlett-Packard's implementation of the IEEE 488.1-1987 Standard Digital Interface for Programmable Instrumentation. Incorporation of the HP-IB 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 HP-IB. This capability provides a single-instrument automated test system. (The HP 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 HP-IB.
- An external controller, connected to the external HP-IB, can remotely control the Test Set.
- An HP-IB printer, connected to the external HP-IB, can be used to print test results and full screen images.

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

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 <i>HP 8924C Reference Guide</i> , 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 <i>HP 8924C User’s Guide</i> .)	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 lock-out 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
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

Table 6 Test Set IEEE 488.1 Interface Message Capability (Continued)

Message Type	Implemented	Response	IEEE 488.1 Message
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

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 226.

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.

HP-IB Examples

These items are listed in alphabetical order.

Fields That Begin with the Letter A

Abort Print

HP-IB Example

Abort Print is not directly programmable over the HP-IB."

Acc Prb Pwr

HP-IB Example

"DISP CCNT;CDMA:TX:POW:MEAS 'Acc Prb Pwr'"

displays the CDML CONTROL screen and selects Access Probe Power measurements.

"MEAS:CDM:APP?"

queries the Access Probe Power measurement.

Access (annunciator)

HP-IB 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)

HP-IB Example

"DISP CCNT;STATUS:CDMA:CONDition?"

queries the CDMA condition register. Bit 0 will be set when the Access Probe annunciator is lit.

AC Level

HP-IB 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

HP-IB Example

"CALLP:ACTive"

turns on the forward control channel.

Active (annunciator)**HP-IB 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**HP-IB Example**

```
"DISP ACP;MEAS:ACP:LRATIO?"
```

displays the ADJACENT CHANNEL POWER screen and queries the Lower ACP Ratio field.

AF Anl In**HP-IB Example**

```
"DISP TX;AFAN:INPUT 'FM DEMOD'"
```

displays the TX TEST screen and selects FM Demod in the AF Anl In field.

AF Cnt Gate**HP-IB Example**

```
"DISP AFAN;AFAS:GTIME .08"
```

displays the AF ANALYZER screen and sets the AF Cnt Gate field to 80 ms.

AF Freq**HP-IB 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**HP-IB Example**

```
"DISP ACNT;MEAS:AFR:FREQuency?"
```

displays the CALL CONTROL screen and queries the AF Freq field.

AFGen1 Freq

HP-IB Example

```
"DISP RFGenerator;AFGenerator1:FREQuency 1KHZ"
```

displays the RF GENERATOR screen and sets the AFGen1 Freq field to 1.000 kHz.

AFGen1 Lvl

HP-IB Example

```
"DISP TX;AFGenerator1:OUTPut 50MV"
```

displays the TX TEST screen and sets the AFGen1 Lvl field to 50 mV.

AFGen1 To

HP-IB Example

```
"DISP RFGenerator;AFGenerator1:DESTination 'AM'"
```

displays the RF GENERATOR screen and sets the AFGen1 To field to "AM".

AFGen2 To

HP-IB Example

```
"DISP RFGenerator;AFGenerator2:DESTination 'AM'"
```

displays the RF GENERATOR screen and sets the AFGen2 To field to "AM".

AFGen2 Freq

HP-IB Example

```
"DISP RFGenerator;AFGenerator2:FREQuency 1KHZ"
```

displays the RF GENERATOR screen and sets the AFGen2 Freq field to 1.000 kHz.

A-key

HP-IB Example

```
"DISP CAUT;CDMA:AUTH:AKEY '0'"
```

displays the CDMA AUTHENTICATION screen and sets the A-key to 0.

A_Key

HP-IB 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

Alert

HP-IB 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

HP-IB Example

```
"CONF:ACStandard 'MS AMPS'"
```

selects MS AMPS in the Alt Pwr Ms Cal Bands field (CONFIGURE screen).

AM Depth

HP-IB 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

HP-IB Example

```
"DISP CTXT;MEASure:CDManalyze:AMPL:ERRor?"
```

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen and queries the CDMA amplitude error measurement result.

Amplitude

HP-IB Example

```
"DISP RX;RFGenerator:AMPLitude -40"
```

displays the RX TEST screen and sets the Amplitude field to -40 dBm.

Amplitude

HP-IB Example

```
"DISP ACNT;RFGenerator:AMPLitude -40"
```

displays the CALL CONTROL screen and sets the Amplitude field to -40 dBm.

Answer Mode

HP-IB Example

```
"DISP CCON;CDMA:CALL:ANSwer:MODE 'MANUAL' "
```

selects "Manual" answer mode.

```
"DISP CCON;CDMA:CALL:ANSwer"
```

answers a mobile station originated call when the Answer Mode field is set to "Manual".

Arm

HP-IB Examples

```
"DISP CRXT;TRIG:MODE:RETR Single"
```

sets the remote operation trigger mode to "Single".

```
"DISP CRXT;TRIGGER:IMMediate"
```

triggers all active measurements.

```
"DISP CRXT;TRIGGER:ASTate 'ARM' "
```

triggers all measurements on the currently displayed screen that are under the control of the **Meas Cntl** fields.

Atten Hold

HP-IB Example

```
"DISP RX;RFGenerator:ATTenuator 'ON' "
```

displays the RX TEST screen and sets the Atten Hold field to "On".

Antenna In

HP-IB Example

```
"CONF:OFLevel:ANTenna -3"
```

sets the RF Level Offset for the Antenna In field (CONFIGURE screen) to -3 dB. This field is displayed only when the PCS Mode field is set to "Off", and power to the Test Set has been cycled.

Audio In Lo

HP-IB Example

```
"DISP AFAN;AFANalyzer:AIN 'FLOAT' "
```

displays the AF ANALYZER screen and sets the Audio In Lo field to "Float".

Audio Out**HP-IB Example**

```
"DISP RFG;RFGenerator:MODulation:AOUT 'DC'"
```

displays the RF GENERATOR screen and sets the Audio Out field to "DC".

Authen**HP-IB Example**

```
"DISP CAUT;CDMA:CELL:CONF:AUTH:MODE 'on'"
```

displays the CDMA AUTHENTICATION screen and turns the CDMA authentication "ON".

Authen Data TABLE**HP-IB Example**

```
"DISP CAUT;CDMA:AUTH:DATA:CLEAR"
```

displays the CDMA AUTHENTICATION screen and "CLEARs" the data from the Authentication Data Table. (Table includes Parameter, Expected, Received and Status data).

Authent**HP-IB Example**

```
"CALLP:AMPS:AUTH:ONOFF 'ON'"
```

turns authentication "On"

Auto/Norm**HP-IB Example**

```
"DISP OSC;OSC:TRIGger:TYPE 'NORM'"
```

sets the Controls - Trigger Auto/Norm field to "Norm"

Avg Power

HP-IB 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

HP-IB Examples

"CDMA:AWGN:BWPower -75dBm"

"CDMA:AWGN:STATE ON"

sets the AWGN generator's level to -75 dBm.

Fields That Begin with the Letter B

Base ID

HP-IB Example

```
"DISP CCON;CDMA:CELL:CONFigure:BIID 0"
```

sets the base identification of the simulated CDMA cell site to 0.

Base Freq (User Defined)

HP-IB 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

HP-IB Example

```
"CONF:BEEPer 'QUIET'"
```

sets the Beeper field (CONFIGURE screen) to "Quiet".

BER Thresh

HP-IB Example

```
"CALLP:CSYSstem '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.

by # errors

HP-IB 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

HP-IB Example

```
"DISP CCNT;CDMA:MOBile:FERasure:REPort:BY:FRAMes:STATE: 'ON'"
```

causes the mobile station to report FER based on frame count.LK

Fields That Begin with the Letter C

Call Limit

HP-IB Syntax

"DISP CCON;CDMA:CALL:LiMit 'PAGE'"

limits call progress to the paging channel.

Carrier

HP-IB Example

"DISP CTXT;MEASure:CDManalyzeR:CARrier:FEEDthrough?"

queries the carrier feedthrough measurement result.

Carrier Ref

HP-IB Example

"DISP ACP;ACPower:RMOdulation 'Mod'"

displays the ADJACENT CHANNEL POWER screen and selects "Mod" in the Carrier Ref field.

CC Order

HP-IB 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

HP-IB Example

"DISP SAN;SANAlyzeR:CFRequency 4MHZ"

displays the SPECTRUM ANALYZER screen and sets the Center Freq field to 4 MHz.

Center Freq

HP-IB 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.

Change

HP-IB Example

```
"DISP CTXR;CDMA:PCONTrol:CHANGe 'n up'"
```

selects "n up" power control steps.

Chan:

HP-IB Example

```
"CALLP:VChannel 215"
```

sets the Chan: - field (CALL CONTROL screen) to 215.

Channel

HP-IB Example

```
"DISP CCNT;CELL:CONF:RFCH 1"
```

displays the CDMA CALL CONTROL screen and sets the Channel field to 1.

Channel BW

HP-IB Example

```
"DISP ACP;ACPower:CBAndwidth 9KHZ"
```

displays the ADJACENT CHANNEL POWER screen and sets the Channel BW field to 9 MHz.

Chan Power

HP-IB 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 (connect the DUPLEX OUT and RF IN/OUT ports, or, if an HP 83236B PCS Interface is configured with the Test Set connect the RF Out only to RF IN/OUT connector before sending this command).

Check Digits

HP-IB Example

```
"DISP CAUT;CDMA:AUTH:CDIG?"
```

displays the CDMA AUTHENTICATION screen and returns the Check DIGits value.

Ch Loc:

HP-IB 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".

HP-IB 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".

HP-IB 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

HP-IB Example

```
"DISP ACP;ACPower:COFFset 200khz"
```

displays the ADJACENT CHANNEL POWER field and sets the Ch Offset field to 200 kHz.

Chan Space (User Defined)

HP-IB 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

HP-IB Example

```
"DISP CTRX;CDMA:PControl:MODE 'Open Loop'"
```

displays the CDMA TRANSMITTER POWER RANGE TEST screen and selects "Open Loop" power control mode.

CMAx

HP-IB Example

```
OUTPUT 714;"CALLP:CMAx 21"
```

sets the CMAx field (CALL CONFIGURE screen) to 21.

Cntl Chan

HP-IB Example

```
OUTPUT 714;"CALLP:CCH 333"
```

sets the analog control channel to 333 in the Cntl Chan field (CALL CONTROL screen).

Cntry Code

HP-IB 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

HP-IB Example

```
"DISP CRXT;MEASure:CDManalyzer:FERasure:CONFidence:INTERval 95"
```

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and sets a confidence interval of 95%.

Connect (annunciator)**HP-IB 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)

HP-IB Example

```
"DISP CRXT;STATUS:CDMA:CDCondition?"
```

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

HP-IB Example

```
"DISP CSP;CSpectrum:CONTROL 'Auxiliary'"
```

displays the CDMA REVERSE CHANNEL SPECTRUM screen and selects "Auxiliary" in the Controls field.

Controls

HP-IB Example

```
"DISP SAN;SAN:CONTROL 'RF Gen'"
```

displays the SPECTRUM ANALYZER screen and selects "RF Gen" in the Controls field.

Controls

HP-IB Example

```
"DISP OSC;OSC:CONTROL 'Marker'"
```

displays the OSCILLOSCOPE screen and selects "Marker" in the Controls field.

Cont/Single

HP-IB Example

```
"DISP OSC;OSC:CONTROL 'TRIGGER';TRIGGER:MODE 'SINGLE'"
```

displays the OSCILLOSCOPE screen, selects "Trigger" in the Control field, and selects "Single" triggering.

Current

HP-IB Example

```
"DISP AFAN;MEAS:AFrequency:SElect 'CURRENT';CURRENT?"
```

displays the AF ANALYZER screen, selects the "Current" measurement, and queries the "Current" measurement.

Fields That Begin with the Letter D

Data Length

HP-IB Example

```
"CONF:SPOR:DATA '8 BITS'"
```

selects "8 bits" in the Data Length field (I/O CONFIGURE screen).

Data Mode

HP-IB 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.

Data Rate

HP-IB 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

HP-IB Example

```
"CALLP:DSP 'STD'"
```

selects "Std" in the Data Spec field (CALL BIT screen).

Data Type

HP-IB 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

HP-IB Example

```
"CONF:DATE 010298"
```

sets the Date field (CONFIGURE screen) to January 2, 1998.

DC Current

HP-IB Example

```
"DISP AFAN;MEAS:AFR:SElect 'Current';FREquency?"
```

DC Level

HP-IB 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

HP-IB 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.

De-Emphasis

HP-IB Example

```
"DISP AFAN;AFAnalyzer:DEMphasis '750 US'"
```

displays the AF ANALYZER screen and selects "750 US" in the De-Emphasis field.

Detector

HP-IB Example

```
"DISP AFAN;AFAnalyzer:DETEctor 'PK-'"
```

displays the AF ANALYZER screen and selects "Pk-" in the Detector field.

Disarm

HP-IB Example

```
"DISP CRXT;TRIGger:AState 'DISARM'"
```

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and stops any measurements that are under control of the Meas Arm field and are currently in progress.

Display

HP-IB Example

```
"DISP ACNT;CALLP:MODE 'DATA'"
```

displays the CALL CONTROL screen and selects "Data" in the Display field.

Display Interim Results**HP-IB 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 Word**HP-IB Example**

```
"CALLP:DATA 'RECCW A' "
```

selects "RECCW A" in the Display Word field (CALL DATA screen).

Distn**HP-IB Example**

```
"DISP AFAN;MEAS:AFrequency:SElect 'DISTN';DISTortion?"
```

displays the AF ANALYZER screen, selects the "Distn" measurement, and queries the "Distn" measurement.

Drop Timer**HP-IB Example**

```
"DISP CTXR;CDMA:CALL:DTIMER 'OFF' "
```

displays the CDMA TRANSMITTER POWER RANGE TEST screen and selects "Off" in the Drop Timer field.

DSAT**HP-IB Example**

```
"CDMA:CALL:AHAN:DSAT'0 2556CB' "
```

sets the DSAT field (CDMA CALL CONTROL) to 0 2556CB. (Call Control)

DSAT:**HP-IB Example**

```
"CALLP:CSYSem 'NAMPS';NAMP:DSAT:ACTual?"
```

queries the DSAT field (CALL CONTROL screen).

DSAT/DST (hex)**HP-IB Example**

```
"CALLP:NAMP:DSAT:MEASurement?"
```

Call Control Screen

DSAT Meas

HP-IB Example

```
"DISP ACNT;CProcess:NAMPS:DSAT:MEAS:SEL 'Data'"
```

displays the CALL CONTROL screen and selects "Data" in the DSAT Meas field.

Duplex Out

HP-IB Example

```
"CONF:OFLevel:DUPlex -3"
```

sets the RF Level Offset for the Duplex Out field (CONFIGURE screen) to -3 dB. This field is displayed only when the PCS Mode field is set to "Off", and power to the Test Set has been cycled.

Duplicate User Data

HP-IB Example

```
"DISP CSMS;CDMA:SMS:TERM:DUPL 1"
```

displays the CDMA SHORT MESSAGE SERVICE screen and sets the Duplicate User Data field to 1.

Fields That Begin with the Letter E

Eb/Nt

HP-IB Example

"DISP CGEN;CDMA:STN?"

displays the CDMA GENERATOR CONTROL screen and queries the E_b/N_t field.

Echo Delay

HP-IB Example

"DISP CCNT;CDMA:CALL:TRAFFIC:ECHO:DELAY '2 SECONDS'"

displays the CDMA CALL CONTROL screen and sets the Echo Delay field 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

HP-IB Example

"DISP CSMS;CDMA:SMS:ENC 'Octet'"

displays the CDMA SHORT MESSAGE SERVICE screen and sets the Encoding field to Octet.

Errors

HP-IB 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

HP-IB Example

"DISP CRXT;MEASURE:CDMANalyzer:FERasure:ERRORs?"

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and queries the FER errors measurement result.

Esc Mode

HP-IB Syntax

"CDMA:CELL:CONF:EMOD 'On'"

selects "On" in the Esc Mode field.

ESN

HP-IB Example

```
"CALLP:AMPS:AUTH:ESN '12D4E678' "
```

enters the number "12D4E678" into the Authen field (AUTHENTICATION screen).

ESN (dec):

HP-IB 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):

HP-IB 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

HP-IB 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)

HP-IB Example

```
"DISP CTRX;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)

HP-IB Example

```
"DISP CTRX;MEASure:CDManalyzer:MMPower:[EXECute]"
```

displays the CDMA TRANSMITTER POWER RANGE screen and causes the Test Set to execute a Min/Max Power measurement.

Expected PN Offset

HP-IB Example

"DISP CMOB;CDMA:CELL:ASEctor:PNOffset?"

displays the CDMA MOBILE REPORTING screen and queries the Sector A Expected PN Offset field.

Expected Strength

HP-IB Example

"DISP CMOB;CDMA:CELL:ASEctor:STrength?"

displays the CDMA MOBILE REPORTING screen and queries the Sector A Expected Strength field.

External Reference

HP-IB Example

"CONF:EXtErnal:REfErEncE '10.0000 MHZ'"

selects 10 MHz in the External Reference field (CONFIGURE screen).

Ext Load R

HP-IB Example

"DISP RX;AFAN:ELResistor 50'"

displays the RX TEST screen and selects 50 ohms in the Ext Load R (external load resistor) field.

Ext TX Key

HP-IB Example

"DISP TX;RFAN:TKEY 'ON'"

displays the TX TEST screen and selects "On" in the Ext TX Key field.

Fields That Begin with the Letter F

Failed (annunciator)

HP-IB 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..

FER

HP-IB Example

`"DISP CRXT;MEASure:CDManalyzeR:FERasure?"`

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and queries the currently displayed FER measurement result.

FER Spec

HP-IB 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).

FF at End

HP-IB Example

`"CONF:PRIN:FFStart 'YES'"`

selects "Yes" in the FF at Start: field (PRINT CONFIGURE screen).

FF at Start

HP-IB Example

`"CONF:PRIN:FFEND 'YES'"`

selects "Yes" in the FF at End: field (PRINT CONFIGURE screen).

Filter 1

HP-IB Example

`"DISP RX;AFAN:FILTER1 'C MESSAGE'"`

displays the RX TEST screen and selects "C MESSAGE" in the Filter 1 field.

Filter 2

HP-IB Example

```
"DISP RX;AFAN:FILTER2 '6KHZ BPF'"
```

displays the RX TEST screen and selects "6kHz BPF" in the Filter 2 field.

FM Coupling

HP-IB Example

```
"DISP RFG;RFGGenerator:FM:COUPling 'DC'"
```

displays the RF GENERATOR screen and selects "DC" in the FM Coupling field.

FM Deviation

HP-IB Example

```
"DISP RFAN;MEAS:AFrequency:FM?"
```

displays the RF ANALYZER screen and queries the FM Deviation field.

Frame Clock

HP-IB Example

```
"CONF:EXtErnal:FRAME '80.00 MS'"
```

selects "80.00 ms" in the Frame Clock field.

Frames

HP-IB Example

```
"DISP CMOB;CDMA:MOBile:FERasure:ERROrs?"
```

displays the CDMA MOBILE REPORTING screen and queries the Errors field.

Frames Counted

HP-IB Example

```
"DISP CRXT;MEASure:CDManalyzer:FERasure:FRAMes?"
```

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and queries the Frames Counted field.

Freq Error

HP-IB Example

```
"DISP CTXT;CDMA:RHO:MEAS:FERR 'Freq Error'"
```

displays the CDMA CELLULAR TRANSMITTER TEST screen and selects frequency error as one of the displayed measurements.

Fields That Begin with the Letter G

Gain Cntl

HP-IB Example

```
"DISP AFAN;AFANalyzer:RANGing 'HOLD'"
```

displays the AF ANALYZER screen and selects "Hold" in the Gain Cntl field.

(Gen)-(Anl)

HP-IB Example

```
"CONF:RFDisplay 'FREQ';0Frequency 50MHZ"
```

selects "Freq" in the RF Display field, and selects "50 MHz" in the (Gen)-(Anl) field.

(Gen)-(Anl) (User Defined)

HP-IB 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.

Fields That Begin with the Letter H

Handoff

HP-IB Example

"DISP CCNT;CDMA:CALL:AHAN:[EXEC] "

displays the CDMA CALL CONTROL screen and selects the Execute (analog handoff) field.

Handoff

HP-IB Example

"CALLP:HAND"

selects the Handoff field (Call Control screen).

Hard Handoff (annunciator)

HP-IB 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

HP-IB control of this field is not supported

Fields That Begin with the Letter I

IBASIC Echo

HP-IB Example

```
"DISP CONF;CONF:SPOR:IBEcho 'ON'"
```

selects "On" in the IBASIC Echo field (I/O CONFIGURE screen).

Ideal Mobile Power

HP-IB Example

```
"DISP CCNT;CDMA:MOB:POW:IDEA? "
```

selects the CDMA CALL CONTROL screen and queries the Ideal Mobile Power field.

IF Filter

HP-IB Example

```
"DISP TX;RFAnalyzer:IFBW '230 khz'"
```

selects the TX TEST screen and selects "230 kHz" in the IF Filter field.

Init Power

HP-IB 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

HP-IB Example

```
"CALLP:AMPS:CRFA '40 dB' :
```

Call Control Screen

Input Atten

HP-IB Example

```
"DISP RFAN;RFAnalyzer:ATTenuator '40 DB'"
```

displays the RF ANALYZER screen and selects 40 dB in the Input Atten field.

Input Atten

HP-IB Example

```
"DISP CSP;CSP:ATT:MODE 'HOLD'"
```

displays the CDMA REVERSE CHANNEL SPECTRUM screen and selects attenuator hold mode.

Input Gain

HP-IB Example

```
"DISP AFAN;AFANalyzer:GAIN '0 DB'"
```

displays the AF ANALYZER screen and selects "0 dB" in the Input Gain field.

Input Port

HP-IB Example

```
"DISP CONF;CONF:INPut 'ANT'"
```

displays the CONFIGURE screen and selects "Antenna In" in the RF In/Ant field.

Inst Echo

HP-IB Example

```
"DISP CONF;CONF:SPOR:IEcho 'ON'"
```

selects "On" in the Inst Echo field (I/O CONFIGURE screen).

Intensity

HP-IB Example

```
"DISP CONF;CONF:INTensity 4"
```

selects 4 in the Intensity field (CONFIGURE screen).

Internal

HP-IB 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.

Fields That Begin with the Letter K

Keep

HP-IB Example

`"DISP CMOB;CDMA:MOB:PIL:STR?"`

displays the CDMA MOBILE REPORTING screen and queries the results displayed in the CDMA Mobile Reporting table.

Fields That Begin with the Letter L

Level (div)

HP-IB 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

HP-IB 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)

HP-IB Example

```
"DISP ACP;ACPower:MEASurement 'RATIO'"
```

diplays the ADJACENT CHANNEL POWER screen and sets the ACP Meas field to "Ratio".

Fields That Begin with the Letter M

Marker

Freq

HP-IB Example

```
"DISP SAN;:MEASure:SANalyzer:MARKer:FREQuency?"
```

displays the SPECTRUM ANALYZER screen and queries the Marker (Freq) field.

Lvl

HP-IB Example

```
"DISP SAN;:MEAS:SANalyzer:MARKer:LEVel?"
```

displays the SPECTRUM ANALYZER screen and queries the Marker (Lvl) field.

```
"DISP OSC;:MEAS:OSCilloscope:MARKer:LEVel:VOLTs?"
```

displays the OSCILLOSCOPE screen and queries the Marker (Lvl) voltage field.

Time

HP-IB Example

```
"DISP OSC;:MEAS:OSCilloscope:MARKer:TIME?"
```

displays the OSCILLOSCOPE screen and queries the Marker (Time) field.

Marker

Freq

HP-IB 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

HP-IB 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

HP-IB 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 To:**HP-IB 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****HP-IB 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**HP-IB 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**HP-IB 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.

Ref Level**HP-IB 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

HP-IB Example

```
"DISP CSP;CSP:CONTROL 'MARKER';MARKer:NPEAK"
```

displays the CDMA REVERSE CHANNEL SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects the Marker To (Next Peak) field.

Peak

HP-IB Example

```
"DISP CSP;CSP:CONTROL 'MARKER';MARKer:PEAK"
```

displays the CDMA REVERSE CHANNEL SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects the Marker To (Peak) field.

Ref Level

HP-IB Example

```
"DISP CSP;CSP:CONTROL 'MARKER';MARKer:RLEV"
```

displays the CDMA REVERSE CHANNEL SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects the Marker To (Ref Level) field.

Max Frames

HP-IB 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.

Max Frames (annunciator)

HP-IB 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

HP-IB 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**HP-IB 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**HP-IB Example**

```
"DISP CRXT;TRIGger:MODE:RETRigger SINGLE"
```

displays the CDMA CELLULAR MOBILE RECEIVER TEST screen and sets the remote measurement triggering mode to single.

Mic Pre-Emp**HP-IB Example**

```
"DISP RFG;RFG:MODulation:EXTeRnal:PEMphasis 'ON'"
```

displays the RF GENERATOR field and selects "On" in the Mic Pre-Emp field .

Min/Max Pwr**HP-IB Example**

```
"DISP CTXR;MEASure:CDManalyzeR:MMPower:[EXECute]"
```

displays the CDMA TRANSMITTER POWER RANGE TEST screen and executes a Min/Max Power measurement.

Min Power**HP-IB 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.

Min Inp Lvl**HP-IB Example**

```
"DISP RFAN;RFANalyzeR:PMEasurement:MILevel '0.0 dBm'"
```

displays the RF ANALYZER screen and sets the Minimum Input Level to 0.0 dBm.

Mobile Parm

HP-IB 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

HP-IB 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

HP-IB 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

HP-IB Example

```
"DISP IOC;CONF:BMODE 'Control'"
```

displays the I/O CONFIGURE screen and sets the field to Control.

Mod In To

HP-IB 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**HP-IB 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 Database**HP-IB 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**HP-IB Example**

```
"DISP CMOB;CDMA:FER?"
```

displays the CDMA MOBILE REPORTING screen and queries the MS FER field.

MS FER Report Interval**HP-IB 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

HP-IB Example

```
"DISP ACNT;CALLP:PNUM '2222222222'"
```

displays the CALL CONTROL screen and enters "2222222222" in the Phone Num field field.

MS ID

HP-IB Examples

```
"DISP CCNT;CDMA:MOBiLe:MSID 'AUTO'"
```

displays the CDMA CALL CONTROL screen and selects "Auto" in the MS ID field.

MS Report

HP-IB Examples

```
"DISP CMOB;CDMA:MOBiLe:REPort:CLear"
```

displays the CDMA Mobile Reporting screen and clears the CDMA Mobile Reporting table.

Fields That Begin with the Letter N

Network ID

HP-IB Example

```
"DISP CCON;CDMA:CELL:CONFigure:NOMinal:POWer 0"
```

displays the CDMA CELL SITE CONFIGURATION screen and sets NOM_PWR to 0.

Netwrk Code

HP-IB 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.

Nom Power

HP-IB 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

HP-IB Example

```
"DISP CCON;CDMA:CELL:PROTOcol 'J-STD-008';CONFigure:NOMinal:POWer: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

HP-IB 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

HP-IB 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.

Normalize

HP-IB 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.

Notch Freq

HP-IB Example

```
"DISP AFAN;AFAN:NOTCh:FREQuency 2KHZ"
```

displays the AF ANALYZER screen and enters "2.0000 kHz" in the Notch Freq field.

Notch Gain

HP-IB 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

HP-IB Example

```
"DISP CONF;CONF:NOTChmode 'NONE'"
```

displays the CONFIGURE screen and selects "None" in the Notch Coupl field.

Num Pages

HP-IB 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

HP-IB Example

"DISP CCON;CDMA:CELL:CONFigure:NUMStep 3"

displays the CDMA CELL SITE CONFIGURATION screen and enters a "3" in the Num Step field.

Fields That Begin with the Letter O

OCNS (Sector A Power)

HP-IB 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)

HP-IB 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

HP-IB Example

```
"DISP SAN;SAN:TGEN:OFR? "
```

displays the SPECTRUM ANALYZER screen and queries the frequency offset value.

Orig Addr

HP-IB Example

```
DISP CSMS;CDMA:SMS:TERM:OADD?"
```

displays the CDMA SHORT MESSAGE SERVICE screen and queries the Orig Addr field.

Order

HP-IB 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

HP-IB Example

```
"DISP RFG:RFG:ATT 'ON'"
```

displays the RF GENERATOR screen and selects "On" in the Atten Hold field.

Output Port

HP-IB Example

```
"DISP CONF:CONF:OUTP 'Rf Out'"
```

displays the CONFIGURE screen and selects "RF OUT" in the Output Port field.

Fields That Begin with the Letter P

Page

HP-IB Example

`"DISP ACNT;CALLP:PAGE"`

displays the CALL CONTROL screen and selects the "Page" field.

Page (annunciator)

HP-IB 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.

Page Sent (annunciator)

HP-IB 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

HP-IB Example

`"DISP CCON;CDMA:CELL:CONFigure:PAGE:RATE 'FULL'"`

displays the CDMA CELL SITE CONFIGURATION screen and enters "Full" in the Page Rate field.

Paging (Sector A Power)

HP-IB 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

HP-IB Example

`"DISP CCON;CDMA:CELL:CONFigure:PINcrement 12"`

displays the CDMA CELL SITE CONFIGURATION screen and sets the Pilot Inc field to 12.

Parity**HP-IB Example**

```
"DISP CONF;CONF:SPOR:PARity 'ODD'"
```

selects "Odd" in the Parity field (I/O CONFIGURE screen).

Passed (annunciator)**HP-IB 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.

PCS Intrfc Control**HP-IB Example**

```
"CONF:PCSMODE 'On'"
```

turns PCS mode on. Power to the Test Set must be cycled after this command is acted on.

Phone Num:**HP-IB 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**HP-IB Example**

```
"DISP CTXT;CDMA:RHO:MEAS:PERR 'PHS ERROR';"MEASure:CDManalyze: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)**HP-IB 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.

Pilot (Sector B Power)

HP-IB 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

HP-IB Example

```
"DISP CCON;CDMA:CELL:CONFIGURE:PINcrement 12"
```

displays the CDMA CELL SITE CONFIGURATION screen and sets the Pilot Inc field to 12.

Pk Det To

HP-IB 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

HP-IB 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)

HP-IB 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)

HP-IB 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**HP-IB Example**

"DISP SAN;SAnalyzer:TGENerator:DESTination 'RF Out';SWEEP 'Norm'"

displays the SPECTRUM ANALYZER screen, selects "RF Out" as the connector, and selects "Norm" in the Port/Sweep field.

Position**HP-IB Example**

"DISP SAN;SAnalyzer:CONTRol 'MARKER';MARKer:POSition 5"

displays the SPECTRUM ANALYZER screen, selects "Marker" in the Controls field, and selects "5" in the Position field.

Power Meas**HP-IB Example**

"DISP CCNT;CDMA:TX:POW:MEAS 'Chan Power'"

displays the CDMA CALL CONTROL screen and selects the Channel Power measurement.

Power Step**HP-IB Example**

"DISP CCON;CDMA:CELL:CONFigure:STEP:POWer 0"

displays the CDMA CELL CONFIGURATION screen and sets PWR_STEP to 0.

Printer Port:**HP-IB Example**

"DISP PCON;CONF:PRIN:DESTination 'HPIB'"

displays the PRINT CONFIGURE screen and selects "HPIB" in the Printer Port: field.

Print Title**HP-IB 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

HP-IB Example

```
"DISP CSMS;CDMA:SMS:TERM:PRI 'None' "
```

displays the CDMA SHORT MESSAGE SERVICE screen and sets the Priority field to None.

Privacy

HP-IB Example

```
"DISP CSMS;CDMA:SMS:TERM:Priv 'None' "
```

displays the CDMA SHORT MESSAGE SERVICE screen and sets the Privacy field to None.

Protocol

HP-IB Example

```
"DISP CCON;CDMA:CELL:PROT'IS-95A' "
```

displays the CDMA CALL CONTROL screen and selects IS-95A in the Protocol field.

Pwr Level

HP-IB Example

```
"DISP CCNT;CDMA:CALL:AHAndoff:PLEvel 4"
```

displays the CDMA CALL CONTROL screen and selects "4" in the Pwr Level field.

Pwr Lvl:

HP-IB Example

```
"DISP ACNT;CALLP:VMAC 3"
```

displays the CALL CONTROL screen and enters "3" in the Pwr Lvl field.

Pwr Up Reg

HP-IB Example

```
"DISP CCON;CDMA:CELL:CONF:PUR 'On' "
```

displays the CDMA CELL SITE CONFIGURATION screen and selects "On" in the Pwr Up Reg field.

Fields That Begin with the Letter R

RAND

HP-IB Example

```
"DISP CCON;CDMA:CELL:CONF:AUTH:RAND '34AB05F'"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters 34AB057 INTO the RAND field.

RAND_A

HP-IB Example

```
"DISP AUTH;AMPS:AUTH:RAND:A '4F5A'"
```

displays the AUTHENTICATION screen and enters "4F5A" in the RAND_A field.

RAND_B

HP-IB Example

```
"DISP AUTH;CALLP:AMPS:AUTH:RAND:B '4F5A'"
```

displays the AUTHENTICATION screen and enters "4F5A" in the RAND_B field.

RANDSSD

HP-IB 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

HP-IB Example

```
"DISP AUTH;CALLP:AMPS:AUTH:RAND:SSD1 '4F5A26'"
```

displays the AUTHENTICATION screen and enters "4F5A26" in the RANDSSD_1 field.

RANDSSD_2

HP-IB Example

```
"DISP AUTH;CALLP:AMPS:AUTH:RAND:SSD2 '4F5A26'"
```

displays the AUTHENTICATION screen and enters "4F5A26" in the RANDSSD_2 field.

RANDSSD_3

HP-IB Example

```
"DISP AUTH;CALLP:AMPS:AUTH:RAND:SSD3 '4F'"
```

displays the AUTHENTICATION screen and enters "4F" in the RANDSSD_3 field.

RAND_U

HP-IB Example

```
"DISP AUTH;CALLP:AMPS:AUTH:RAND:U '4F5A26'"
```

displays the AUTHENTICATION screen and enters "4F5A26" in the RAND_U field.

RANDU

HP-IB Example

```
"DISP CCON;CDMA:CELL:CONF:AUTH:RANDU '5357DF'"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters 5357DF into the RANDU field.

Rcv Pace

HP-IB Example

```
"DISP IOC;CONF:SPOR:RPace 'NONE'"
```

displays the I/O CONFIGURE screen and selects "None" in the Rcv Pace field.

Ref Level

HP-IB 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.

Ref Level

HP-IB 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.

Register**HP-IB Example**

"DISP ACNT;CALLP:REGister"

displays the CALL CONTROL screen and selects the "Register" field.

Register**HP-IB Example**

"DISP CCNT;CDMA:MOBile:REGister"

displays the CDMA CALL CONTROL screen and selects the Register field.

Register (annunciator)**HP-IB 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)**HP-IB 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**HP-IB Example**

"DISP CCON;CDMA:CELL:CONF:TREG:PER 29"

displays the CDMA CELL SITE CONFIGURATION screen and sets the Reg Period field to 29.

Release**HP-IB Example**

"DISP ACNT;CALLP:REL"

displays the CALL CONTROL screen and releases the call that is currently connected.

Res BW

HP-IB Example

```
"DISP ACP;ACPower:RBW '1 KHZ'"
```

displays the ADJACENT CHANNEL POWER screen and selects "1 kHz" in the Res BW field.

Reset

HP-IB Example

```
"DISP OSC;OSC:TRIGger:RESet"
```

displays the OSCILLOSCOPE screen and selects the Reset field.

RF Channel

HP-IB Example

```
"DISP RFAN;RFAN:RFChannel 283"
```

displays the RF ANALYZER screen and enters "283" in the RF Channel field.

RF Channel

HP-IB Example

```
"DISP CCNT;CDMA:RFChannel 283"
```

displays the CDMA CALL CONTROL screen and enters "283" in the RF Channel field.

RF Chan Std

HP-IB Example

```
"DISP CCNT;CONF:RFS 'USER-DEF'"
```

displays the CDMA CALL CONTROL screen and selects "USER-DEF" in the RF Chan Std field.

RF Cnt Gate

HP-IB Example

```
"DISP RFAN;RFAnalyzer:GTIme 200MS"
```

displays the RF ANALYZER screen and enters "200.0 ms" in the RF Cnt Gate field

RF Display

HP-IB Example

```
"DISP CONF;CONF:RFDisplay 'FREQ'"
```

displays the CONFIGURE screen and selects "Freq" in the RF Display field.

RF Gen Freq**HP-IB Example**

```
"CONF:RFDisplay 'FREQ';:DISP RFG;RFGGenerator: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**HP-IB Example**

```
"DISP RFG;RFG:FREQ 815MHz"
```

sets the RF generator to 815 MHz.

RF Gen Lvl**HP-IB Example**

```
"DISP CONF;CONF:RFSource:CALibrate"
```

selects the RF Gen Lvl (Calibrate) field (CONFIGURE screen).

RF Gen Volts**HP-IB Example**

```
"DISP CONF;CONF:RFIMpedance 'EMF'"
```

selects "emf" in the RFGen Volts field.

RF In/Ant**HP-IB 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 Level Offset**HP-IB Example**

```
"DISP CONF;CONF:OFLevel:MODE 'ON'"
```

displays the CONFIGURE screen and selects "On" in the RF Level Offset field.

RF Offset

HP-IB 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 Power

HP-IB Example

```
"CDMA:RFP?"
```

queries the RF Power field (CDMA GENERATOR CONTROL screen).

Rgstr NID

HP-IB Example

```
"DISP CCON;CDMA:CELL:CONFigure:RNID 0"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters "0" in the Rgstr NID field.

RF Out only

HP-IB Example

```
"CONF:OFLevel:DUPlex -3"
```

sets the RF Level Offset for the RF Out only field (CONFIGURE screen) to -3 dB. This field is displayed only when the PCS Mode field is set to "On", and power to the Test Set has been cycled.

Rgstr SID

HP-IB 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

HP-IB Example

```
"DISP CALLP;CALLP:NAMPS:MRI:RSET 'Imm Resp'"
```

RX/TX Cntl

HP-IB Example

```
"DISP CONF;CONF:ARTSwitching 'MANUAL'"
```

displays the CONFIGURE screen and selects "Manual" in the RX/TX Cntl field

Fields That Begin with the Letter S

SAT:

HP-IB Example

```
"DISP ACNT;CALLP:SAT '5970HZ'"
```

displays the CALL CONTROL screen and selects "5970Hz" in the SAT field.

SAT:

HP-IB Example

```
"DISP CCNT;CDMA:CALL:AHAndoff:SAT'6000HZ'"
```

displays the CDMA CALL CONTROL screen and selects "6000Hz" in the SAT field.

Sat Tol

HP-IB Example

```
"DISP CALLP;CPR:STOLerance 'NARROW'"
```

displays the CALL CONFIGURE screen and selects "Narrow" in the Sat Tol field.

Save/Recall

HP-IB Example

```
"DISP IOC;CONF:SRLocation 'CARD'"
```

displays the I/O CONFIGURE screen and selects "Card" in the Save/Recall field.

SCM:

HP-IB 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".

Scope To

HP-IB Example

```
"DISP AFAN;AFAN:SMPoint 'INPUT'"
```

displays the AF ANALYZER screen and selects "Input" in the Scope To field.

Sctr A Pwr

HP-IB 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

HP-IB 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

HP-IB 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).

Send Word

HP-IB Example

```
"DISP CBIT;CALLP:SWOrd"
```

displays the CALL BIT screen and selects the Send Word field.

Sensitivity

HP-IB Example

```
"DISP RFAN;RFAN:SENSitivity 'HIGH'"
```

displays the RF ANALYZER screen and selects "High" in the Sensitivity field.

Sensitivity

HP-IB 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

HP-IB 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

HP-IB Example

"DISP IOC;CONF:SPORT:BAUD '9600'" displays the I/O CONFIGURE screen and selects "9600" in the Serial Baud field.

Serial In

HP-IB Example

"DISP IOC;CONF:SPORT:SINput 'INST'" displays the I/O CONFIGURE screen and selects "Inst" in the Serial In field.

Set Message

HP-IB Example

"DISP CBIT;CALLP:MESS 'SPC WORD1'" displays the CALL BIT screen and selects "SPC WORD1" in the Set Message field.

Settling

HP-IB Example

"DISP AFAN;AFAN:DETECTOR:SETTLing 'FAST'" displays the AF ANALYZER screen and selects "Fast" in the Settling field.

SID MSB

HP-IB Example

"DISP ACNT;CALLP:SID 231" displays the CALL CONTROL screen and enters 231 in the SID field.

SINAD

HP-IB Example

"DISP RX;MEAS:AFR:SELEct 'SINAD';SINAD?" displays the RX TEST screen, displays the "Sinad" field and queries the SINAD measurement.

SNR

HP-IB Example

```
"DISP RX;MEAS:AFR:SElect 'SNR';SNR?"
```

displays the RX TEST screen, displays the "SNR" field and queries the SNR measurement.

Softer Handoff

HP-IB 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)

HP-IB 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.

Span

HP-IB 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

HP-IB Example

```
"DISP CSP;CSP:SPAN 3 MHZ"
```

displays the CDMA REVERSE CHANNEL SPECTRUM screen, and sets the Span field to 3 MHz.

Speaker ALC

HP-IB Example

```
"DISP AFAN;AFAN:SPEaker:MODE 'ON'"
```

displays the AF ANALYZER screen and selects "On" in the Speaker ALC field.

Speaker Vol**HP-IB Example**

```
"DISP AFAN;AFAN:SPEaker:VOLume 'OFF'"
```

displays the AF ANALYZER screen and selects "Off" in the Speaker Vol field.

Squelch**HP-IB Example**

```
"DISP RFAN;RFAN:SQUElch 'OPEN'"
```

displays the RF ANALYZER screen and selects "Open" in the Squelch field.

Srch Win A**HP-IB 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**HP-IB 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**HP-IB Example**

```
"DISP CCON;CDMA:CELL:CONFigure:RWIN 5"
```

displays the CDMA CELL SITE CONFIGURATION screen and enters 5 in the Srch Win R field.

SSD Update**HP-IB Example**

```
"DISP CAUT;CDMA:AUT:SSD"
```

displays the CDMA AUTHENTICATION screen and Executes the SSD (Shared Secret Data) Update field.

Status

HP-IB Example

```
"DISP CMOB;CDMA:MOB:PIL:STR?"
```

displays the CDMA MOBILE REPORTING screen and queries the results displayed in the CDMA Mobile Reporting table.

Steps

HP-IB Example

```
"DISP CTXR;CDMA:PControl:STEPS 100"
```

displays the CDMA TRANSMITTER POWER RANGE TEST screen and enters 100 in the Steps field.

Stop Length

HP-IB Example

```
"DISP IOC;CONF:SPORT:STOP '1 BIT'"
```

displays the I/O CONFIGURE screen and selects "1 Bit" in the Stop Length field.

Strength

HP-IB 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)

HP-IB 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)

HP-IB 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

HP-IB Example

"DISP CCON;CDMA:CELL:CONFigure:SID 0"

displays the CDMA CELL SITE CONFIGURATION screen and enters 0 in the System ID field.

System Type

HP-IB Example

"DISP ACNT;CALLP:CSYS 'AMPS' "

displays the CALL CONTROL screen and selects "AMPS" in the System Type field.

HP-IB Example

"DISP ACNT;CALLP:CSYS 'NTACS' "

displays the CALL CONTROL screen and selects "NTACS" in the System Type field.

System Type

HP-IB Example

"DISP CCNT;CDMA:CALL:AHAndoff:STYPE 'AMPS' "

displays the CDMA CALL CONTROL screen and selects "AMPS" in the System Type field.

Fields That Begin with the Letter T

T_Add

HP-IB Example

`"DISP CMOB;CDMA:MOBiLe:TADD 32"`

displays the CDMA MOBILE REPORTING screen and enters 32 in the T_Add field.

T_Comp

HP-IB Example

`"DISP CMOB;CDMA:MOBiLe:TComp 3"`

displays the CDMA MOBILE REPORTING screen and enters 3 in the T_Comp field.

T_Drop

HP-IB Example

`"DISP CMOB;CDMA:MOBiLe:TDRop 40"`

displays the CDMA MOBILE REPORTING screen and enters 40 in the T_DROP field.

T_Tdrop

HP-IB Example

`"DISP CMOB;CDMA:MOBiLe:TTDRop 2"`

displays the CDMA MOBILE REPORTING screen and enters 2 in the T_TDROP field.

Testing (annunciator)

HP-IB 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

HP-IB Example

`"DISP CONF;CONF:TIME?"`

displays the CONFIGURE screen and queries the Time field.

Time/div**HP-IB 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**HP-IB Example**

```
"DISP CTXT;CDMA:RHO:MEAS:FERR 'TIME OFFSET';:MEASure:CDManalyze-er:TIME:OFFSet?"
```

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen, displays the Time Offset measurement field, and queries the Time Offset measurement result.

Timer Reg**HP-IB Example**

```
"DISP CAUT;CDMA:CELL:CONF:TREG:MODE 'On'"
```

displays the CDMA AUTHENTICATION screen and sets the Timer REG field to 'On'.

TM Rho**HP-IB Example**

```
"DISP CTXT;CDMA:RHO:MEAS 'TM RHO';:MEASure:CDManalyze: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 HP-IB 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
- **RNG TEST** - DISP CTXRange
- **REV SPEC** - DISP CSPpectrum

AUTHEN - DISP CAUT

SMS - DISP CSMS

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
 - **CALL DATA** - DISP CDATa
 - **ANLG MEAS** - DISP CMEasure

Config

- **TESTS** - DISP TESTs
- **CONFIG** - DISP CONFigure
- **IO CONFIG** - DISP IOConfigure
- **PRNT CNFG** - DISP PCONfigure

Traffic (Sector A Power)**HP-IB 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)**HP-IB 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**HP-IB 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.

Traffic Rho**HP-IB Example**

"DISP CTXT;CDMA:RHO:MEAS 'Traffic Rho';MEAS:CDManalyzer:RHO?"

displays the CDMA CELLULAR MOBILE TRANSMITTER TEST screen, displays the Traffic Rho measurement field, and queries the Traffic Rho measurement results.

Transmitting (annunciator)**HP-IB Example:**

"DISP CCNT;STAtus:CDMA:CONDition?"

queries the CDMA condition register. Bit 2 will be set whenever the Transmitting annunciator is lit.

Trig-Delay**HP-IB Example**

"DISP OSC;OSCilloscope:CONTRol 'TRIGGER';TRIGger:DElay 1MS"

displays the OSCILLOSCOPE screen, selects "Trigger" in the Controls field, and enters 1.000 ms in the Trig-Delay field.

Tune Freq

HP-IB 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.

Tune Mode

HP-IB Example

```
"CONF:RFDisplay 'FREQ';:DISP TX;RFAnalyzer:TMode 'Auto'"
```

selects "Freq" in the RF Display field (CONFIGURE screen), displays the TX TEST screen, and selects "Auto" in the Tune Mode field.

TX Freq Error

HP-IB Example

```
"CONF:RFDisplay 'FREQ';:DISP TX;  
RFAnalyzer:TMode 'Manual';:MEAS:RFfrequency:FREQUENCY:ERROR?"
```

selects "Freq" in the RF Display field (CONFIGURE screen), displays the TX TEST screen, selects "Manual" in the Tune Mode field, and queries the TX Freq Error measurement results.

TX Freq Error

```
"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.

TX Frequency

HP-IB Example

```
"CONF:RFDisplay 'FREQ';:DISP TX;  
RFAnalyzer:TMode 'Auto';:MEAS:RFfrequency:FREQUENCY:ABSolute?"
```

selects "Freq" in the RF Display field (CONFIGURE screen), displays the TX TEST screen, selects "Auto" in the Tune Mode field, and queries the TX Frequency measurement results.

TX Power

HP-IB Example

```
"DISP TX;MEAS:RFfrequency:POWER?"
```

displays the TX TEST screen and queries the TX Power field measurement results.

TX Power**HP-IB Example**

```
"DISP ACNT;MEAS:RFrequency:Power?"
```

displays the CALL CONTROL screen and queries the TX Power field measurement results.

TX Pwr Meas**HP-IB Example**

```
"DISP TX;RFAN:PMEasurement:DETECTOR 'Sample'"
```

displays the TX TEST screen and selects "Sample" in the TX Pwr Meas field.

TX Pwr Zero**HP-IB Example**

```
"DISP TX;RFAN:PMEasurement:ZERO"
```

displays the TX TEST screen and selects the TX Pwr Zero field.

Uniq Chall**HP-IB Example**

```
"DISP CAUT;CDMA:AUT:UCH"
```

displays the CDMA AUTHENTICATION screen and executes a Unique Challenge.

User Data (ASCII):**HP-IB Example**

```
"DISP CSMS;CDMA:SMS:TERM:DATA:ASC  
'ABCDEFGHIJKLMN0PQRSTUVWXYZ_0123456789abcdefghijklmnopqrstuvwxyz#56789'"
```

displays the CDMA SHORT MESSAGE SERVICE screen and enters data into the User Data (ASCII) field. Data Mode must be ASCII.

User Data (Hex):**HP-IB Example**

```
"DISP CSMS;CDMA:SMS:TERM:DATA:HEX  
'4142434445464748494A4B4C4D4E4F505152535455565758595A5F303132333436  
162636465666768696A6B6C6D6E6F707172737475767778797A233536373839'"
```

displays the CDMA SHORT MESSAGE SERVICE screen and enters data into the User Data (Hex) field. Data Mode must be Hex.

Fields That Begin with the Letter V

VC Order

HP-IB Example

```
"CALLP:AMPS:VCORD 'CHNG PL 0'"
```

displays the TX TEST screen and selects the TX Pwr Zero field.

Vert/div

HP-IB 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

HP-IB 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.

Fields That Begin with the Letter W

Walsh (Sector A)

HP-IB Example

"DISP CGEN;CDMA:CELL:ASEC:TRAF:WALS 8"

displays the CDMA GENERATOR CONTROL screen and enters "8" in the Walsh (Sector A) field.

Walsh (Sector B)

HP-IB Example

"DISP CGEN;CDMA:CELL:BSEC:TRAF:WALS 12"

displays the CDMA GENERATOR CONTROL screen and enters "12" in the Walsh (Sector B) field.

Fields That Begin with the Letter X

Xmt Pace

HP-IB Example

```
"DISP IOC;CONF:SPOR:XPACE 'NONE'"
```

displays the I/O CONFIGURE screen and selects "None" in the Xmt Pace field.

Fields That Begin with a Number

1 of N

HP-IB Example

"DISP AUTH;CALLP:AMPS:AUTH:00N 2"

displays the AUTHENTICATION screen and enters 2 in the 1 of N field.

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