

Quick Reference Guide

SCPI Command Summary

The following conventions are used for SCPI command syntax for remote interface programming:

- Square brackets ([]) indicate optional keywords or parameters.
- Braces ({ }) enclose parameter choices within a command string.
- Triangle brackets (< >) enclose parameters for which you must substitute a value.
- A vertical bar (|) separates multiple parameter choices.

Rules for Using a Channel List

Many of the SCPI commands for the 34970A include a *scan_list* or *ch_list* parameter which allow you to specify one or more channels. The channel number has the form (@*scc*), where *s* is the slot number (100, 200, or 300) and *cc* is the channel number. You can specify a single channel, multiple channels, or a range of channels as shown below.

- The following command configures a scan list to include only channel 10 on the module in slot 300.

```
ROUT:SCAN (@310)
```

- The following command configures a scan list to include multiple channels on the module in slot 200. The scan list now contains only channels 10, 12, and 15 (*the scan list is redefined each time you send a new ROUTe:SCAN command*).

```
ROUT:SCAN (@210,212,215)
```

- The following command configures a scan list to include a range of channels. When you specify a range of channels, the range *may* contain invalid channels (they are ignored), but the first and last channel in the range must be valid. The scan list now contains channels 5 through 10 (slot 100) and channel 15 (slot 200).

```
ROUT:SCAN (@105:110,215)
```



Scan Measurement Commands

(see page 226 in the User's Guide)

S MEASure
:TEMPerature? {**TCouple**|RTD|FRTD|THERmistor|DEF}
[, <type>|DEF] [, 1 [, <resolution>|MIN|MAX|DEF]] , (@<scan_list>)
:VOLTage:DC? [{<range>|**AUTO**|MIN|MAX|DEF}
[, <resolution>|MIN|MAX|DEF] ,] (@<scan_list>)
:VOLTage:AC? [{<range>|**AUTO**|MIN|MAX|DEF}
[, <resolution>|MIN|MAX|DEF] ,] (@<scan_list>)
:RESistance? [{<range>|**AUTO**|MIN|MAX|DEF}
[, <resolution>|MIN|MAX|DEF] ,] (@<scan_list>)
:FRESistance? [{<range>|**AUTO**|MIN|MAX|DEF}
[, <resolution>|MIN|MAX|DEF] ,] (@<scan_list>)
:CURRent:DC? [{<range>|**AUTO**|MIN|MAX|DEF}
[, <resolution>|MIN|MAX|DEF] ,] (@<scan_list>)
:CURRent:AC? [{<range>|**AUTO**|MIN|MAX|DEF}
[, <resolution>|MIN|MAX|DEF] ,] (@<scan_list>)
:FREQuency? [{<range>|**AUTO**|MIN|MAX|DEF}
[, <resolution>|MIN|MAX|DEF] ,] (@<scan_list>)
:PERiod? [{<range>|**AUTO**|MIN|MAX|DEF}
[, <resolution>|MIN|MAX|DEF] ,] (@<scan_list>)
:DIGital:BYTE? (@<scan_list>)
:TOTAlize? {**READ**|RRESet} , (@<scan_list>)

Monitor Commands

(see page 237 in the User's Guide)

ROUTE
:MONitor (@<channel>)
:MONitor?

ROUTE
:MONitor:STATe {**OFF**|ON}
:MONitor:STATe?

ROUTE:MONitor:DATA?

Scan Statistics Commands

(see page 233 in the User's Guide)

CALCulate
:AVERage:MINimum? [(@<ch_list>)]
:AVERage:MINimum:TIME? [(@<ch_list>)]
:AVERage:MAXimum? [(@<ch_list>)]
:AVERage:MAXimum:TIME? [(@<ch_list>)]
:AVERage:AVERage? [(@<ch_list>)]
:AVERage:PTPeak? [(@<ch_list>)]
:AVERage:COUNT? [(@<ch_list>)]
:AVERage:CLEar [(@<ch_list>)]

DATA:LAST? [<num_rds> ,] [(@<channel>)]

S This command redefines the scan list when executed.
Default parameters are shown in **bold**.

Scan Configuration Commands

(see page 226 in the User's Guide)

ROUTE

S :SCAN (@<scan_list>)
:SCAN?
:SCAN:SIZE?

G TRIGger
:SOURce {BUS|**IMMEDIATE**|EXTernal|ALARm1|ALARm2|ALARm3|ALARm4|TIMer}
:SOURce?

G TRIGger
:TIMER {<seconds>|**MIN**|MAX}
:TIMER?

G TRIGger
:COUNT {<count>|**MIN**|MAX|INFIinity}
:COUNT?

ROUTE

:CHANnel:DELay <seconds> [, (@<ch_list>)]
:CHANnel:DELay? [(@<ch_list>)]
:CHANnel:DELay:AUTO {OFF|ON} [, (@<ch_list>)]
:CHANnel:DELay:AUTO? [(@<ch_list>)]

G FORMat
:READing:ALARm {**OFF**|ON}
:READing:ALARm?
:READing:CHANnel {**OFF**|ON}
:READing:CHANnel?
:READing:TIME {**OFF**|ON}
:READing:TIME?
:READing:UNIT {**OFF**|ON}
:READing:UNIT?

G FORMat
:READing:TIME:TYPE {ABSolute|**RELative**}
:READing:TIME:TYPE?

ABORT

INITiate

READ?

Scan Memory Commands

(see page 235 in the User's Guide)

DATA:POINTS?

DATA:REMOve? <num_rdg>

SYSTEM:TIME:SCAN?

FETCH?

R? [<max_count>]

S *This command redefines the scan list when executed.*
G *This command applies to all channels in the instrument (Global setting).
Default parameters are shown in **bold**.*

Scanning With an External Instrument

(see page 239 in the User's Guide)

- ROUTE
- S** :SCAN (@<scan_list>)
:SCAN?
:SCAN:SIZE?
 - G** TRIGger
:SOURce {BUS|IMMediate|EXTErnal|**TIMer**}
:SOURce?
 - G** TRIGger
:TIMer {<seconds>|**MIN**|MAX}
:TIMer?
 - G** TRIGger
:COUNT {<count>|MIN|MAX|**INFinity**}
:COUNT?
- ROUTE
- :CHANnel:DELay <seconds> [, (@<ch_list>)]
:CHANnel:DELay? [(@<ch_list>)]
 - G** ROUTe
:CHANnel:ADVance:SOURce {**EXTErnal**|BUS|IMMediate}
:CHANnel:ADVance:SOURce?
- ROUTE
- :CHANnel:FWIRE {OFF|ON} [, (@<ch_list>)]
:CHANnel:FWIRE? [(@<ch_list>)]
- G** INSTRument
:DMM {OFF|ON}
:DMM?
:DMM:INSTalled?

- S** *This command redefines the scan list when executed.*
- G** *This command applies to all channels in the instrument (Global setting). Default parameters are shown in **bold**.*

Temperature Configuration Commands

(see page 219 in the User's Guide)

```
S CONFIGure
    :TEMPerature {TCouple|RTD|FRTD|THERmistor|DEF}
      , {<type>|DEF} [, 1 [, {<resolution>|MIN|MAX|DEF}]] , (@<ch_list>)
CONFIGure? [ (@<ch_list>)]

UNIT
    :TEMPerature {C|F|K} [, (@<ch_list>)]
    :TEMPerature? [ (@<ch_list>)]

[SENSE:]TEMPerature:TRANSDUCer
    :TYPE {TCouple|RTD|FRTD|THERmistor|DEF} [, (@<ch_list>)]
    :TYPE? [ (@<ch_list>)]

[SENSE:]TEMPerature:TRANSDUCer
    :TCouple:TYPE {B|E|J|K|N|R|S|T} [, (@<ch_list>)]
    :TCouple:TYPE? [ (@<ch_list>)]
    :TCouple:CHECK {OFF|ON} [, (@<ch_list>)]
    :TCouple:CHECK? [ (@<ch_list>)]

[SENSE:]TEMPerature:TRANSDUCer
    :TCouple:RJUNCTION:TYPE {INTernal|EXtErnal|FIXed} [, (@<ch_list>)]
    :TCouple:RJUNCTION:TYPE? [ (@<ch_list>)]
    :TCouple:RJUNCTION {<temperature>|MIN|MAX} [, (@<ch_list>)]
    :TCouple:RJUNCTION? [ (@<ch_list>)]

[SENSE:]TEMPerature:RJUNCTION? [ (@<ch_list>)]

[SENSE:]TEMPerature:TRANSDUCer
    :RTD:TYPE {85|91} [, (@<ch_list>)]
    :RTD:TYPE? [ (@<ch_list>)]
    :RTD:RESistance[:REfERENCE] <reference> [, (@<ch_list>)]
    :RTD:RESistance[:REfERENCE]? [ (@<ch_list>)]

[SENSE:]TEMPerature:TRANSDUCer
    :FRTD:TYPE {85|91} [, (@<ch_list>)]
    :FRTD:TYPE? [ (@<ch_list>)]
    :FRTD:RESistance[:REfERENCE] <reference> [, (@<ch_list>)]
    :FRTD:RESistance[:REfERENCE]? [ (@<ch_list>)]

[SENSE:]TEMPerature:TRANSDUCer
    :THERmistor:TYPE {2252|5000|10000} [, (@<ch_list>)]
    :THERmistor:TYPE? [ (@<ch_list>)]

[SENSE:]
    TEMPerature:NPLC {0.02|0.2|1|2|10|20|100|200|MIN|MAX} [, (@<ch_list>)]
    TEMPerature:NPLC? [ (@<ch_list>)|MIN|MAX]
```

S This command redefines the scan list when executed.
Default parameters are shown in **bold**.

Voltage Configuration Commands

(see page 223 in the User's Guide)

```
S CONFIGure
:VOLTage:DC [ {<range>|AUTO|MIN|MAX|DEF}
[ ,<resolution>|MIN|MAX|DEF] ] , (@<scan_list>)
CONFIGure? [ (@<ch_list>)]

[SENSe:]
VOLTage:DC:RANGe {<range>|MIN|MAX} [ , (@<ch_list>)]
VOLTage:DC:RANGe? [ { (@<ch_list>) |MIN|MAX} ]
VOLTage:DC:RANGe:AUTO {OFF|ON} [ , (@<ch_list>)]
VOLTage:DC:RANGe:AUTO? [ (@<ch_list>)]

[SENSe:]
VOLTage:DC:RESolution {<resolution>|MIN|MAX} [ , (@<ch_list>)]
VOLTage:DC:RESolution? [ { (@<ch_list>) |MIN|MAX} ]

[SENSe:]
VOLTage:DC:APERTure {<time>|MIN|MAX} [ , (@<ch_list>)]
VOLTage:DC:APERTure? [ { (@<ch_list>) |MIN|MAX} ]

[SENSe:]
VOLTage:DC:NPLC {0.02|0.2|1|2|10|20|100|200|MIN|MAX} [ , (@<ch_list>)]
VOLTage:DC:NPLC? [ { (@<ch_list>) |MIN|MAX} ]

INPut
:IMPedance:AUTO {OFF|ON} [ , (@<ch_list>)]
:IMPedance:AUTO? [ (@<ch_list>)]

[SENSe:]
ZERO:AUTO {OFF|ONCE|ON} [ , (@<ch_list>)]
ZERO:AUTO? [ (@<ch_list>)]

S CONFIGure
:VOLTage:AC [ {<range>|AUTO|MIN|MAX|DEF}
[ ,<resolution>|MIN|MAX|DEF] ] , (@<scan_list>)
CONFIGure? [ (@<ch_list>)]

[SENSe:]
VOLTage:AC:RANGe {<range>|MIN|MAX} [ , (@<ch_list>)]
VOLTage:AC:RANGe? [ { (@<ch_list>) |MIN|MAX} ]
VOLTage:AC:RANGe:AUTO {OFF|ON} [ , (@<ch_list>)]
VOLTage:AC:RANGe:AUTO? [ (@<ch_list>)]

[SENSe:]
VOLTage:AC:BANDwidth {3|20|200|MIN|MAX} [ , (@<ch_list>)]
VOLTage:AC:BANDwidth? [ { (@<ch_list>) |MIN|MAX} ]
```

S This command redefines the scan list when executed.
Default parameters are shown in **bold**.

Resistance Configuration Commands

(see page 224 in the User's Guide)

```
S CONFigure
:RESistance [{<range>|AUTO|MIN|MAX|DEF}
[, <resolution>|MIN|MAX|DEF}], ] (@<scan_list>)
CONFigure? [(@<ch_list>)]

[SENSe:]
RESistance:RANGe {<range>|MIN|MAX} [, (@<ch_list>)]
RESistance:RANGe? [(@<ch_list>|MIN|MAX)]
RESistance:RANGe:AUTO {OFF|ON} [, (@<ch_list>)]
RESistance:RANGe:AUTO? [(@<ch_list>)]

[SENSe:]
RESistance:RESolution {<resolution>|MIN|MAX} [, (@<ch_list>)]
RESistance:RESolution? [(@<ch_list>|MIN|MAX)]
RESistance:APERture {<time>|MIN|MAX} [, (@<ch_list>)]
RESistance:APERture? [(@<ch_list>|MIN|MAX)]
RESistance:NPLC {0.02|0.2|1|2|10|20|100|200|MIN|MAX} [, (@<ch_list>)]
RESistance:NPLC? [(@<ch_list>|MIN|MAX)]

[SENSe:]
RESistance:OCOMPensated {OFF|ON} [, (@<ch_list>)]
RESistance:OCOMPensated? [(@<ch_list>)]

S CONFigure
:FRESistance [{<range>|AUTO|MIN|MAX|DEF}
[, <resolution>|MIN|MAX|DEF}], ] (@<scan_list>)
CONFigure? [(@<ch_list>)]

[SENSe:]
FRESistance:RANGe {<range>|MIN|MAX} [, (@<ch_list>)]
FRESistance:RANGe? [(@<ch_list>|MIN|MAX)]
FRESistance:RANGe:AUTO {OFF|ON} [, (@<ch_list>)]
FRESistance:RANGe:AUTO? [(@<ch_list>)]

[SENSe:]
FRESistance:RESolution {<resolution>|MIN|MAX} [, (@<ch_list>)]
FRESistance:RESolution? [(@<ch_list>|MIN|MAX)]
FRESistance:APERture {<time>|MIN|MAX} [, (@<ch_list>)]
FRESistance:APERture? [(@<ch_list>|MIN|MAX)]
FRESistance:NPLC {0.02|0.2|1|2|10|20|100|200|MIN|MAX} [, (@<ch_list>)]
FRESistance:NPLC? [(@<ch_list>|MIN|MAX)]

[SENSe:]
FRESistance:OCOMPensated {OFF|ON} [, (@<ch_list>)]
FRESistance:OCOMPensated? [(@<ch_list>)]
```

S *This command redefines the scan list when executed.
Default parameters are shown in **bold**.*

Current Configuration Commands

(see page 224 in the User's Guide)

Valid only on channels 21 and 22 on the 34901A multiplexer module.

```
S CONFIGure
    :CURRent:DC [{<range>|AUTO|MIN|MAX|DEF}
        [, <resolution>|MIN|MAX|DEF}], ] (@<scan_list>)
CONFIGure? [(@<ch_list>)]

[SENSe:]
    CURRent:DC:RANGe {<range>|MIN|MAX} [, (@<ch_list>)]
    CURRent:DC:RANGe? [ {(@<ch_list>)|MIN|MAX}]
    CURRent:DC:RANGe:AUTO {OFF|ON} [, (@<ch_list>)]
    CURRent:DC:RANGe:AUTO? [ {(@<ch_list>)}]

[SENSe:]
    CURRent:DC:RESolution {<resolution>|MIN|MAX} [, (@<ch_list>)]
    CURRent:DC:RESolution? [ {(@<ch_list>)|MIN|MAX}]

[SENSe:]
    CURRent:DC:APERTure {<time>|MIN|MAX} [, (@<ch_list>)]
    CURRent:DC:APERTure? [ {(@<ch_list>)|MIN|MAX}]

[SENSe:]
    CURRent:DC:NPLC {0.02|0.2|1|2|10|20|100|200|MIN|MAX} [, (@<ch_list>)]
    CURRent:DC:NPLC? [ {(@<ch_list>)|MIN|MAX}]

S CONFIGure
    :CURRent:AC [{<range>|AUTO|MIN|MAX|DEF}
        [, <resolution>|MIN|MAX|DEF}], ] (@<scan_list>)
CONFIGure? [(@<ch_list>)]

[SENSe:]
    CURRent:AC:RANGe {<range>|MIN|MAX} [, (@<ch_list>)]
    CURRent:AC:RANGe? [ {(@<ch_list>)|MIN|MAX}]
    CURRent:AC:RANGe:AUTO {OFF|ON} [, (@<ch_list>)]
    CURRent:AC:RANGe:AUTO? [ {(@<ch_list>)}]

[SENSe:]
    CURRent:AC:BANDwidth {3|20|200|MIN|MAX} [, (@<ch_list>)]
    CURRent:AC:BANDwidth? [ {(@<ch_list>)|MIN|MAX}]
```

S This command redefines the scan list when executed.
Default parameters are shown in **bold**.

Frequency and Period Configuration Commands

(see page 214 in the User's Guide)

```
S CONFIGure
:FREQuency [ {<range> | AUTO | MIN | MAX | DEF}
[ , <resolution> | MIN | MAX | DEF} ] , ] (@<scan_list>)
CONFIGure? [ (@<ch_list>)]

[SENSe:]
FREQuency:VOLTage:RANGe {<range> | MIN | MAX} [ , (@<ch_list>)]
FREQuency:VOLTage:RANGe? [ { (@<ch_list>) | MIN | MAX} ]
FREQuency:VOLTage:RANGe:AUTO {OFF | ON} [ , (@<ch_list>)]
FREQuency:VOLTage:RANGe:AUTO? [ (@<ch_list>)]

[SENSe:]
FREQuency:APERTure {0.01 | 0.1 | 1 | MIN | MAX} [ , (@<ch_list>)]
FREQuency:APERTure? [ { (@<ch_list>) | MIN | MAX} ]

[SENSe:]
FREQuency:RANGe:LOWer {3 | 20 | 200 | MIN | MAX} [ , (@<ch_list>)]
FREQuency:RANGe:LOWer? [ { (@<ch_list>) | MIN | MAX} ]

S CONFIGure
:PERiod [ {<range> | AUTO | MIN | MAX | DEF}
[ , <resolution> | MIN | MAX | DEF} ] , ] (@<scan_list>)
CONFIGure? [ (@<ch_list>)]

[SENSe:]
PERiod:VOLTage:RANGe {<range> | MIN | MAX} [ , (@<ch_list>)]
PERiod:VOLTage:RANGe? [ { (@<ch_list>) | MIN | MAX} ]
PERiod:VOLTage:RANGe:AUTO {OFF | ON} [ , (@<ch_list>)]
PERiod:VOLTage:RANGe:AUTO? [ (@<ch_list>)]

[SENSe:]
PERiod:APERTure {0.01 | 0.1 | 1 | MIN | MAX} [ , (@<ch_list>)]
PERiod:APERTure? [ { (@<ch_list>) | MIN | MAX} ]
```

S *This command redefines the scan list when executed.
Default parameters are shown in bold.*

Mx+B Scaling Commands

(see page 244 in the User's Guide)

```
CALCulate
:SCALE:GAIN <gain> [, (@<ch_list>)]
:SCALE:GAIN? [ (@<ch_list>)]
:SCALE:OFFSET <offset> [, (@<ch_list>)]
:SCALE:OFFSET? [ (@<ch_list>)]
:SCALE:UNIT <quoted_string> [, (@<ch_list>)]
:SCALE:UNIT? [ (@<ch_list>)]

CALCulate:SCALE:OFFSET:NULL [ (@<ch_list>)]

CALCulate
:SCALE:STATE {OFF|ON} [, (@<ch_list>)]
:SCALE:STATE? [ (@<ch_list>)]
```

Alarm Limit Commands

(see page 247 in the User's Guide)

```
OUTPut
:ALARm[1|2|3|4]:SOURce (@<ch_list>)
:ALARm[1|2|3|4]:SOURce?

CALCulate
:LIMit:UPPer <hi_limit> [, (@<ch_list>)]
:LIMit:UPPer? [ (@<ch_list>)]
:LIMit:UPPer:STATE {OFF|ON} [, (@<ch_list>)]
:LIMit:UPPer:STATE? [ (@<ch_list>)]

CALCulate
:LIMit:LOWer <lo_limit> [, (@<ch_list>)]
:LIMit:LOWer? [ (@<ch_list>)]
:LIMit:LOWer:STATE {OFF|ON} [, (@<ch_list>)]
:LIMit:LOWer:STATE? [ (@<ch_list>)]

SYSTem:ALARm?

G OUTPut
:ALARm:MODE {LATCh|TRACK}
:ALARm:MODE?
:ALARm:SLOPe {NEGative|Positive}
:ALARm:SLOPe?

OUTPut
:ALARm{1|2|3|4}:CLEar
:ALARm:CLEar:ALL

STATus
:ALARm:CONDition?
:ALARm:ENABle <enable_value>
:ALARm:ENABle?
:ALARm[:EVENT]?
```

Ch 01	Ch 02	Ch 03	Ch 04	Ch 05
DIO (LSB)	DIO (MSB)	Totalizer	DAC	DAC

```
CALCulate
:COMPare:TYPE {EQUAL|NEQual} [, (@<ch_list>)]
:COMPare:TYPE? [ (@<ch_list>)]
:COMPare:DATA <data> [, (@<ch_list>)]
:COMPare:DATA? [ (@<ch_list>)]
:COMPare:MASK <mask> [, (@<ch_list>)]
:COMPare:MASK? [ (@<ch_list>)]
:COMPare:STATE {OFF|ON} [, (@<ch_list>)]
:COMPare:STATE? [ (@<ch_list>)]
```

G This command applies to all channels in the instrument (Global setting). Default parameters are shown in **bold**.

Digital Input Commands

(see page 255 in the User's Guide)

Ch 01	Ch 02	Ch 03	Ch 04	Ch 05
DIO (LSB)	DIO (MSB)	Totalizer	DAC	DAC

S CONFigure:DIGital:BYTE (@<scan_list>
CONFigure? [(@<ch_list>)]
[SENSe:]DIGital:DATA:{**BYTE**|WORD}? [(@<ch_list>)]

Totalizer Commands

(see page 256 in the User's Guide)

Ch 01	Ch 02	Ch 03	Ch 04	Ch 05
DIO (LSB)	DIO (MSB)	Totalizer	DAC	DAC

S CONFigure:TOTalize {**READ**|RRESet} , (@<scan_list>
CONFigure? [(@<ch_list>)]
[SENSe:]
TOTalize:TYPE {**READ**|RRESet}[, (@<ch_list>)]
TOTalize:TYPE? [(@<ch_list>)]
[SENSe:]
TOTalize:SLOPe {NEGative|**Positive**}[, (@<ch_list>)]
TOTalize:SLOPe? [(@<ch_list>)]
[SENSe:]TOTalize:CLEar:IMMediate [(@<ch_list>)]
[SENSe:]TOTalize:DATA? [(@<ch_list>)]

Digital Output Commands

(see page 258 in the User's Guide)

Ch 01	Ch 02	Ch 03	Ch 04	Ch 05
DIO (LSB)	DIO (MSB)	Totalizer	DAC	DAC

SOURce
:DIGital:DATA[:{**BYTE**|WORD}] <data> , (@<ch_list>)
:DIGital:DATA[:{**BYTE**|WORD}]? (@<ch_list>)
SOURce:DIGital:STATe? (@<ch_list>)

DAC Output Commands

(see page 258 in the User's Guide)

Ch 01	Ch 02	Ch 03	Ch 04	Ch 05
DIO (LSB)	DIO (MSB)	Totalizer	DAC	DAC

SOURce
:VOLTage <voltage> , (@<ch_list>)
:VOLTage? (@<ch_list>)

S This command redefines the scan list when executed.
Default parameters are shown in **bold**.

Switch Control Commands

(see page 259 in the User's Guide)

```
ROUTE
:CLoSe (@<ch_list>)
:CLoSe:EXCLuSive (@<ch_list>)
:CLoSe? (@<ch_list>)
```

```
ROUTE
:OPEN (@<ch_list>)
:OPEN? (@<ch_list>)
```

```
ROUTE:DONE?
```

```
SYSTem:CPON {100|200|300|ALL}
```

Scan Triggering Commands

(see page 228 in the User's Guide)

G TRIGger
:SOURce {BUS|**IMMediate**|EXTErnal|ALARm1|ALARm2|ALARm3|ALARm4|TIMer}
:SOURce?

G TRIGger
:TIMer {<seconds>|**MIN**|MAX}
:TIMer?

G TRIGger
:COUNT {<count>|**MIN**|MAX|INFIinity}
:COUNT?

```
*TRG
```

```
INITiate
```

```
READ?
```

State Storage Commands

(see page 261 in the User's Guide)

```
*SAV {0|1|2|3|4|5}
```

```
*RCL {0|1|2|3|4|5}
```

```
MEMory:STAtE
:NAME {1|2|3|4|5} [, <name>]
:NAME? {1|2|3|4|5}
```

```
MEMory:STAtE:DELEte {0|1|2|3|4|5}
```

```
MEMory:STAtE
:RECall:AUTO {OFF|ON}
:RECall:AUTO?
```

```
MEMory:STAtE:VALid? {0|1|2|3|4|5}
```

```
MEMory:NSTates?
```

G This command applies to all channels in the instrument (Global setting).
Default parameters are shown in **bold**.

System-Related Commands

(see page 264 in the User's Guide)

```
SYSTem
:DATE <yyyy>, <mm>, <dd>
:DATE?
:TIME <hh>, <mm>, <ss.sss>
:TIME?

FORMat
:READING:TIME:TYPE {ABSolute|RELative}
:READING:TIME:TYPE?

*IDN?

SYSTem:CTYPE? {100|200|300}

DIAGnostic
:POKE:SLOT:DATA {100|200|300}, <quoted_string>
:PEEK:SLOT:DATA? {100|200|300}

DISPlay {OFF|ON}
DISPlay?

DISPlay
:TEXT <quoted_string>
:TEXT?
:TEXT:CLEar

*RST

SYSTem:PRESet

SYSTem:CPON {100|200|300|ALL}

SYSTem:ERRor?

SYSTem:ALARm?

SYSTem:VERSion?

*TST?
```

Interface Configuration Commands

(see page 269 in the User's Guide)

```
SYSTem:INTErface {GPIB|RS232}

SYSTem:LOCal

SYSTem:REMote

SYSTem:RWLock
```

Default parameters are shown in **bold**.

Status System Commands

(see page 286 in the User's Guide)

```
*STB?
*SRE <enable_value>
*SRE?

STATus
:QUESTionable:CONDition?
:QUESTionable[:EVENT]?
:QUESTionable:ENABle <enable_value>
:QUESTionable:ENABle?

*ESR?
*ESE <enable_value>
*ESE?

STATus
:ALARm:CONDition?
:ALARm[:EVENT]?
:ALARm:ENABle <enable_value>
:ALARm:ENABle?

STATus
:OPERation:CONDition?
:OPERation[:EVENT]?
:OPERation:ENABle <enable_value>
:OPERation:ENABle?

DATA:POINTs
:EVENT:THReshold <num_rdgs>
:EVENT:THReshold?

*CLS

*PSC {0|1}
*PSC?

*OPC
```

Calibration Commands

(see page 292 in the User's Guide)

```
CALibration?

CALibration:COUNT?

CALibration
:SECure:CODE <new_code>
:SECure:STATe {OFF|ON}, <code>
:SECure:STATe?

CALibration
:STRing <quoted_string>
:STRing?

CALibration
:VALue <value>
:VALue?
```

Service-Related Commands

(see page 294 in the User's Guide)

```
INSTRument
:DMM {OFF|ON}
:DMM?
:DMM:INSTALLED?

DIAGnostic
:DMM:CYCLES?
:DMM:CYCLES:CLEAr {1|2|3}

DIAGnostic
:RELAy:CYCLES? [(@<ch_list>)]
:RELAy:CYCLES:CLEAr [(@<ch_list>)]

*RST

SYSTEM:PRESet

SYSTEM:CPON {100|200|300|ALL}

SYSTEM:VERSIon?

*TST?
```

IEEE 488.2 Common Commands

```
*CLS

*ESR?
*ESE <enable_value>
*ESE?

*IDN?

*OPC

*OPC?

*PSC {0|1}
*PSC?

*RST

*SAV {0|1|2|3|4|5}
*RCL {0|1|2|3|4|5}

*STB?
*SRE <enable_value>
*SRE?

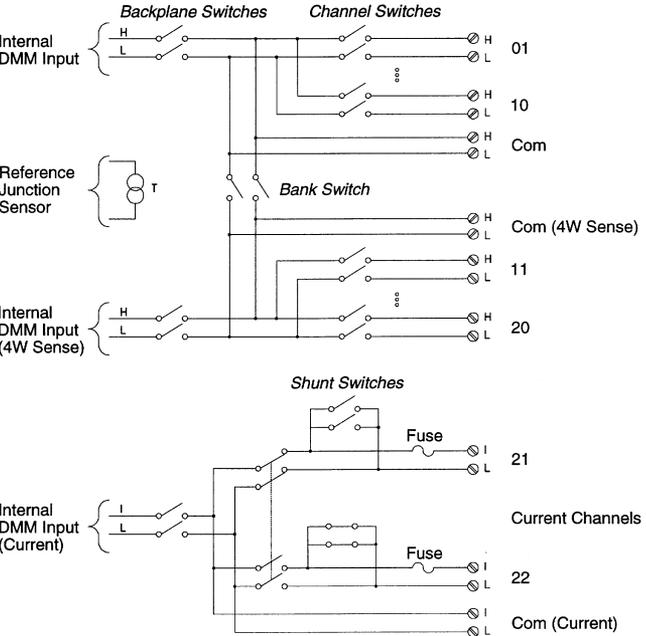
*TRG

*TST?
```

*Default parameters are shown in **bold**.*

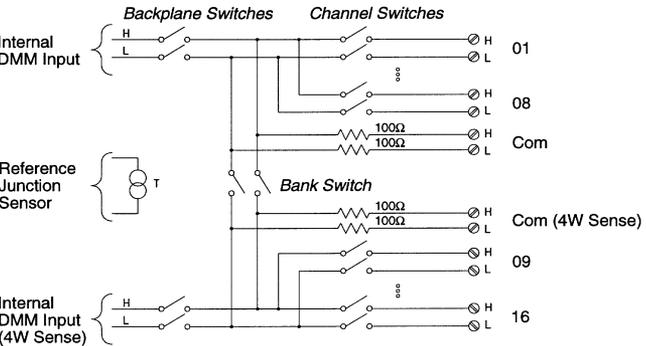
Agilent 34901A 20-Channel Multiplexer

(see page 164 in the User's Guide)



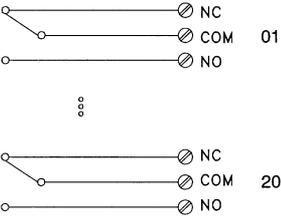
Agilent 34902A 16-Channel Multiplexer

(see page 166 in the User's Guide)



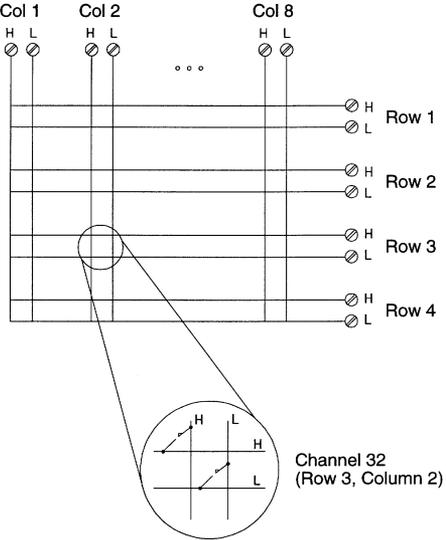
Agilent 34903A 20-Channel Actuator

(see page 168 in the User's Guide)



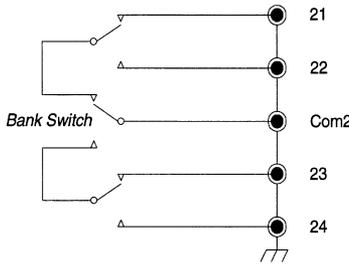
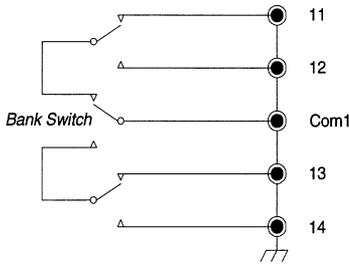
Agilent 34904A 4x8 Matrix

(see page 170 in the User's Guide)



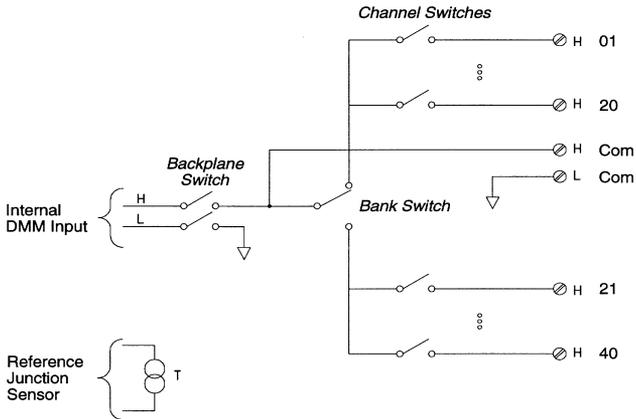
Agilent 34905A/6A Dual 4-Channel RF Multiplexers

(see page 172 in the User's Guide)



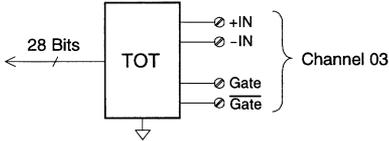
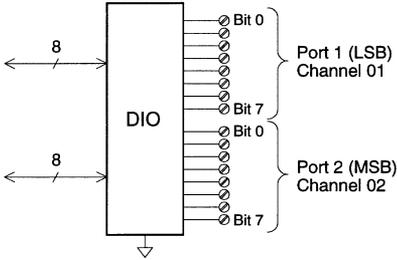
Agilent 34908A 40-Channel Single-Ended Multiplexer

(see page 174 in the User's Guide)



Agilent 34907A Multifunction Module

(see page 176 in the User's Guide)



Factory Reset State

The table below shows the state of the instrument after a FACTORY RESET from the *Sto/Rcl* menu or *RST command from the remote interface.

<p>Measurement Configuration</p> <ul style="list-style-type: none"> Function Range Resolution Integration Time Input Resistance Channel Delay Totalizer Reset Mode Totalizer Edge Detect 	<p>Factory Reset State</p> <ul style="list-style-type: none"> DC Volts Autorange 5½ digits 1 PLC 10 MΩ (fixed for all DCV ranges) Automatic Delay Count Not Reset When Read Rising Edge
<p>Scanning Operations</p> <ul style="list-style-type: none"> Scan List Reading Memory Min, Max, and Average Scan Interval Source Scan Interval Scan Count Scan Reading Format Monitor in Progress 	<p>Factory Reset State</p> <ul style="list-style-type: none"> Empty All Readings are Cleared All Statistical Data is Cleared Immediate Front Panel = 10 Seconds Remote = Immediate Front Panel = Continuous Remote = 1 Scan Sweep Reading Only (No Units, Channel, Time) Stopped
<p>Mx+B Scaling</p> <ul style="list-style-type: none"> Gain Factor ("M") Scale Factor ("B") Scale Label 	<p>Factory Reset State</p> <ul style="list-style-type: none"> 1 0 Vdc
<p>Alarm Limits</p> <ul style="list-style-type: none"> Alarm Queue Alarm State HI and LO Alarm Limits Alarm Output Alarm Output Configuration Alarm Output State Alarm Output Slope 	<p>Factory Reset State</p> <ul style="list-style-type: none"> Not Cleared Off 0 Alarm 1 Latched Mode Output Lines are Cleared Fail = Low
<p>Module Hardware</p> <ul style="list-style-type: none"> 34901A, 34902A, 34908A 34903A, 34904A 34905A, 34906A 34907A 	<p>Factory Reset State</p> <ul style="list-style-type: none"> Reset: All Channels Open Reset: All Channels Open Reset: Channels s11 and s21 Selected Reset: Both DIO Ports = Input, Count = 0, Both DACs = 0 Vdc
<p>System-Related Operations</p> <ul style="list-style-type: none"> Display State Error Queue Stored States 	<p>Factory Reset State</p> <ul style="list-style-type: none"> On Errors Not Cleared No Change

