

GPIB Command Syntax **for**

E1961A AMPS/136 Mobile Test Application Revision A.11.20

1000-1926
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www.agilent.com/find/E1961A



Agilent Technologies

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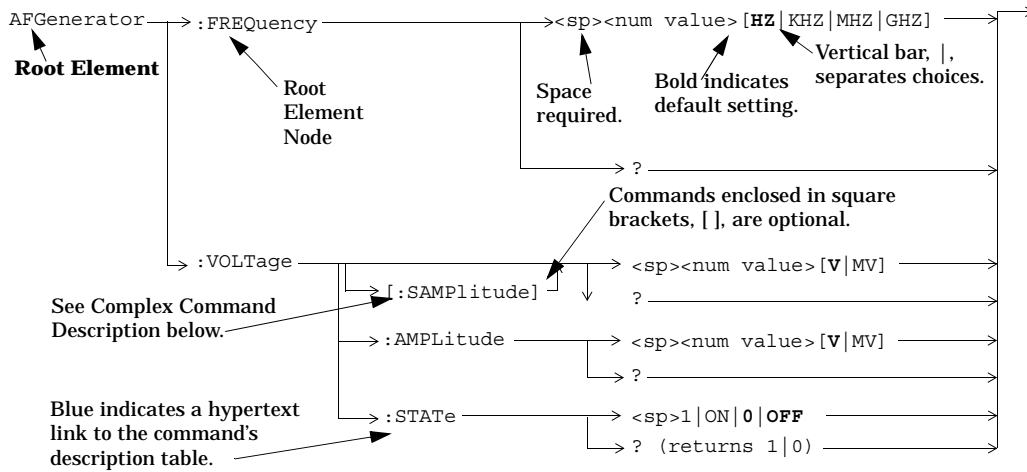
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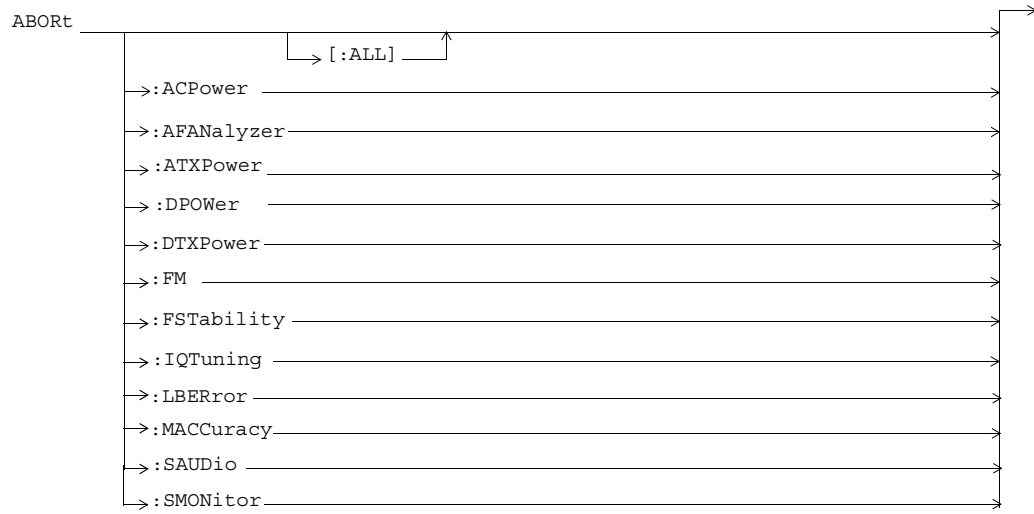
GPIB Syntax for the E1961A

Diagram Conventions

Description

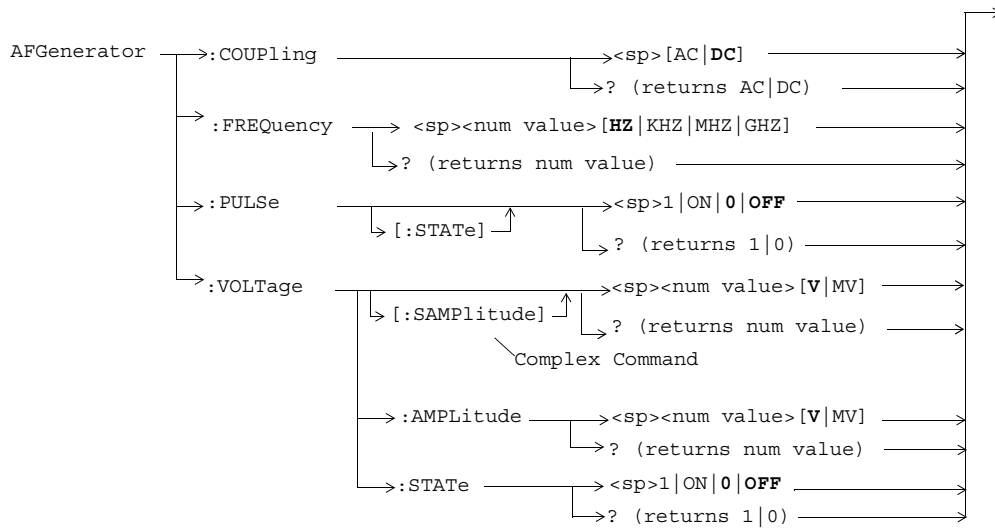


ABORt

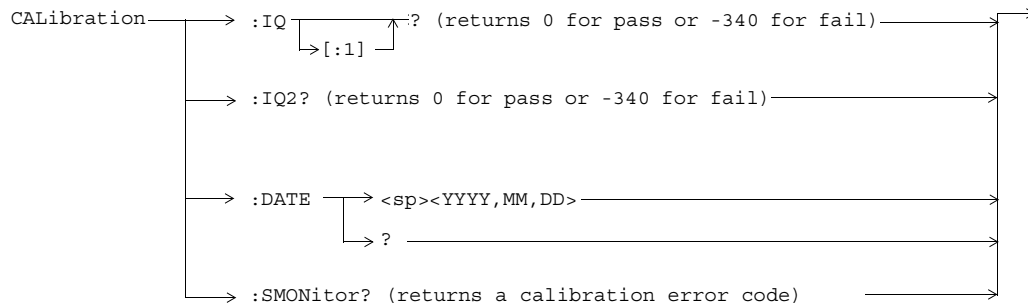


GPIB Syntax for the E1961A

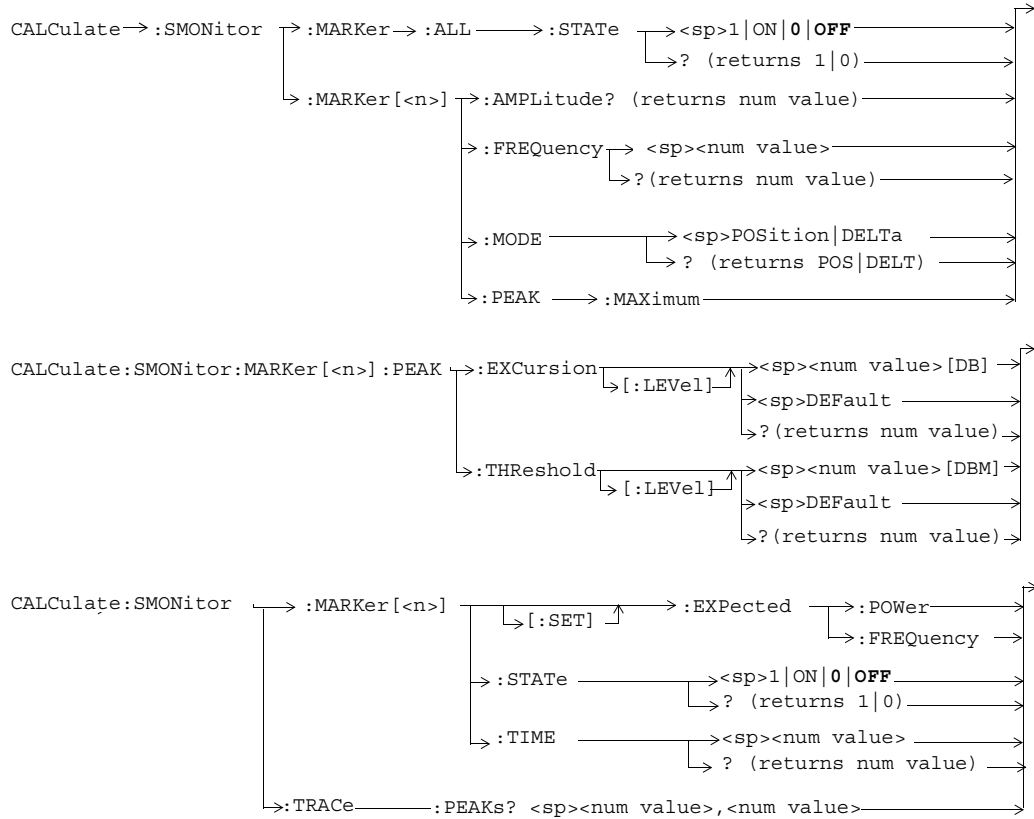
AFGenerator



CALibration

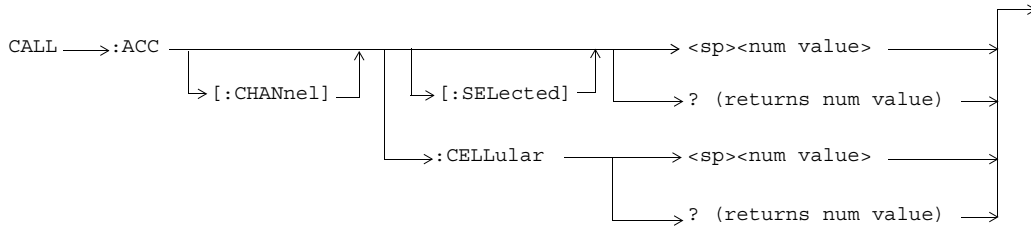


CALCulate:SMONitor

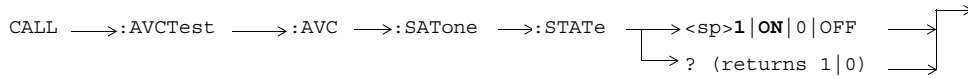


GPIO Syntax for the E1961A

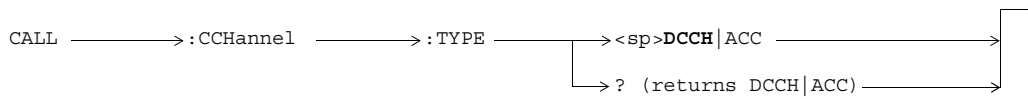
CALL:ACC



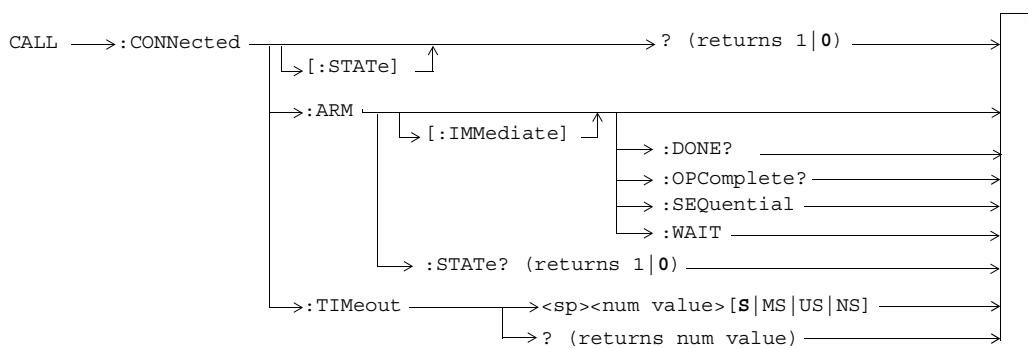
CALL:AVCTest



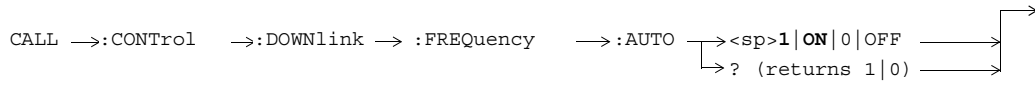
CALL:CCHannel



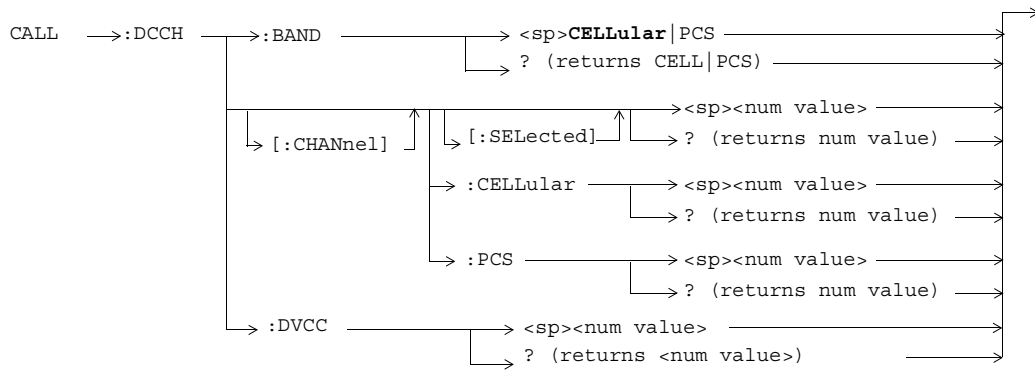
CALL:CONNECTed



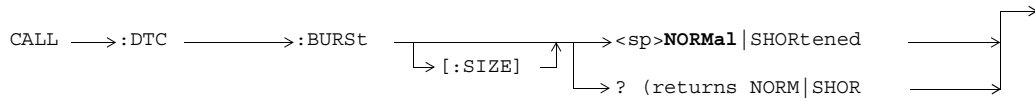
CALL:CONTROL:DOWNlink:FREQuency:AUTO



CALL:DCCH

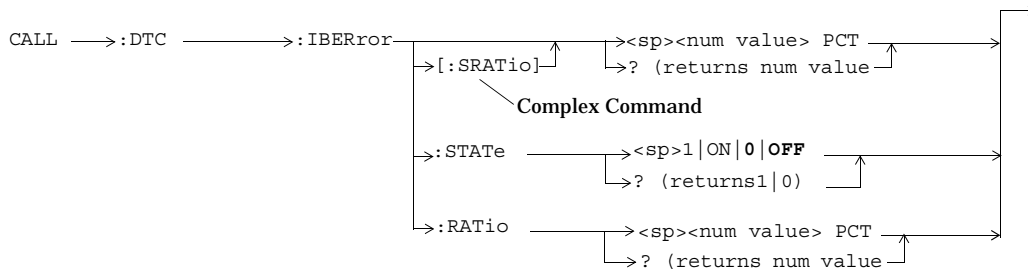


CALL:DTC:BURSt

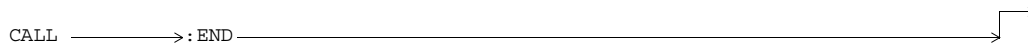


GPIB Syntax for the E1961A

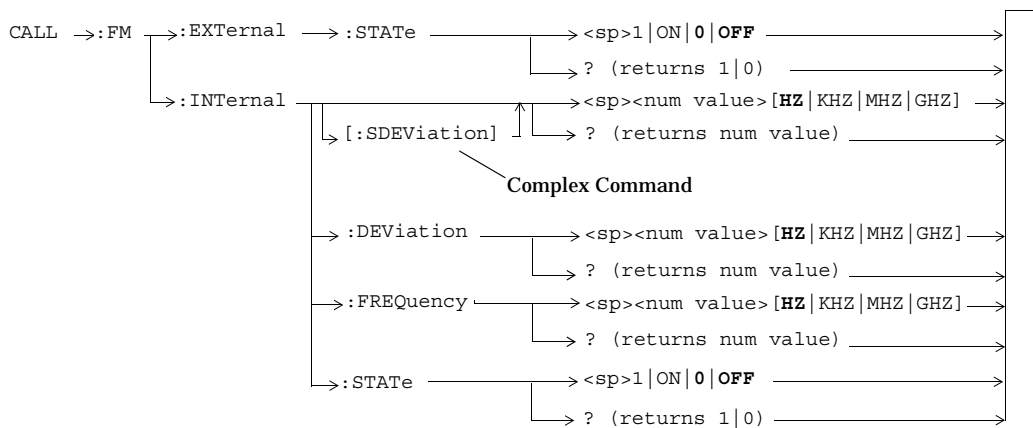
CALL:DTC:IBERror



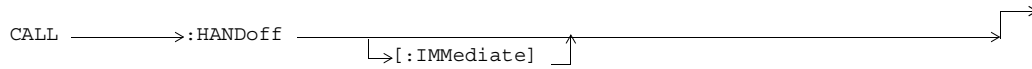
CALL:END



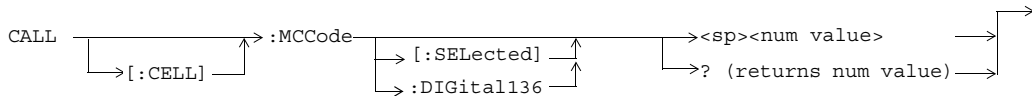
CALL:FM



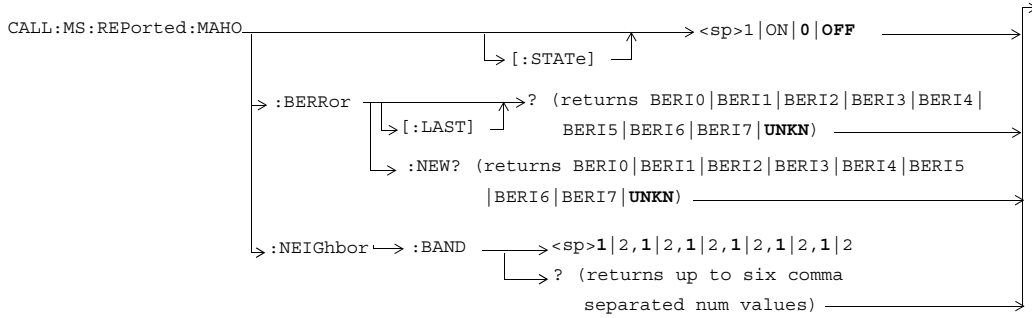
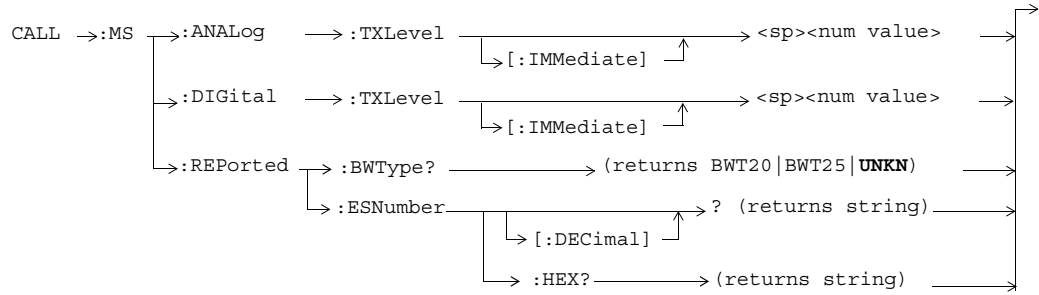
CALL:HANDoff



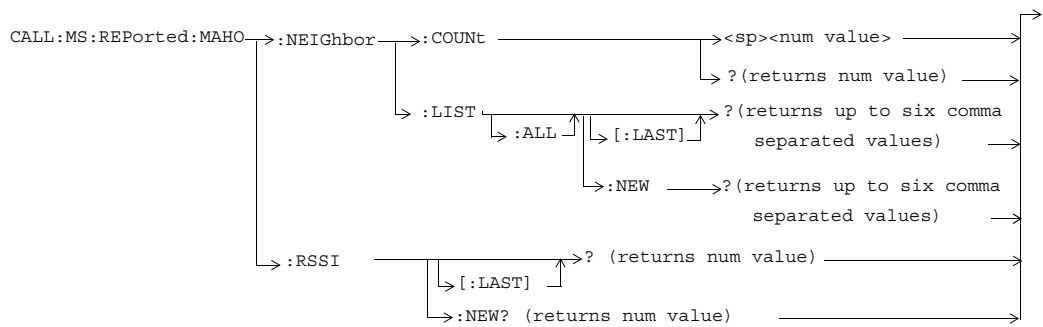
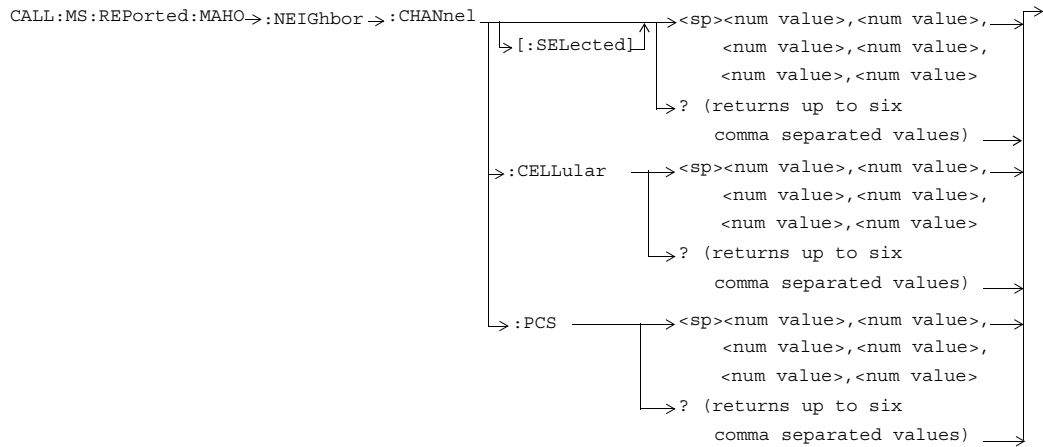
CALL:MCCode



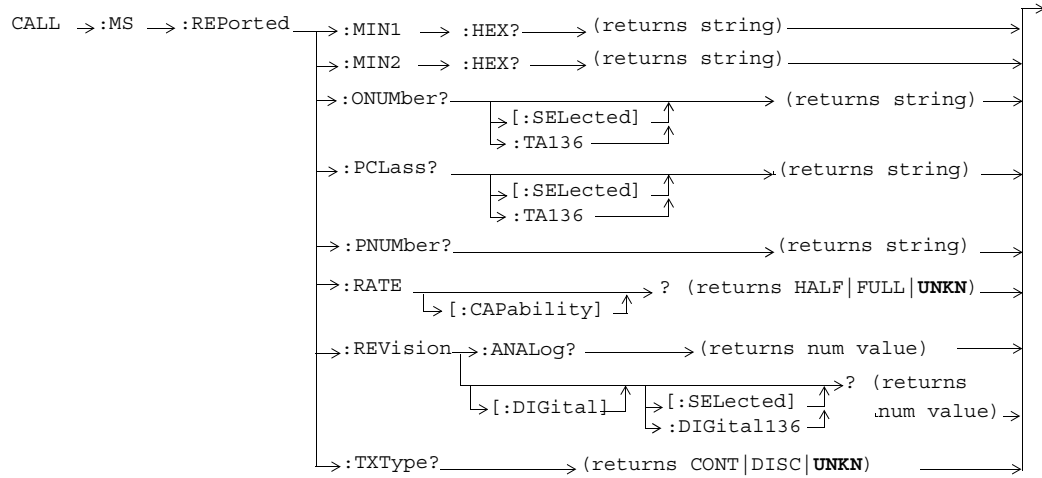
CALL:MS



GPIB Syntax for the E1961A

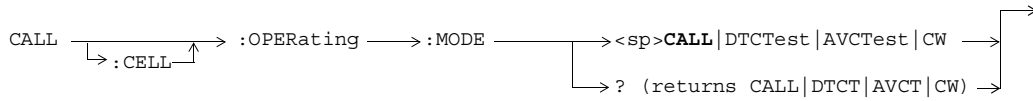


GPIB Syntax for the E1961A

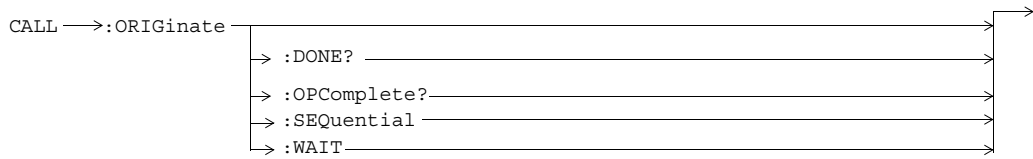


GPIB Syntax for the E1961A

CALL:OPERating



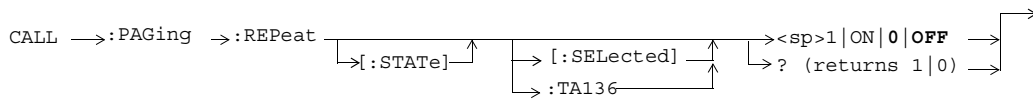
CALL:ORIGinate



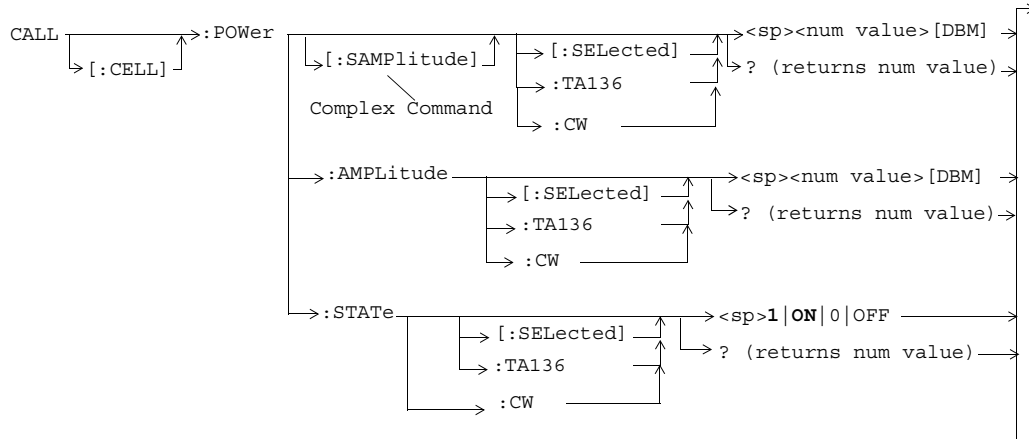
CALL:PAGing:PNUMBER



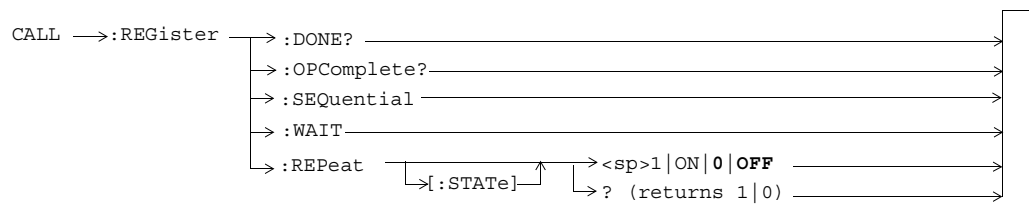
CALL:PAGing:REPeat



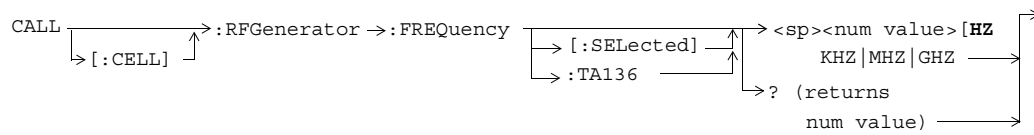
CALL:POWer



CALL:REGister

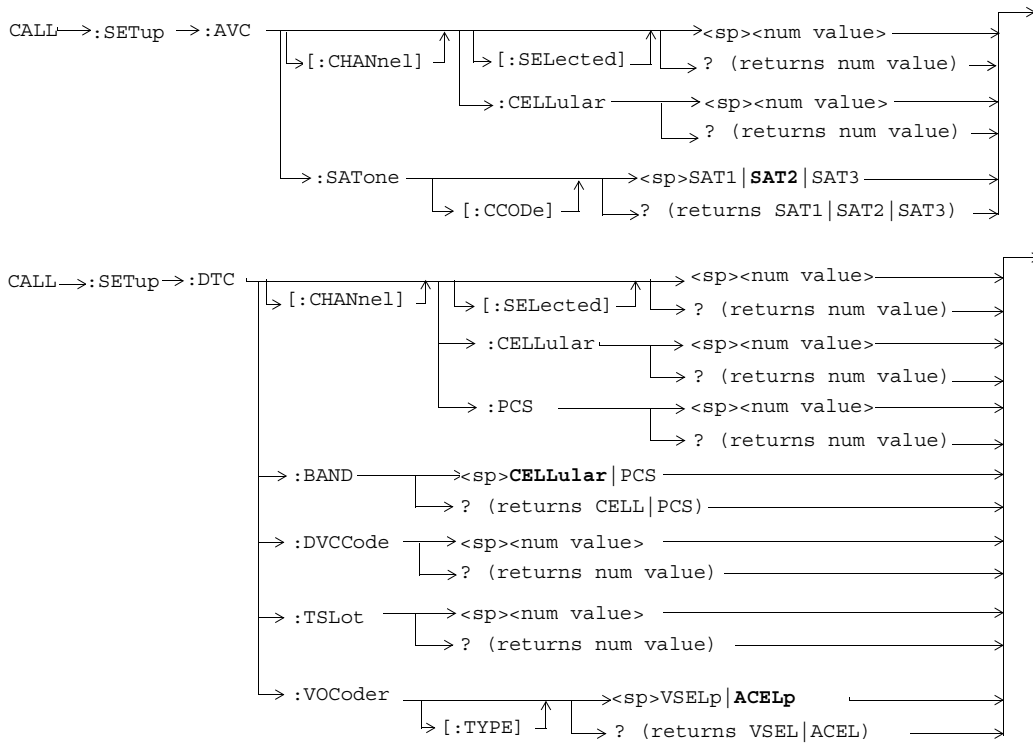


CALL:RFGenerator

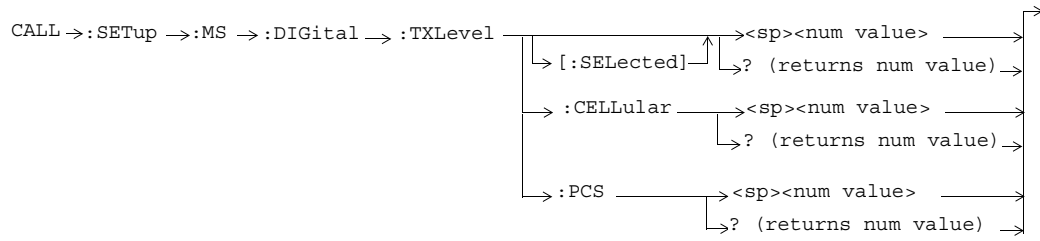
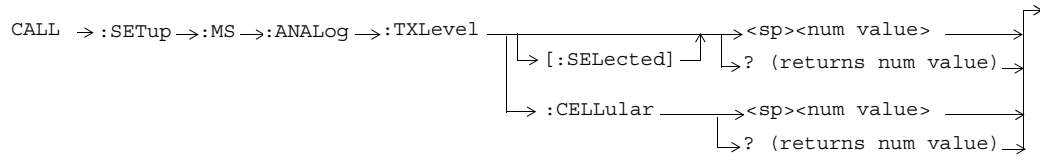


GPIB Syntax for the E1961A

CALL:SETup

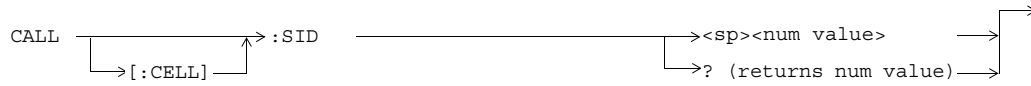


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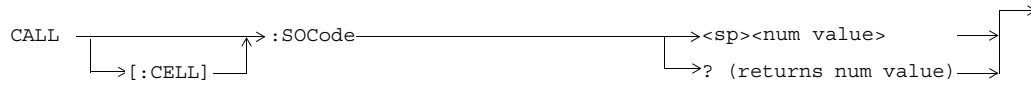


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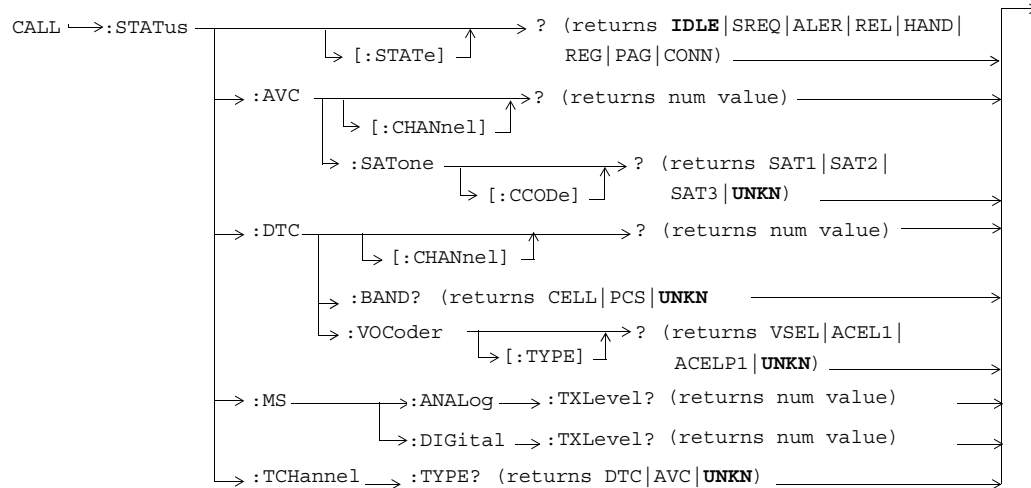
CALL:SID



CALL:SOCode



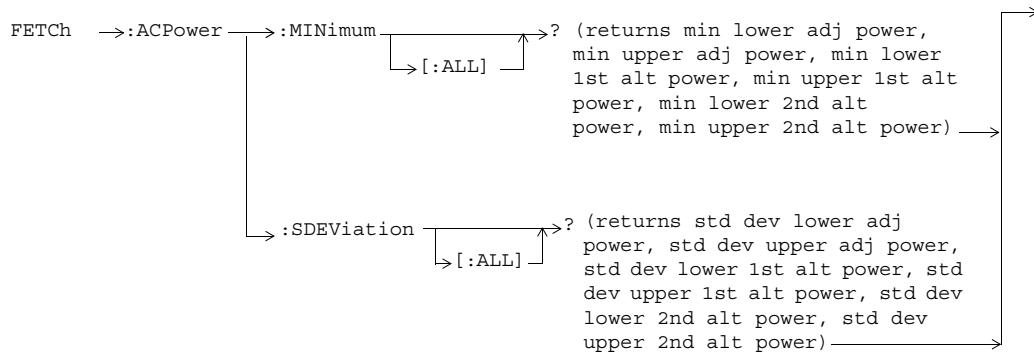
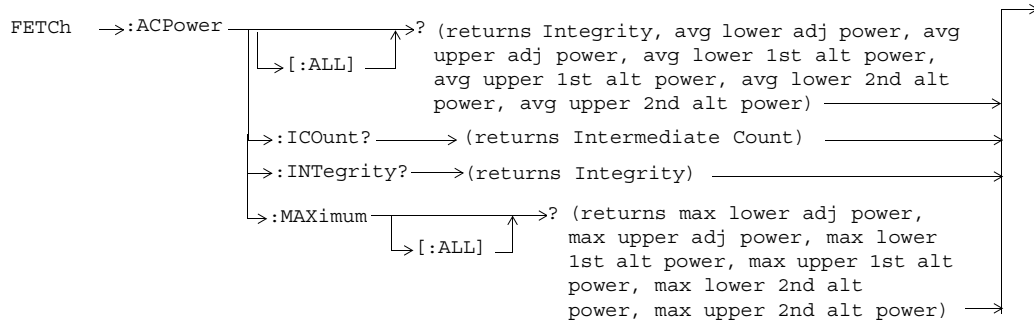
CALL:STATus



CALL:TCHannel

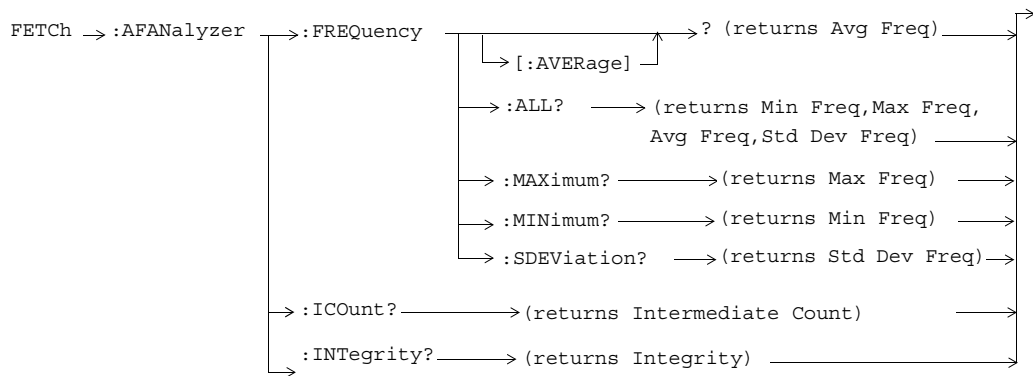
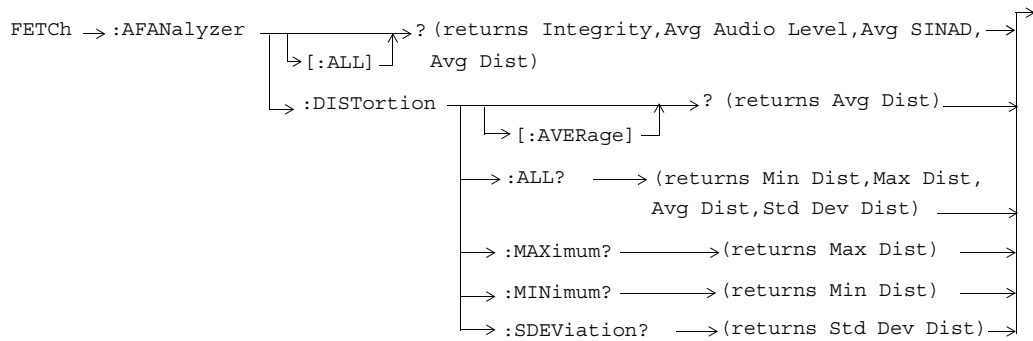


FETCh:ACPower

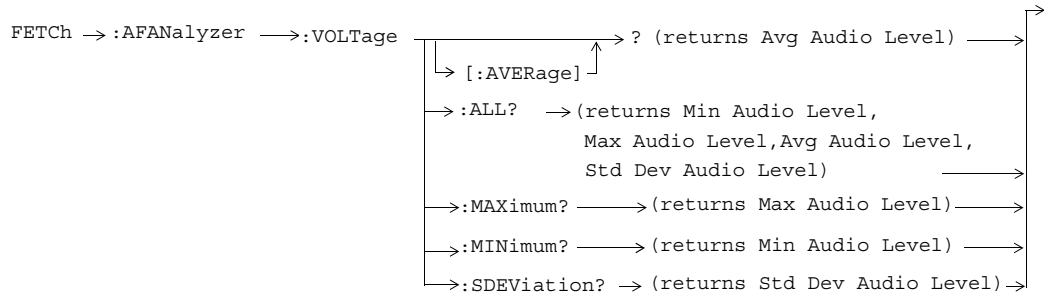
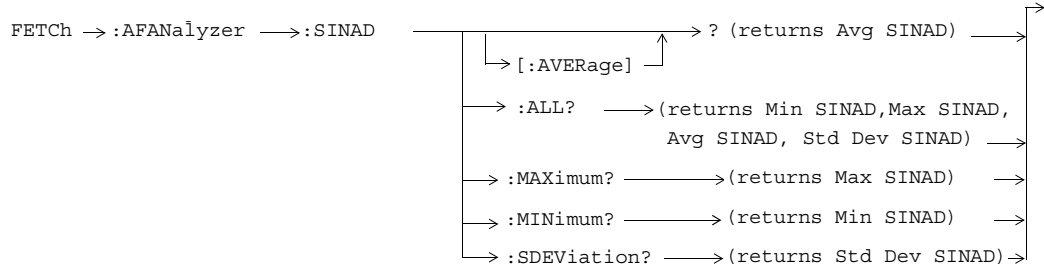


GPIB Syntax for the E1961A

FETCh:AFANalyzer

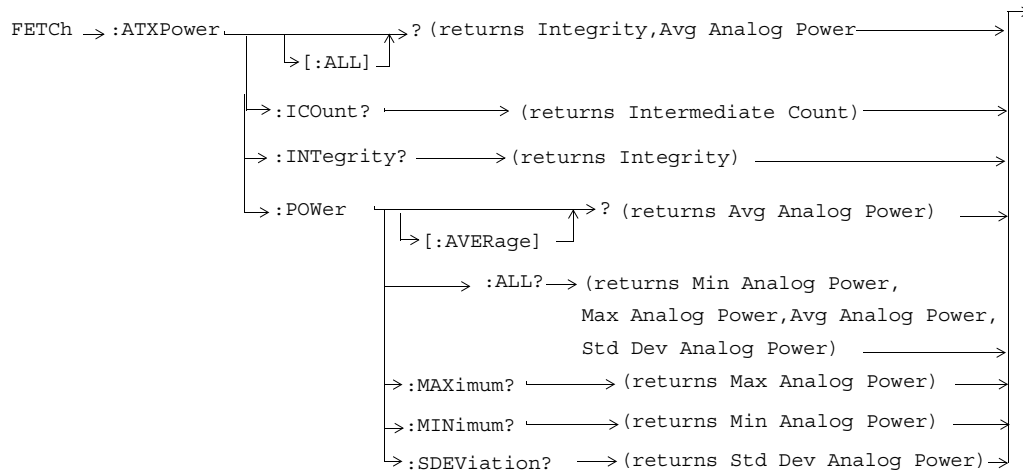


GPIB Syntax for the E1961A

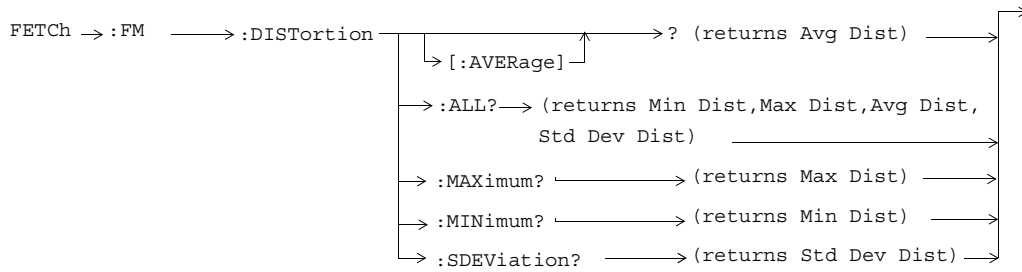
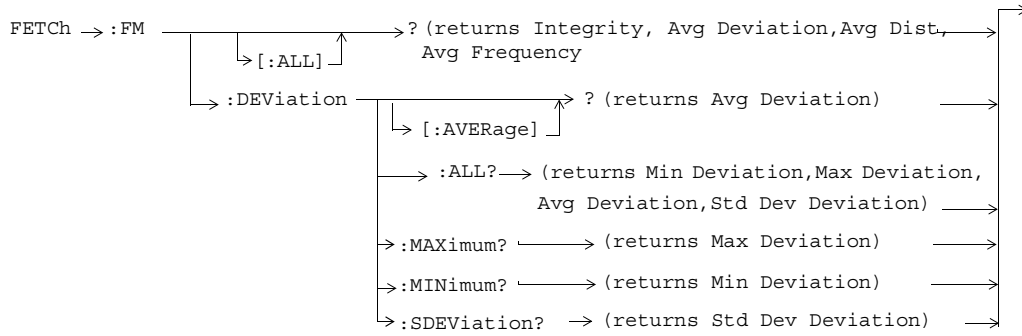


GPIB Syntax for the E1961A

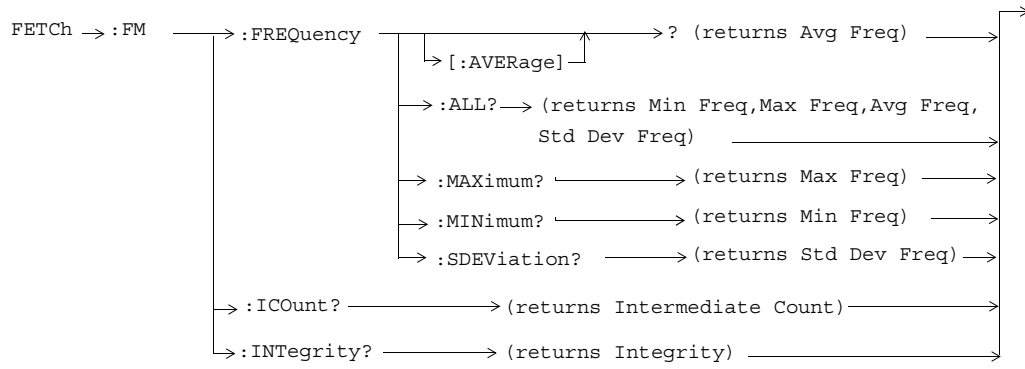
FETCh:ATXPower



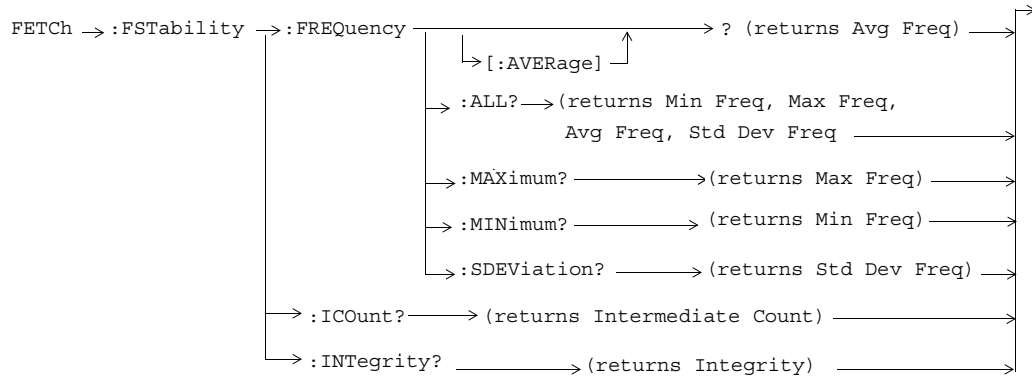
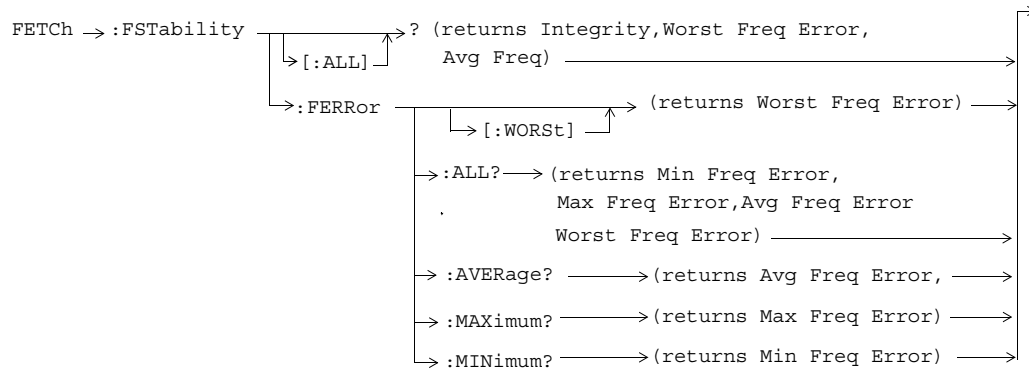
FEtCh:FM



GPIB Syntax for the E1961A

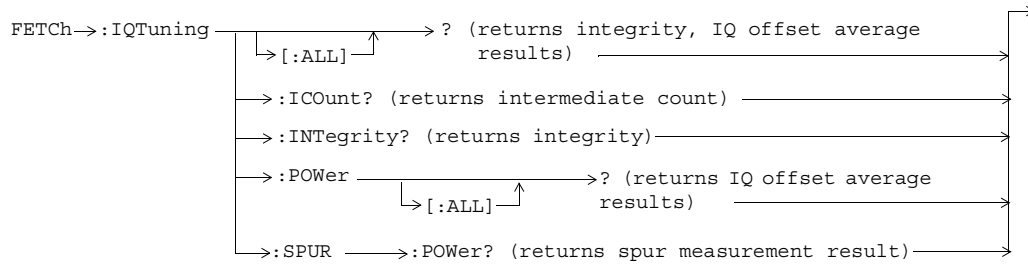


FEtCh:FStability

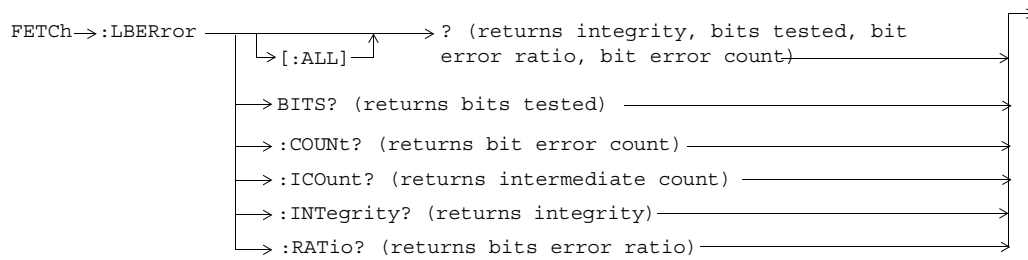


GPIB Syntax for the E1961A

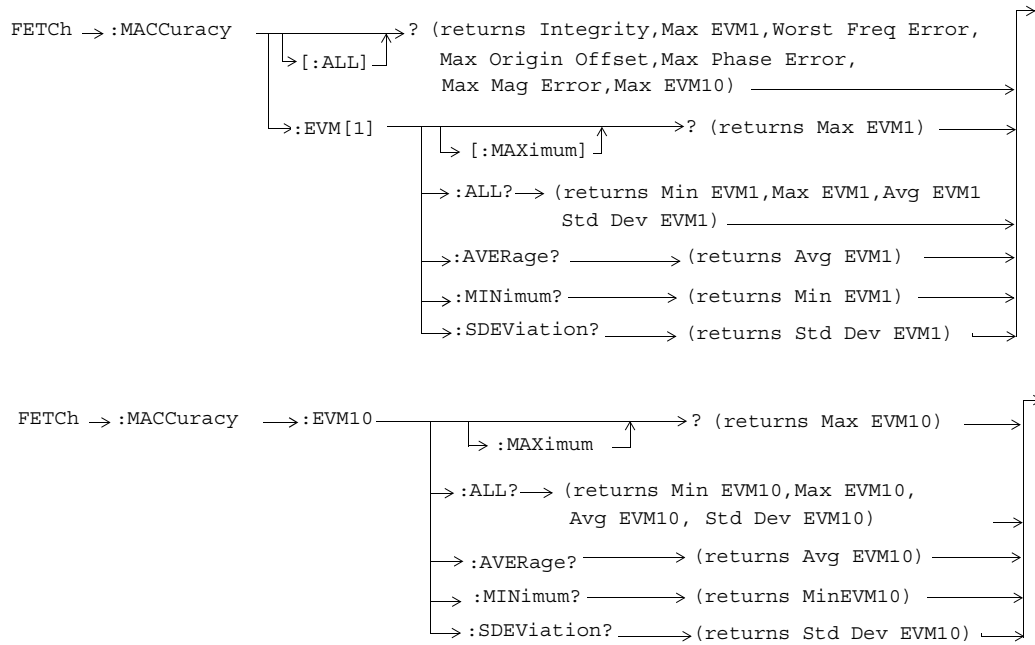
FETCH:IQTuning



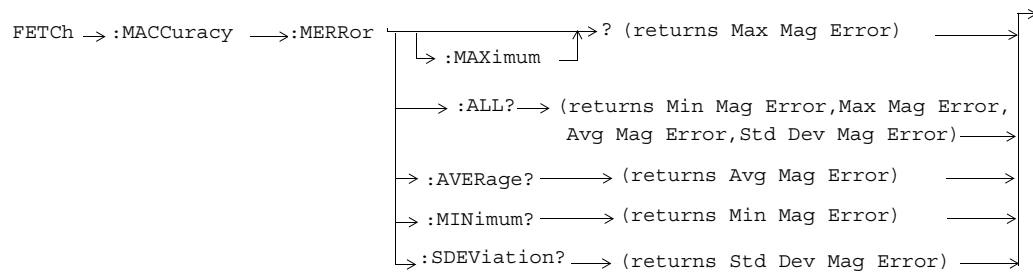
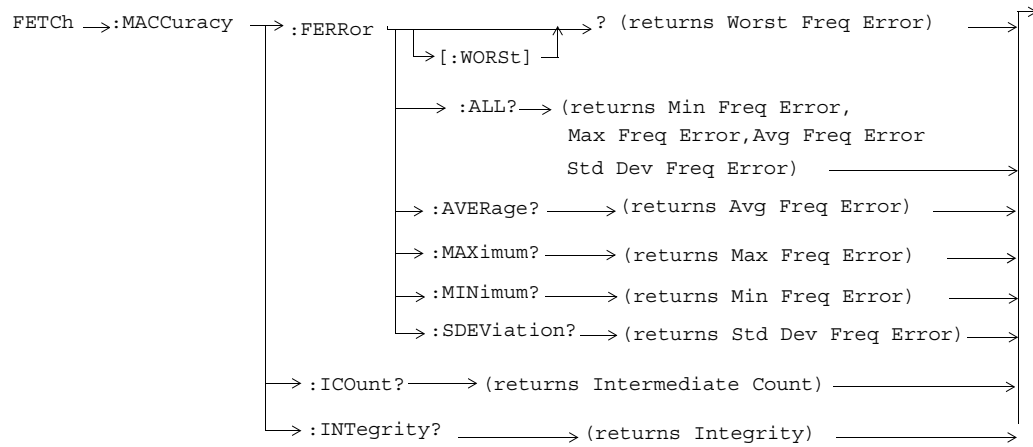
FETCH:LBError



FEtCh:MAccuracy

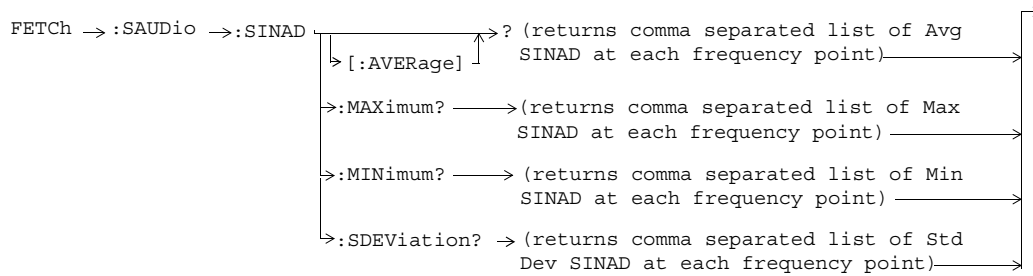
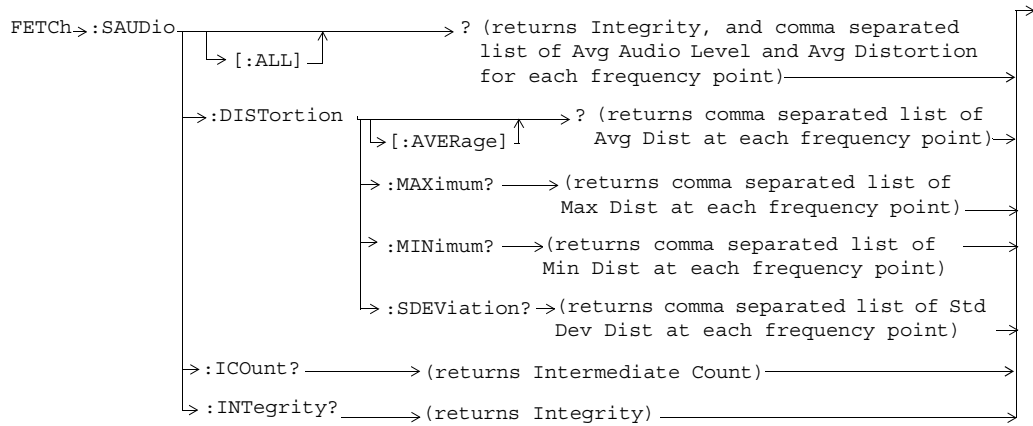


GPIB Syntax for the E1961A

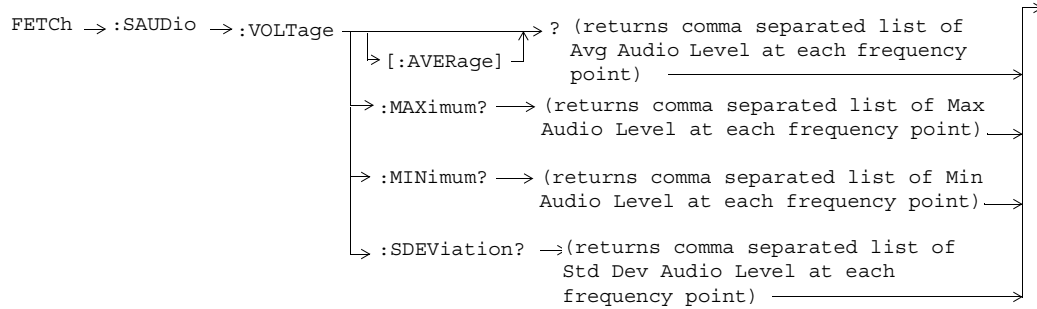


GPIB Syntax for the E1961A

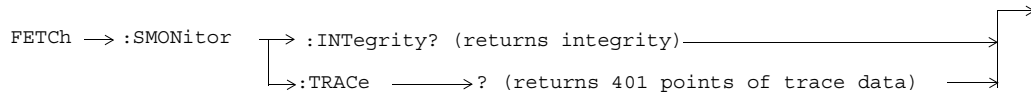
FETCH:SAudio



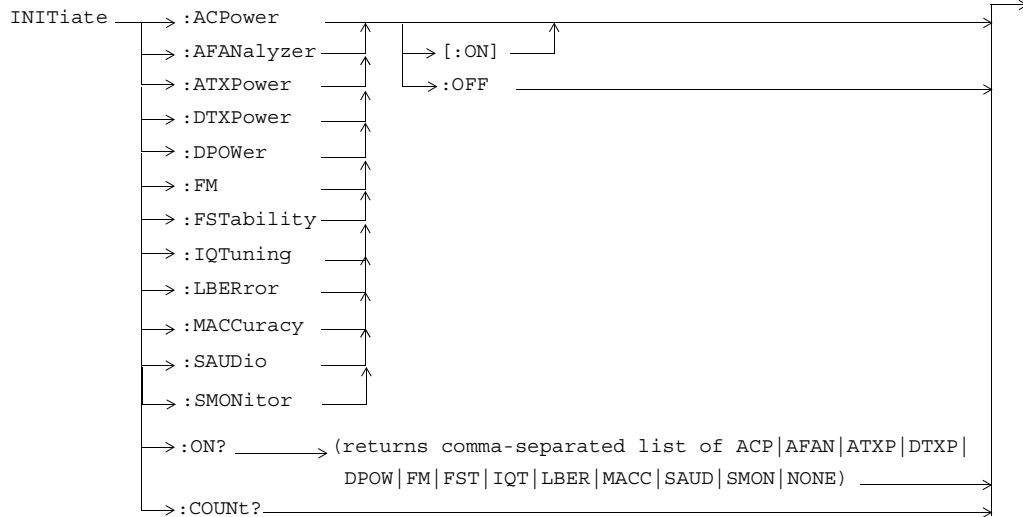
GPIB Syntax for the E1961A



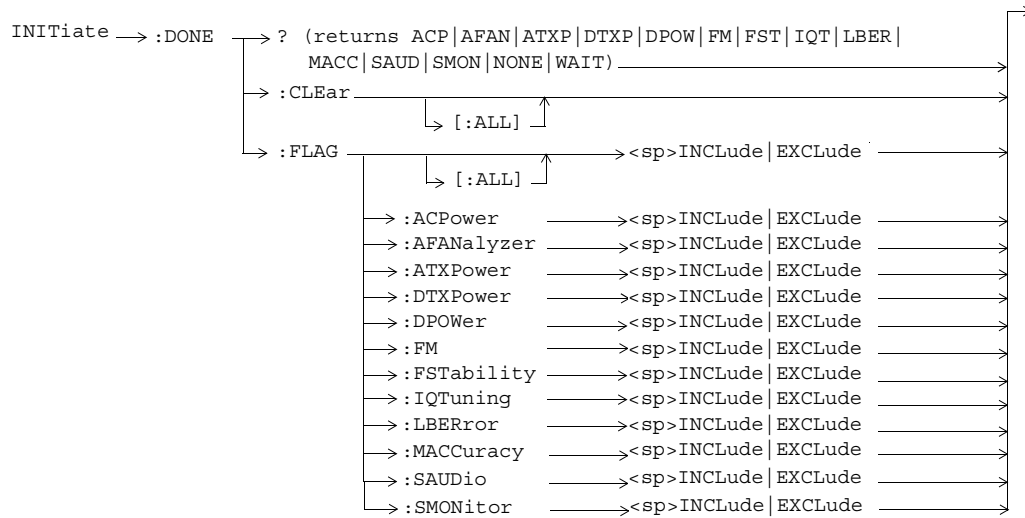
FETCh:SMONitor



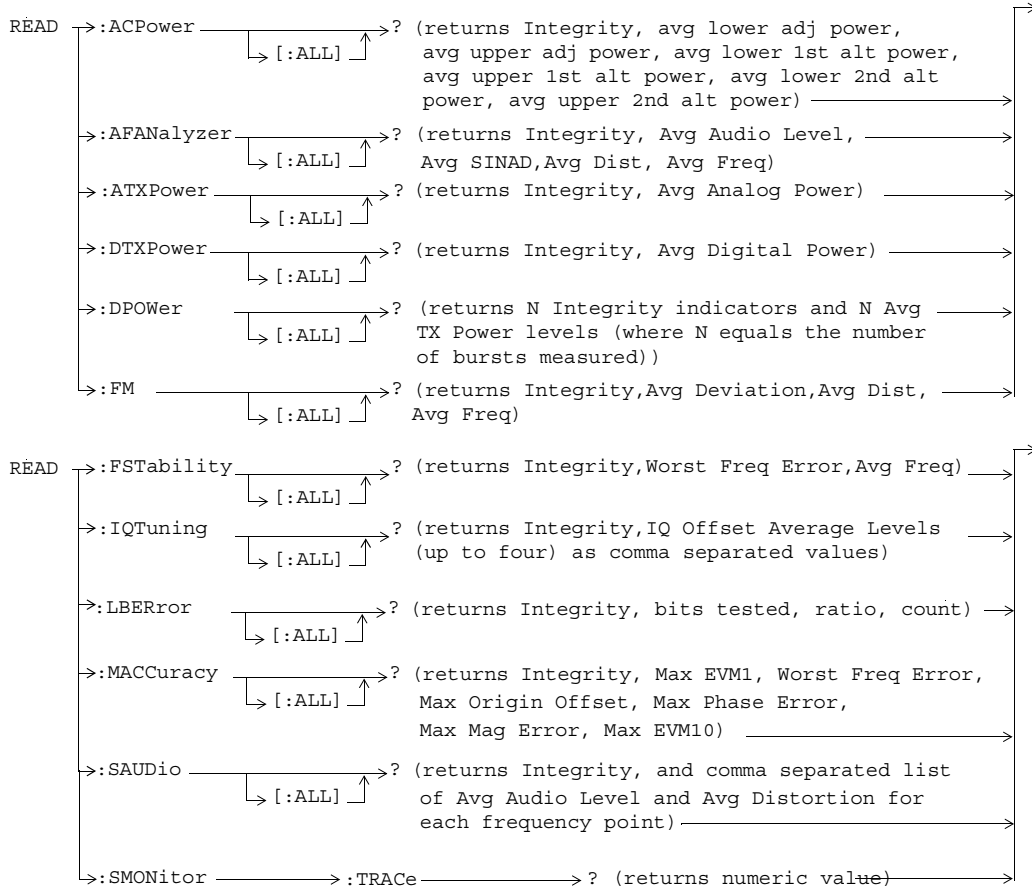
INITiate



GPIB Syntax for the E1961A

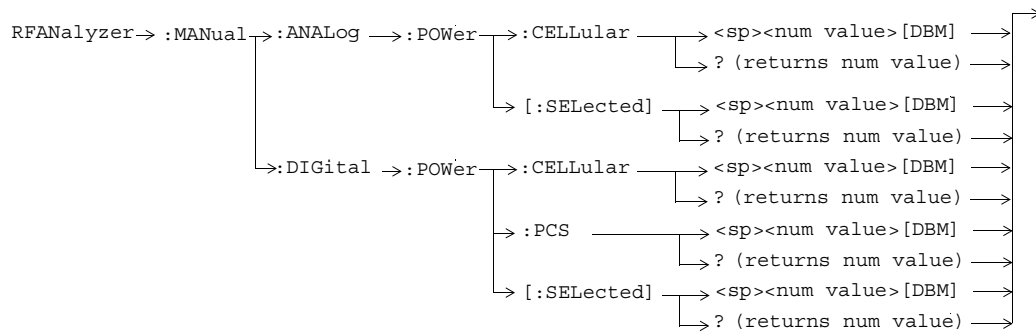
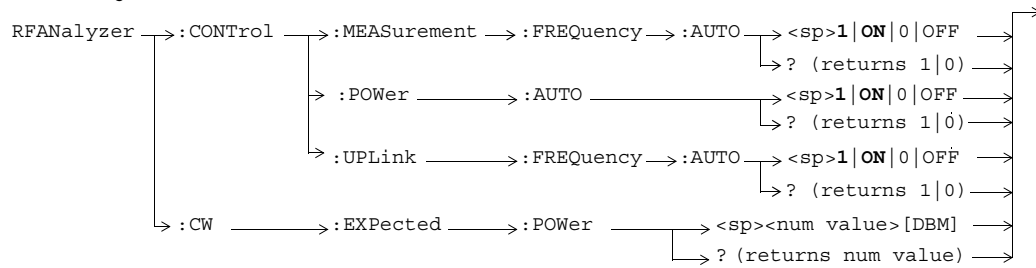


READ

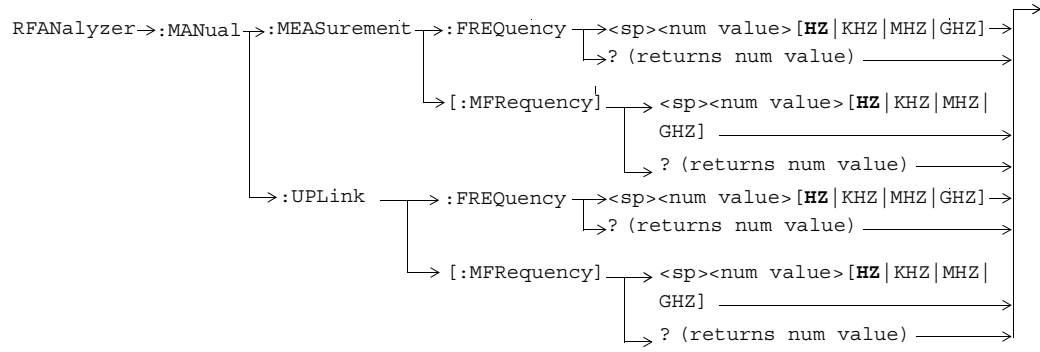


GPIB Syntax for the E1961A

RFAnalyzer

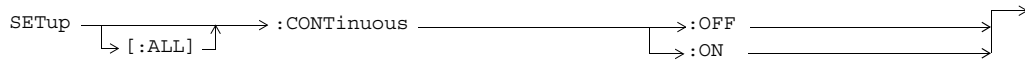


GPIO Syntax for the E1961A

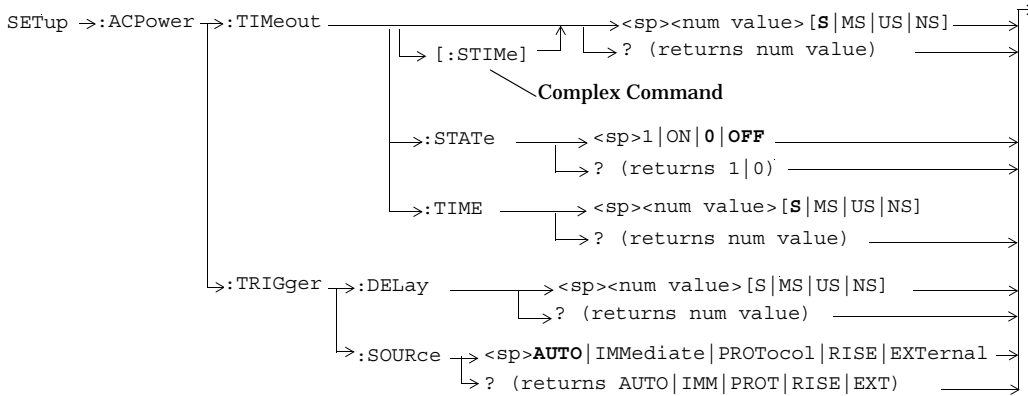
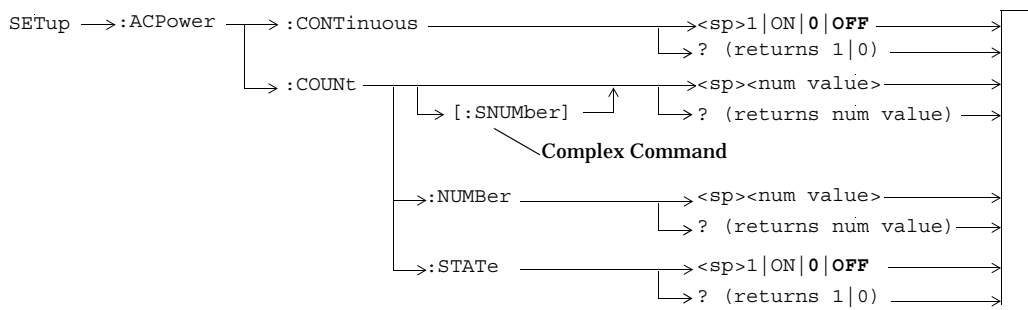


GPIB Syntax for the E1961A

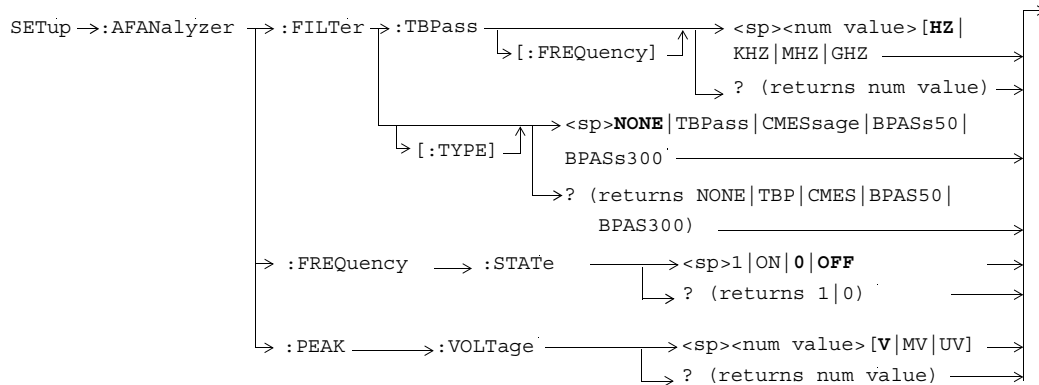
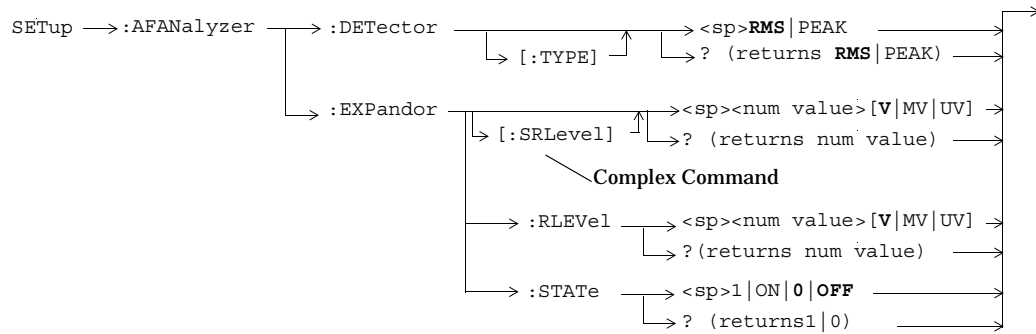
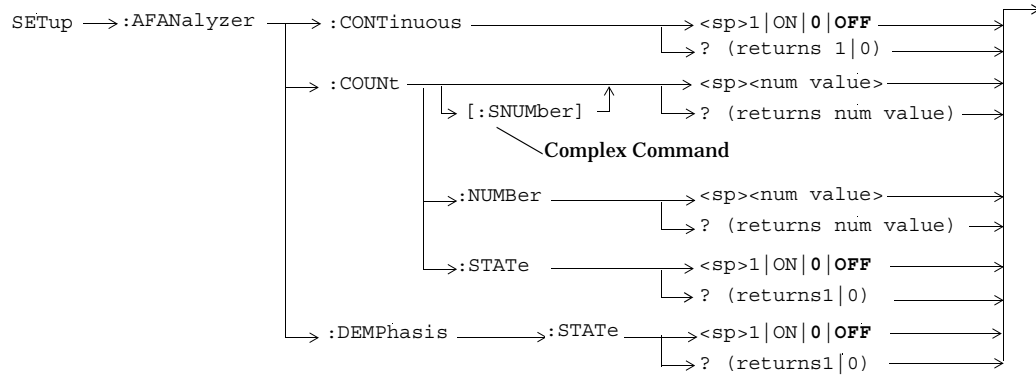
SETup[:ALL]:CONTinuous



SETup:ACPower

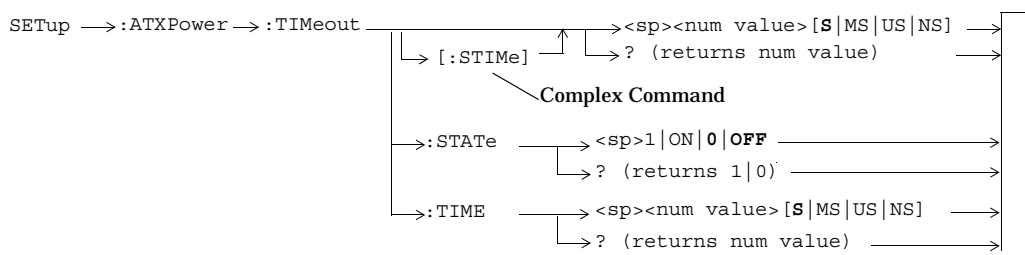
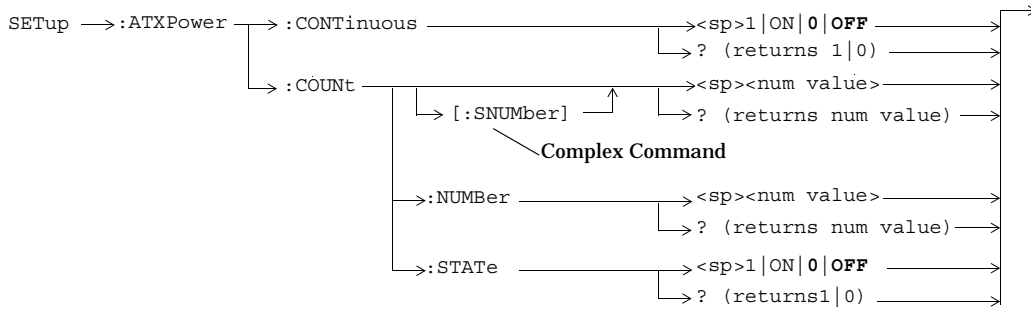


SETup:AFANalyzer

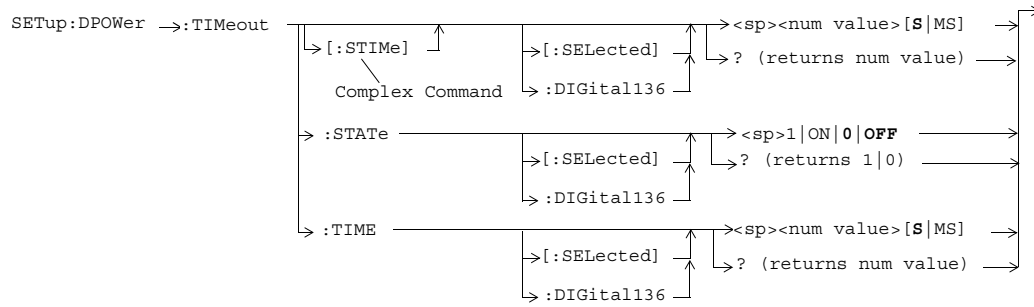
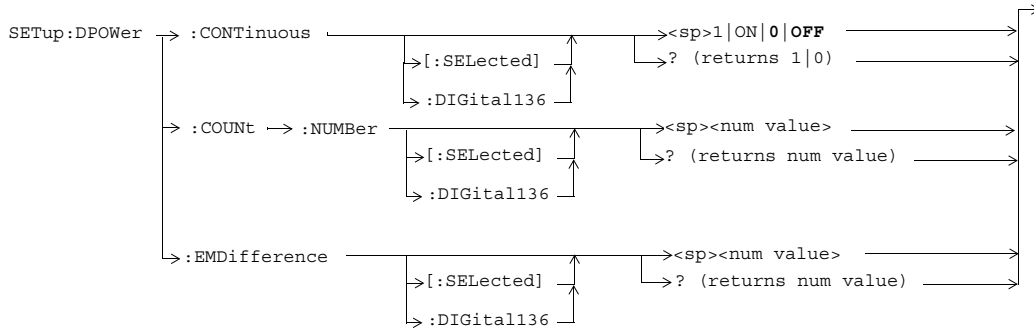


GPIB Syntax for the E1961A

SETup:ATXPower

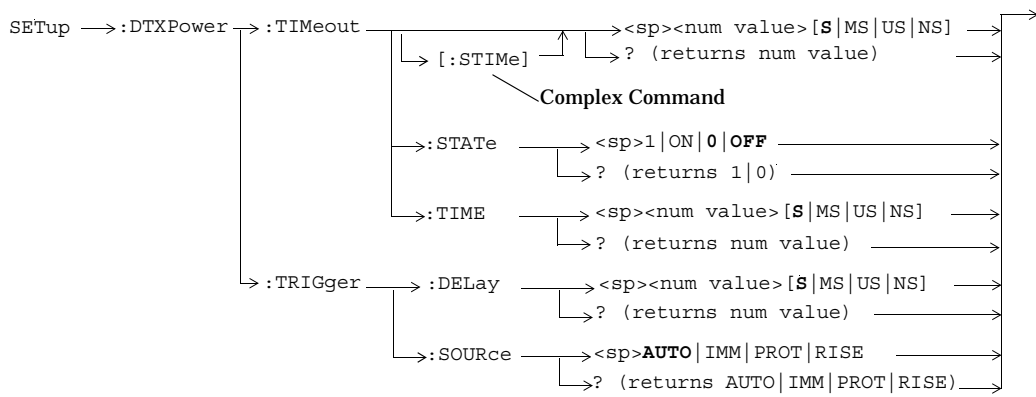
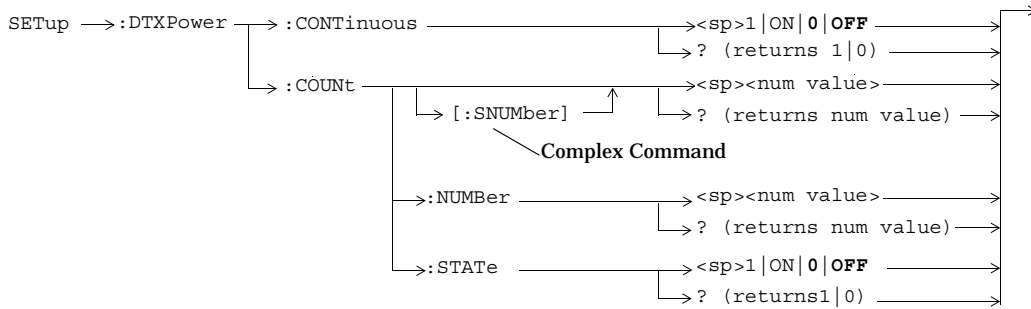


SETup:DPOWER

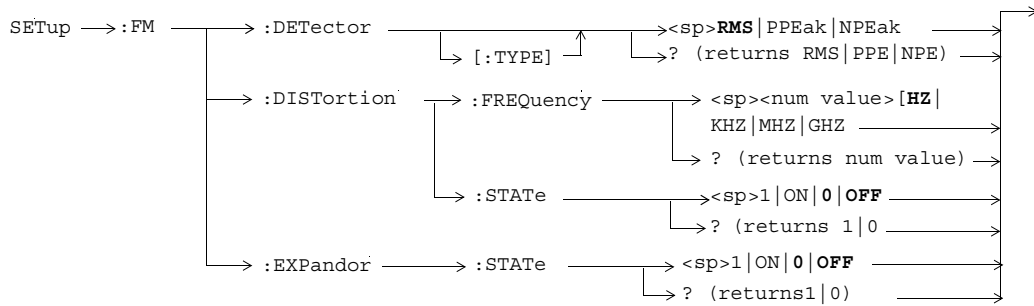
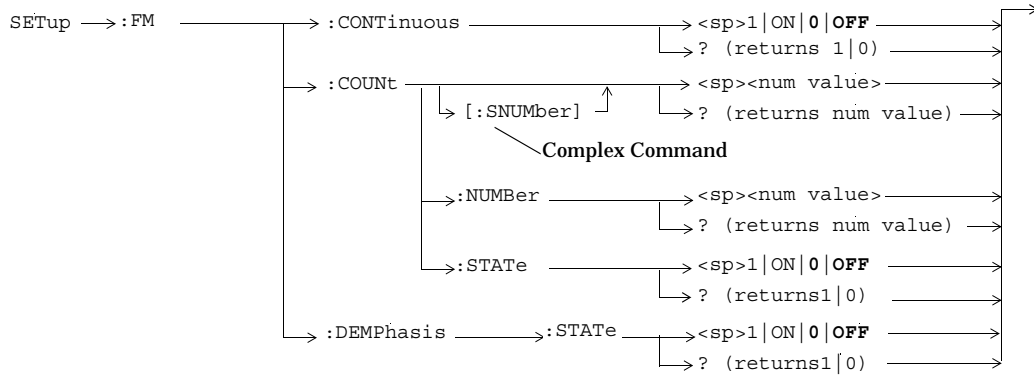


GPIB Syntax for the E1961A

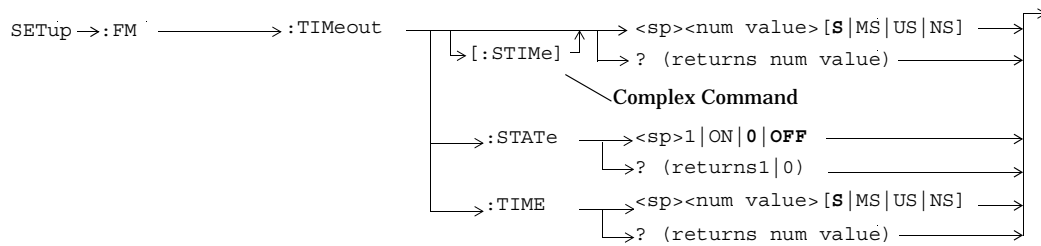
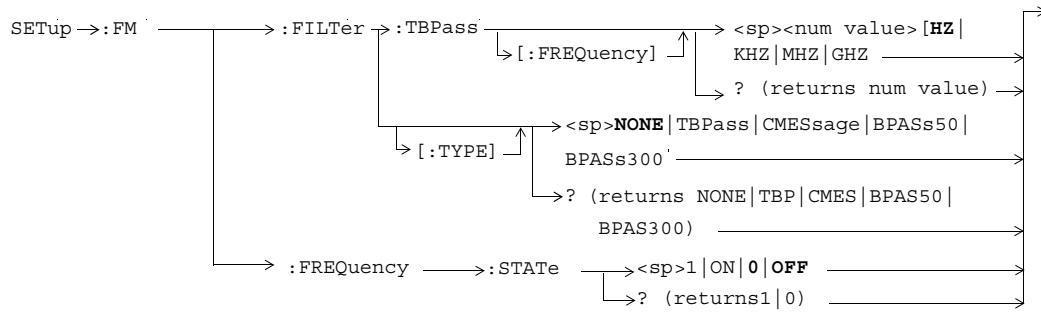
SETup:DTXPower



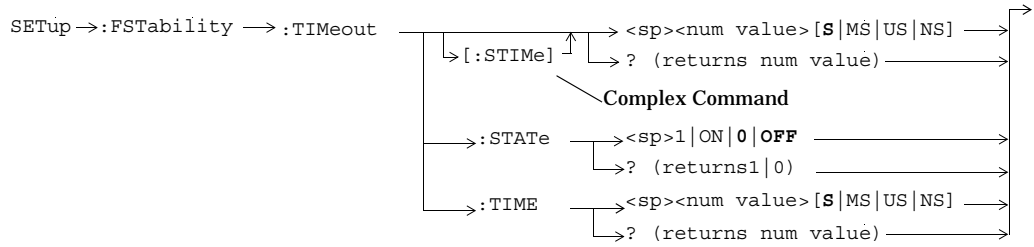
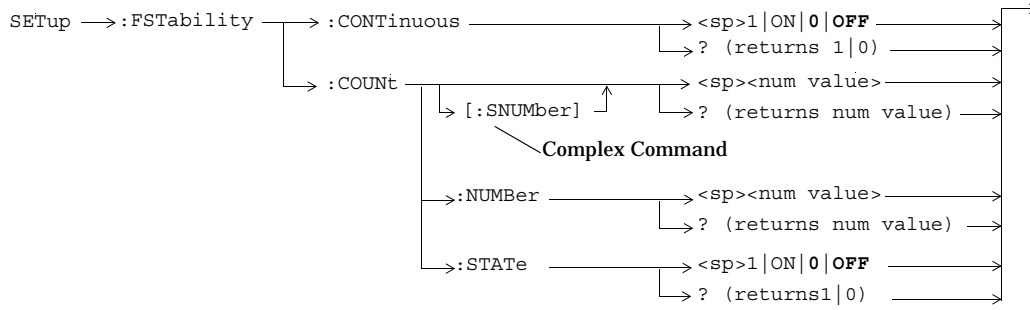
SETup:FM



GPIB Syntax for the E1961A

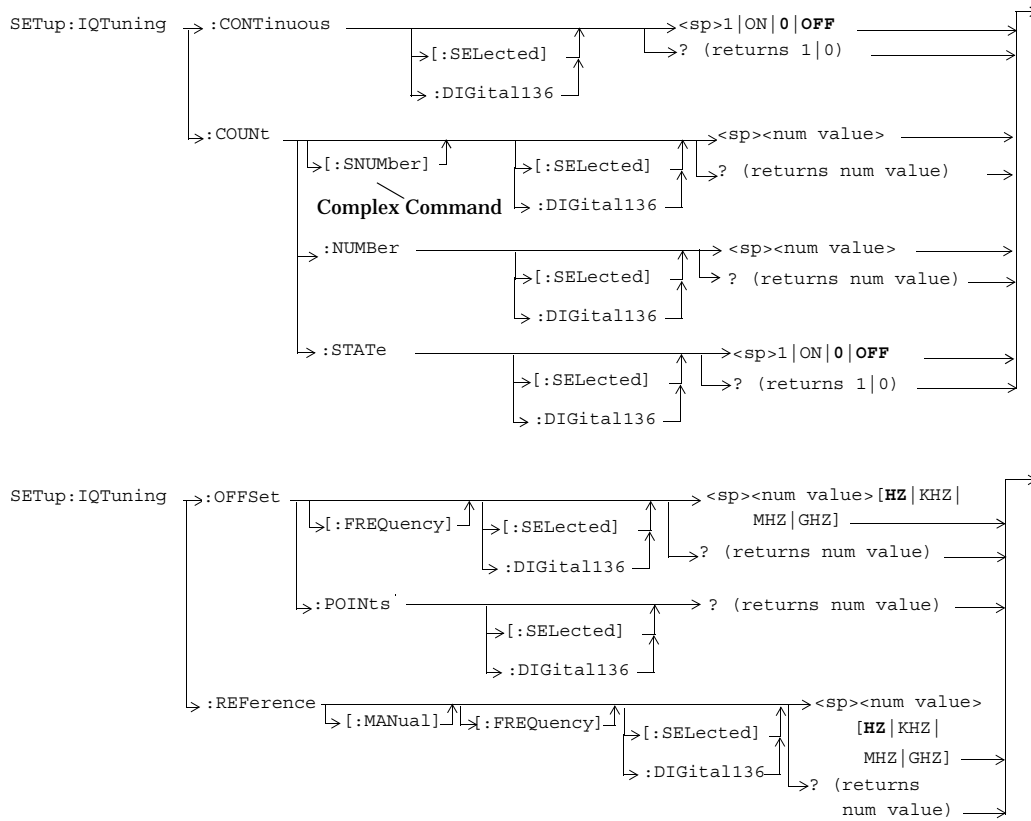


SETup:FSTability

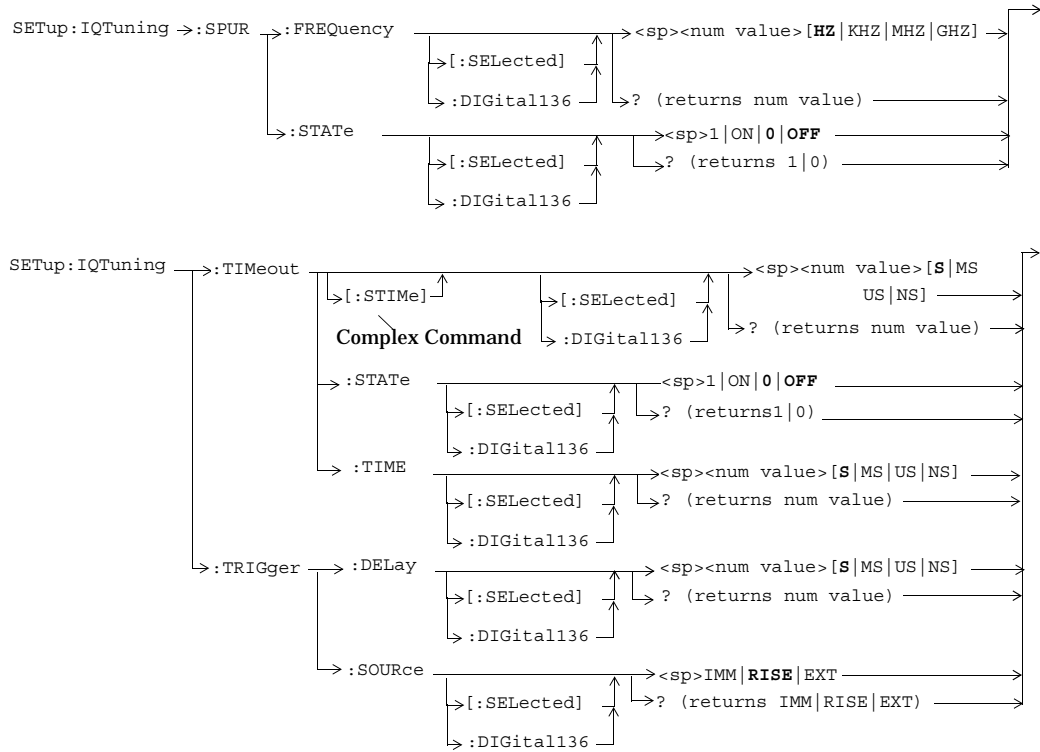


GPIB Syntax for the E1961A

SETup:IQTuning

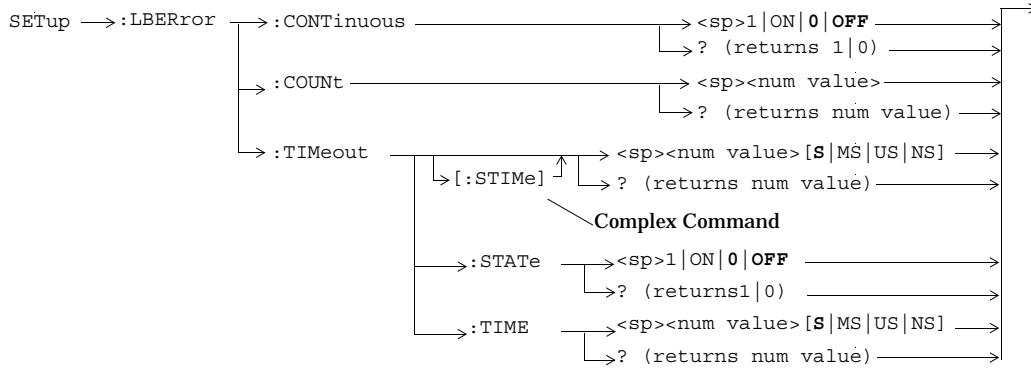


GPIB Syntax for the E1961A

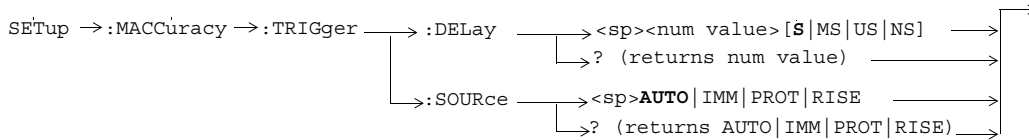
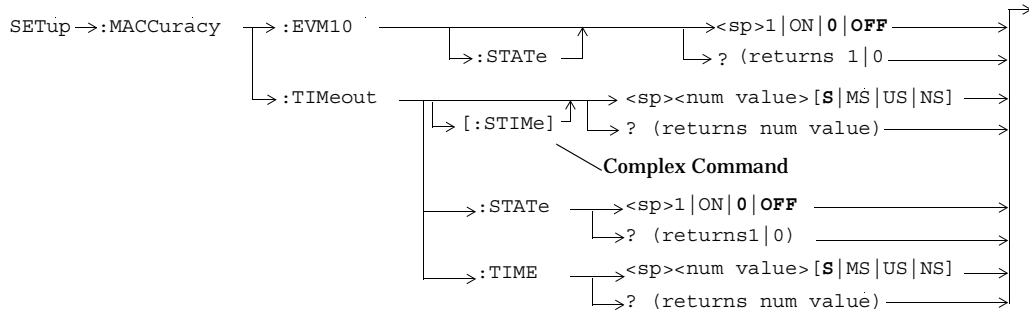
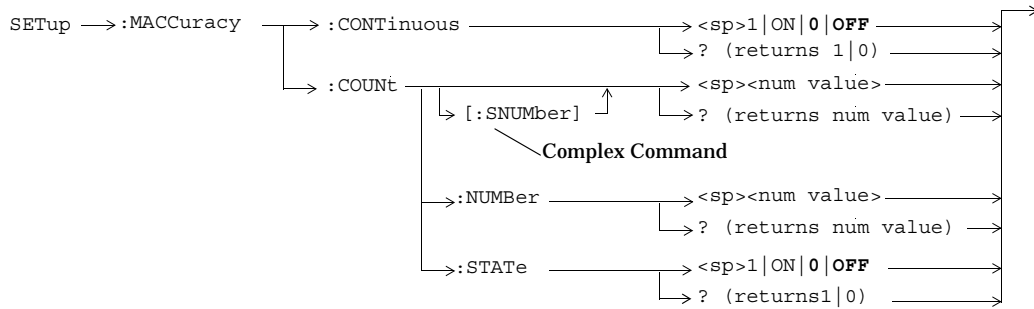


GPIB Syntax for the E1961A

SETup:LBError

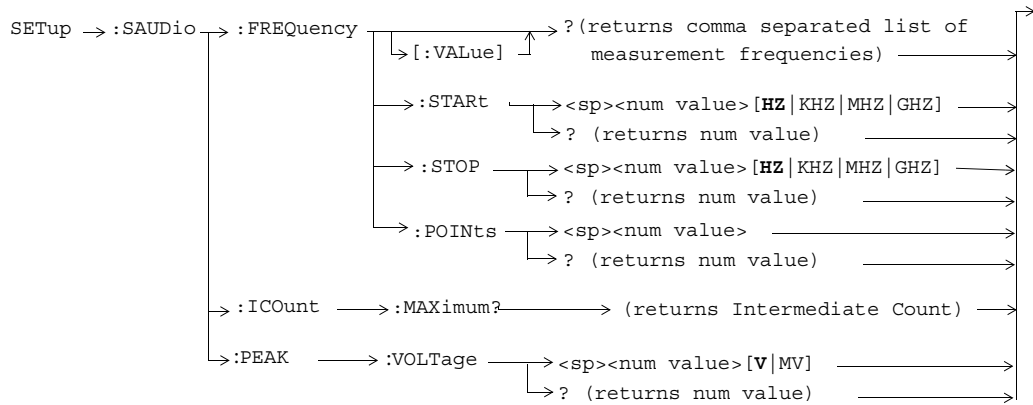
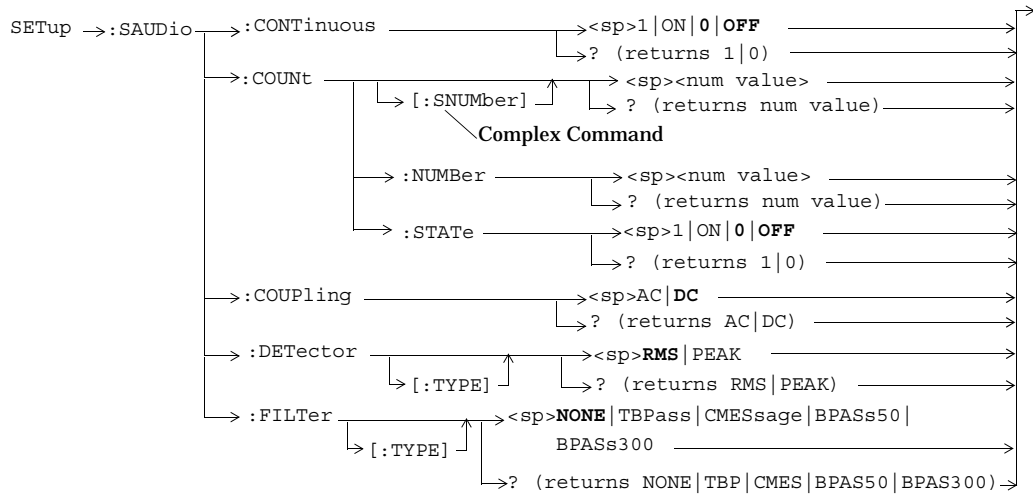


SETup:MACCuracy

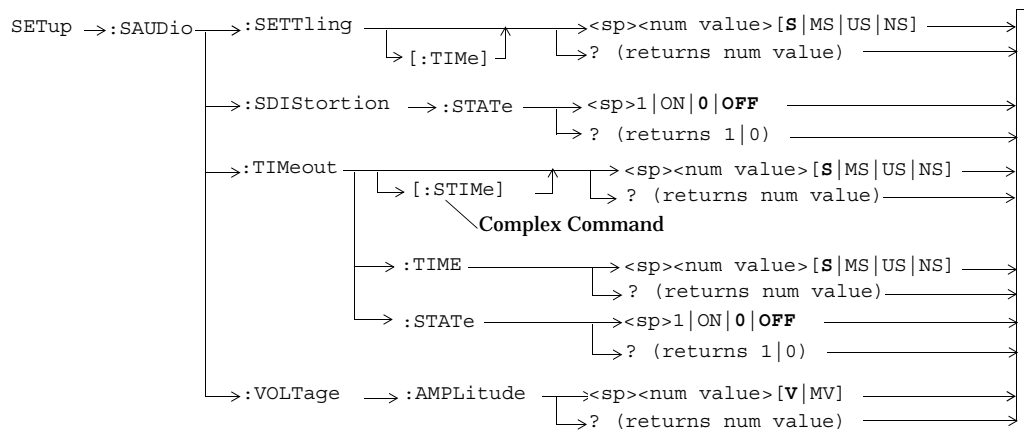


GPIB Syntax for the E1961A

SETup:SAudio

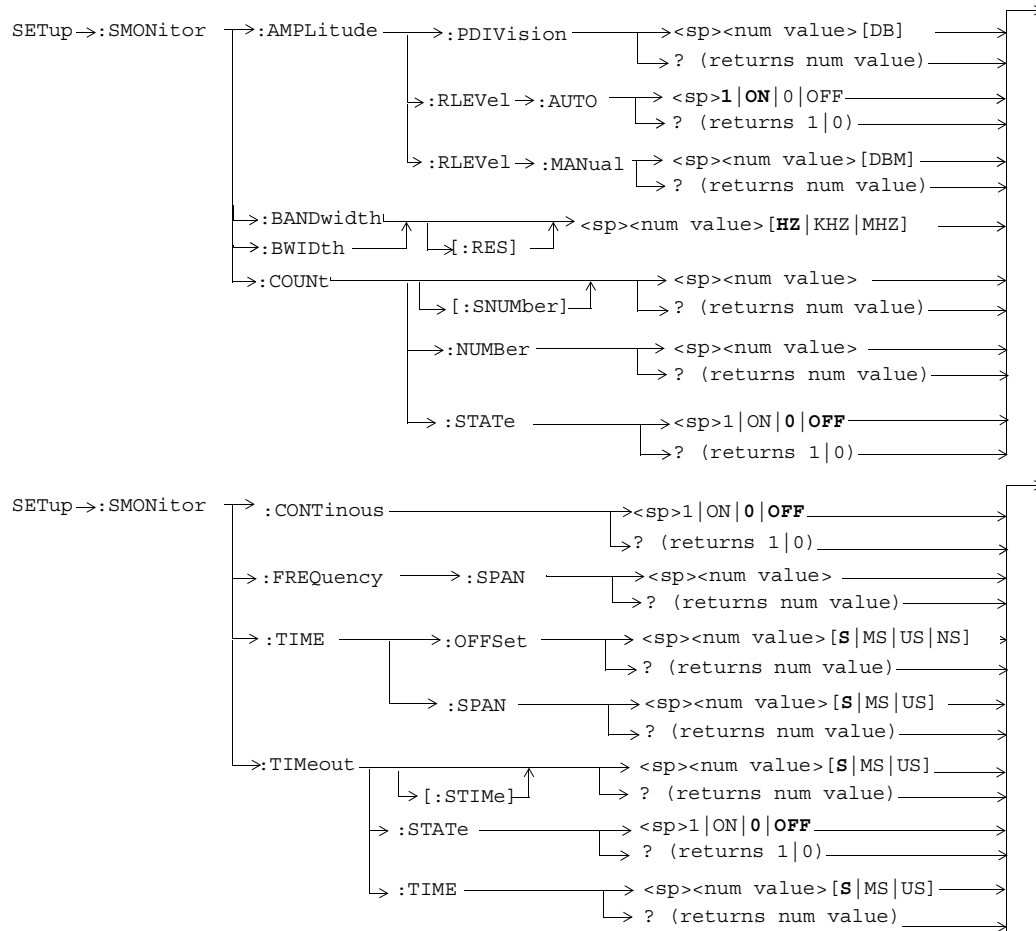


GPIO Syntax for the E1961A

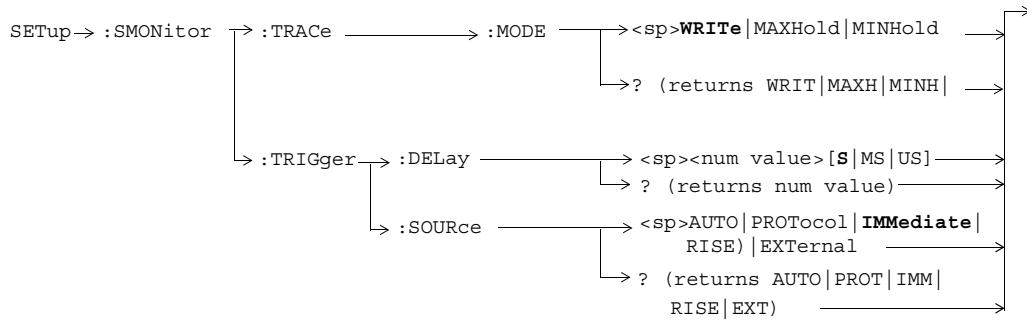


GPIB Syntax for the E1961A

SETup:SMONitor

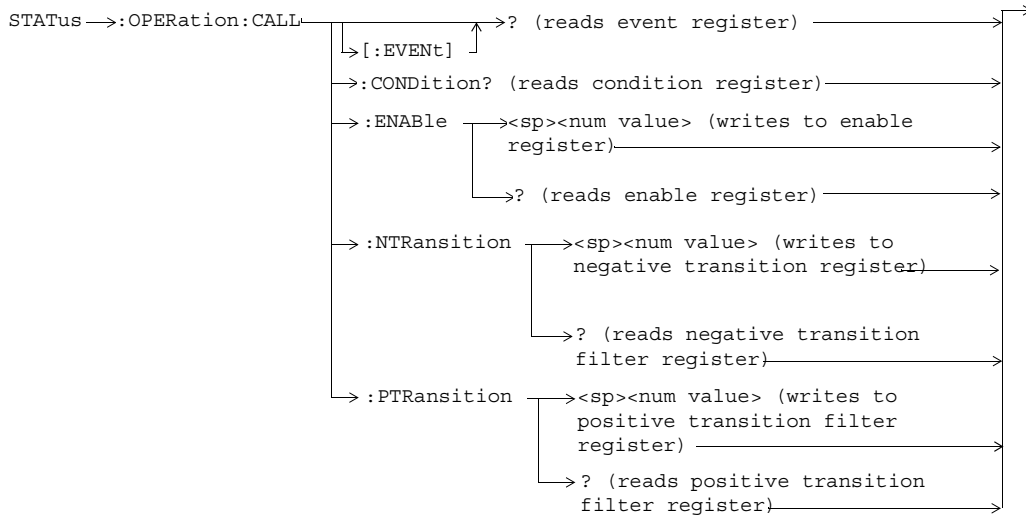
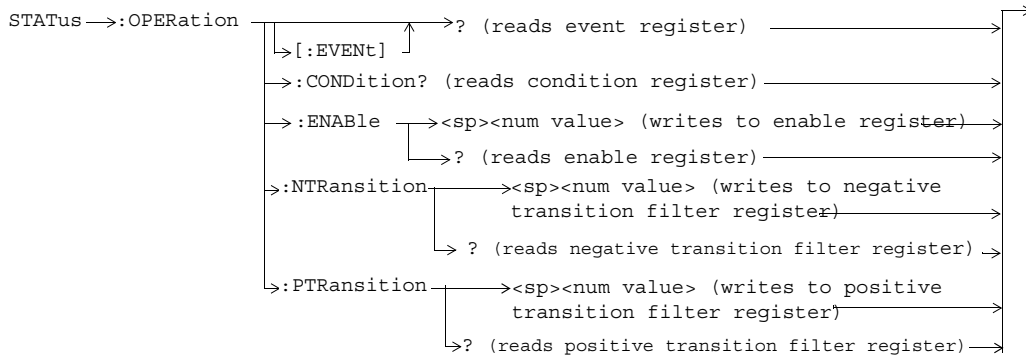


GPIO Syntax for the E1961A

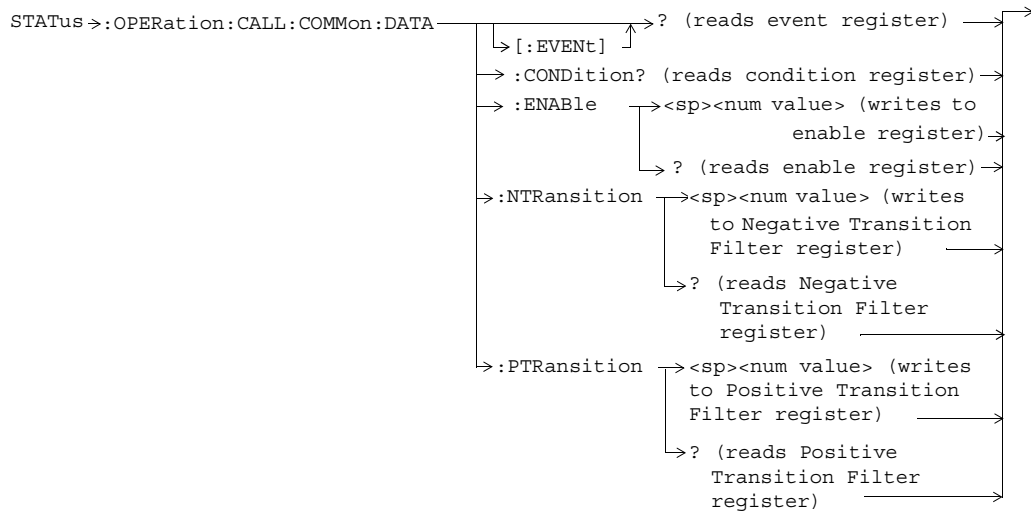
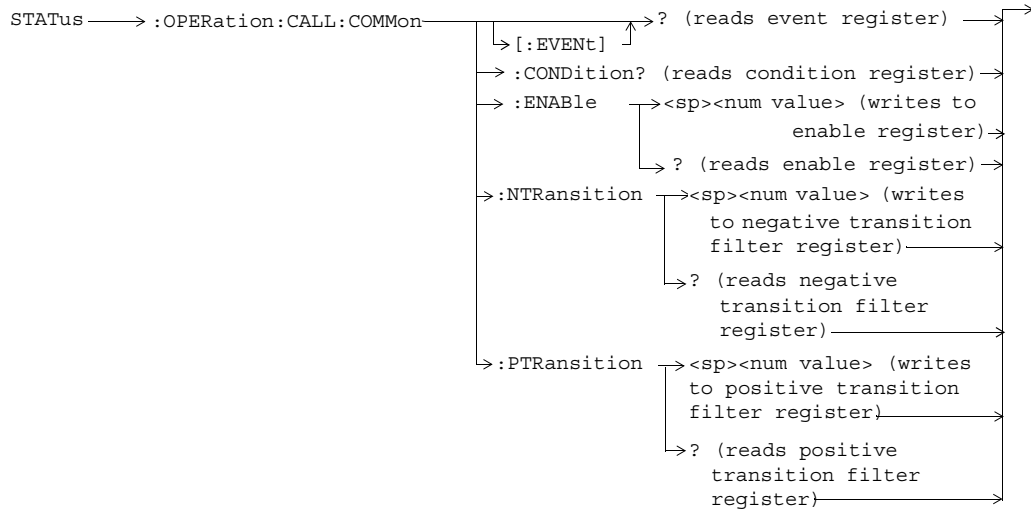


GPIB Syntax for the E1961A

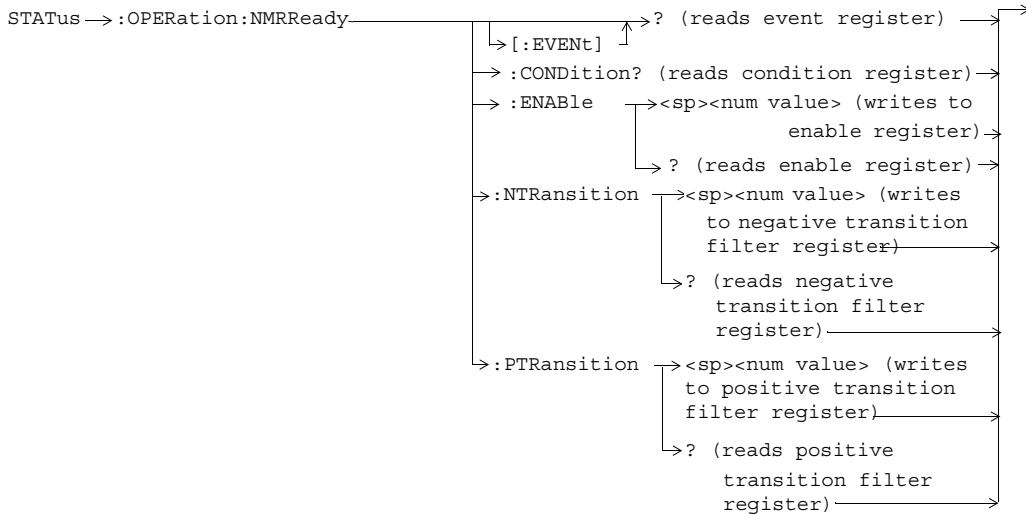
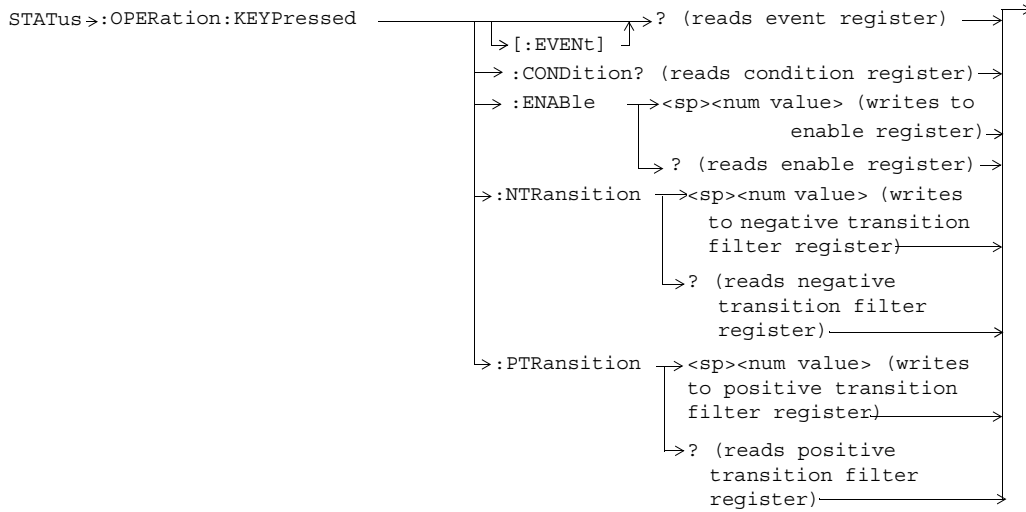
STATus:OPERation



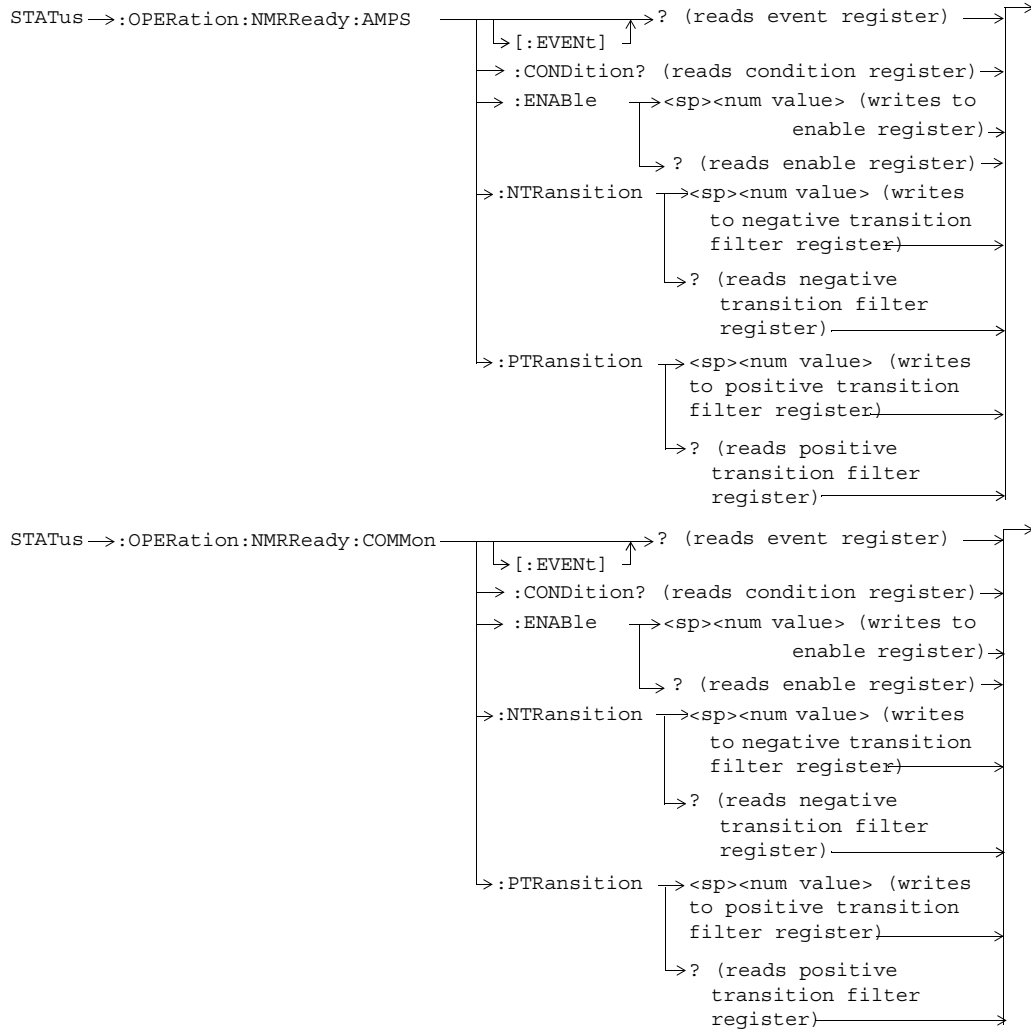
GPIB Syntax for the E1961A



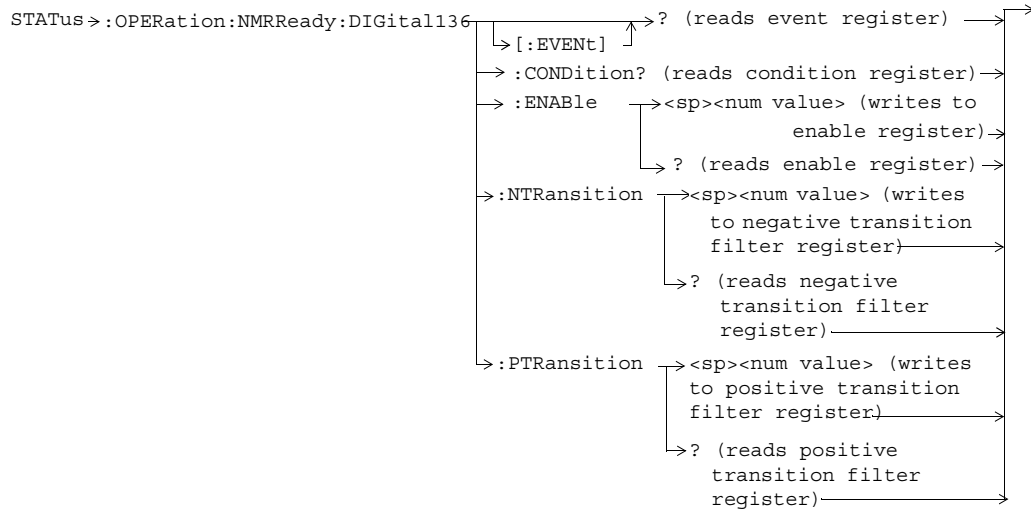
GPIO Syntax for the E1961A



GPIB Syntax for the E1961A



GPiB Syntax for the E1961A



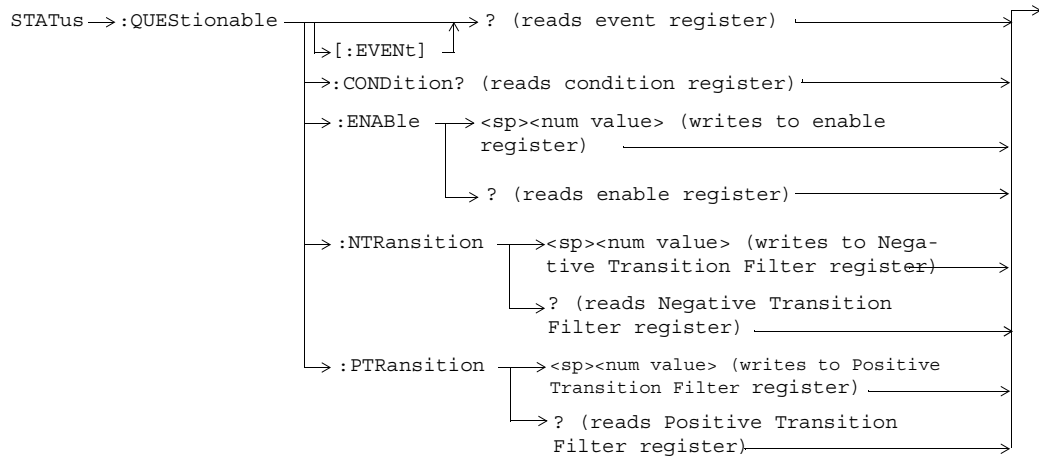
STATus:PRESet

STATus → :PRESet →

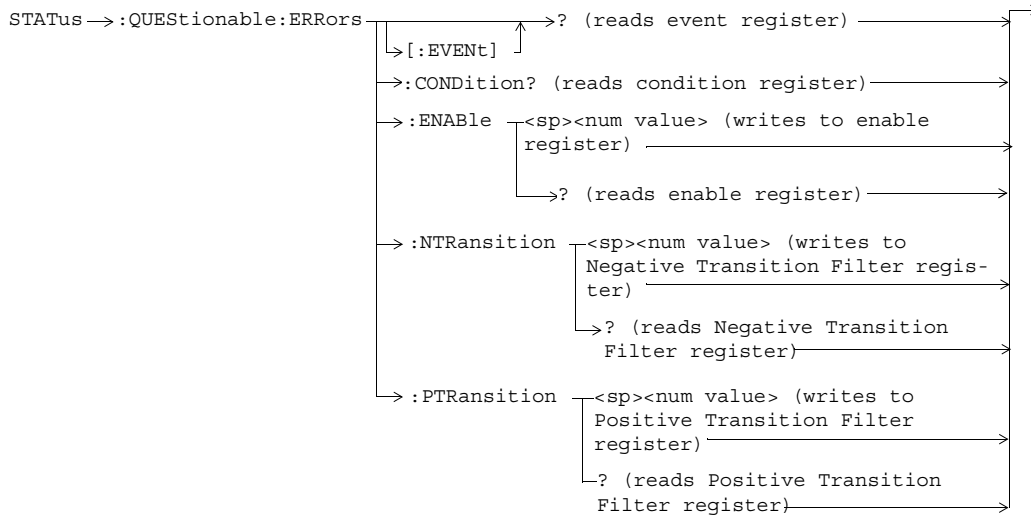
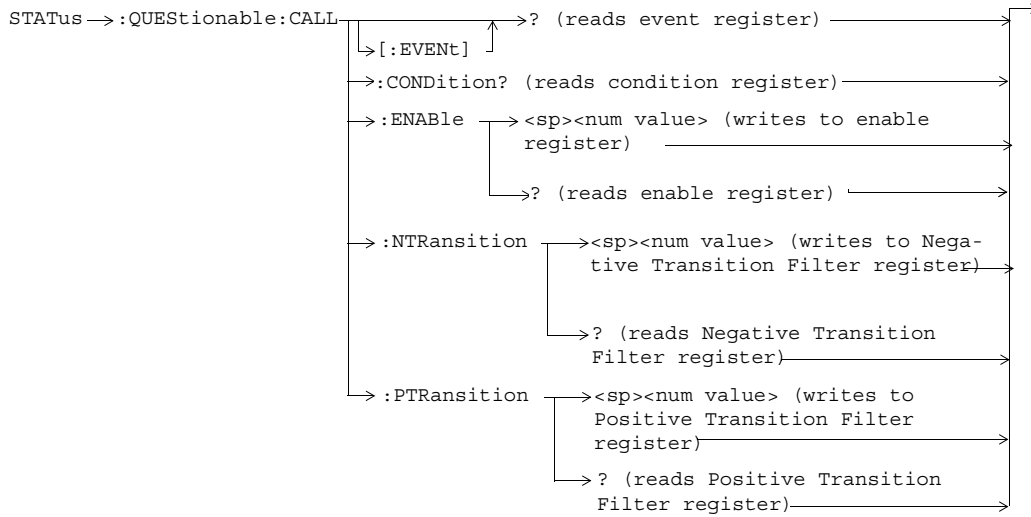
STATus:PRESet

| Function | Presets the Status Subsystem Sets all Enable Registers to 0 (not enabled). Sets all Positive Transition Registers (PTR) to 1 (positive transitions enabled). Sets all Negative Transition Registers (NTR) to 0 (negative transitions disabled). |
|----------|--|
| | |

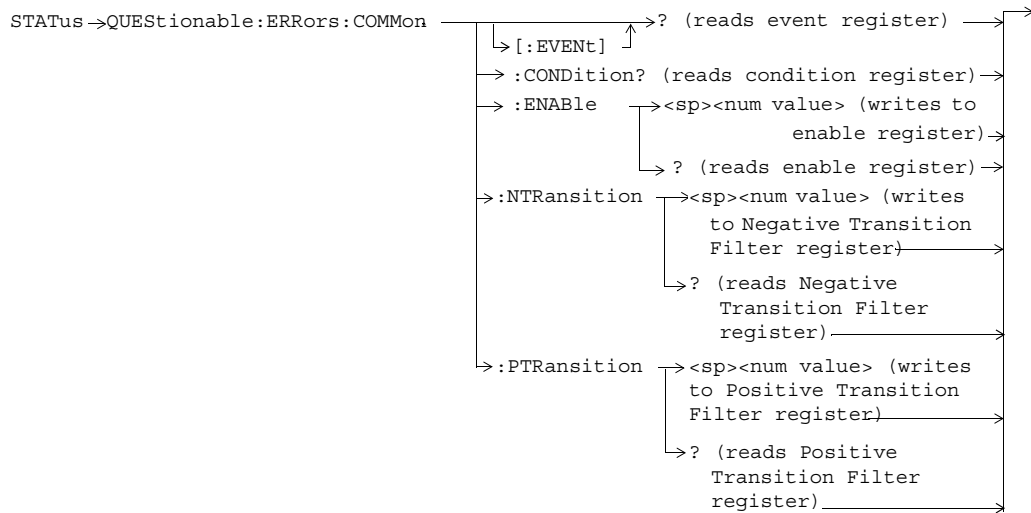
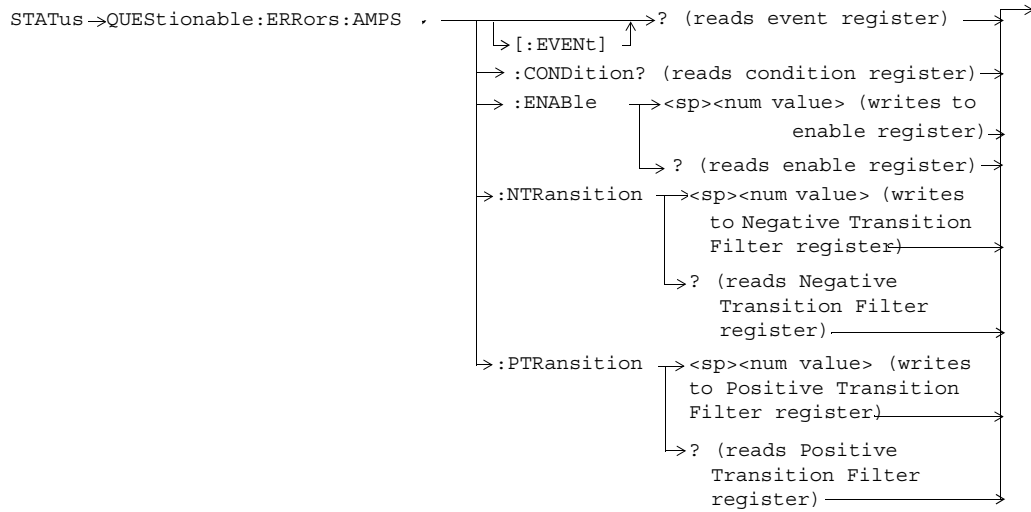
STATus:QUEStionable



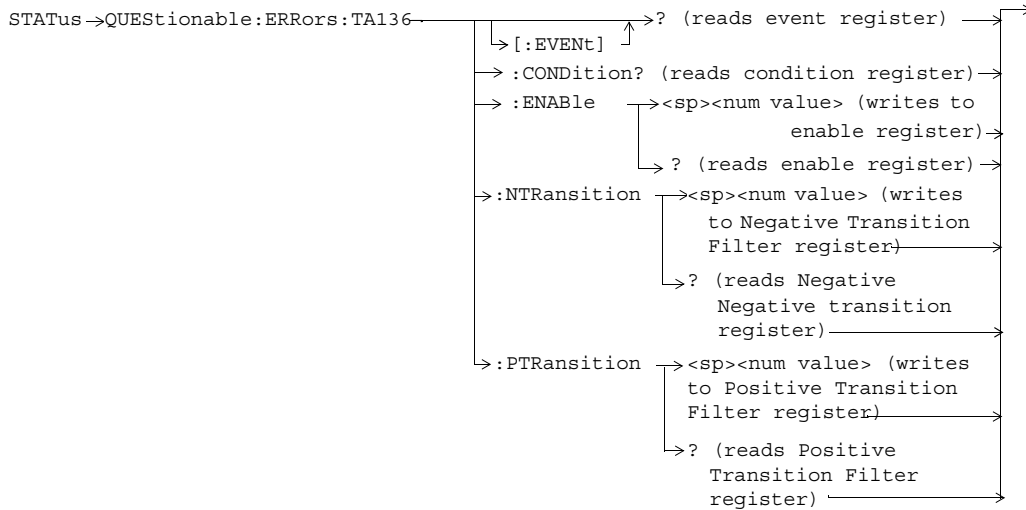
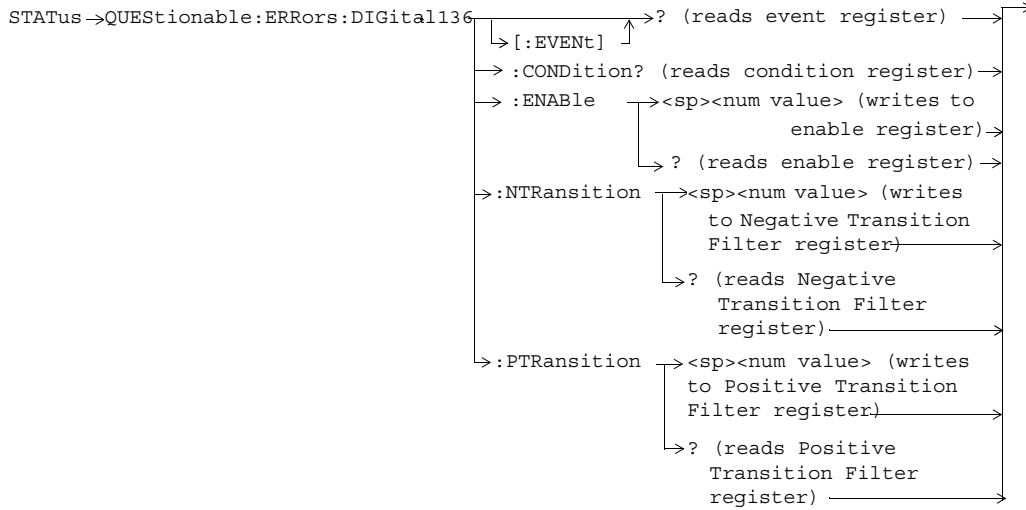
GPIB Syntax for the E1961A



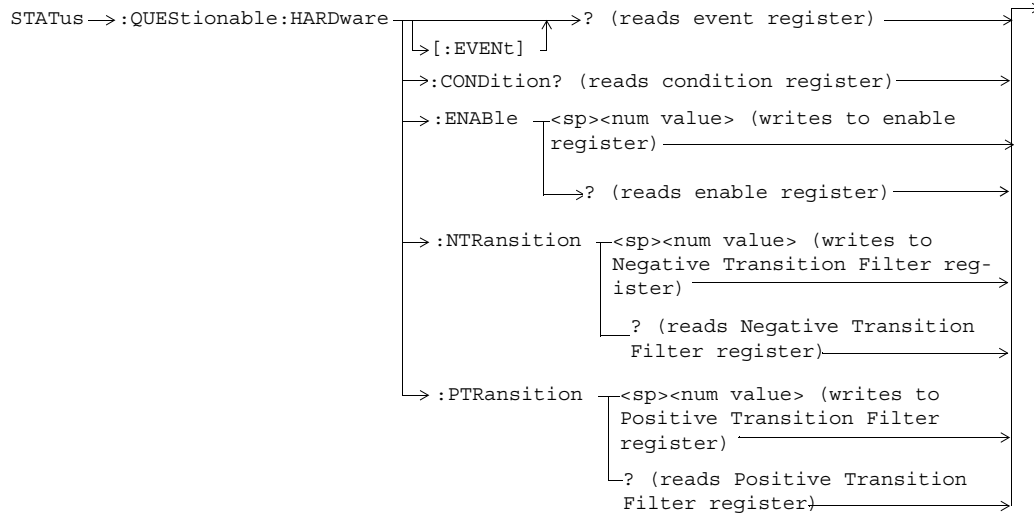
GPIB Syntax for the E1961A



GPIB Syntax for the E1961A



GPIB Syntax for the E1961A



```

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:ERRORS:EVENT?" !Queries and clears the Questionable
!Errors Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:CONDITION?" !Queries and clears the Questionable

```

GPIB Syntax for the E1961A

```
                                !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: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: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:DIGITAL136:EVENT?" !Queries and clears the
                                !Questionable Errors
                                !Digital136 Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:DIGITAL136:CONDITION?" !Queries and clears the
                                !Questionable Errors
                                !Digital136 Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:DIGITAL136:ENABLE 1024" !Sets the Questionable
                                !Errors Digital136 Enable
                                !Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:DIGITAL136:NTRANSITION 2" !Sets the Questionable
                                !Errors Digital136 Negative
                                !Transition Filter
                                !Register for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:DIGITAL136:PTRANSITION 2" !Sets the Questionable
```


GPIB Syntax for the E1961A

!Errors Digital136 Positive
!Transition Filter
!Register for bit 1

```
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:TA136:EVENT?" !Queries and clears the
!Questionable Errors
!TA136 Event Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:TA136:CONDITION?" !Queries and clears the
!Questionable Errors
!TA136 Condition Register
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:TA136:ENABLE 1024" !Sets the Questionable
!Errors TA136 Enable
!Register for bit 10
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:TA136:NTRANSITION 2" !Sets the Questionable
!Errors TA136 Negative
!Transition Filter
!Register for bit 1
OUTPUT 714;"STATUS:QUESTIONABLE:ERRORS:TA136:PTRANSITION 2" !Sets the Questionable
!Errors TA136 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).

GPiB Syntax for the E1961A

Status Byte Register Bit Assignments

| Bit Number | Binary Weighting | Label | Description |
|------------|------------------|---------------------------------------|---|
| 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 |
| 1 | 2 | Reserved | |
| 0 | 1 | Reserved | |

Status Byte Register Bit Assignments

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 →

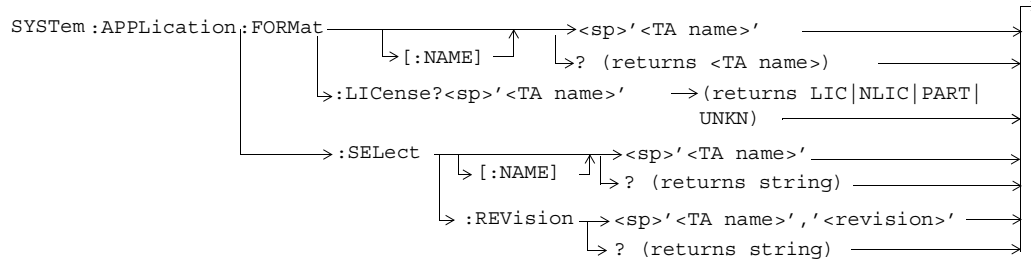
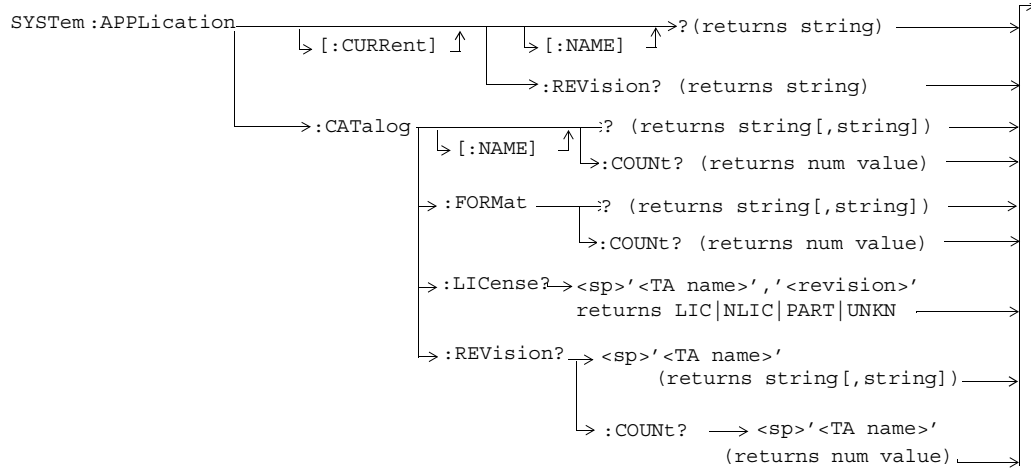
Standard Event Status Register Bit Assignment

| 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. |
| 5 | 32 | Command Error | 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: <ul style="list-style-type: none"> An IEEE 488.2 syntax error. The test set received a message that did not follow the syntax defined by the standard. A semantic error. For example the test set received an incorrectly spelled command. The test set received a group execution trigger (GET) inside a program message |
| 4 | 16 | Execution Error | 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: <ul style="list-style-type: none"> A <PROGRAM DATA> 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. The test set could not execute a valid command due to some test set hardware/firmware condition. |
| 3 | 8 | Device Dependent Error | 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. |

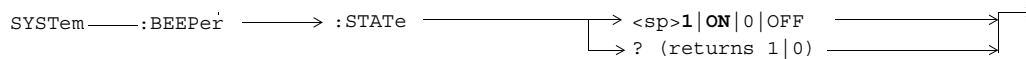
GPIB Syntax for the E1961A

| Bit Number | Binary Weighting | Condition | Description |
|------------|------------------|--------------------------|--|
| 2 | 4 | Query Error | 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: <ul style="list-style-type: none">• An attempt is made to read data from the output queue when no data is present or is pending.• Data in the output queue has been lost. An example of this would be an output queue overflow. |
| 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. |

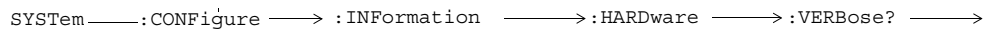
SYSTem:APPLication



SYSTem:BEEPer

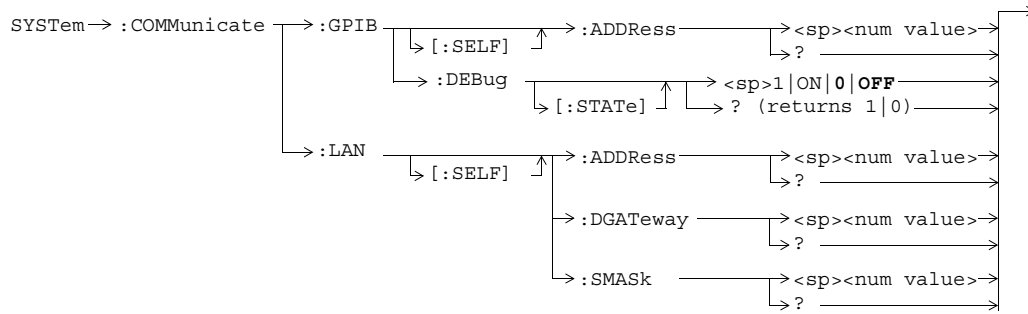


SYSTem:CONFIgure:INFormation:HARDware:VERBose?



GPIB Syntax for the E1961A

SYSTEM:COMMunicate



GPIB Syntax for the E1961A

SYSTem:ERRor?

SYSTem → :ERRor? →

SYSTem:MEASurement:RESet

SYSTem → :MEASurement → :RESet →

SYSTem:PRESet

SYSTem → :PRESet [1] →
→ :PRESet2 (full preset trigger arm continuous) →
→ :PRESet3 (partial preset trigger arm no change) →

SYSTem:ROSCillator

SYSTem → :ROSCillator → ? (returns EXT|INT) →
↳[:TIMEbase] →
↳:LOCKed? (returns 1|0) →

SYSTem:SYNChronized

SYSTem → :SYNChronized → ? (returns num value) →

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.

GPiB Syntax for the E1961A

***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. ***RST** is the recommended command when performing a full preset on the test set. A ***RST** restores the majority of settings to their default values.

- ***RST** sets trigger arm to single
- **PRESet2** sets trigger arm to continuous

***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.

GPIB Syntax for the E1961A

Index

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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