4806 Errata

E.1 INTRODUCTION

This Errata contains additional information and changes to various revisions of the 4806 Manual. Changes require revision 2 (01-08-14) firmware and revision 3 PCB. Change E.8 requires revision 3 (02-06-03) firmware.

E.2 ADDED X-ON/X-OFF TRANSMIT CONTROL

Revision 1 firmware adds X-ON/X-OFF control of the 4806's serial transmit buffer. Paragraph 1.6.6 added to Section 1 of the manual.

1.6.6 X-ON/X-OFF Transmitter Control

Serial transmission can be controlled in all modes by receipt of the X-ON and X-OFF characters from the serial device. When the 4806 receives the X-OFF (hex 13) character it inhibits serial transmission until it receives the X-ON (hex 11) character.

E.3 POWER REQUIREMENTS

Paragraph 1.9, current requirements reduced

Power - 5 to 20 Vdc @ 230 mA typical

Rev 05-05-03

E.4 TAB TEMPERATURE

Paragraph 2.8 Paragraph rewritten to add tab temperature equation and warning..

2.8 POWER CONNECTIONS

Power is applied to the 4806 at P1 which is a two screw terminal block. See Figure 2-3 for P1 polarity. Use either 5 Vdc regulated power or 5.25 to 20 Vdc unregulated power.

Tab temperature rise is proportional to the voltage drop across the regulator and approximates the following formula:

$$\text{Tab } °C = \text{Ambient } °C + (Vin-5)(0.230)(24\ °C/\text{Watt})$$

With a 15 Vdc input, the regulator tab temperature measures 75 °C at room temperature. For higher input voltages or for operation in high ambient temperatures, apply a heat sink to the tab so that it's temperature does **not exceed 100 °C** when the host chassis is closed and running at it maximum ambient temperature.

Set jumper W2 to **REG** when using the **internal regulator**. Set jumper W2 to **P1** when using **+5 Vdc** directly from the terminal block.

E.5 NEW JUMPER SETTINGS

2.11 JUMPER SETTINGS

The 4806 has four jumpers as shown in Figure 2-3. Table 2-2 lists the jumper functions and the factory settings.

TABLE 2-2 4806 JUMPER SETTINGS

Jumper	Functions	Factory
W1	Write Enable - Must be in place to write to or save data in the 4806's flash memory. Blocks all writes when removed	Installed
W2	Power Selection - Selects input power. P1 position selects the terminal block and assumes a 5 Vdc regulated power source. REG selects the regulator output and is the position for unregulated 5.5 to 12 Vdc power.	Jumper in neutral
W3	Default - Returns the unit to its factory default settings when in place at power turn-on time. Leave out for normal operation	Omitted
W4	TxD/RxD Signal Swapping Jumper Pair. - Rev 3 and later PCBs have a jumper pair W4 that can be used to swap the TxD/RxD pins on connector J3. Factory setting is the DCE position with the pinouts listed in Table 2-1.	DCE

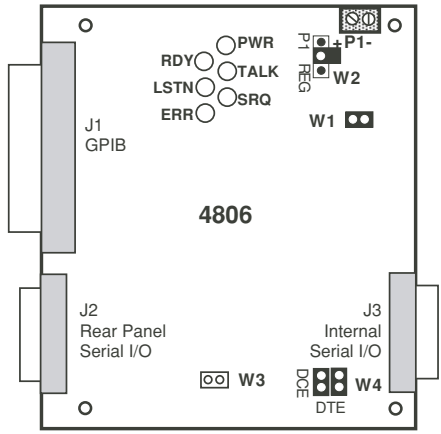

Figure 2-3 4806 Jumper Locations

E.6 ADDED SCPI COMMANDS

A new :TRAnsmit:PACE command was added to the SCPI Command Tree in Table 3-2 to enable and disable the X-ON/X-OFF operation.

Two new commands were added to the SCPI Command Tree to enable and disable the addition of an extra character to the end of the GPIB message that is being sent to the internal serial device. These commands let the user add a classic termination character like carriage return of linefeed to a GPIB message that was only terminated by asserting EOI on the last character.

TABLE 3-2 4806 SCPI COMMAND TREE

Keyword	Parameter Form	Notes
SYSTem		**System Address**
:COMMunicate		
:SERial		
:TRANsmit		
:PACE	XON | [NONE]	
:GPIB		
:ADDRess	0 - 30 [4]	
:ADD		
:ENABle	1(On) | 0(Off) [0]	
:CHARacter	0-FF [0A]	

E.7 ADDED SCPI COMMAND DESCRIPTIONS

The following command definitions were added to Table 3-3.

TABLE 3-3 SCPI COMMANDS AND QUERIES

Keyword	Default Value	Description
:TRANsmit		Keyword
:PACE	NONE	Enables X-ON/X-OFF control of the 4806 transmitter. When enabled, the transmitter powers on in X-ON. When the 4806 receives an X-OFF character (hex 13), it stops all serial transmission until it receives an X-ON character (hex 11). The 4806 is not able to receive additional messages from the GPIB bus while the transmit buffer is held. Set the GPIB timeout long enough to account for the serial device's X-OFF delay. Use Device Clear to clear the 4806's transmit buffer and the X-OFF condition. Values are XON and NONE.
:ADD		Starts add extra character branch.
:ENABle	0	Enables the addition of an extra character to the end of the GPIB input message that is sent to the serial device. Original GPIB message must be terminated with EOI and/or with a linefeed. Values = 0 | 1 or OFF | ON.
:CHARacter	0A	Sets the character to be added to the end of the GPIB message that is sent to the serial device. Value is 0 to FF HEX. Default is 0A (linefeed).

E.8 ADDED @@@MESSAGES

Two new @@@ messages were added to the 4806 in the Revision 3 firmware. The @@@ messages are only recognized when the 4806 is in the Smart Mode.

E.8.1 @@@LF Message

The '@@@LF' message gives the use a way of sending just a linefeed character as the response to a query. The 4806 ignores zero length message from the serial device and puts nothing in the GPIB Buffer. The @@@LF message must be sent to the 4806 within the timeout period. There is no response from the 4806 for the @@@LF message.

E.8.2 @@@TO Message

The '@@@TO nnnn' message gives the user a way of extending the response timeout period for a single message when the serial device will require a longer than the normal time to reply. The '@@@TO nnnn' message tells the 4806 to extend the normal timeout by nnnn times before declaring a timeout error. The value of nnnn can be 1 to 9999. Leading zeros are not required. The 4806 reverts to the preset timeout period after the late response is received from the serial device.

The 4806 will reply to the '@@@TO' message with a '@@@OK' response if the message was received in a timely fashion and the nnnn value is within the 1 to 9999 range. The next serial message from the serial device will be outputted to the GPIB bus as the normal reply. Else the 4806 will respond with a '@@@ERR' response if the message is late or out of range and any reply message from the serial device will be ignored.

e.g. 4806 has a timeout set to 500 ms and the GPIB command to the serial device requires 1.0 minutes to service. The serial device replies "@@@TO 120" to extend the timeout for the late response to 60 seconds.

E.9 ADDED PARALLEL POLL CAPABILITY

Parallel Poll capability was added to the 4806 firmware in Revision 4 which changed the GPIB Capabilities in Paragraph 1.5.1 and added paragraph 1.5.8.

1.5.1 488.1 Capabilities

The 488 Bus interface meets the IEEE STD 488.1-1987 standard and has the following capabilities:

SH1, AH1, T6, L3, SR1, PP1, DC1, RL1, DT0, C0 and E1/E2 drivers.

1.5.8 Parallel Poll Response

Provides the SRV bit status (bit 6 of the Status Byte Register) on the configured Parallel Poll Response bit.

E.10 EXPANDED MODEL NUMBERS

The 4806 firmware has been recompiled to run on the 4804A OEM GPIB to Serial Interface Board and in the 4894A GPIB to Serial Minibox Interface. The new model numbers are:

Physical Product	4806 Firmware Version
4804A Board	4816
4894A Minibox	4866

All of the features and functions in the 4806 Manual applies to the new model numbers. Physical specifications are the same as the original physical product.