

## Controlling Instruments Using GPIB/RS232

Commands can easily be sent to any instrument on the GPIB Bus or RS232 serial interface. Any number up to the maximum allowed by the interface can be driven. This allows ProCal to control not just the reference/measurement & unit under test (UUT) but other instrument such as powers supplies, signal generators, scanners etc. This power feature together with the delay & automatically step through a test sequence makes ProCal also suitable for many ATE type applications.

## Pre & Post Test Commands

ProCal allows commands to be sent either before a test (Pre), to allow instruments to be set to the correct ranges, outputs etc before the test is started, and also after (Post) a test to allow instruments to be set back to safe / standby condition etc after the test.

## Simple Command structure

Address for instruments can be either entered directly or addressed using the 'address' held in the trace-ability table in ProSet, then if an instruments address is changed then it is only ProSet that need be updated. 'Non-printing character' Terminators can also be specified (*carriage return* and *line feed*).

## Commands to the UUT.

If the procedure contains commands to the UUT ProCal will ask for the UUT address at the start of a calibration. This avoids changing the address of the UUT.



Pre-Test  
Commands

Post-Test  
Commands

The command line is designed to be easy to learn but retain powerful control over multiple instruments

during a test sequence. Side by side *Pre-Test* and *Post-Test* sections allow the user to see exactly what is configured for the test

The command line is defined by a set of easy to understand commands as detailed below :

## Command Protocol

Note each command (shown in square brackets) is separated by a single space.

[add] represents an address or COM port

### Send Command to a GPIB Device

**Syntax** [add] [Command String] [Terminator]

**Example** 11 VOLT:DC 1 >LF

Sends DC:VOLT 1 to GPIB address 11 with a line feed terminator

### Send Command to an RS232 Device

**Syntax** COM[n] [Command String] [Terminator]

**Example** COM2 R2/O3/S0 >LF

Sends R2/O3/S0 to COM 2 with a line feed terminator

### Send Command to the UUT

**Syntax** UUT [Command String] [Terminator]

**Example** UUT R2/O3/S0 >CR

Sends R2/O3/S0 to the address or COM port of the UUT as selected when running ProCal with a carriage return terminator

### Send Command to a Traceable Instrument

**Syntax** @[nn] [Command String] [Terminator]

**Example** @16 R2/O3/S0 >LF

Sends R2/O3/S0 to the address or COM port as set in ProSet for instrument 16 with a line feed terminator

## Comment Lines

**Syntax** '[Comment Text]

**Example** 'This is a comment line

## Terminator Commands

**>CR** Send a Carriage Return after the command string e.g. @1 R5>CR

**>LF** Send a Line Feed after the command string e.g. @1 R5>LF