

**Agilent Technologies 8960 Series 10 E5515C Wireless Communications Test Set  
Agilent Technologies E1962B cdma2000 Mobile Test Application**

## **GPIB Syntax Guide**

cdma2000 Test Application Revision B.01

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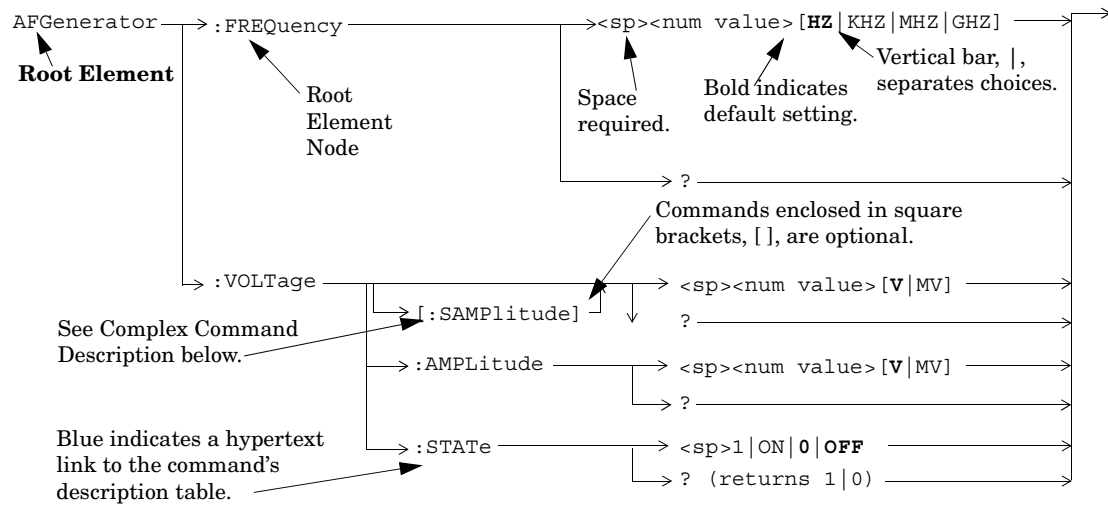
**Contents**

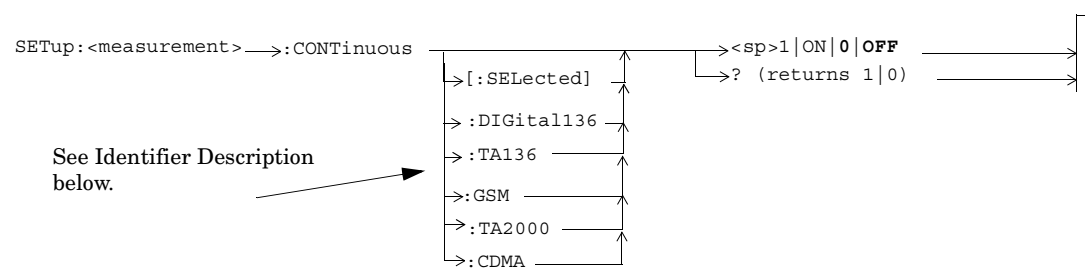
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## **Diagram Conventions**



## Description





### Diagram Description

Statement elements are connected by lines. Each line can be followed in only one direction, as indicated by the arrow at the end of the line. Any combination of statement elements that can be generated by starting at the **Root Element** and following the line the **direction of the arrow** is syntactically correct. The drawings show the proper use of spaces. Where spaces are required they are indicated by **<sp>**, otherwise no spaces are allowed between statement elements.

**Complex Command Description**

A complex command sets the state of the parameter to ON, and is used to set a value for that parameter. These parameters; amplitude, frequency, gain, number, time, and value can be used as a complex command. Refer to the specific command for the parameter that applies.

**Identifier Description**

Some test applications are able to test more than one radio format. There may be commands/queries that are shared by more than one radio format in the some of these test applications. Identifiers are used to specify the radio format for the command/query. The command/query is sent to the active radio format if you don't use an identifier. An identifier must be used when sending commands to the inactive radio format..

### **Developing Code**

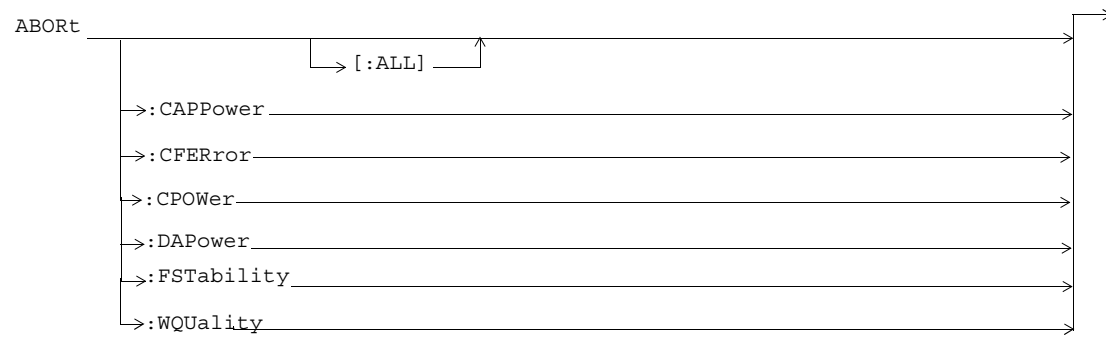
It is recommended that you set the Test Set's operating environment to debug. To set the Test Set debug mode to "ON" use the following syntax:

```
SYSTem:COMMunicate:GPIB:DEBug ON
```

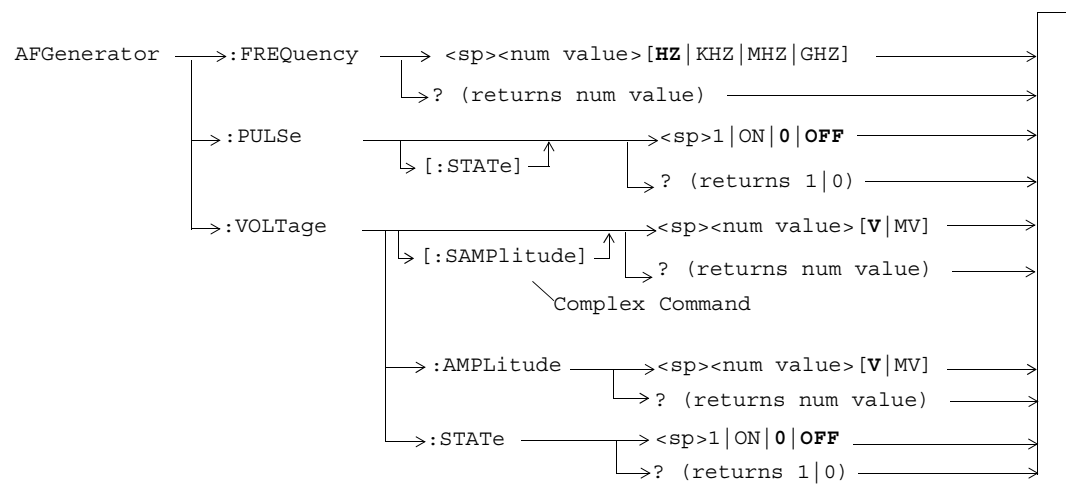
### **Units-of-Measure**

Amplitude (linear)	V
Frequency	Hz
Power (logarithmic)	dBm
Time	s

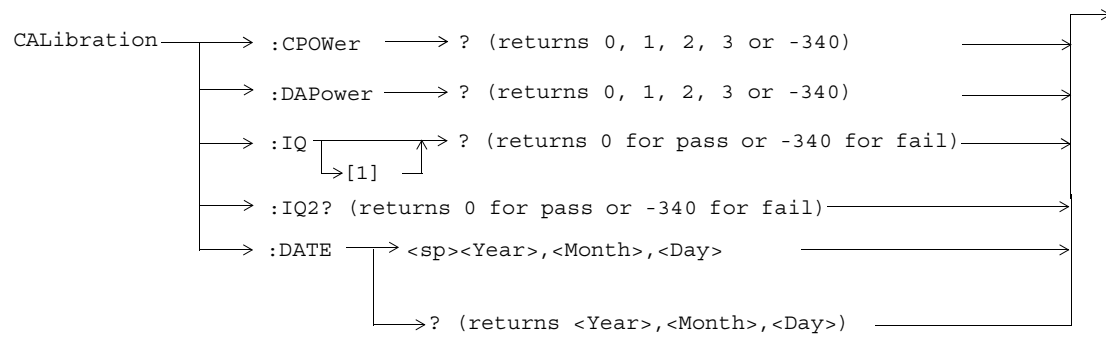
## ABORt



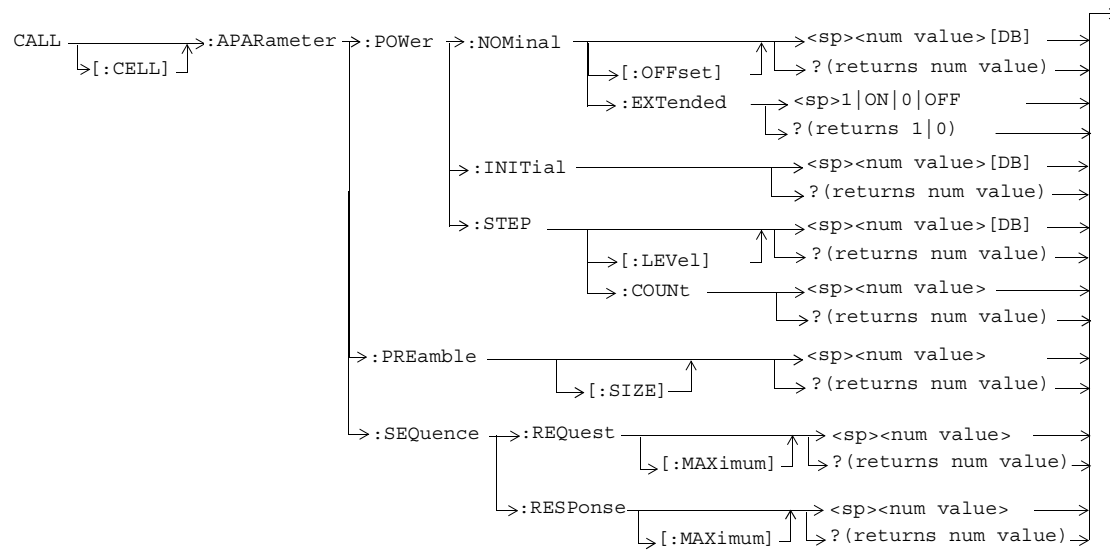
## AFGenerator



## CALibration

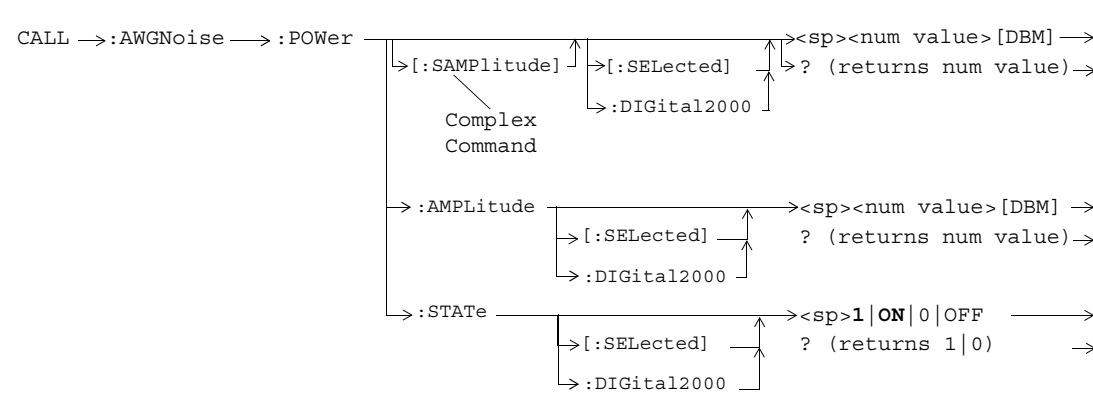


### CALL[:CELL]:APARAmeter

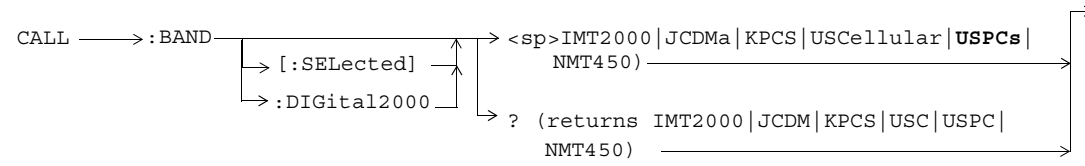




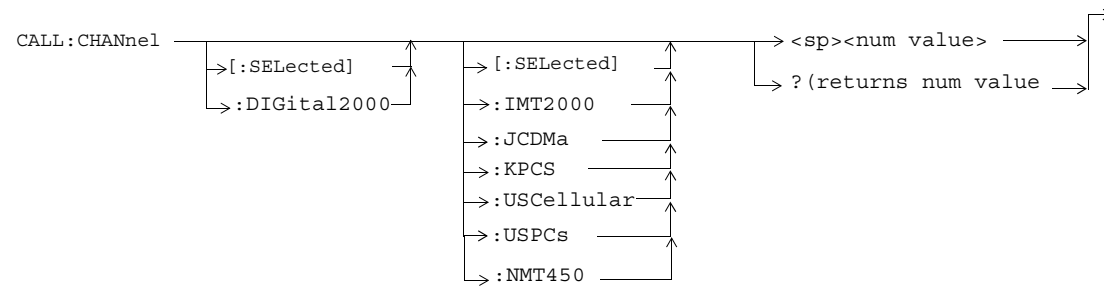
### CALL:AWGNoise:POWER



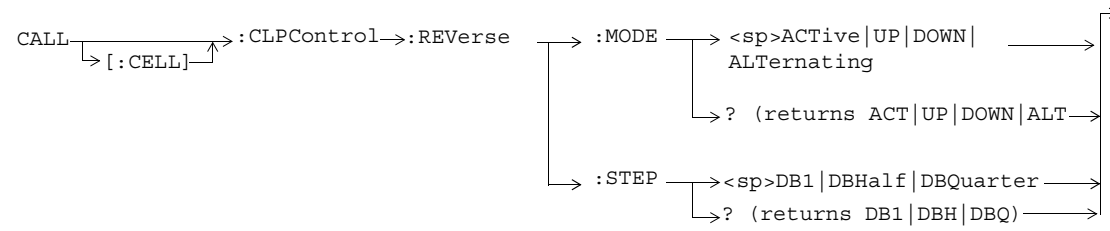
## CALL:BAND



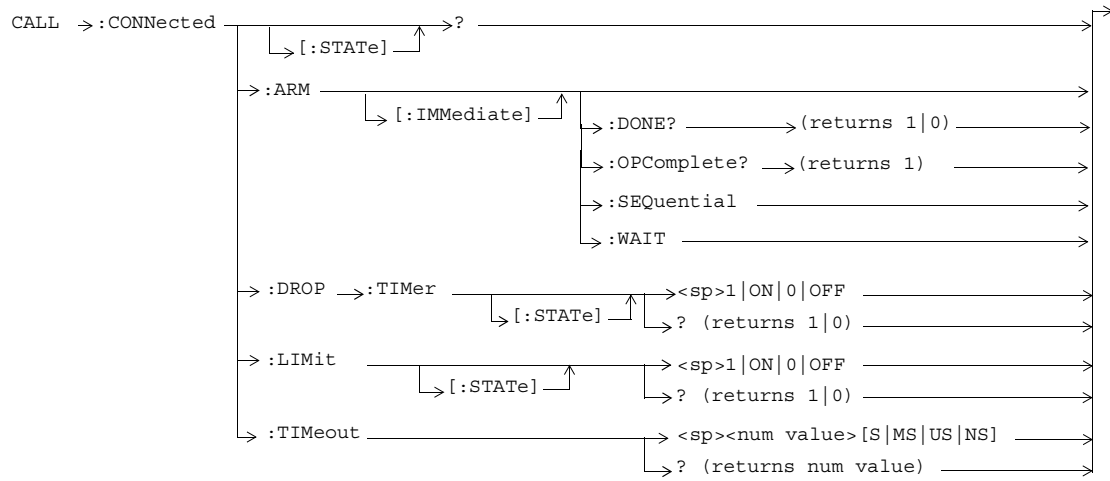
## CALL:CHANnel



### CALL[:CELL]:CLPControl



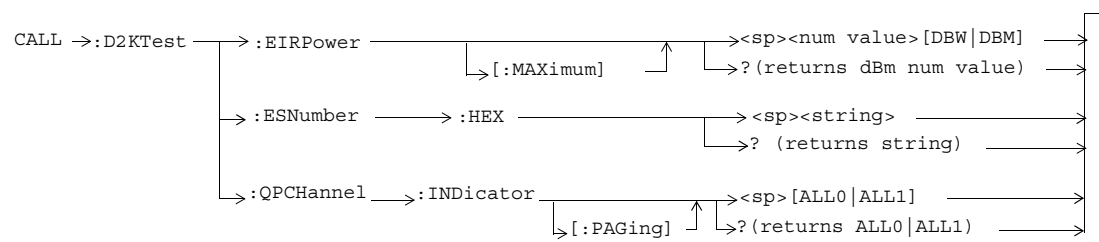
## CALL:CONNEcted[:STATe]



### **CALL[:CELL]:CONTrol:DOWNlink:FREQuency:AUTO**

CALL  $\left\{ \begin{array}{l} \rightarrow :CONTROL \rightarrow :DOWNlink \rightarrow :FREQuency \rightarrow :AUTO \rightarrow \langle sp \rangle 1 | ON | 0 | OFF \rightarrow \\ \rightarrow [ :CELL ] \rightarrow \end{array} \right.$   $\left\{ \begin{array}{l} \rightarrow ? \text{ (returns 1 | 0) } \rightarrow \\ \rightarrow \end{array} \right.$

## CALL:D2KTest

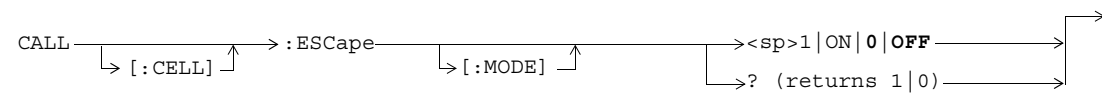


**CALL:END**

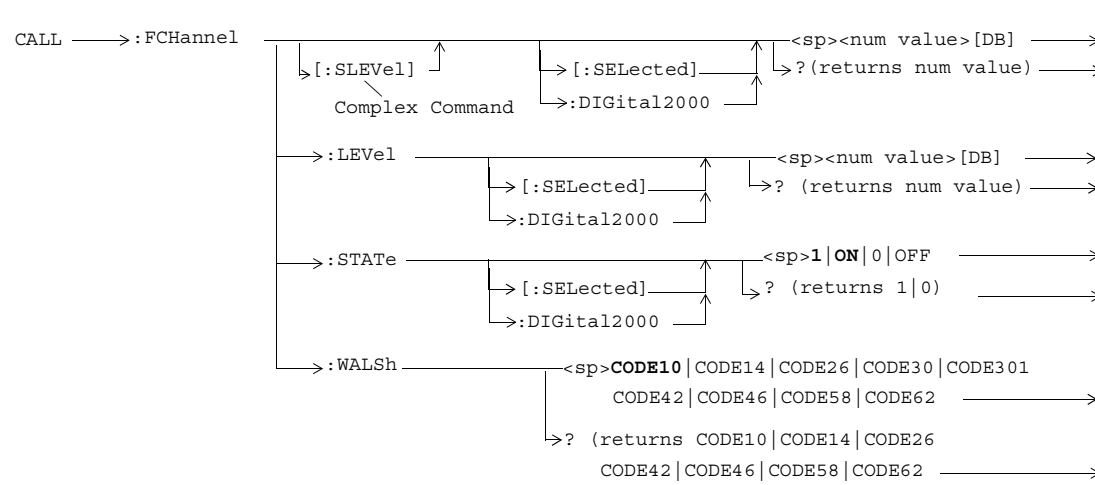
CALL → : END →



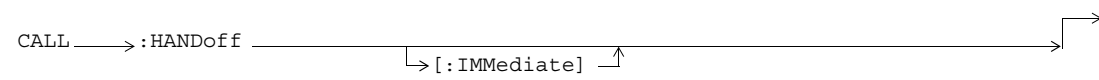
### **CALL[:CELL]:ESCAPE[:MODE]**



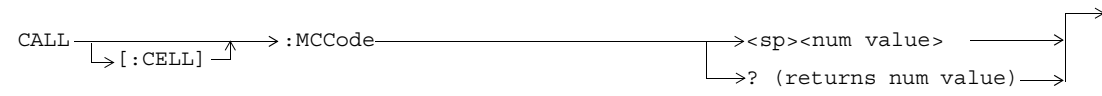
## CALL:FCHannel



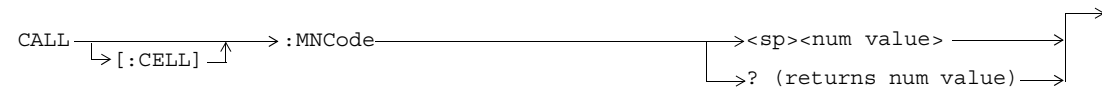
## CALL:HANDoff



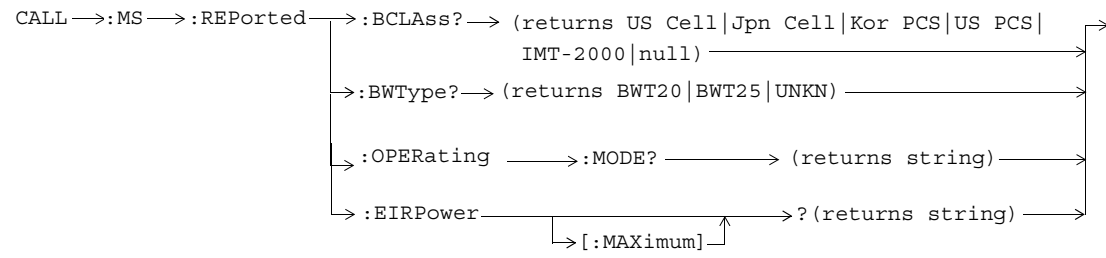
### CALL[:CELL]:MCCode



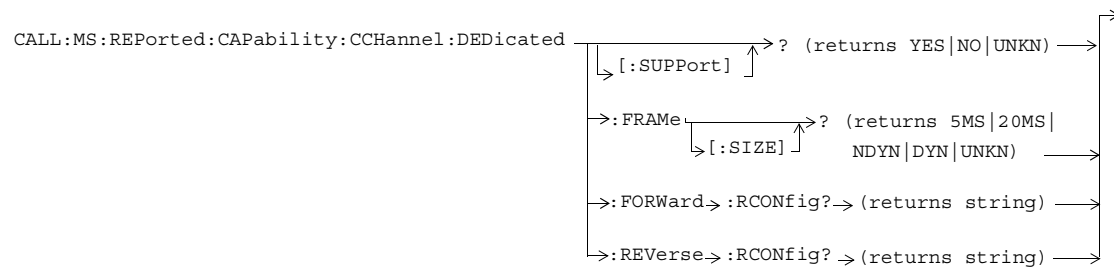
### CALL[:CELL]:MNCode



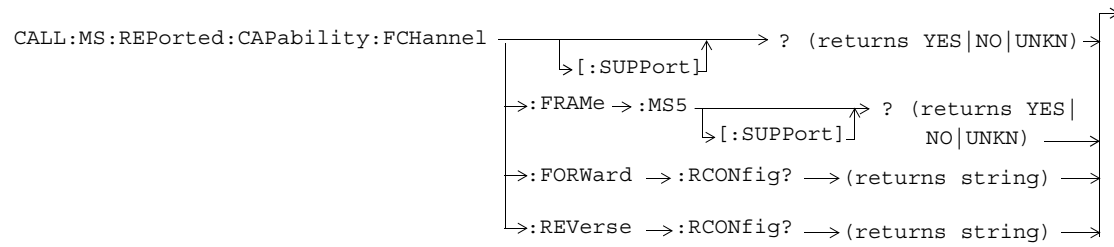
### CALL:MS:REPorted<BCL,BWT,OPER:MODE,EIRP>



### CALL:MS:REPorted:CAPability:CCHannel:DEDicated



### CALL:MS:REPorted:CAPability:FCHannel

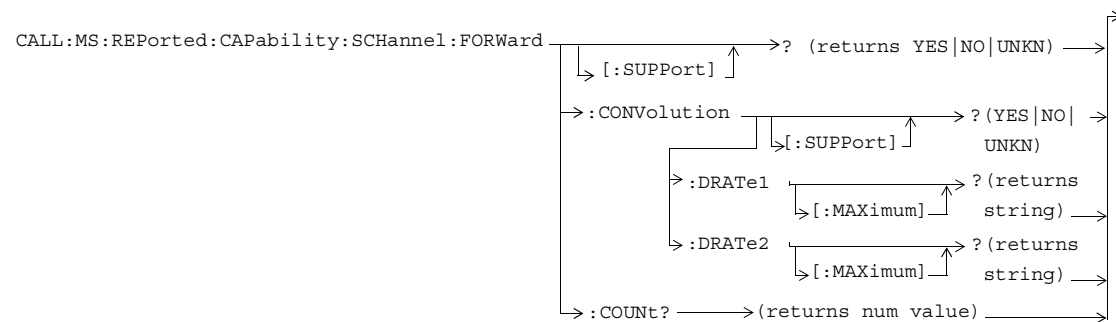


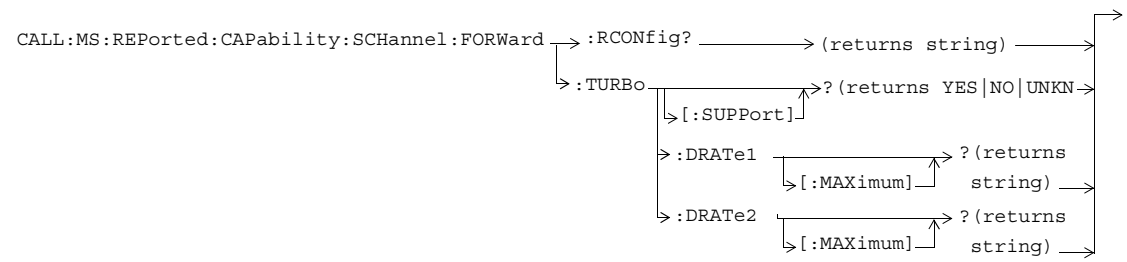


**CALL:MS:REPorted:QUERy**

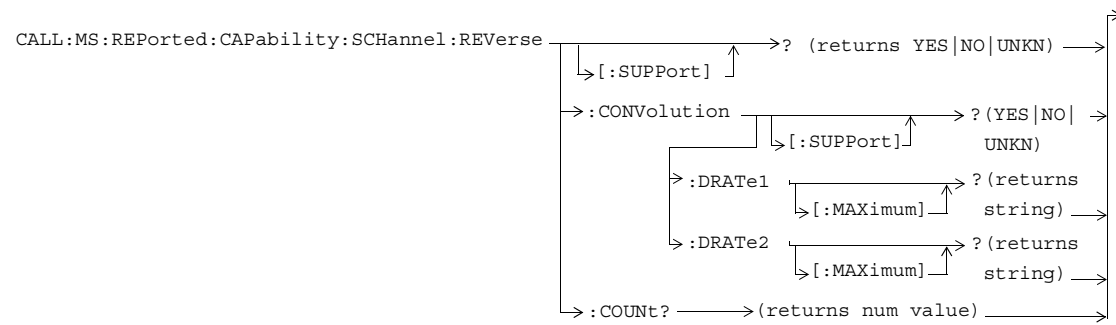
CALL:MS:REPorted:CAPability → :QUERy →

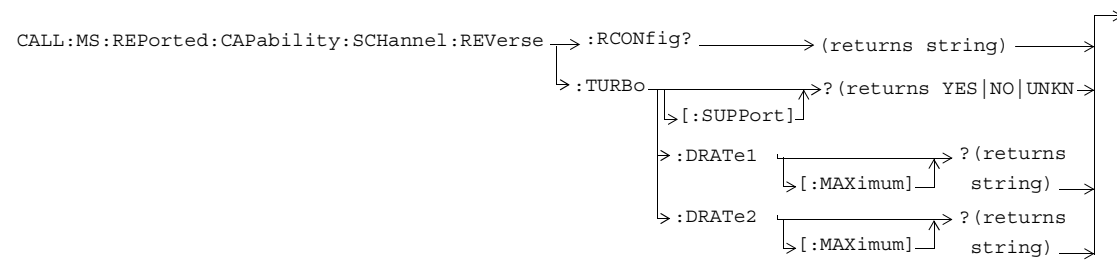
## CALL:MS:REPorted:SCHannel:FORWard






### CALL:MS:REPorted:CAPability:SCHannel:REVerse

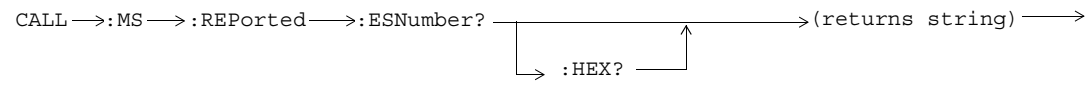




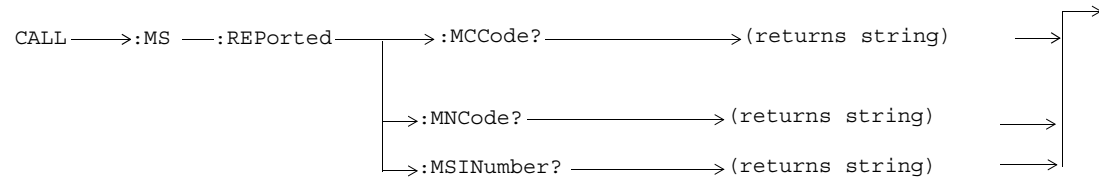
### **CALL:MS:REPorted:CLEar**

CALL → :MS → :REPorted → :CLEar →   
↳ [ :ALL ] ↵

### **CALL:MS:REPorted:ESN**

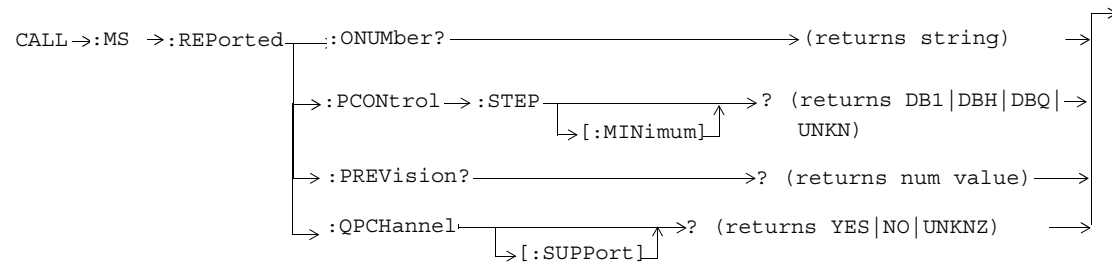


**CALL:MS:REPorted<MCC,MNC,MSIN>**

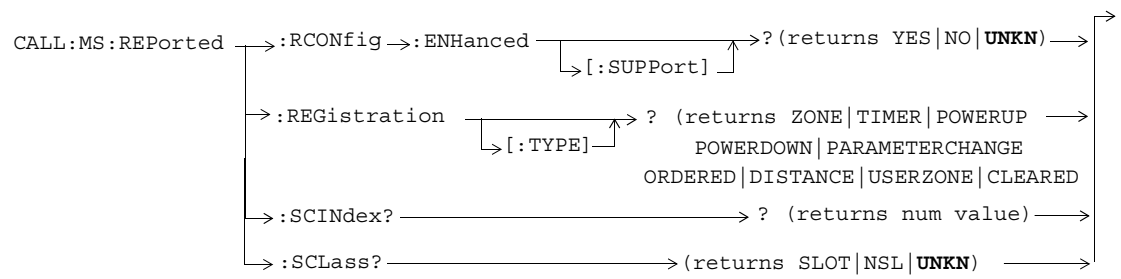




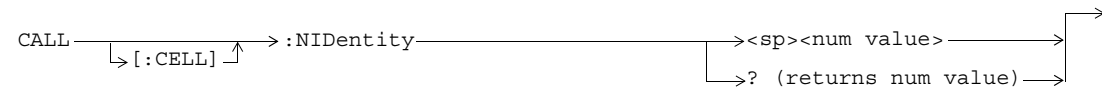
**CALL:MS:REPorted<ONUM,PREV,QPCH,CPCL>**



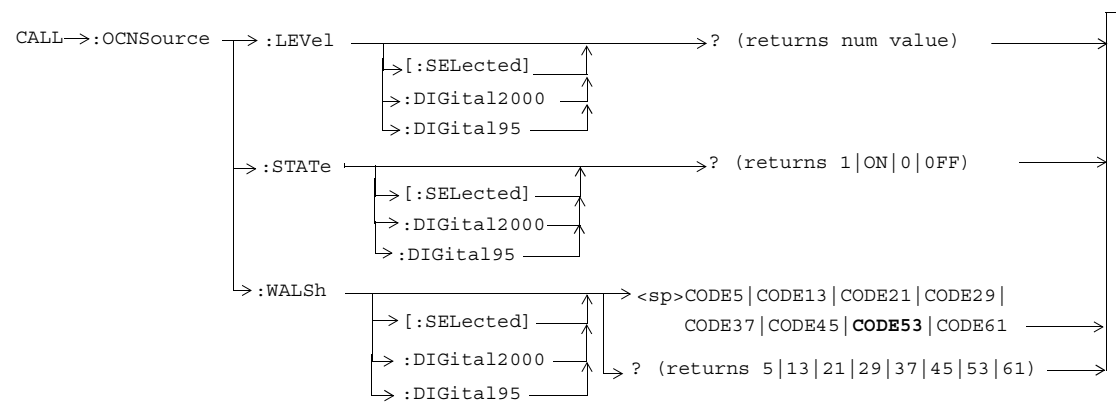
**CALL:MS:REPorted:<RCON:ENH,REG,SCIN,SCL>**



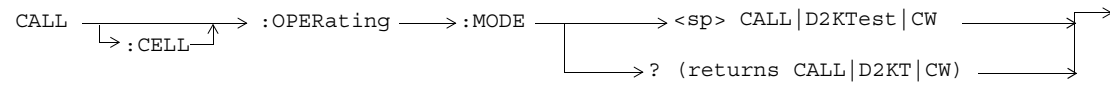
### CALL[:CELL]:NIDentity



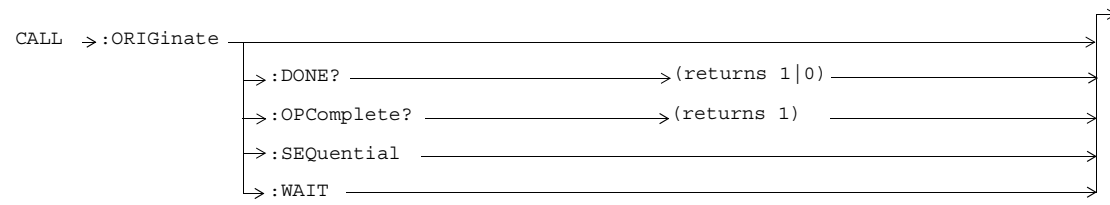
### CALL:OCNSource



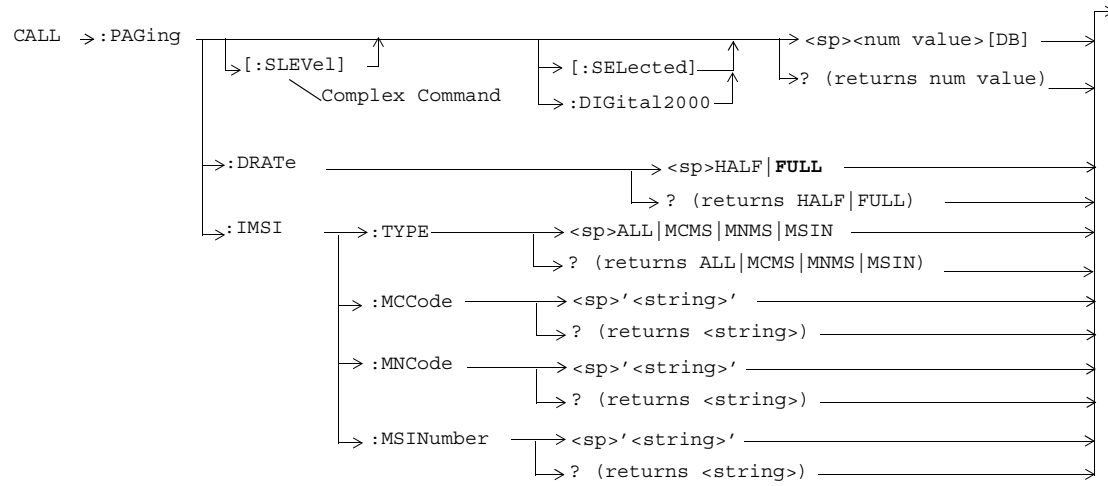
### CALL[:CELL]:OPERating

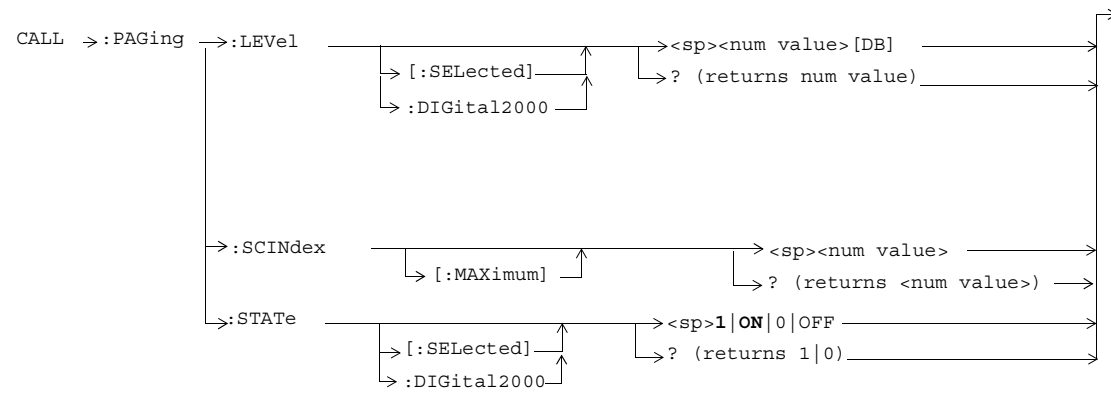


## CALL:ORIGinate



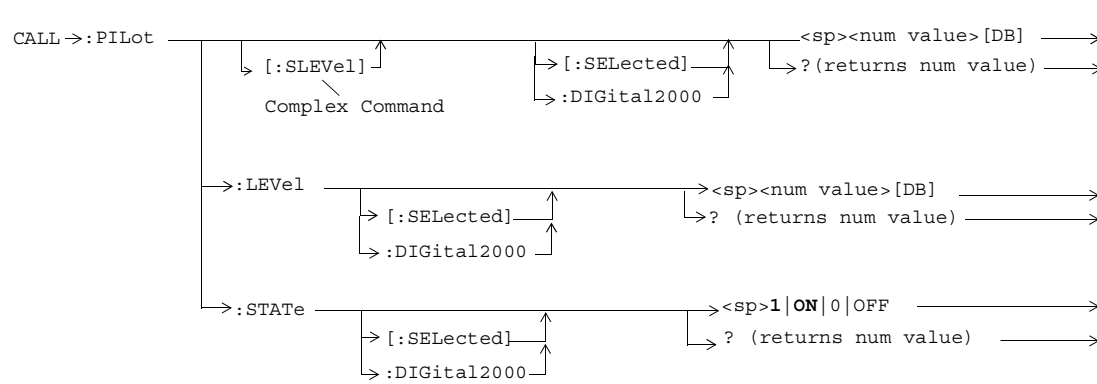
## CALL:PAGing







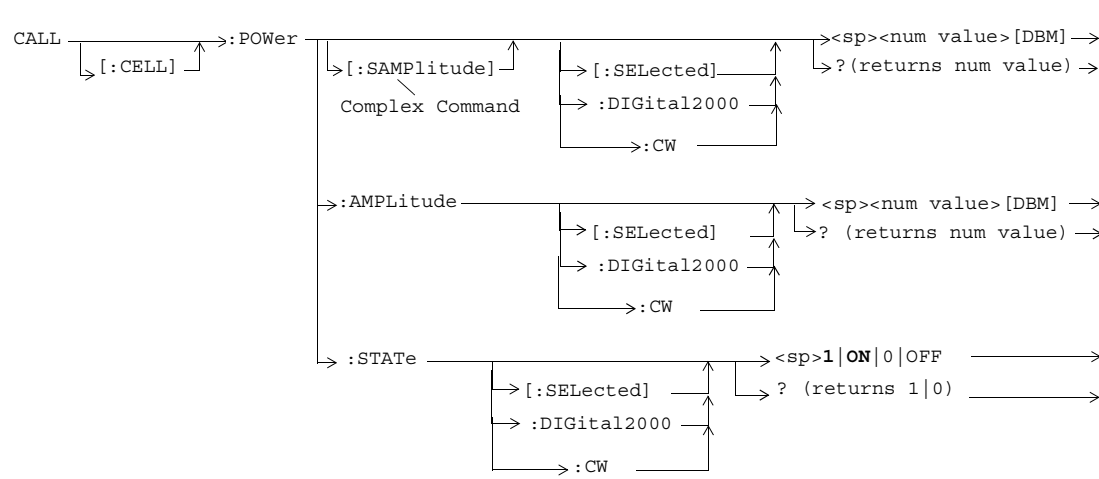
## CALL:PILot



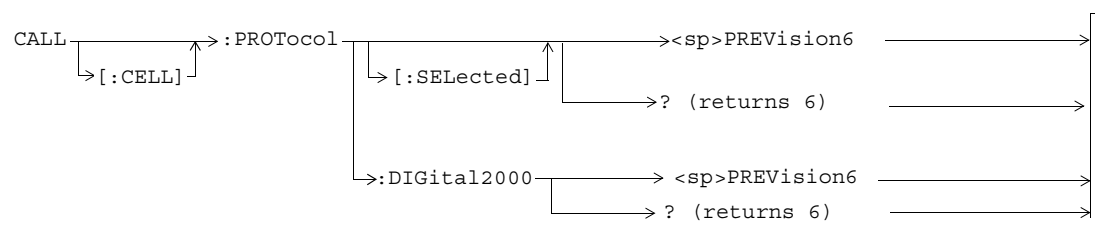
### CALL[:CELL]:PNOffset



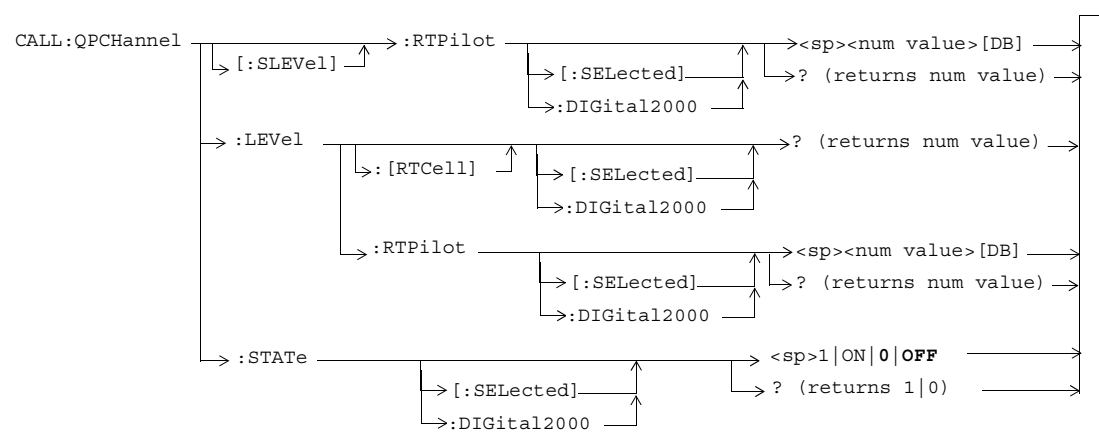
## CALL[:CELL]:POWer



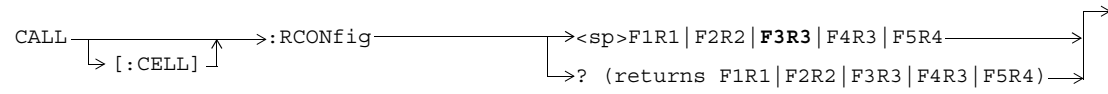
### CALL[:CELL]:PROTOcol



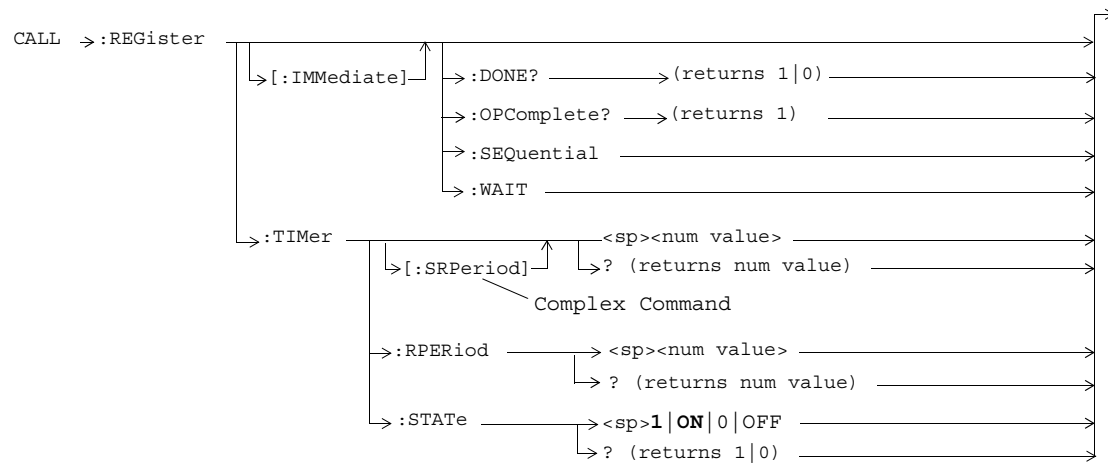
## CALL:QPCHannel



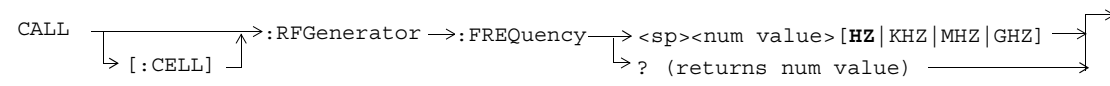
### CALL[:CELL]:RCONfig



## CALL:REGister

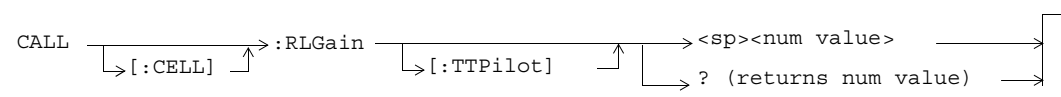


### **CALL[:CELL]:RFGenerator**

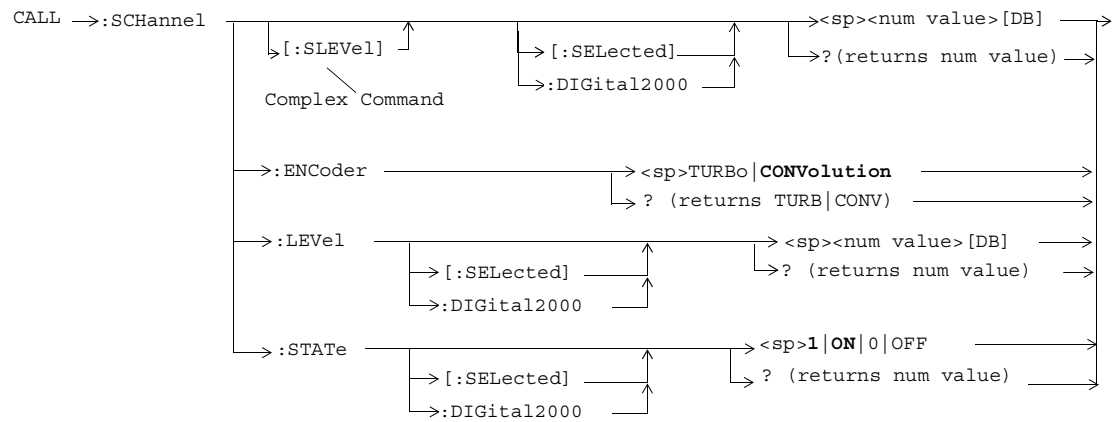


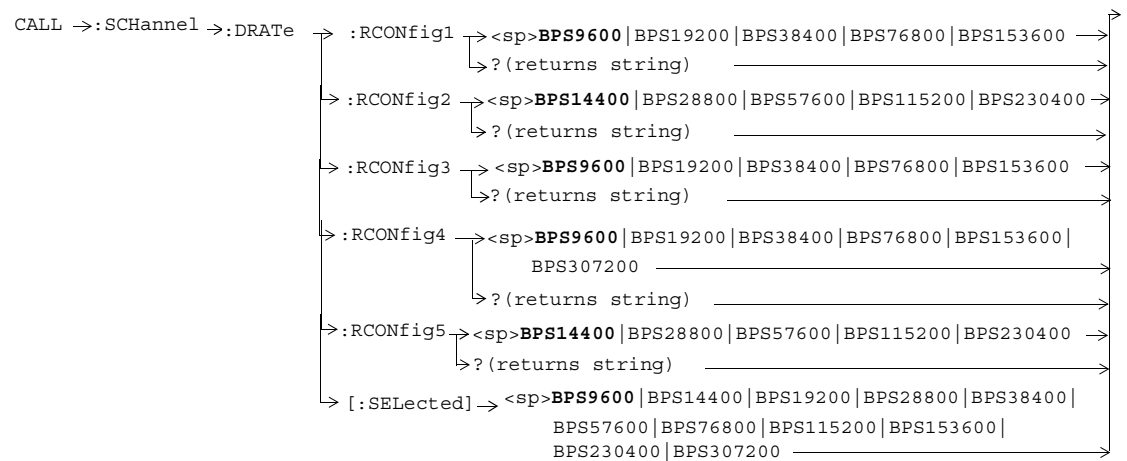


### CALL[:CELL]:RLGain



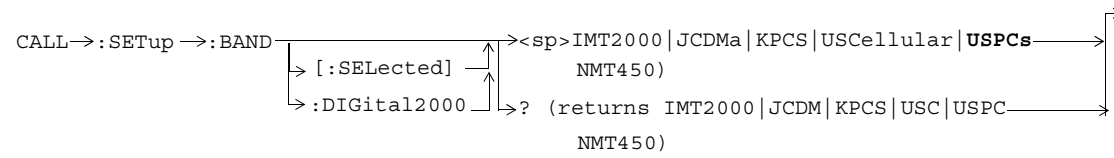
## CALL:SCHannel



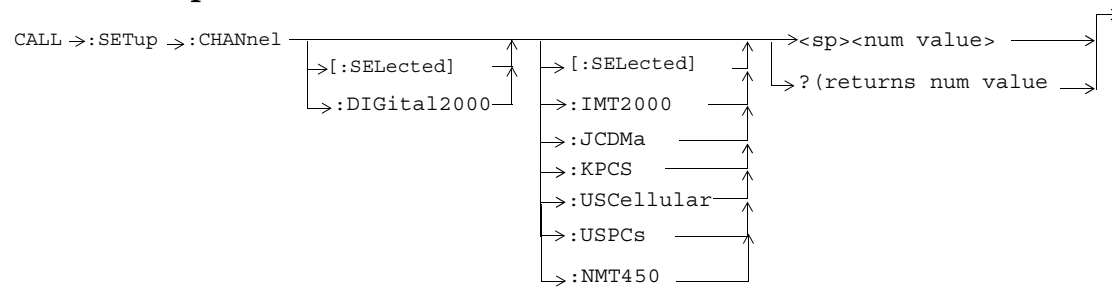


Note: Data rates used with the SElected keyword must be compatible with the currently selected radio configuration. If a data rate that does not belong to the selected radio configuration's rate set is used, an error message will be generated.

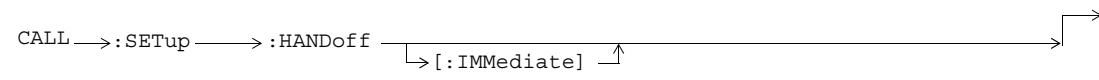
## CALL:SETup:BAND



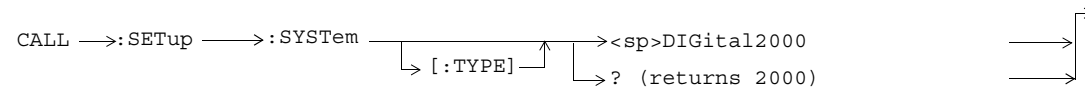
### CALL:SETup:CHANnel



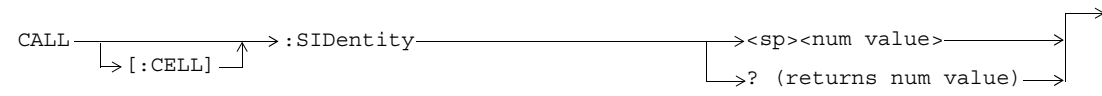
### **CALL:SETup:HANDoFF**



### CALL:SETup:SYSTEM

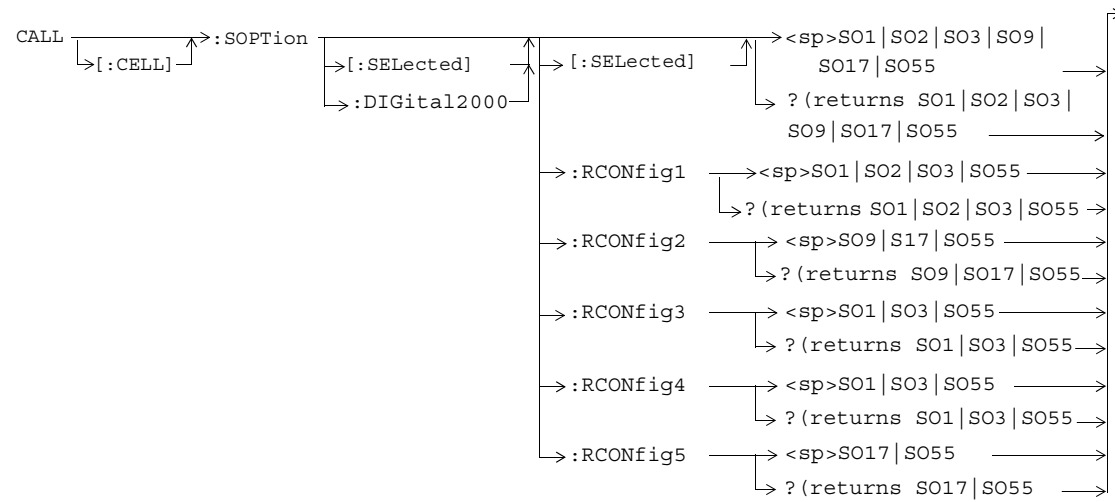


### CALL[:CELL]:SIDentity

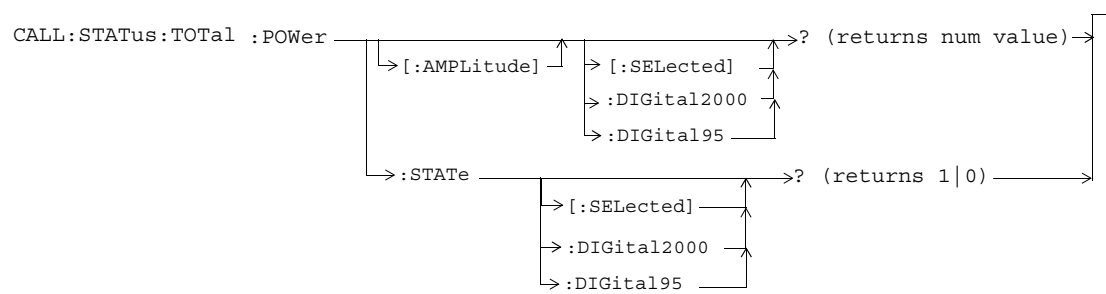
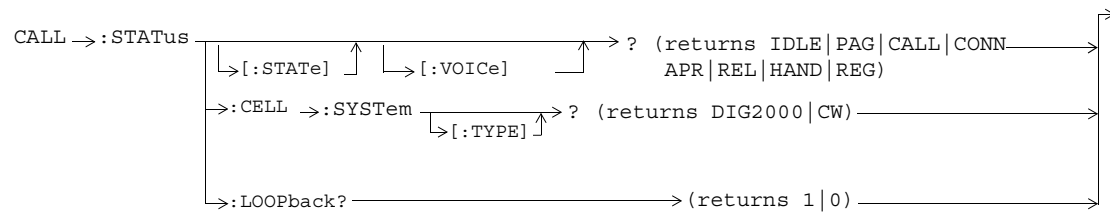


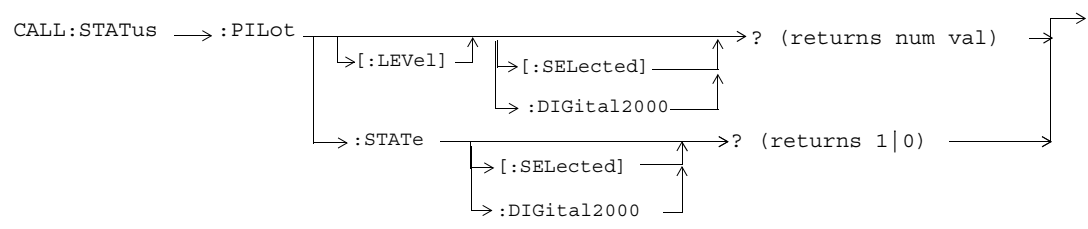
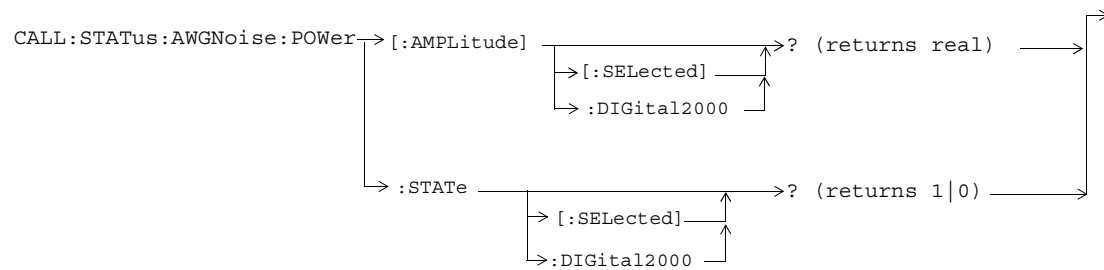


## CALL[:CELL]:SOPTION

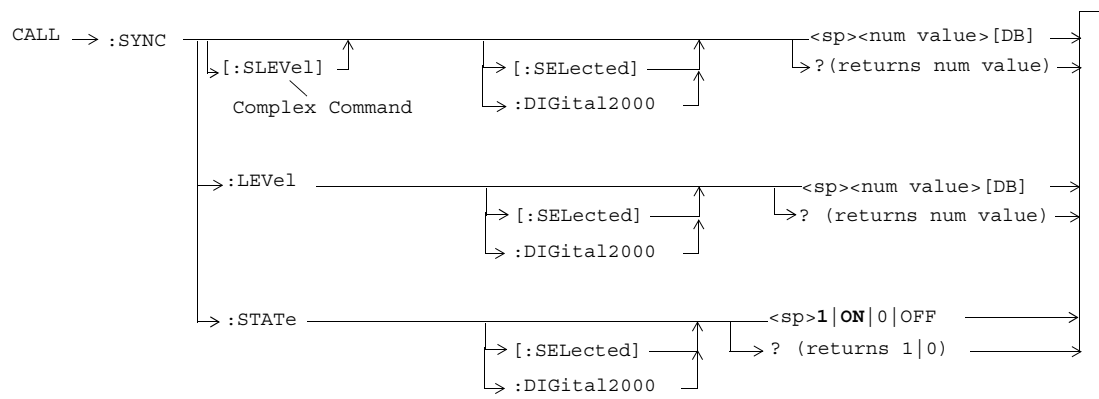


## CALL:STATus

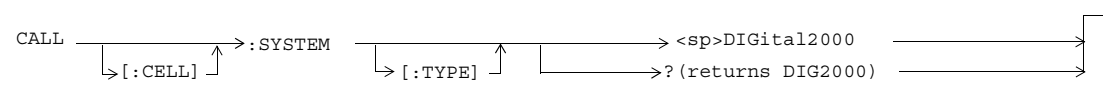




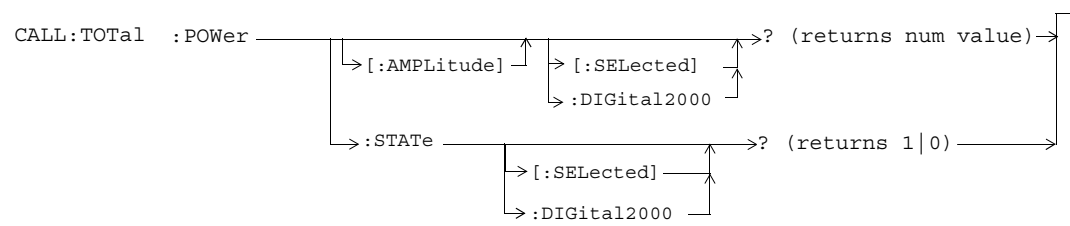
## CALL:SYNC



### CALL[:CELL]:SYSTem



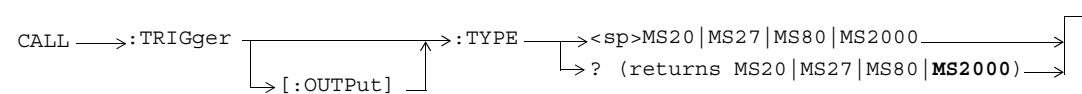
### CALL:TOTAl:POWer



## CALL:TRAFfic

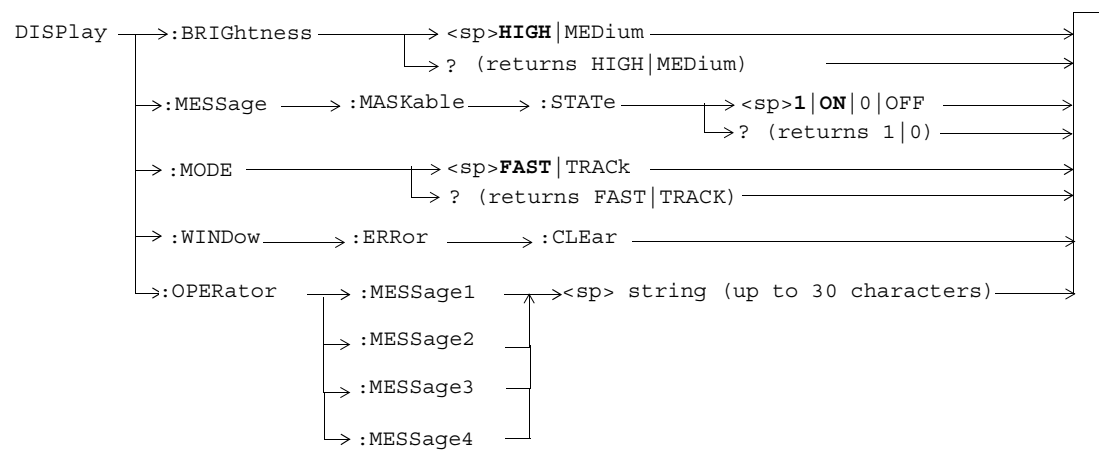
CALL → :TRAFfic → :DRATe → <sp>EIGHth|QUARter|HALF|FULL →  
→ ? (returns EIGH|QUAR|HALF|FULL) →

### CALL:TRIGger:TYPE

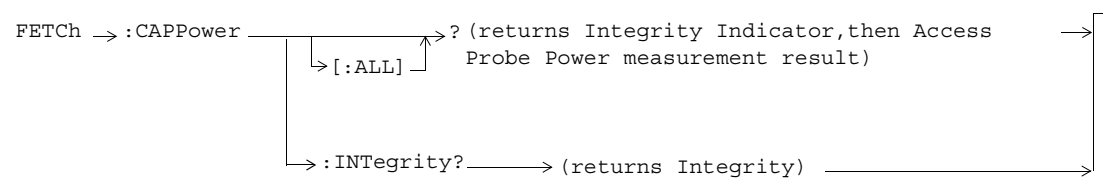




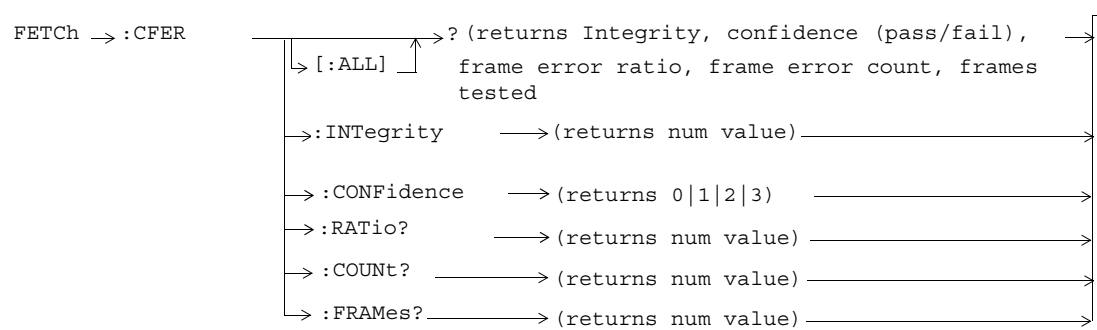
## DISPlay



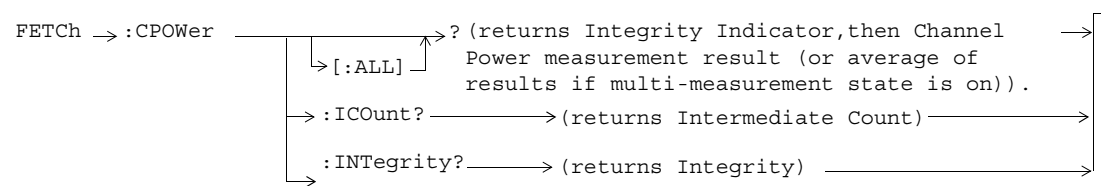
### **FEtCh:CAPower**



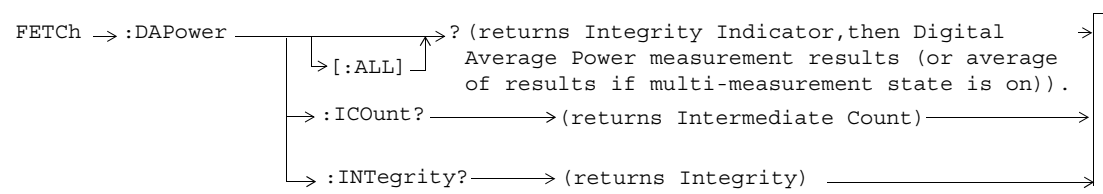
### **FETCh:CFERror**



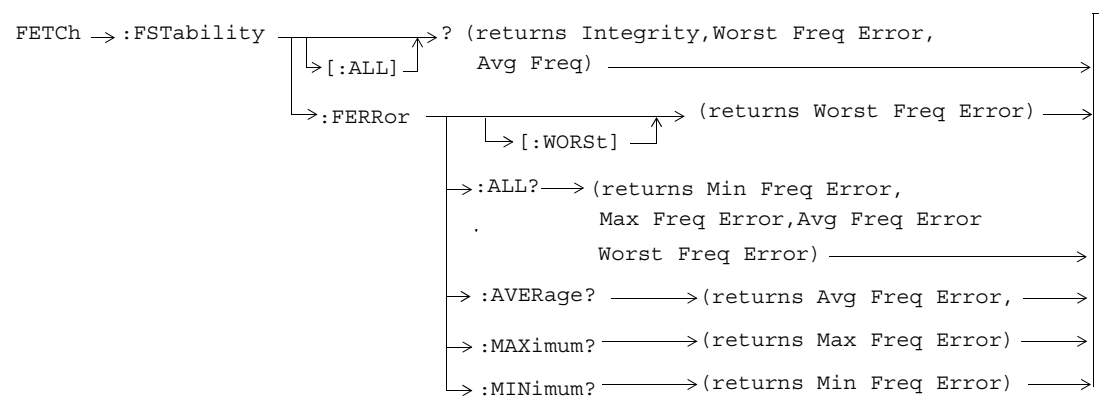
## **FETCh:CPOWer**

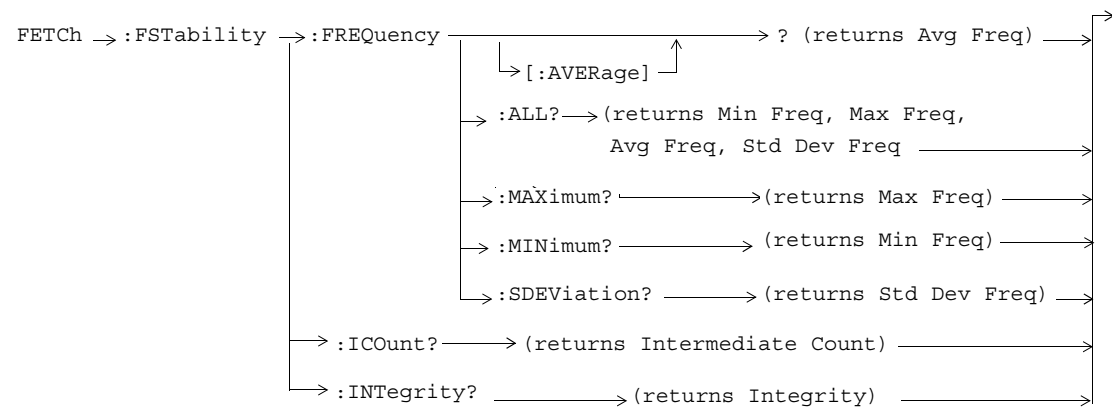


### **FETCH:DAPower**

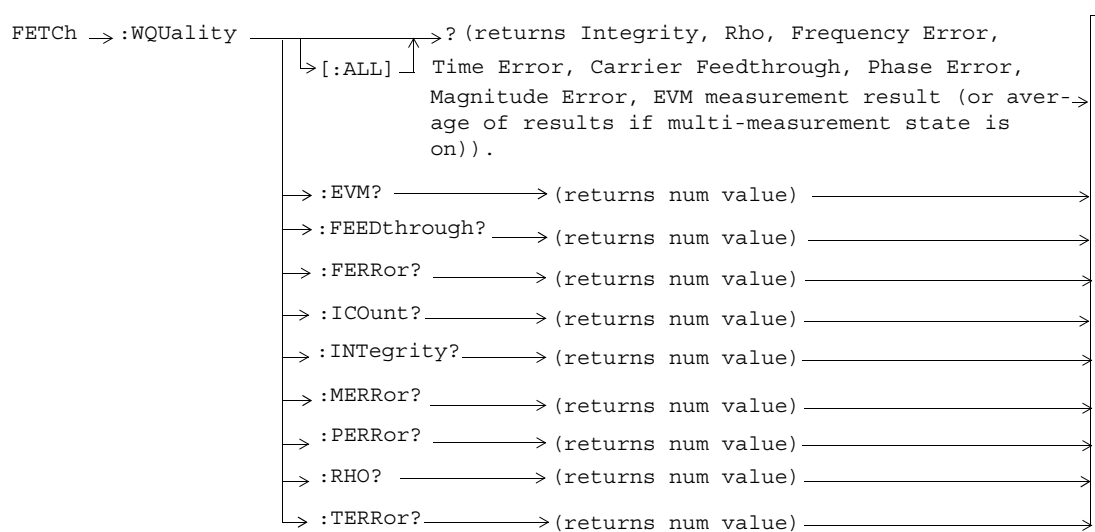


### FETCH:FSTability

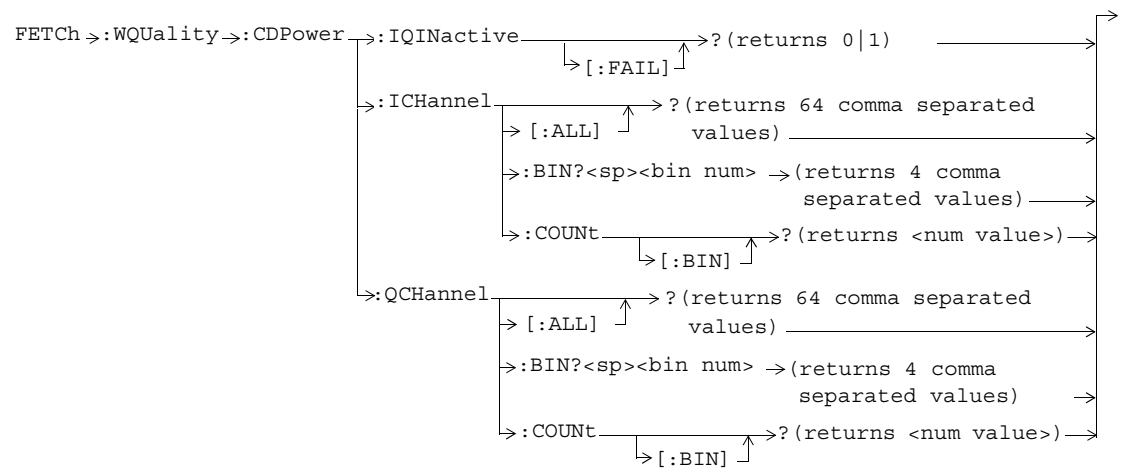


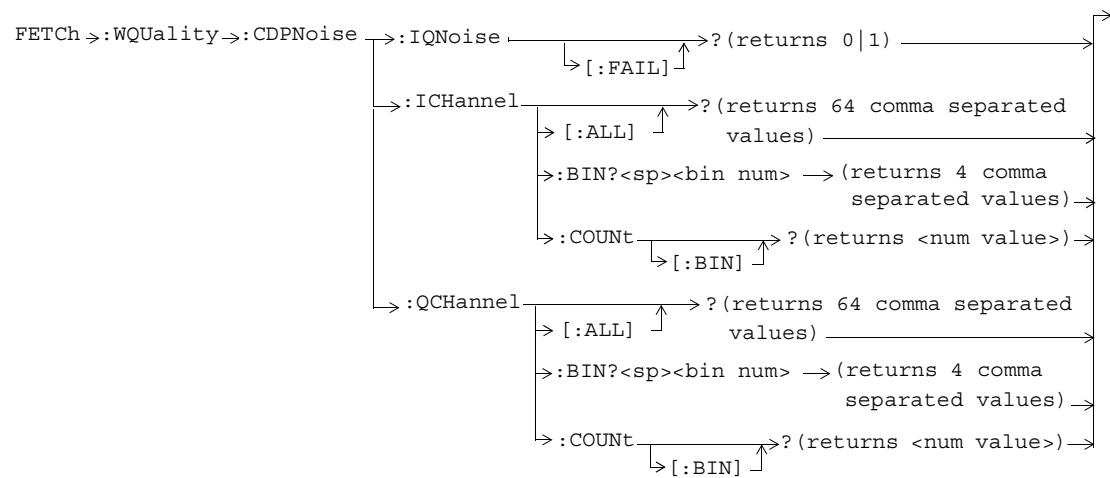


## FETCH:WQuality

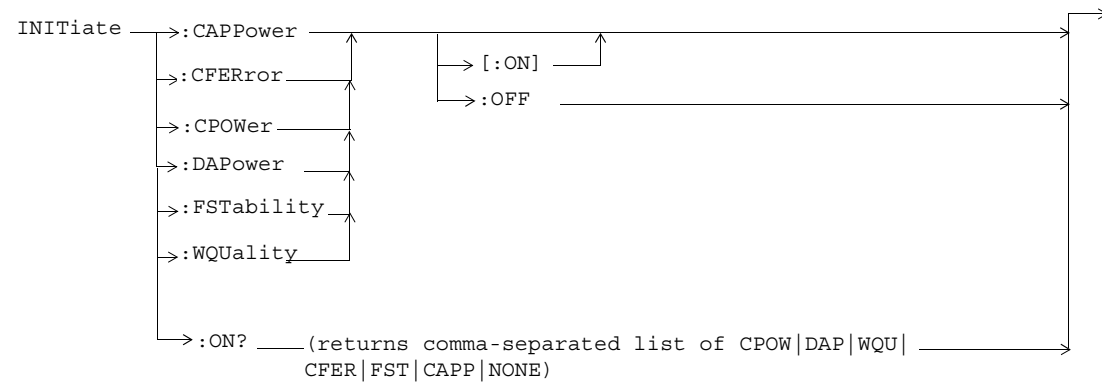


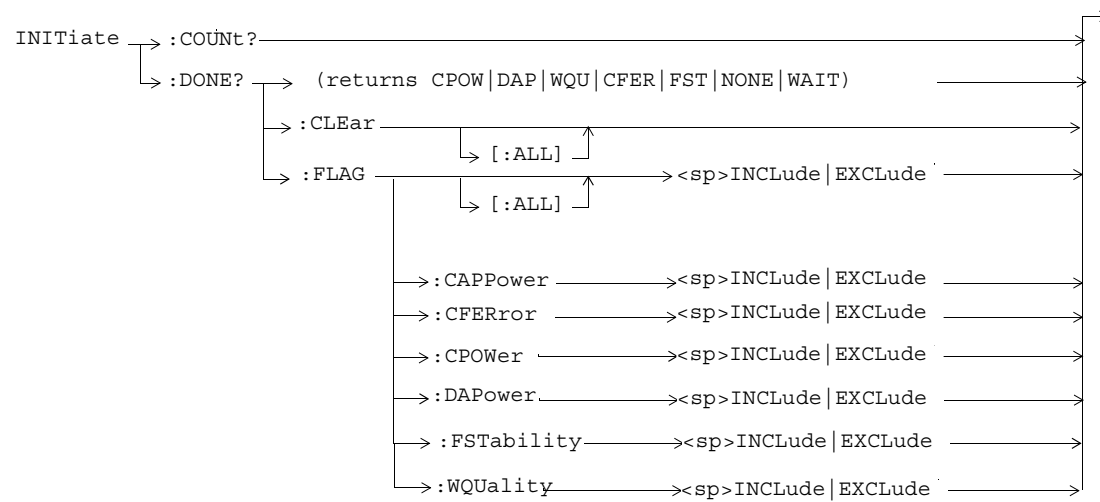




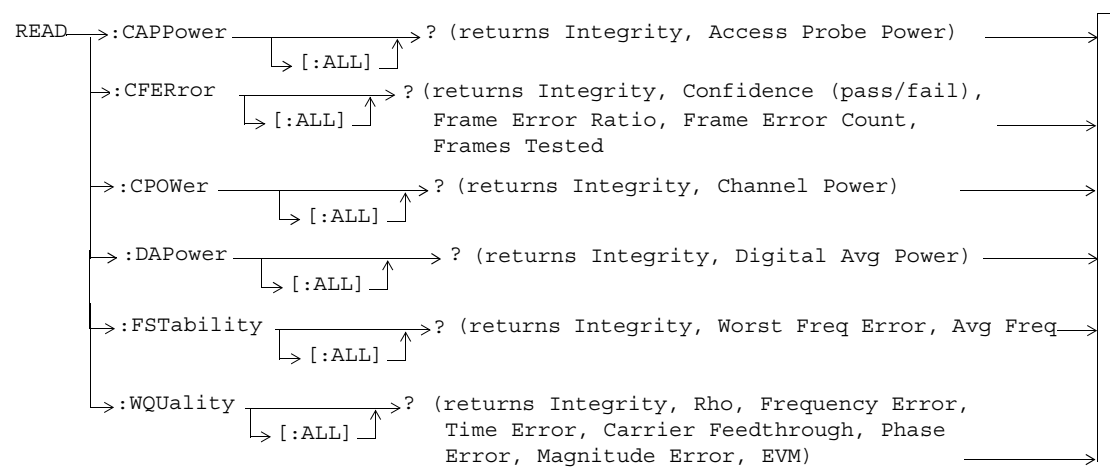


## INITiate

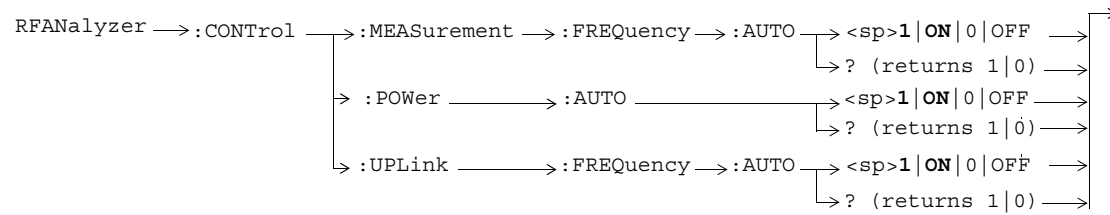
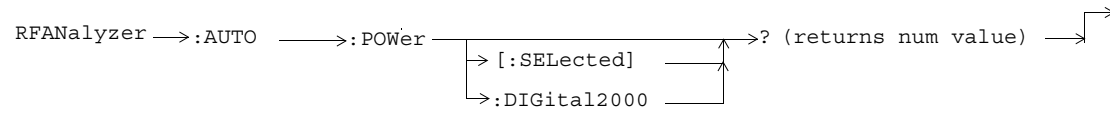


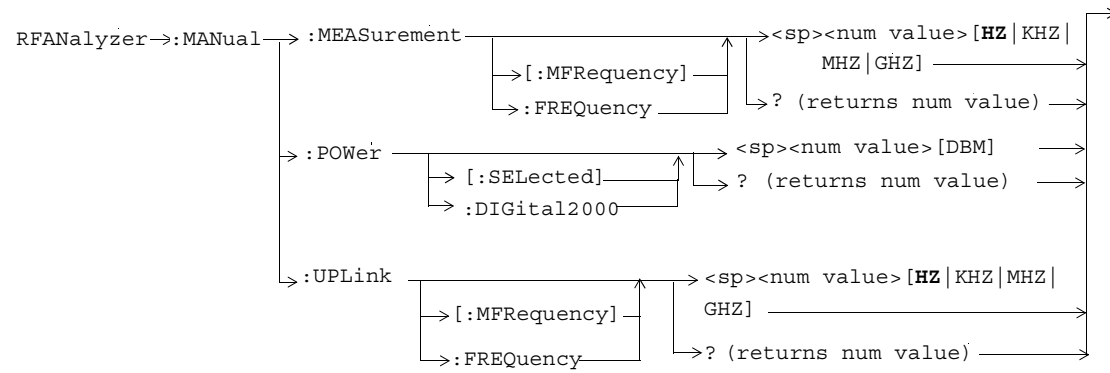
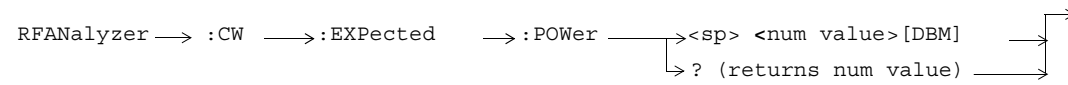


## READ

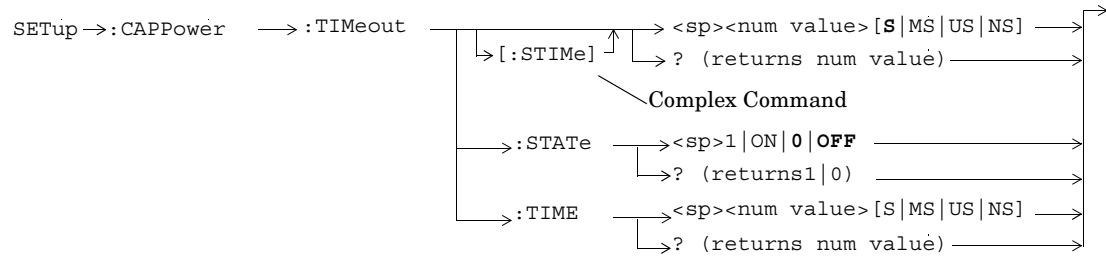
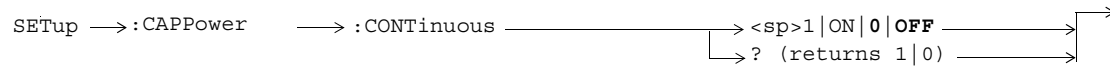


## RFAnalyzer





## SETup:CAPPower

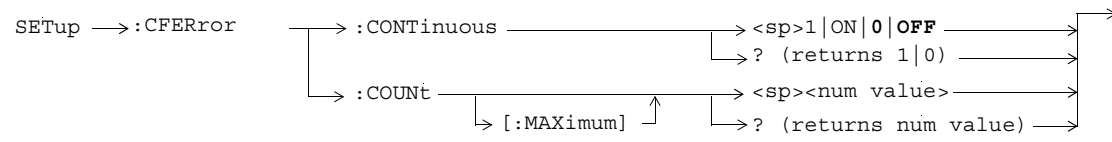


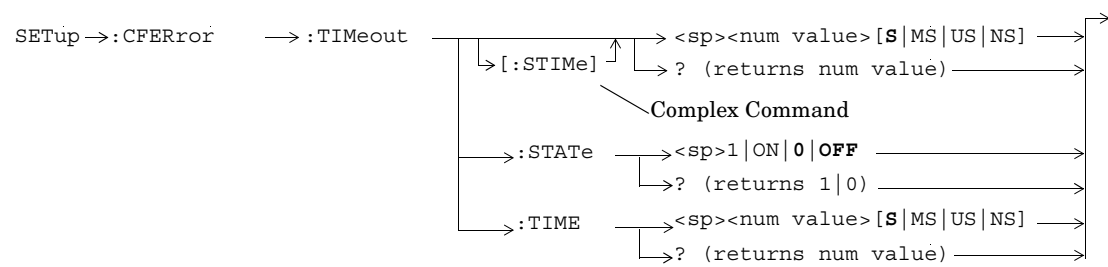


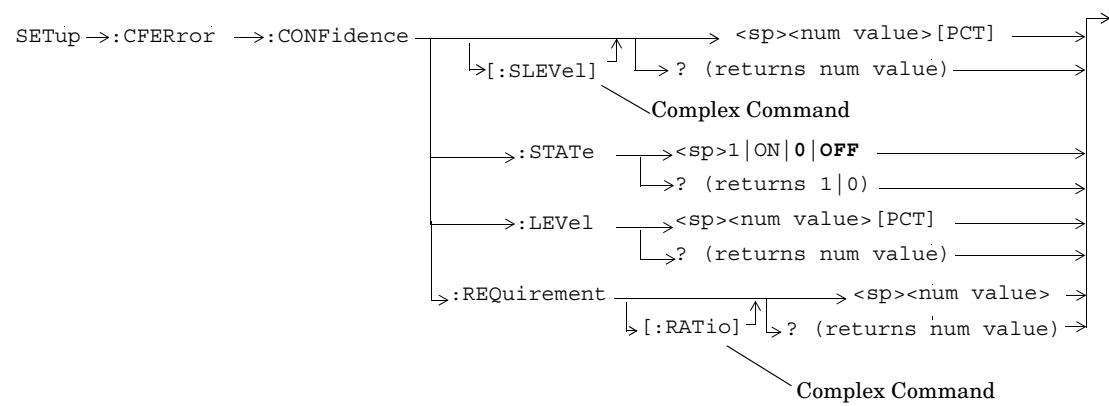
### **SETup[:ALL]:CONTinuous**

SETup  $\xrightarrow{\quad}$  :CONTinuous  $\xrightarrow{\quad}$  :ON | :OFF  $\xrightarrow{\quad}$   
     $\downarrow$  [:ALL]  $\uparrow$

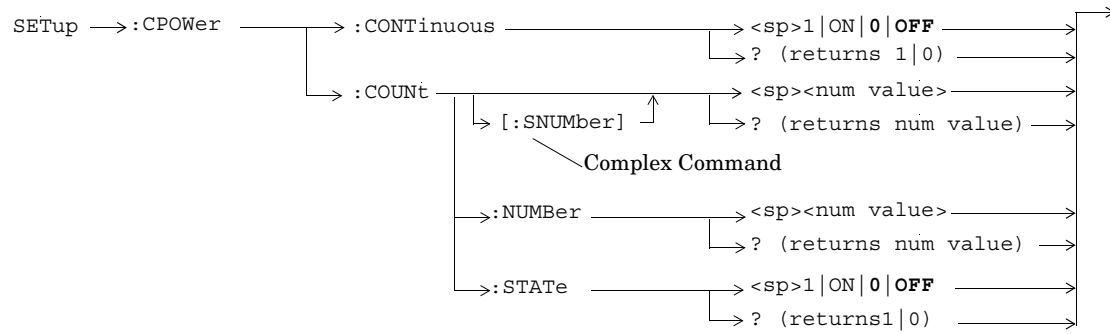
## SETup:CFError

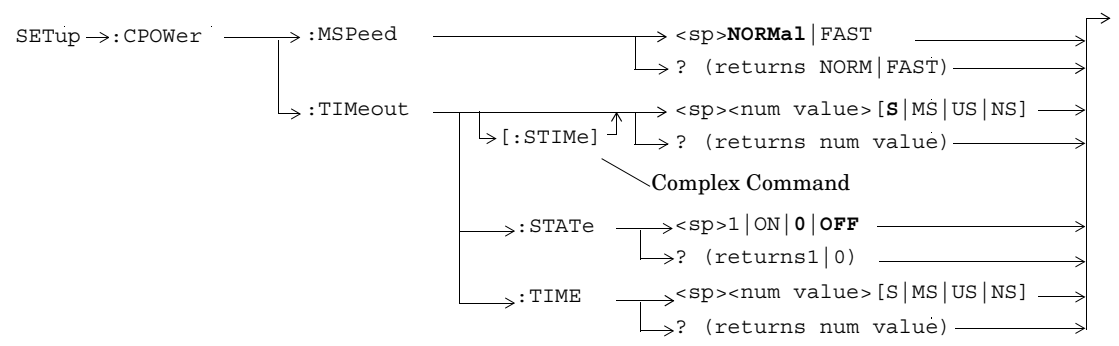




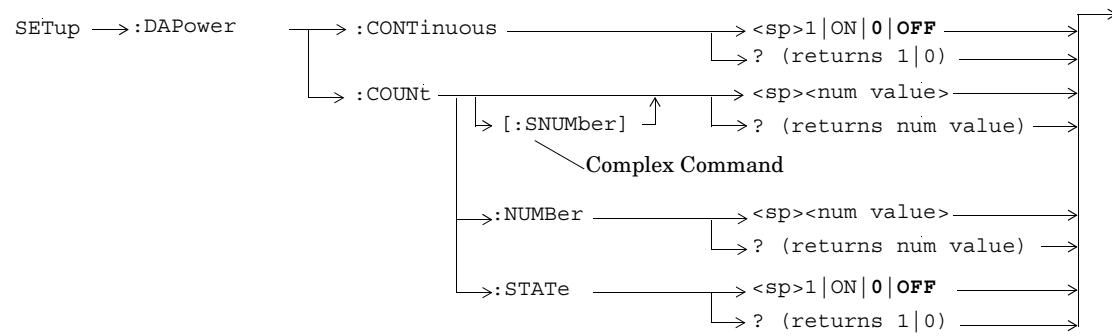


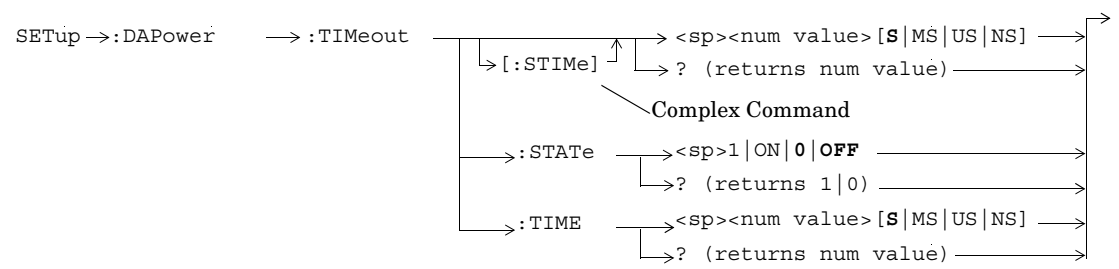
## SETup:CPOWer





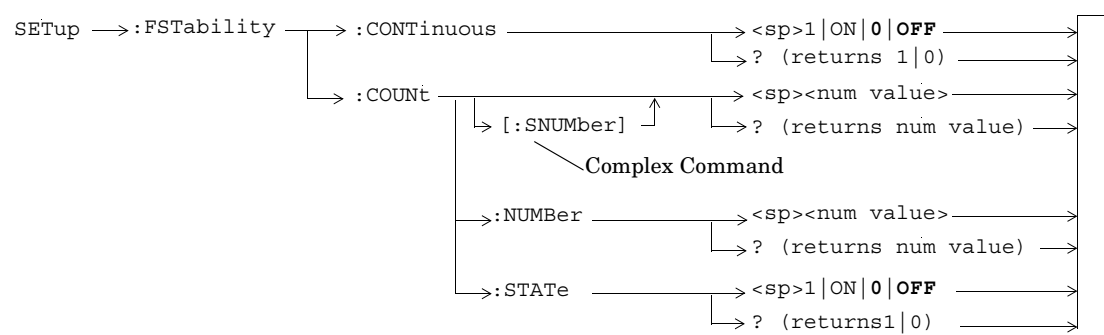
### SETup:DAPower

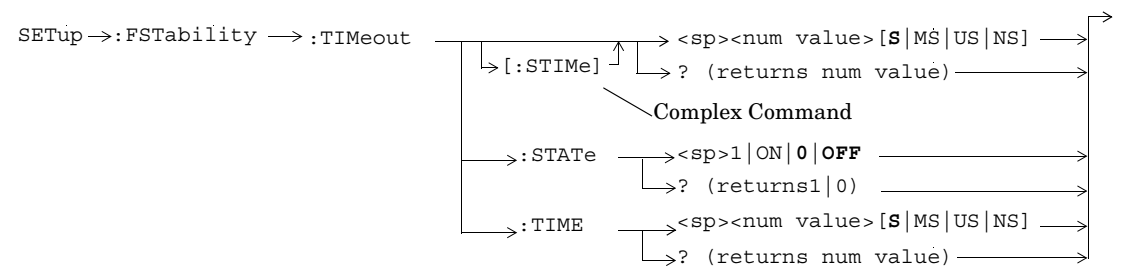




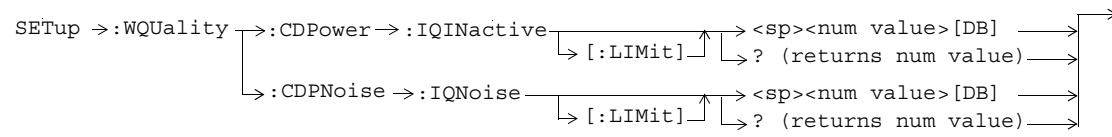


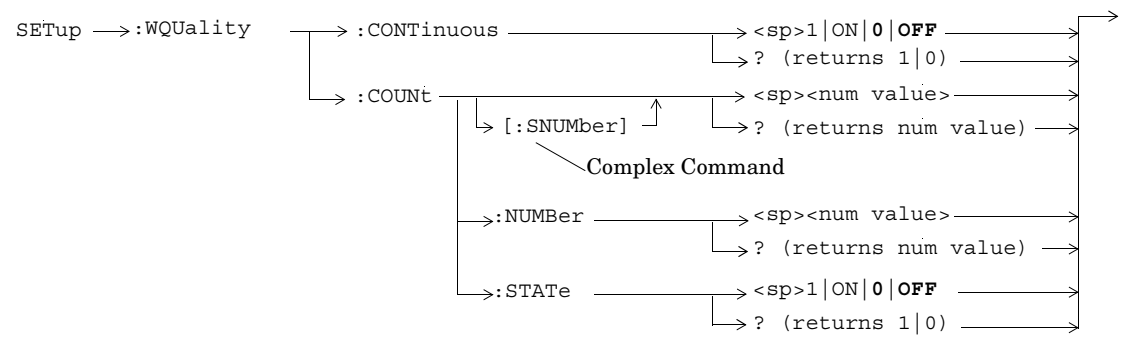
### SETup:FSTability

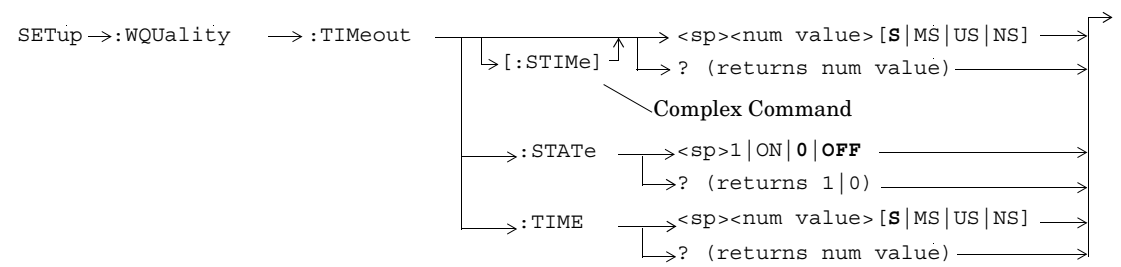




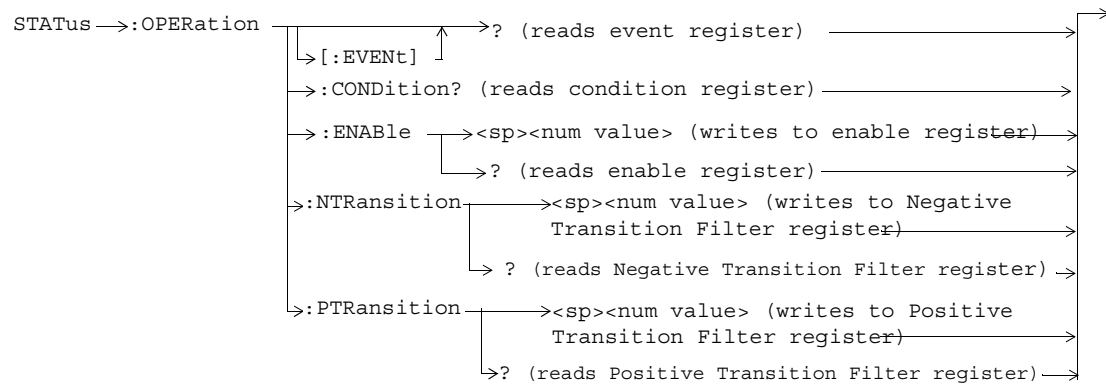
### SETup:WQuality

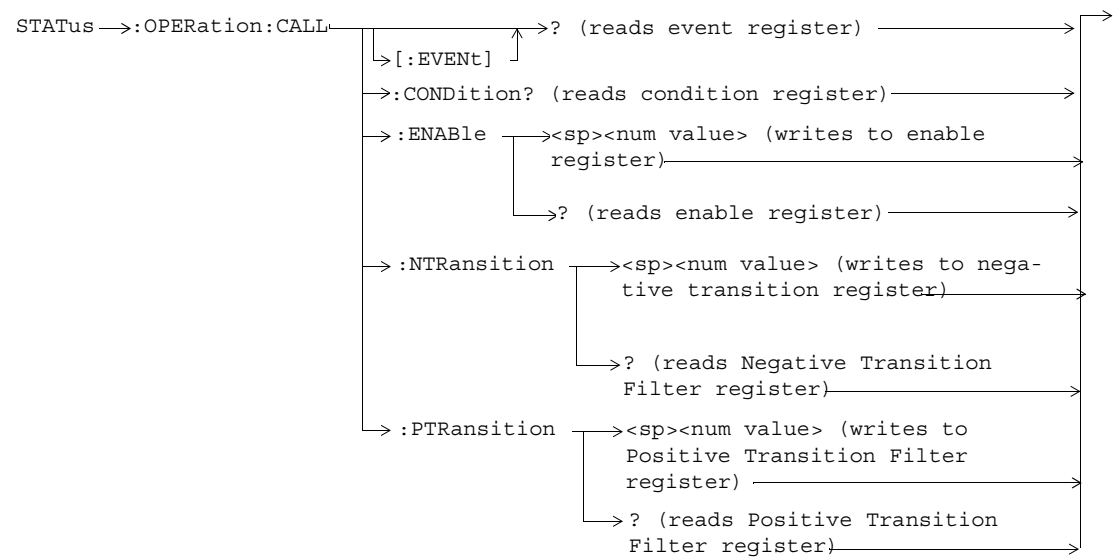


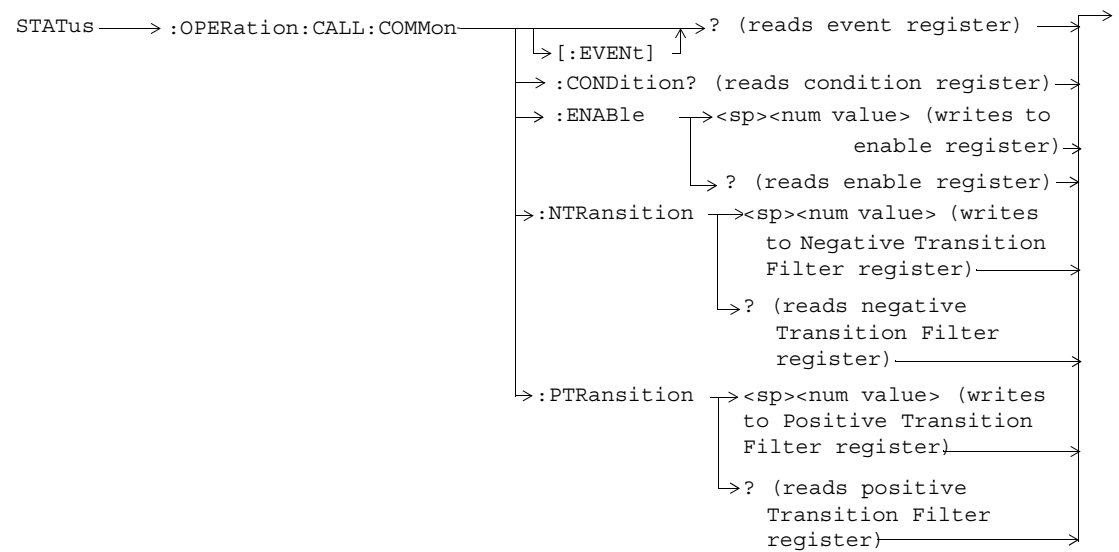




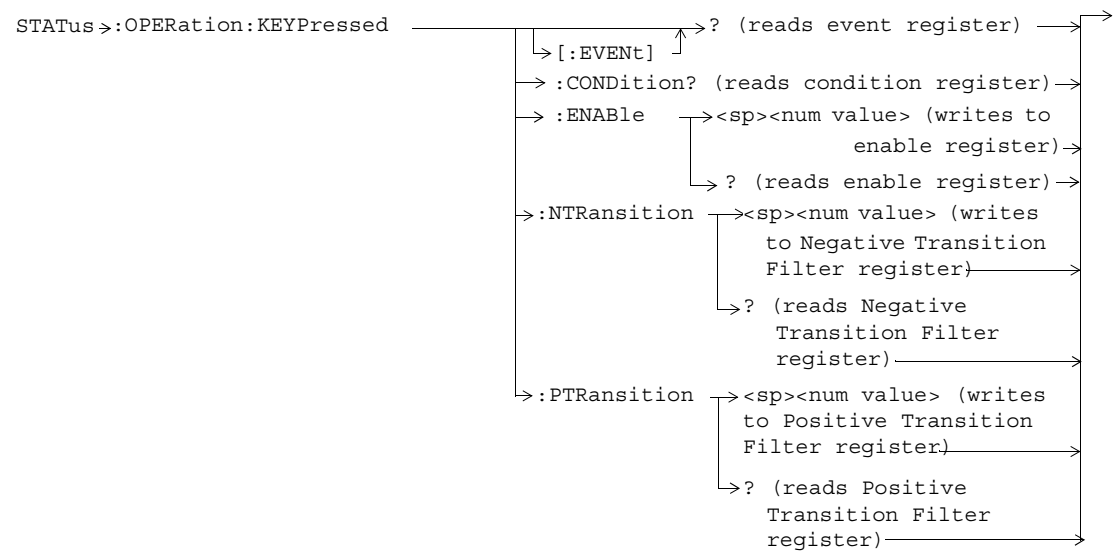
### STATUS:OPERation:

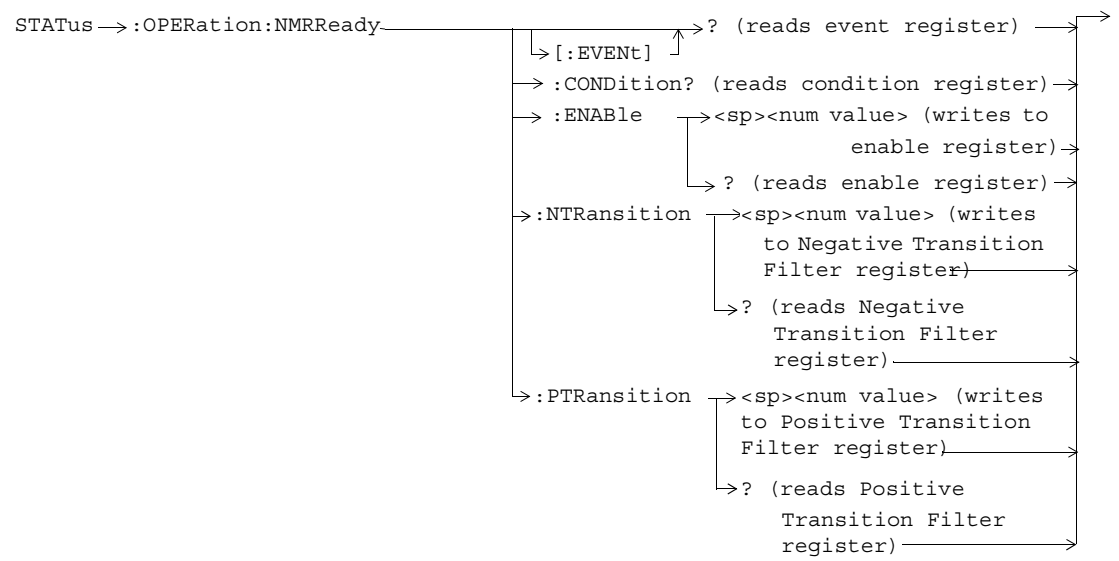


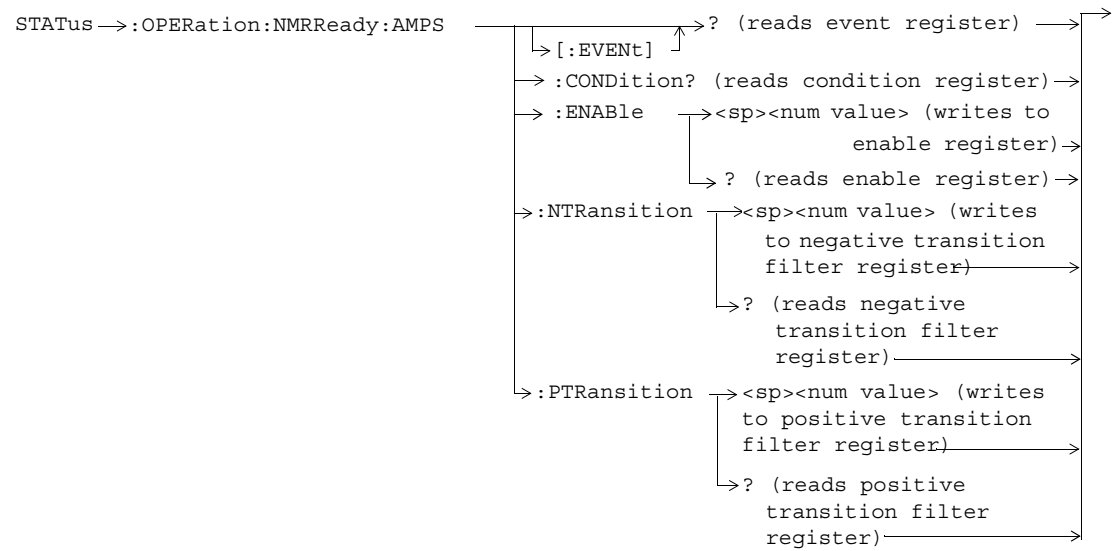


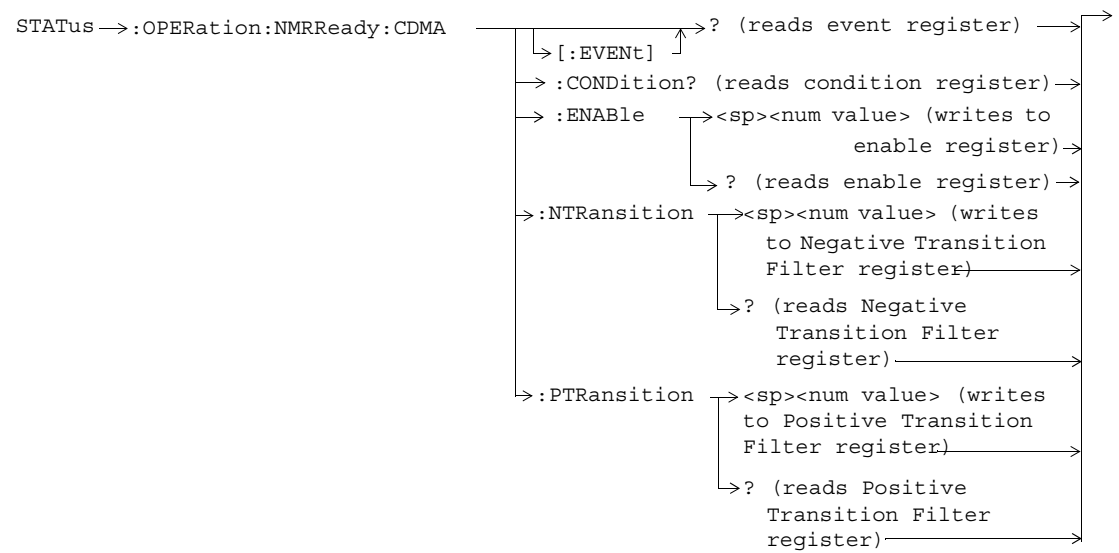


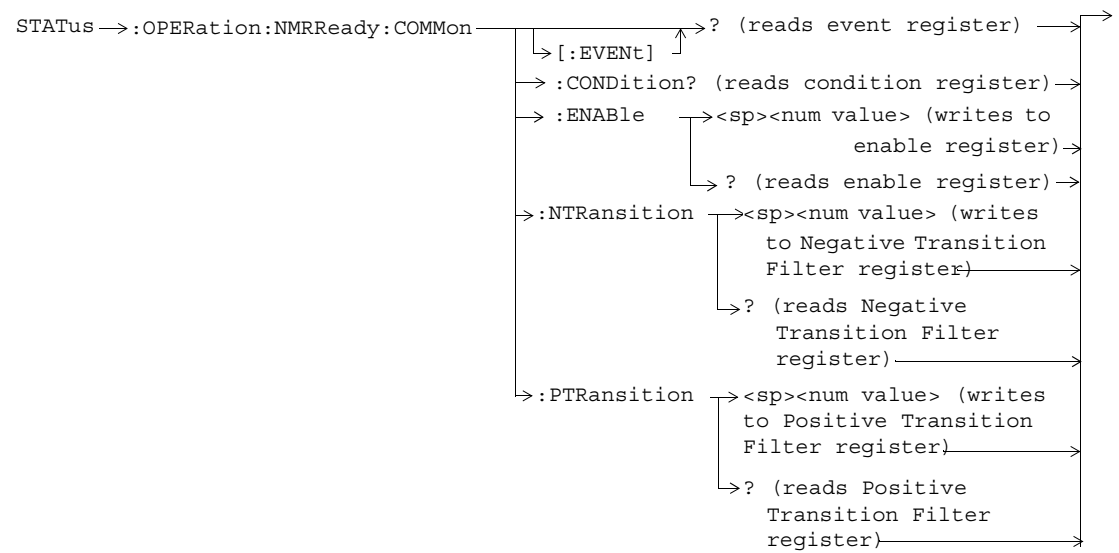


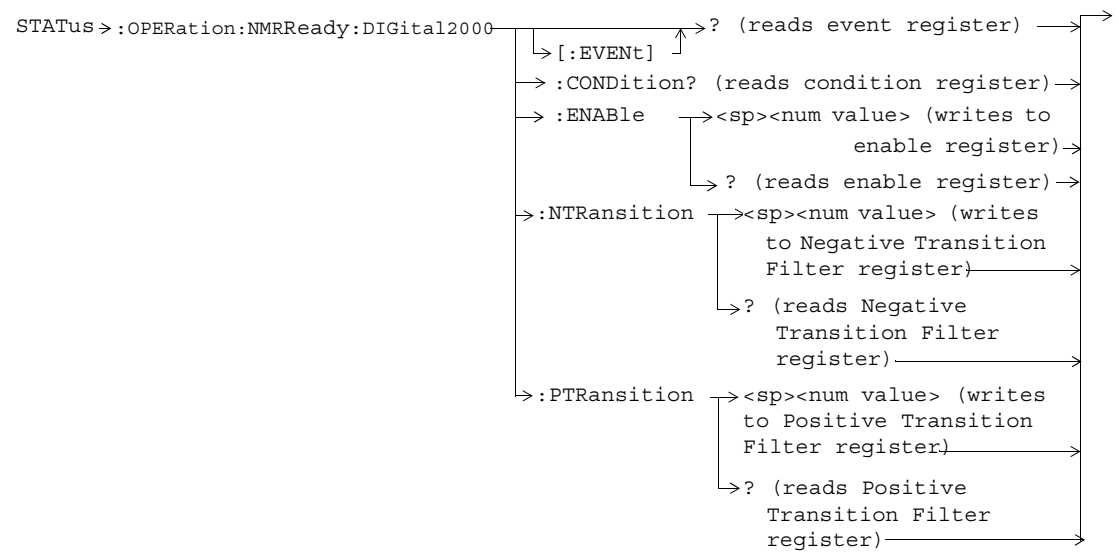


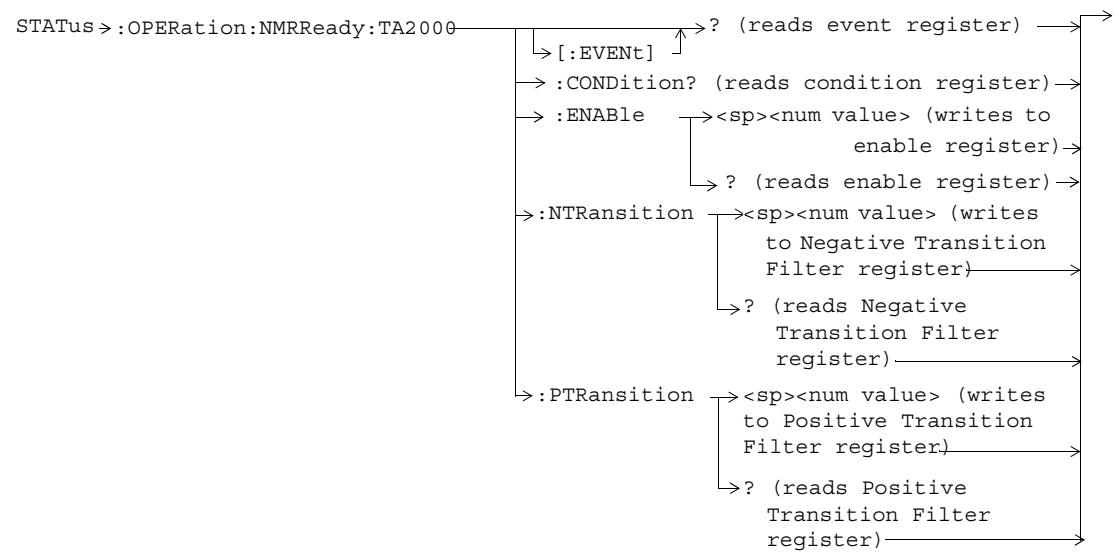










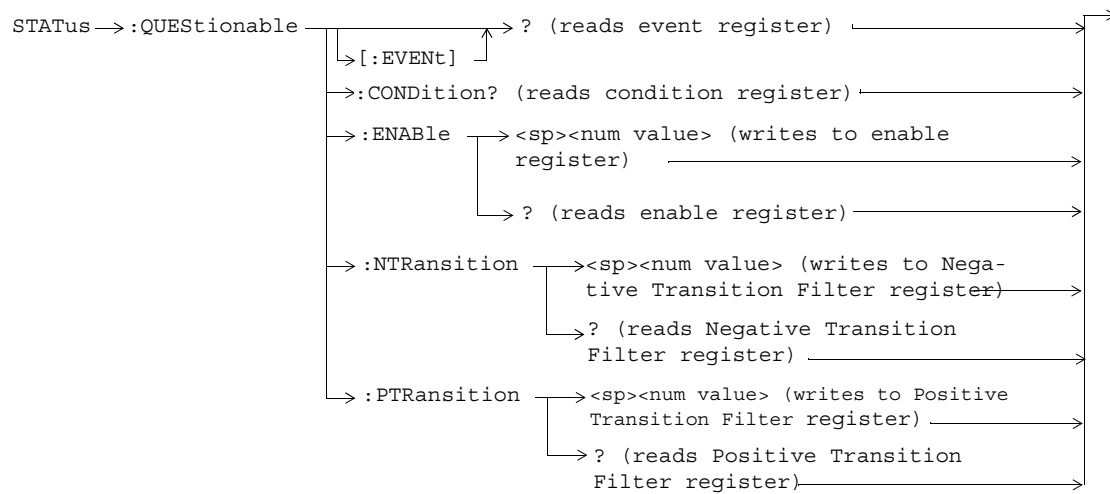


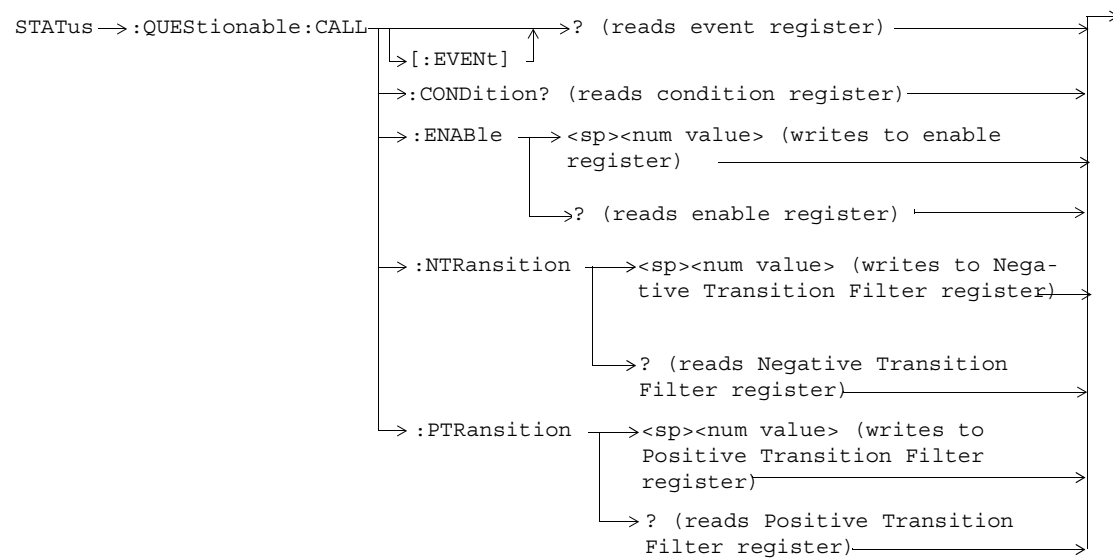
## **STAtus:PRESet**

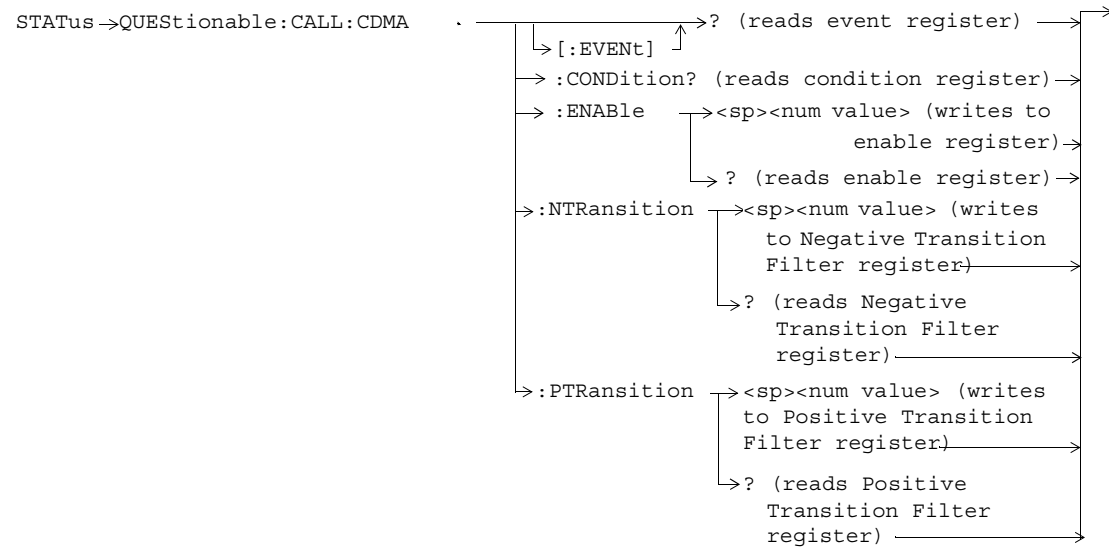
STAtus → :PRESet →

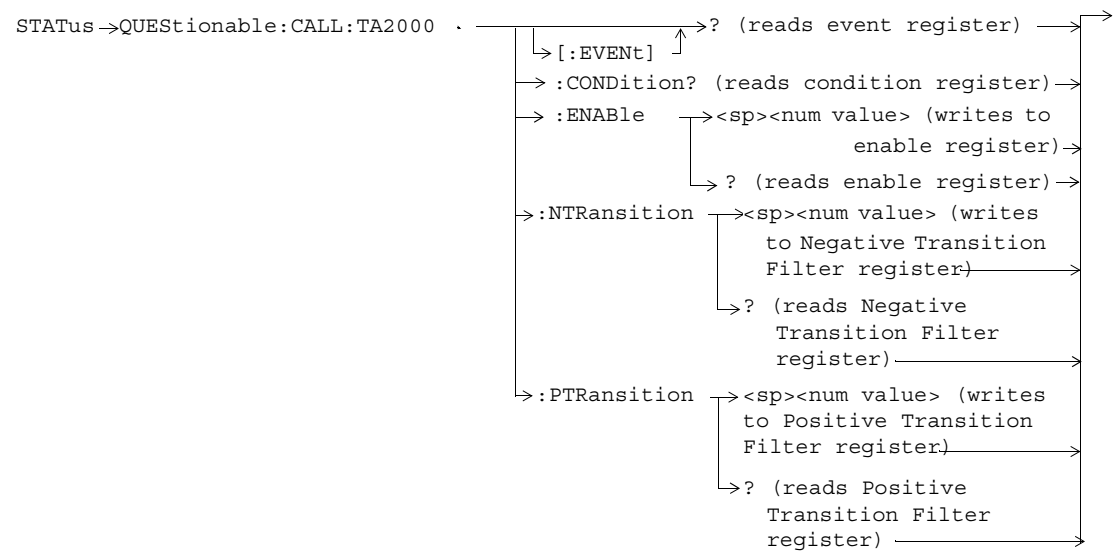


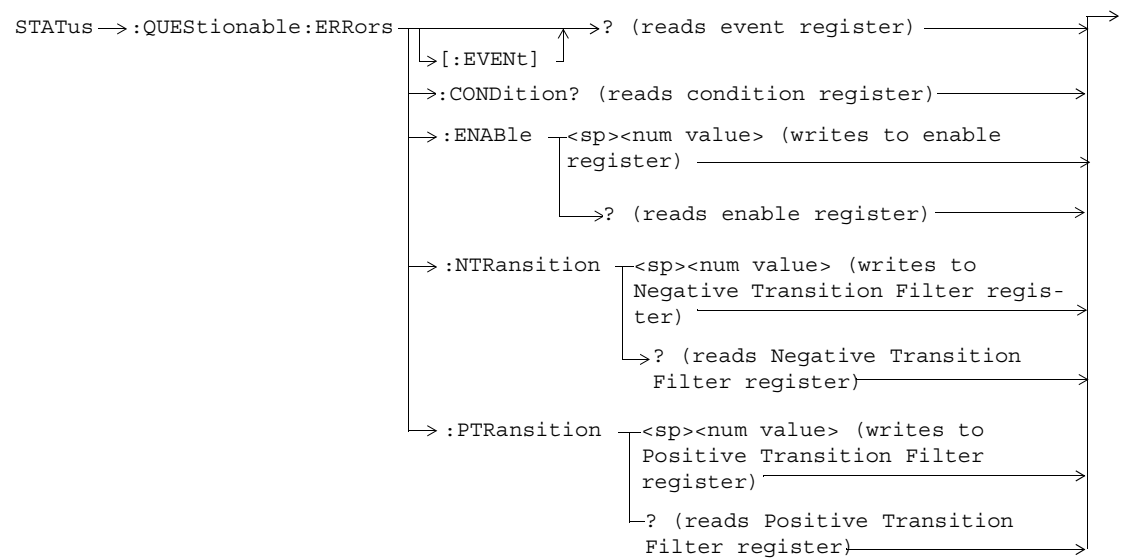
## STATUS:QUESTIONABLE

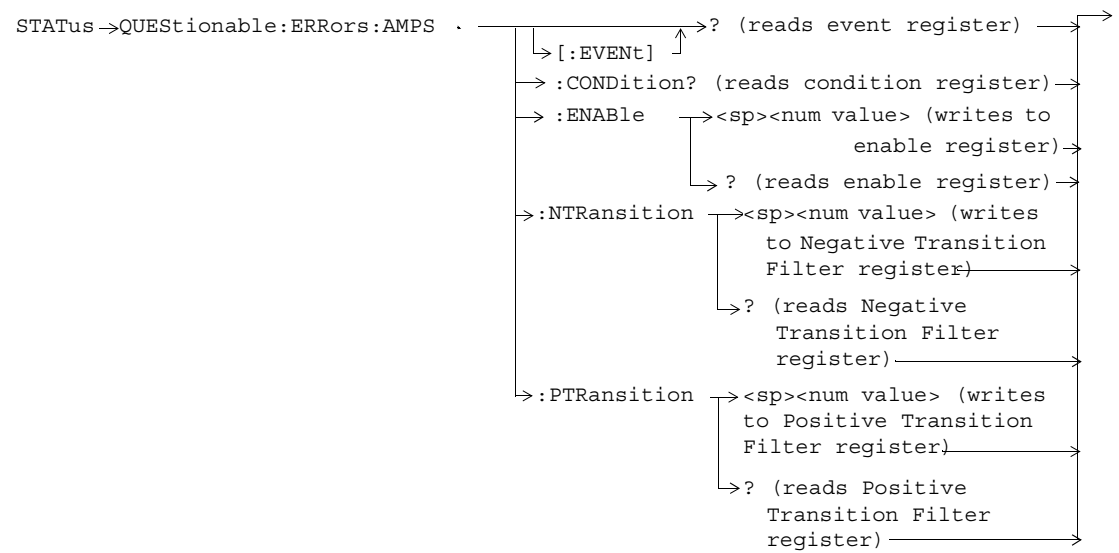


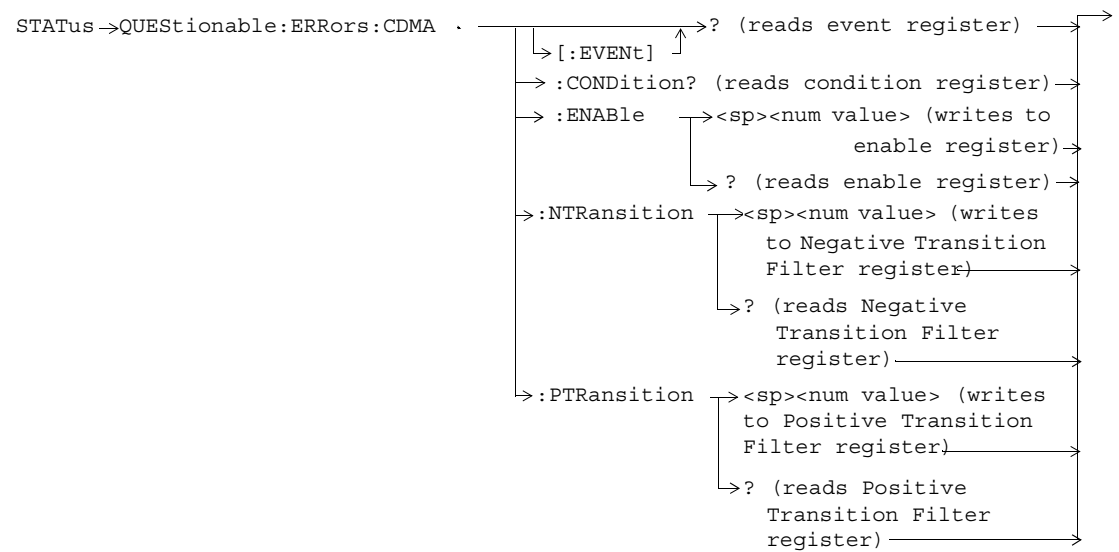


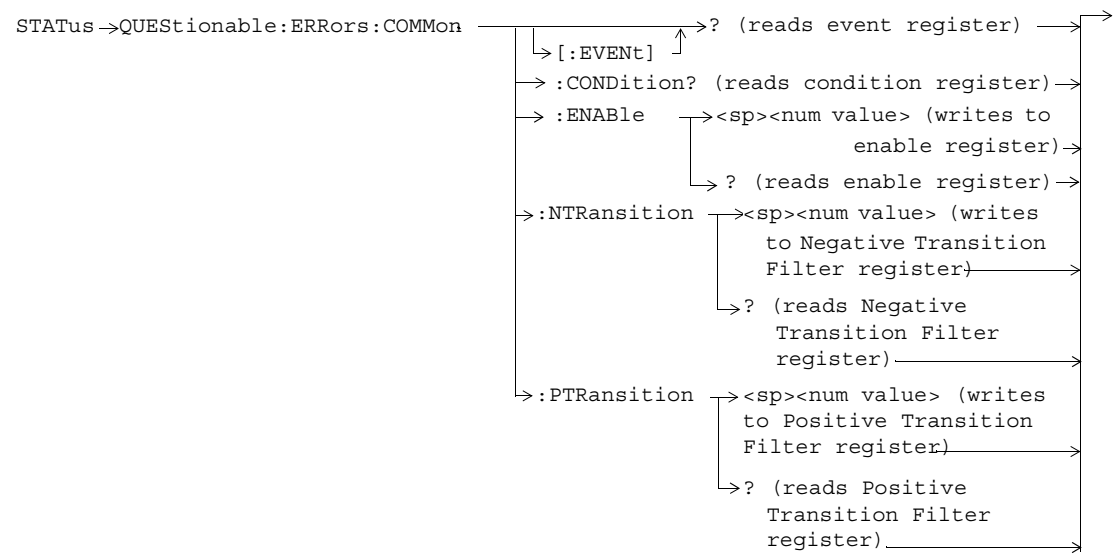




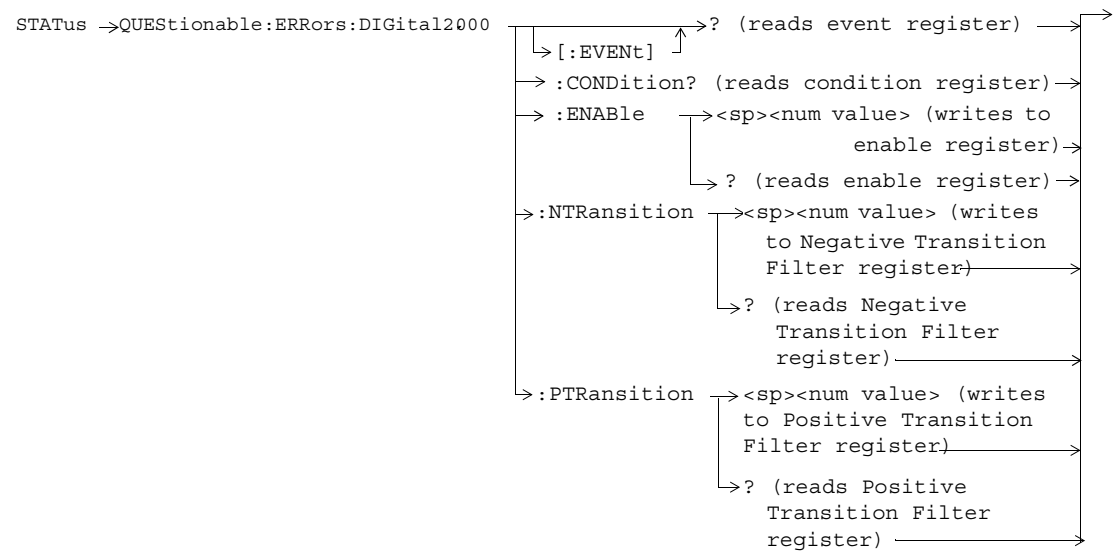


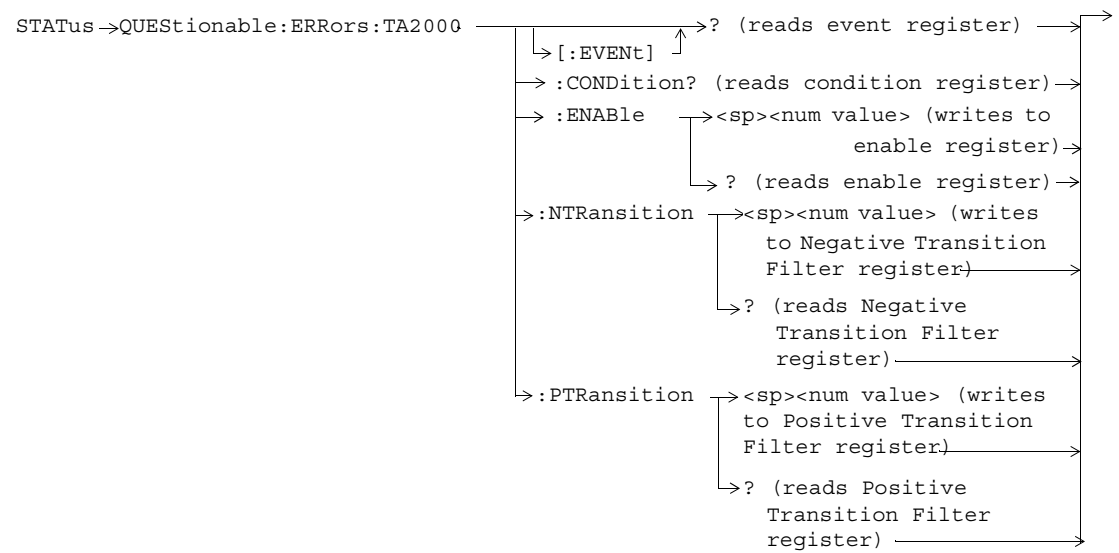


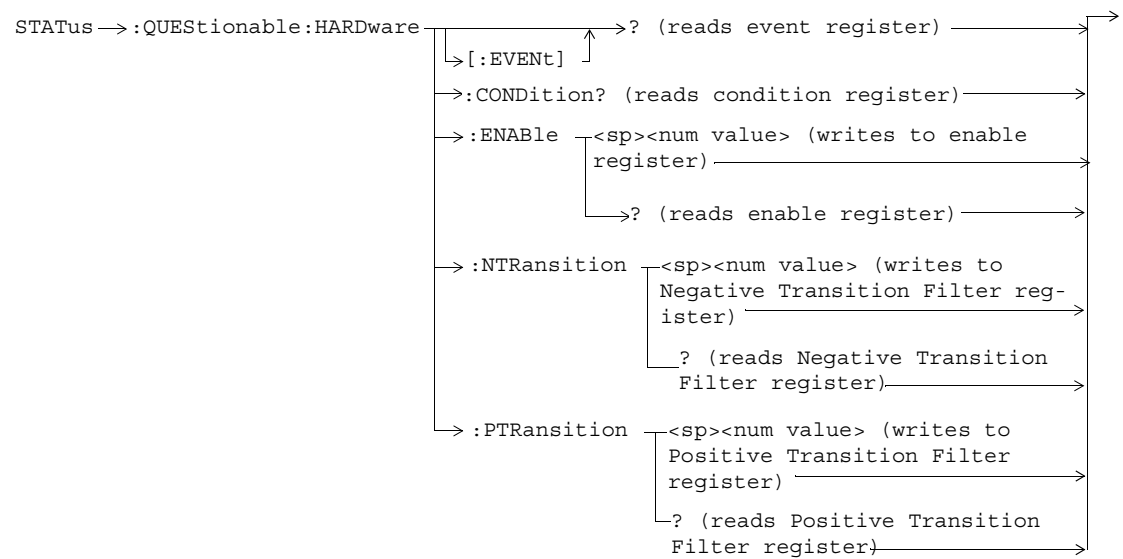












```

OUTPUT 714;"STATUS:QUESTIONABLE:EVENT?" !Queries and clears the Questionable Event
!Register
OUTPUT 714;"STATUS:QUESTIONABLE:CONDITION?" !Queries and clears the Questionable Condition
!Register
OUTPUT 714;"STATUS:QUESTIONABLE:ENABLE 1024" !Sets the Questionable Enable Register
!for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:NTRANSITION 2" !Sets the Questionable Negative
!Transition Filter Register for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:PTRANSITION 2" !Sets the Questionable Positive
!Transition Filter Register for bit 1

OUTPUT 714;"STATUS:QUESTIONABLE:CALL:EVENT?" !Queries and clears the Questionable
!Call Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:CONDITION?" !Queries and clears the Questionable
!Call Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:ENABLE 1024" !Sets the Questionable
!Call Enable Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:NTRANSITION 2" !Sets the Questionable Call
!Negative Transition Filter Register
!for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:PTRANSITION 2" !Sets the Questionable Call
!Positive Transition Filter Register
!for bit 1

```

```

OUTPUT 714;"STATUS:QUESTIONABLE:CALL:CDMA:EVENT?" !Queries and clears the Questionable
!Call CDMA Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:CDMA:CONDITION?" !Queries and clears the Questionable
!Call CDMA Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:CDMA:ENABLE 1024" !Sets the Questionable
!Call CDMA Enable Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:CDMA:NTRANSITION 2" !Sets the Questionable Call CDMA
!Negative Transition Filter Register
!for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:CDMA:PTRANSITION 2" !Sets the Questionable Call CDMA
!Positive Transition Filter Register
!for bit 1

OUTPUT 714;"STATUS:QUESTIONABLE:CALL:TA2000:EVENT?" !Queries and clears the Questionable
!Call Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:TA2000:CONDITION?" !Queries and clears the Questionable
!Call Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:TA2000:ENABLE 1024" !Sets the Questionable
!Call Enable Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:TA2000:NTRANSITION 2" !Sets the Questionable Call
!Negative Transition Filter Register
!for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:CALL:TA2000:PTRANSITION 2" !Sets the Questionable Call
!Positive Transition Filter Register
!for bit 1

```

```
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:EVENT?" !Queries and clears the Questionable
!Errors Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:CONDITION?" !Queries and clears the Questionable
!Errors Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:ENABLE 1024" !Sets the Questionable
!Errors Enable
!Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:NTRANSITION 2" !Sets the Questionable Errors
!Negative Transition Filter Register
!for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:PTRANSITION 2" !Sets the Questionable Errors
!Positive Transition Filter Register
!for bit 1
```

```
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:AMPS:EVENT?" !Queries and clears the Questionable
!Errors AMPS Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:AMPS:CONDITION?" !Queries and clears the Questionable
!Errors AMPS Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:AMPS:ENABLE 1024" !Sets the Questionable
!Errors AMPS Enable
!Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:AMPS:NTRANSITION 2" !Sets the Questionable Errors
!AMPS Negative Transition
!Filter Register for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:AMPS:PTRANSITION 2" !Sets the Questionable Errors
!AMPS Positive Transition
!Filter Register for bit 1
```

```
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:CDMA:EVENT?" !Queries and clears the Questionable
!Errors CDMA Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:CDMA:CONDITION?" !Queries and clears the Questionable
!Errors CDMA Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:CDMA:ENABLE 1024" !Sets the Questionable
!Errors CDMA Enable
!Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:CDMA:NTRANSITION 2" !Sets the Questionable Errors
!CDMA Negative Transition
!Filter Register for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:CDMA:PTRANSITION 2" !Sets the Questionable Errors
!CDMA Positive Transition
!Filter Register for bit 1
```



```
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:COMMON:EVENT?" !Queries and clears the Questionable
!Errors Common Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:COMMON:CONDITION?" !Queries the and clears the
!Questionable Errors
!Common Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:COMMON:ENABLE 1024" !Sets the Questionable
!Errors Common Enable
!Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:COMMON:NTRANSITION 2" !Sets the Questionable Errors
!Common Negative Transition
!Register for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:COMMON:PTRANSITION 2" !Sets the Questionable Errors
!Common Positive Transition
!Register for bit 1
```

```
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:DIGITAL2000:EVENT?" !Queries and clears the
!Questionable Errors
!DIGITAL2000 Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:DIGITAL2000:CONDITION?" !Queries and clears the
!Questionable Errors
!DIGITAL2000 Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:DIGITAL2000:ENABLE 1024" !Sets the Questionable
!Errors DIGITAL2000 Enable
!Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:DIGITAL2000:NTRANSITION 2" !Sets the Questionable
!Errors DIGITAL2000 Negative
!Transition Filter
!Register for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:DIGITAL2000:PTRANSITION 2" !Sets the Questionable
!Errors DIGITAL2000 Positive
!Transition Filter
!Register for bit 1
```

```
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:TA2000:EVENT?" !Queries and clears the
!Questionable Errors
!TA2000 Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:TA2000:CONDITION?" !Queries and clears the
!Questionable Errors
!TA2000 Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:TA2000:ENABLE 1024" !Sets the Questionable
!Errors TA2000 Enable
!Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:TA2000:NTRANSITION 2" !Sets the Questionable
!Errors TA2000 Negative
!Transition Filter
!Register for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:TA2000:PTRANSITION 2" !Sets the Questionable
!Errors TA2000 Positive
!Transition Filter
!Register for bit 1
```

```
OUTPUT 714;"STATUS:QUESTIONABLE:HARDWARE:EVENT?" !Queries and clears the Questionable
!Hardware Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:HARDWARE:CONDITION?" !Queries and clears the Questionable
!Hardware Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:HARDWARE:ENABLE 1024" !Sets the Questionable
!Hardware Enable
!Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:HARDWARE:NTRANSITION 2" !Sets the Questionable
!Hardware Negative Transition Filter
!Register for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:HARDWARE:PTRANSITION 2" !Sets the Questionable
!Hardware Positive Transition Filter
!Register for bit 1
```

## Status Byte Register

**\*STB?**

\*STB? \_\_\_\_\_ ↘→

---

**NOTE**      The Status Byte Register can also be read with a serial poll. For example, the command “Status\_byte = SPOLL(714)” would perform a serial poll of the Status Byte Register, returning and releasing RQS (bit 6).

---

**Status Byte Register Bit Assignments**

<b>Bit Number</b>	<b>Binary Weighting</b>	<b>Label</b>	<b>Description</b>
7	128	STATus: OPERation	Summarizes the STATus: OPERation Status Register, which fans out to the NMRReady and CALL Status Registers.
6	64	RQS (SRQ TRUE?)/Master Summary Status	RQS is read by a serial poll (SPOLL) Master Summary Status is read by a *STB? query - defined by IEEE 488.2
5	32	Standard Event Status Register	Summarizes the Standard Event Status Register
4	16	Message Available	SCPI - Defined
3	8	STATus: QUEStionable Status Register	Summary Message comes from the STATus: QUEStionable Status Register, which fans out to the CALL and HARDware Status Registers
2	4	Error/ Event Queue	SCPI - Defined

<b>Bit Number</b>	<b>Binary Weighting</b>	<b>Label</b>	<b>Description</b>
1	2	Reserved	
0	1	Reserved	

## Standard Event Status Register

### \*ESR?

\*ESR? → Reads and clears the Std Event Status Register. →

### \*ESE?

\*ESE? → Reads the Std Event Status Register Enable Register →

### \*ESE

\*ESE → Writes to the Std Event Status Register Enable Register →

“Diagram Conventions” on page 8



### Standard Event Status Register Bit Assignment

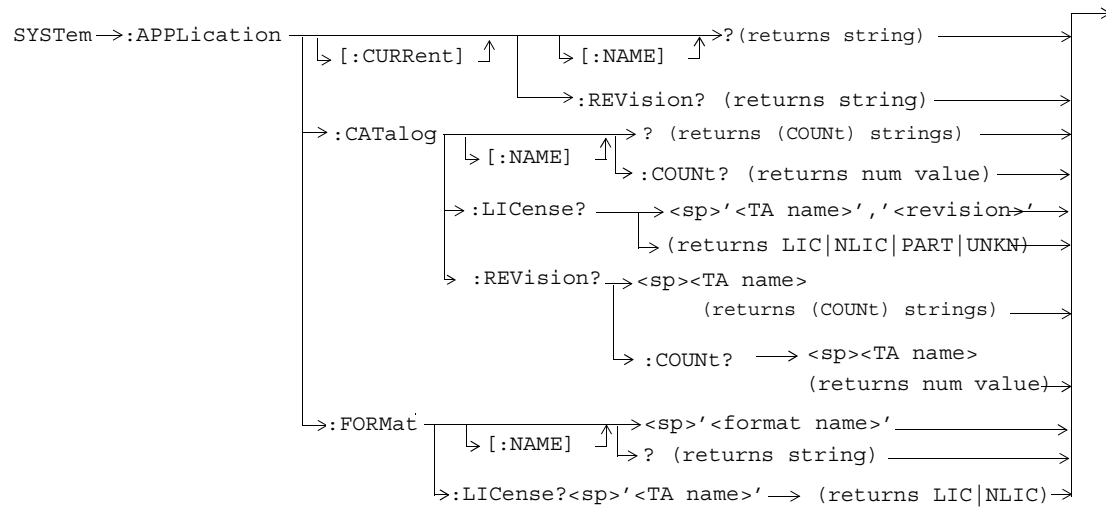
Bit Number	Binary Weighting	Condition	Description
15	32768	Reserved by IEEE.	This bit will always be 0.
14	16384	Reserved by IEEE.	This bit will always be 0.
13	8192	Reserved by IEEE.	This bit will always be 0.
12	4096	Reserved by IEEE.	This bit will always be 0.
11	2048	Reserved by IEEE.	This bit will always be 0.
10	1024	Reserved by IEEE.	This bit will always be 0.
9	512	Reserved by IEEE.	This bit will always be 0.
8	256	Reserved by IEEE.	This bit will always be 0.
7	128	Power On	This bit is set to 1 if the power supply has been turned off and on since the last time this register was read or otherwise cleared. Defined in "IEEE Std. 488.2-1992", 11.5.1.1.2
6	64	Reserved for future use.	This bit will always be 0.

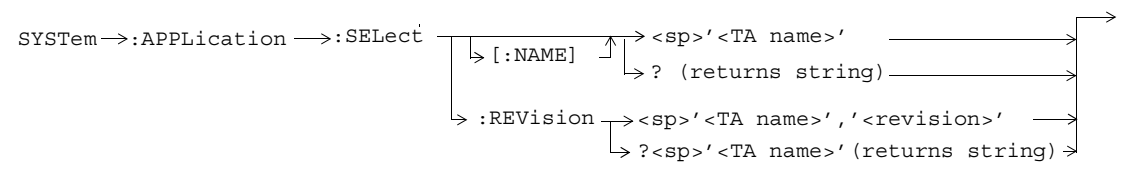
Bit Number	Binary Weighting	Condition	Description
5	32	Command Error	<p>This bit is set to 1 if the test set detects an error while trying to process a command. The following events cause a command error:</p> <ul style="list-style-type: none"> <li>• An IEEE 488.2 syntax error. The test set received a message that did not follow the syntax defined by the standard.</li> <li>• A semantic error. For example the test set received an incorrectly spelled command.</li> <li>• The test set received a group execution trigger (GET) inside a program message</li> </ul>

Bit Number	Binary Weighting	Condition	Description
4	16	Execution Error	<p>This bit is set to 1 if the test set detects an error while trying to execute a command. The following events cause a execution error:</p> <ul style="list-style-type: none"> <li>• A &lt;PROGRAM DATA&gt; element received in a command is outside the legal range for the test set, or it is inconsistent with the operation of the test set.</li> <li>• The test set could not execute a valid command due to some test set hardware/firmware condition.</li> </ul>
3	8	Device Dependent Error	<p>This bit is set to 1 if a test set operation does not execute properly due to an internal condition (such as, overrange). This bit indicates that the error was not a command, query, or execution error.</p>

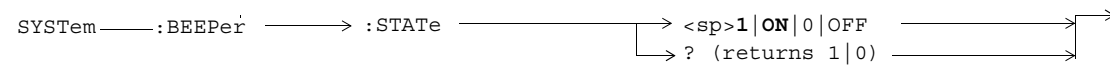
Bit Number	Binary Weighting	Condition	Description
2	4	Query Error	<p>This bit is set to 1 if an error has occurred while trying to read the test set's output queue. The following events cause a query error:</p> <ul style="list-style-type: none"> <li>• An attempt is made to read data from the output queue when no data is present or is pending.</li> <li>• Data in the output queue has been lost. An example of this would be an output queue overflow.</li> </ul>
1	2	Reserved for future use.	This bit will always be 0.
0	1	Operation Complete	This bit is set to 1 when the test set has completed all pending operations and is ready to accept new commands. This bit is only generated in response to the *OPC IEEE 488.2 common command.

## SYSTEM:APPLICATION

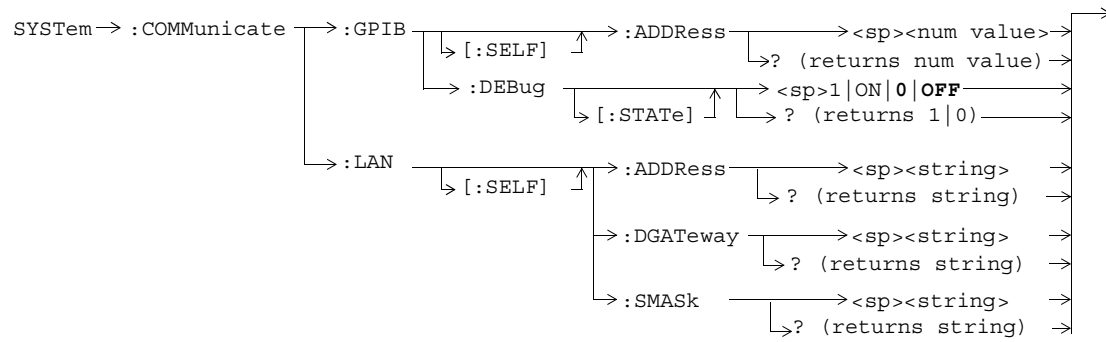




### **SYSTem:BEEPer**



## SYSTem:COMMunicate

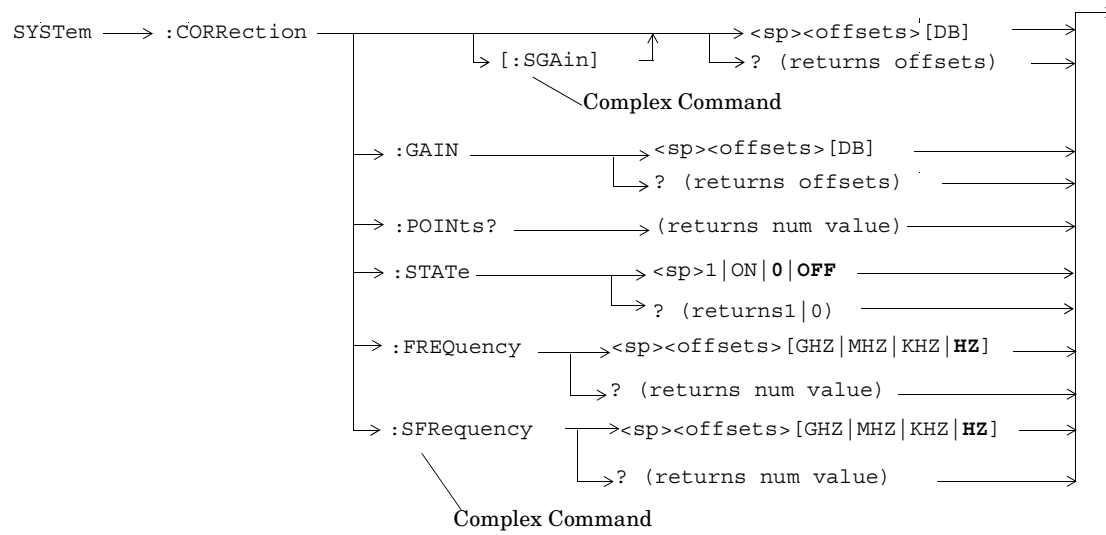




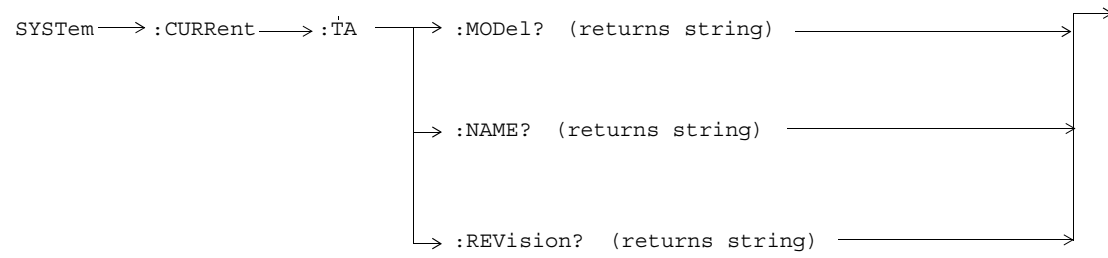
## **SYSTem:CONFigure:INFormation:HARDware:VERBose?**

SYSTem——:CONFigure ——> :INFormation ——>:HARDware ——>:VERBose? ——>

## SYSTem:CORRection



### **SYSTem:CURRent:TA**

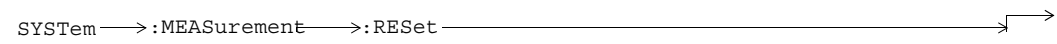


## **SYSTem:ERRor?**

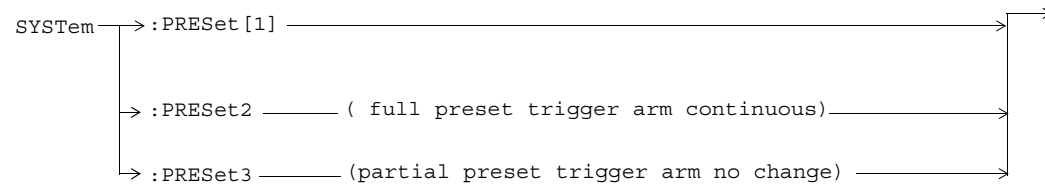
SYSTem → :ERRor? → (returns num value, string) →

## **SYSTem:MEASurement:RESet**

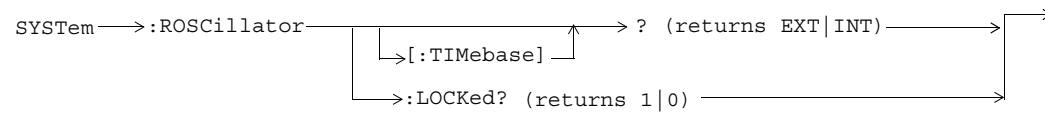
SYSTem → :MEASurement → :RESet →



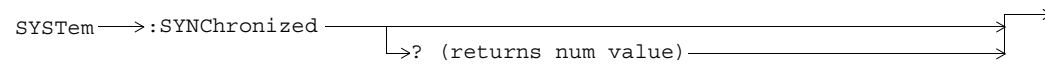
### **SYSTem:PRESet**



### **SYSTem:ROSCillator**



### **SYSTem:SYNChronized**





## **IEEE 488.2 Common Commands**

### **Description**

#### **\*CLS**

The \*CLS, clear status command, is defined in “IEEE Std 488.2-1992”, 10.3. This command will also clear and close the error message screen on the test set’s display.

#### **\*ESE**

The \*ESE, standard event status enable command, is defined in “IEEE Std 488.2-1992”, 10.10.

#### **\*ESE?**

The \*ESE?, standard event status enable query, is defined in “IEEE Std 488.2-1992”, 10.11.

#### **\*ESR?**

The \*ESR?, standard event status register query, is defined in “IEEE Std 488.2-1992 “,10.12.

**\*IDN?**

The \*IDN?, identification query is defined in “IEEE Std 488.2-1992”, 10.14. \*IDN? is used to retrieve information about the test set in ASCII format.

\*IDN?, returns ASCII codes 32 through 126 excluding comma and semicolon in four comma separated fields. Field 1 returns the manufacturer, field 2 returns the instrument model number, field 3 returns the serial number, field 4 returns 0.

**\*OPC**

The \*OPC, operation complete command, is defined in “IEEE 488.2-1992”, 10.18. \*OPC causes the test set to continuously sense the No Operation Pending flag. When the No Operation Pending flag becomes TRUE, the OPC event bit in the standard event status register (ESR) is set to indicate that the state of all pending operations is completed. The \*OPC common command is not recommended for use as an overlapped command.

**\*OPC?**

The \*OPC?, operation complete query, is defined in “IEEE Std 488.2-1992”, 10.19. The \*OPC? query allows synchronization between the controller and the test set using either the message available (MAV) bit in the status byte, or a read of the output OPC?. The \*OPC? query does not effect the OPC event bit in the Standard Event Status Register (ESR). The \*OPC? common command is not recommended for use as an overlapped command.

**\*OPT?**

The \*OPT?, option identification query, is defined in “IEEE Std 488.2-1992”, 10.20. Each option will have a unique name, that name will be returned with the query.

**\*RST**

The \*RST, full preset command, is defined in “IEEE Std 488.2-1992”, 10.32. A full preset is also accomplished using the SYSTem:PRESet2 command. A full preset restores the majority of settings to their default values and sets measurement trigger arm to single.

**\*SRE**

The \*SRE, service request enable command, is defined in “IEEE Std 488.2-1992”, 10.34. The parameter range for this command is 0 through 255.

**\*SRE?**

The \*SRE?, service request enable query, is defined in “IEEE Std 488.2-1992”, 10.35. Values returned by this query range from 0 through 255.

**\*STB?**

The \*STB?, read status byte query, is defined in “IEEE Std 488.2-1992”, 10.36. Values returned by this query range from 0 through 255.

**\*WAI**

The \*WAI, wait-to-continue command, is defined in “IEEE Std 488.2-1992”, 10.39. The \*WAI command prevents the test set from executing any further commands or queries until all pending operation flags are false. The \*WAI common command is not recommended for use as an overlapped command.

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## Syntax Equivalents

To find a syntax equivalent for a field on the Test Set's display.

1. Find the field name on the Test Set's display.
2. Look up the name in the alphabetical listing.
3. Turn to the page indicated.

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