

When in the TA state the unit automatically sets EOI true when it sends the terminator character (LF or CR).

NB: Throughout this manual example strings are shown using LF as a terminator. This could be replaced by any valid terminator as described above.

### 5.9 Setting the mode of operation via a secondary address

The unit can be set into a particular mode of operation by placing it in the LA or TA state and sending it one of the following secondary addresses.

Decimal value of Secondary Address	Resultant mode of operation
0	SRQ mode 0
1	SRQ mode 1
2	Unused facility
3	SRQ mode 3
4	SRQ mode 4
5	No SRQ
6	Set terminator to CR
7	Set terminator to LF

NB: If the unit is switched off and on again, the SRQ mode will be reset to No SRQ and the terminator reset to LF (see section 5.3).

### 5.10 Service Request Modes

As initialised at switch on, the unit will not perform a Service Request (SRQ mode 5). The unit can be instructed to perform a Service Request under one of four conditions by sending it a secondary address (see section 5.9).

The SRQ can be used to tell the bus controller that a power supply has changed mode (either from CV to CI or CI to CV) as might occur when an overload situation arises, for example.

#### SRQ Mode No. Conditions under which an SRQ is sent

0	PSU X changed from CV to CI mode
1	PSU Y changed from CV to CI mode
2	Unused facility
3	PSU X changed from CI to CV mode
4	PSU Y changed from CI to CV mode
5	No SRQ sent

### 5.11 Serial Poll Response

The unit responds to a Serial Poll Enable (SPE) command combined with MTA by placing a serial poll response byte onto the Bus. The order in which MTA and SPE are sent does not matter provided that ATN remains true. If ATN goes false between the two commands the SPE must be sent first.

The response byte is made up as follows:

- Bit 0 - 1 if SRQ mode 0 is enabled and condition is satisfied. Otherwise 0.
- Bit 1 - 1 if SRQ mode 1 is enabled and condition is satisfied. Otherwise 0.
- Bit 2 - 0 (unused facility).
- Bit 3 - 1 if SRQ mode 3 is enabled and condition is satisfied. Otherwise 0.
- Bit 4 - 1 if SRQ mode 4 is enabled and condition is satisfied. Otherwise 0.
- Bit 5 - 1 if a syntax error occurred in the last command string. Otherwise 0.
- Bit 6 - 1 if the unit has requested service (SRQ sent). Otherwise 0.
- Bit 7 - 1 if the last command string contained an overrange value. Otherwise 0.

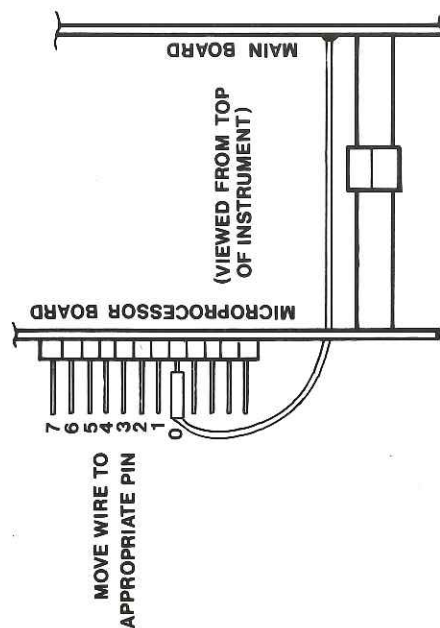
Note that bit 6 is used to identify whether or not the unit was responsible for the SRQ to which the bus controller is responding.

NB: The act of reading the response byte clears it to all zeros, so if it is read again before another SRQ is generated a null byte will be read.

### 5.12 Parallel Poll Response

The unit can be set to respond to a Parallel Poll Enable (PPE) command.

The user must choose which, if any, of the D10 lines is to be used, by plugging a link onto a connector inside the unit (see diagram). As supplied the link is fitted to line 0.



NB: The unit must not be in the TA state when the PPE command is sent.

### 5.13 Speed of Response on the GPIB

The unit is microprocessor based and makes extensive use of software. Consequently it is a medium speed interface in terms of its response times on the GPIB.

The unit responds to Attention going true by pulling NDAC true and releasing DAV and DIO lines 0 to 7 within 200nsec as defined by the GPIB standard. All other responses, however, will take several tens of microseconds and a typical time to complete a handshake will be between 200 and 300usecs. This should be borne in mind when estimating maximum data rates on a GPIB system of which the unit is a part.

### 5.14 Current Measurement Facility

When in CV mode, the unit can be instructed to measure the actual output current flowing by putting it into the LA state and sending it a command string of the correct syntax.

The syntax is: X I ? LF or Y I ? LF or X I ? Y I ? LF

The unit responds by stepping down the current setting in 10mA steps until the CV/CI crossover point is reached, storing that value and rapidly returning the current setting to its original value. The length of time taken to do this depends upon the difference between the original current setting and the actual current flowing. For a 1000mA difference the time is about 300msec.

When the unit is next put into the TA state it will output a string, representing the current value stored, with the following syntax:

X 450 m A LF for a current of 450mA.

Note that after the current measurement command has been received, the unit is enabled to accept one further bus command (eg. Unlisten). This command is not acted upon until the current measurement command has been completed. This delay could be anything up to 1 second.