

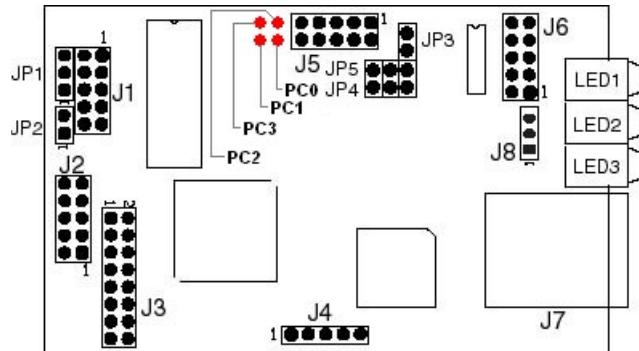
# Appendix

X

## Appendix A

# The Hardware Specifications of the Part Two of the End user Unit

## Connector Diagram



## Jumper Pins

### **J1 –Factory Test Connector, Dual Row 10-Pin Header:**

For factory use only.

### **J2 –RS-485, Dual Row 10-Pin Header:**

The RS-485 interface support full duplex (FD) and half duplex (HD).

Pin	Signal	Pin	Signal
1	FD RX-	2	GND
3	FD RX+	4	GND
5	NC	6	GND
7	HD +	8	GND
9	HD -	10	GND

### **J3 – Factory Test Connector, Dual Row 16-Pin Header:**

For factory use only.

### **J4 – SPI Interface Connector, Single Row Straight Header:**

Pin	Signal
1	GND
2	DOUT
3	CLK
4	DIN
5	/SPI_CS

### **J5 – Serial TTL Dual Row 10-Pin Header:**

This connector allows access to TTL level serial ports 0 and 1. Note that pin 9 is a VCC 5V input, which allows for a single connector interface with TTL serial and power to the SB72.

Pin	Signal	Pin	Signal
1	GND	2	CTS1
3	TX1	4	RX1
5	RTS1	6	RTS0

7	CTS0	8	TX0
9	5V	10	RX0

### J6 – Serial RS-232, Dual Row 10-Pin Header:

This connector provides RS-232 level signals for Channel 0 and Channel 1, or RS-232 levels with hardware handshaking for Channel 1.

Pin	Signal	Pin	Signal
1	NC	2	Short to 7
3	RX1	4	RTS1 or TX0
5	TX1	6	CTS1 or RX0
7	Short to 2	8	NC
9	GND	10	NC

### J7 – RJ-45 Ethernet Connector:

Pin	Signal	Pin	Signal
1	TX+	5	-
2	TX-	6	-
3	-	7	RX+
4	-	8	RX-

### J8 – Power Connector:

Pin	Signal
1	+5V
2	GND
3	+5V

## Jumper Settings

The table below shows jumper settings to configure the 2 serial ports, channel 0 and channel 1, of the SB72:

**WARNING:** Incorrect jumper settings may result in damage to driver components.

Jumper	TTL Channel 0	TTL Channel 1	RS-232 Channel 0	RS-232 Channel 1	RS-485 Channel 0 Half Duplex	RS-485 Channel 0 Full Duplex
JP1	OPEN	X	X	X	CLOSE 2-3	CLOSE 1-2
JP2	OPEN	OPEN	OPEN	X	CLOSED	CLOSED
JP3	OPEN	X	X	CLOSED	X	X
JP4	OPEN	X	CLOSE 1-2	RTS 2-3	OPEN	OPEN or 2-3
JP5	OPEN	X	CLOSE 1-2	CTS 2-3	OPEN	OPEN or 2-3

**Key: X = Don't care, Open = No connection, Closed = Jumper pins**

**Note:** RS-232 Operation: The SB72 can run two channels without hardware handshaking. If RTS and CTS are required, then only Channel 1 can be used. RTS and CTS are available at TTL levels on the J5 connector for both channels.

## **LEDs**

- LED1: Ethernet speed, 10 or 100
- LED2: Link Light
- LED3: Power

## **Input Power Requirements**

5 VDC @ 500mA  
Operating Range: Commercial 0 – 70C

## **Mechanical**

PCB Dimensions: 3.25" x 2"  
4 Mounting holes

## Appendix B

# Continuously Variable Slope Delta Modulation Theory