

A Touch Technologies Co., Ltd.



Specification of Surface Acoustic Wave RS-232 Control Board

Model : SAW232



A. Application

This specification applies to the following RS-232 Control Board for Surface Acoustic Wave Touch Panel.

B. Environmental Conditions

1. Operating Temperature Range

0°C ~ 65°C

2. Operating Humidity Range

10%~90% RH (no dew falls)

3. Storage Temperature Range

-25°C ~ 85°C

4. Storage Humidity Range

10%~90% RH (no dew falls)

5. Operating Altitude

10,000 feet (3048m)

6. Shock and Vibration

Three axis sine wave, 50 Hz to 2kHz, 1G, 2 minutes / Octave with dwell on resonances.

7. Flammability

The PCB substrate and all plastic components, such as headers and connectors are rated UL 94 V0.

C. Electrical Characteristics

1. Supply Voltage

+5VDC (+4.75V to +5.25V)

2. Supply Current

85 mA, typical at +5V DC

Max. current : 150 mA

3. Electrostatic Protection

Per EN 61000-4-2, 1995 : Meets Level 4

(15 kV air / 8 kV contact discharges)



SURFACE ACOUSTIC WAVE RS-232 CONTROL BOARD

4. Interface

Serial RS-232. 8 Data Bits, 1 Stop Bit, No Parity, Full Duplex
Hardware handshaking : RTS / CTS

5. Baud Rate

9600

6. Touch Resolution

4096 x 4096, size independent

7. Conversion Time

Approximately 15 ms per coordinate set

8. Reliability

MTBF greater than 300,000 hours
per MIL-HDBK-217-F2 using the part stress calculation method for
ground benign environment with an ambient temperature of 25°C

D. Mechanical Characteristics

1. Construction

Four-layer surface-mount design with internal ground plane for EMI suppression.

2. Dimensions

PCB 87.5 x 56 x 11.1 mm

Refer to Appendix A

3. Standard Cables, Connectors and Pin Definitions

- Standard external RS-232 cable connecting the SAW serial controller with the computer serial port : Refer to Appendix B.

- Serial connector : P2

2.0 pitch 5 pin connector on board for connection with RS-232 port.

Refer to Appendix A

- Power connector : P3

1x2 header with pins on 2.54mm centers.

Refer to Appendix A



SURFACE ACOUSTIC WAVE RS-232 CONTROL BOARD

- Touchscreen connector : P4

A dual row by six position header with 0.635 mm square pins spaced on 2.54 centers for connection with touch panel.

Refer to Appendix A

E. LED Diagnostic Characteristics

A green LED indicates controller status as follows:

Action and Condition	LED status	Function
The control board is connected with host, not touch panel yet.	Light continuously	The control board is in normal condition.
No touch	Snuff out	Untouched state
Touch	Light	Touched state

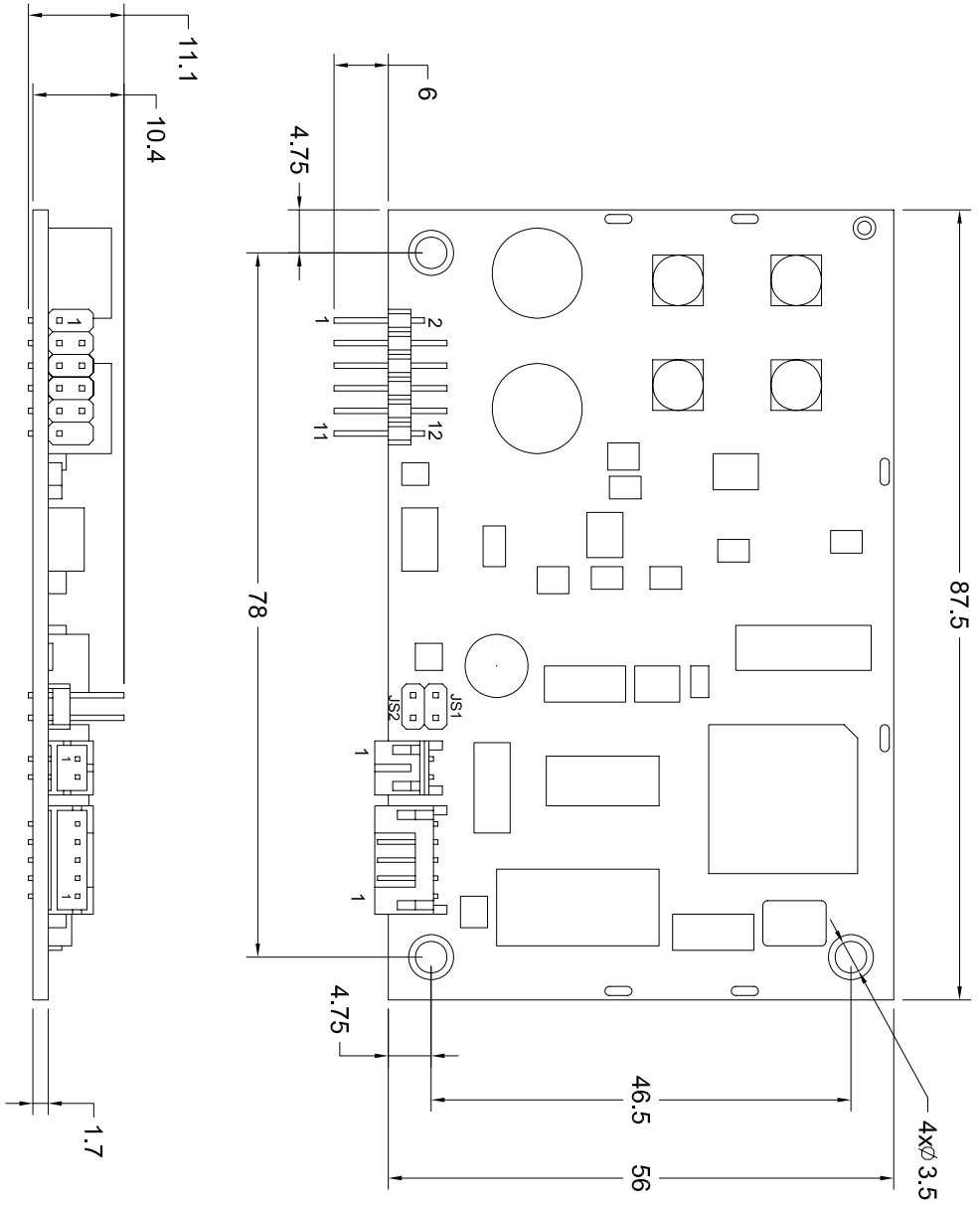
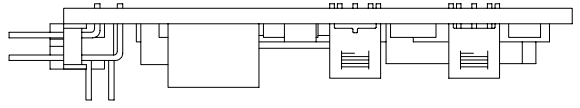
F. Software Driver

Under Windows : Mouse emulation

Support Operating System

- Microsoft Windows NT4.0/XP/2000/ME/98/95
- Linux : Red Hat 9.0, Mandrake 10.0, SuSE9.2, Fedora Core I & II & III, Yellow Dog 3. x
- MS-DOS

Appendix A Dimension Drawing and Pin Definitions of Connectors



CONNECTOR P2

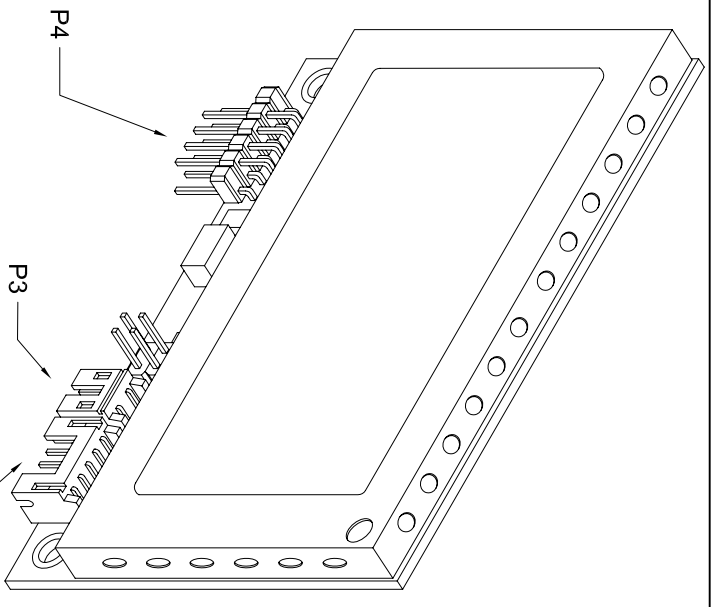
PIN #	SIGNAL NAME
1	CTS
2	TXD
3	RXD
4	GND
5	+5V

CONNECTOR P3

PIN #	SIGNAL NAME
1	GND
2	+5V

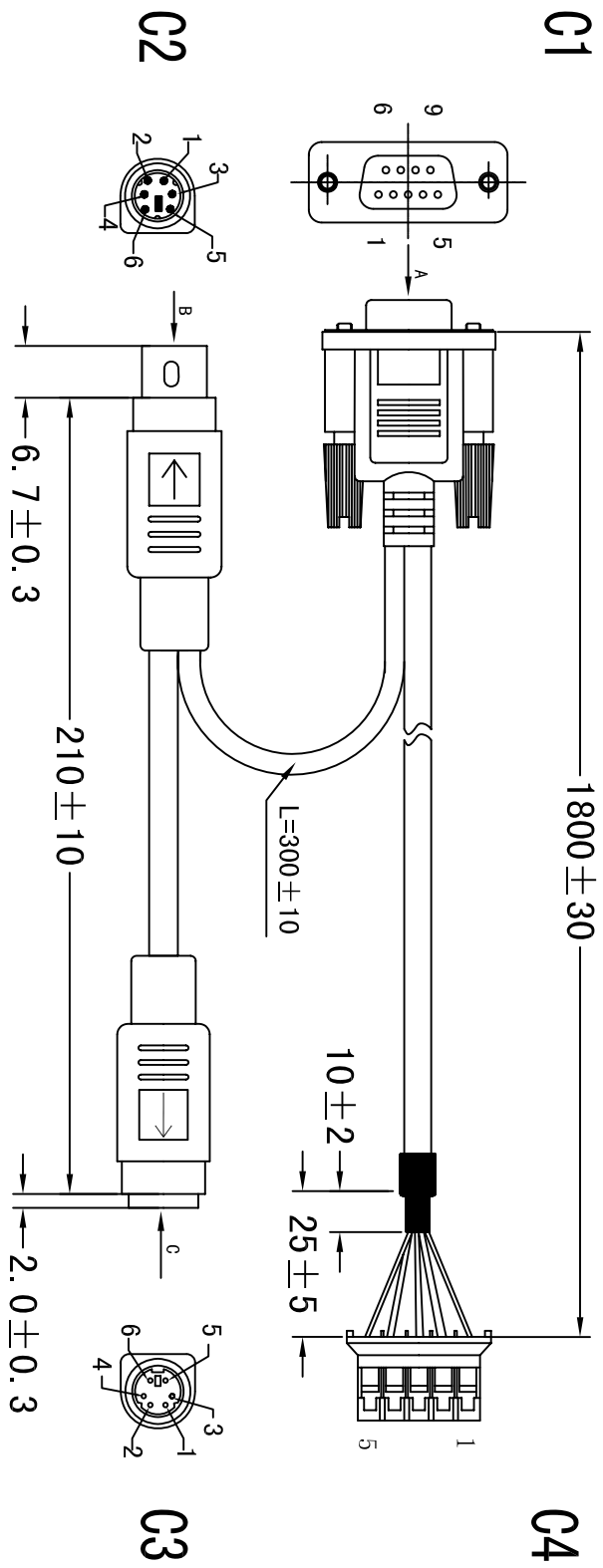
CONNECTOR P4 (SENSOR)

PIN #	SIGNAL NAME
1	GND
2	NC
3	Y-R
4	Y-T
5	Y-R'
6	GND
7	GND
8	GND
9	X-R
10	X-T
11	X-R'
12	NC



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P/N:	SAW232DAS	ISSUE DATE	09/12/05
DRAWN BY	HATTIE	DIMENSION UNIT	mm
CHECKED BY	ANSON	SCALE	NOT TO SCALE
REV	A	ISSUE DATE	09/12/05

Appendix B Standard External RS-232 Cable



MATERIAL LIST:

CONNECTOR:

- C1:DB9 FEMALE PVC MOLDED COLOR:BLACK.
- C2:MINI DIN 6PIN MALE PVC MOLDED COLOR:BLACK.
- C3:MINI DIN 6PIN FEMALE PVC MOLDED COLOR:BLACK.
- C4:2.0PITCH SPIN HOUSING COLOR:WHITE.

CABLE:

- UL2464 #26*6C+AE OD:5.0mm COLOR:BLACK.
- UL2464 #26*4C+AE OD:5.0mm COLOR:BLACK.
- UL2462 #26*5C+AE OD:5.0mm COLOR:BLACK.
- CORE:
- 12*5.6*20mm PVC MOLDED COLOR:BLACK

PIN ASSEMBLY

C3	C2	C1	C4
1 WHITE	1	2	YELLOW
2 BROWN	2	3	ORANGE
3 BLACK	3	5	BLACK
4 RED	4	1+6	RED
5 ORANGE	5	8	GREEN
6 GREEN	6		
SHELL GND	SHELL GND	SHELL	

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DESCRIPTION:MD6F/MD6M/DB9F/PH5	ISSUE:05/9/27
PART No.:CAB232E6B5	PAGE:1 OF 1
DRAWN BY:HA TTIE	REV:A
CHECKED BY:ANSON	UNIT:mm