

SPECIFICATION FOR APPROVAL

客戶名稱(Customer): _____

客戶產品料號(Product P/N) : _____

承認書編號(Approval sheet No.): _____

承認日期(Approval Date): _____

產品品名(Description): RC-3500U 5-Wire Resistive
Touch Controller Board

韌體版本 (F/W Version): _____

晶片標示(IC mark): _____

驗證碼(Checksum): _____

APPROVAL BY:

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RC-3500U

5-Wire USB Resistive

Touch Controller Board

Chapter 1. Product Overview

1.1 INTRODUCTION

RISINTECH Incorporation provides cutting-edge touch total solutions to customers. Our solution is including chips, module boards to be fit in the needs for various system design and platforms.

Our touch controllers can be used in various computer products such as desktops, laptop computers, Point of Sales (POS) automatic machines, PDAs, digital cameras, and GPS devices. To satisfy these demands, we provide flexible firmware and driver supports on operating systems such as Windows 10/8/7/Vista/XP/2000/98/95, WinCE Compact 2013/7/6/5, DOS, MacOS and most Linux distributions like Ubuntu, Fedora, RedHat , Debian and so on.

RISINTECH also provides customized design service for special application fields, such as embedded system integration and multi-monitor applications.

1.2 PRODUCT DESCRIPTION

RISINTECH RC-3500U resistive touch controller board

1.2. 1 Part Number

- RC-3500U: 5-wire analog resistive USB touch controller board

1.2. 2 Features

Supply voltage Requirement	Supply voltage: 5V +/- 5%
Host interface	- USB (2.0 compliance)
Protocol	- USB: Full Speed, HID Compliant at 12Mhz/sec, Support suspend and remote wakeup
USB Plug & Play	- USB mouse (HID-MOUSE) or - Single Touch digitizer (HID-DIGITIZER)

Sensor support	<ul style="list-style-type: none"> - 5-wire - Touch screen resistance – 2k ohm contact resistance
Resolution	<ul style="list-style-type: none"> - 10-bit measurement(1024 x 1024) - 12-bit reporting(4096 x 4096) of processed touch coordinates
Report Rate	USB: max. 200 points/sec
Touch Operation Mode	<ul style="list-style-type: none"> - Drawing mode: position and linearity verification - Button mode: Mouse left /right button emulation - Sound Notification: enable/disable beep or audio sound for Touch down/Touch up
Response Time	First point touch less than 25ms
Chip Package	28 pin MLP
Calibration	<ul style="list-style-type: none"> - Support 4 / 9 / 25-point calibration - Support edge-compensation
Power consumption	<ul style="list-style-type: none"> - Normal mode and touch inactive : less than 22 mA - Normal mode and touch active: max 30mA (4-Wire touch panel, Rx-x: 800ohm, Ry-y:250ohm) <ul style="list-style-type: none"> - USB suspend mode: less than 650uA - Power down mode for RS-232 : 80uA
Permanent data storage	calibration data and system parameters stored in local EEPROM. No need external EEPROM, real SoC solution
Operating Temperature	-20°C to 85°C
Storage Temperature	-65°C to 150°C
Humidity	<ul style="list-style-type: none"> - Operating: 10% to 90% RH, non-condensing - Storage: 10% to 90% RH, non-condensing
ESD	Per EN 6100-4-2 1995: Level 4. Contact discharge 4kV, air discharge 8kV

1.2. 3 Software and driver support

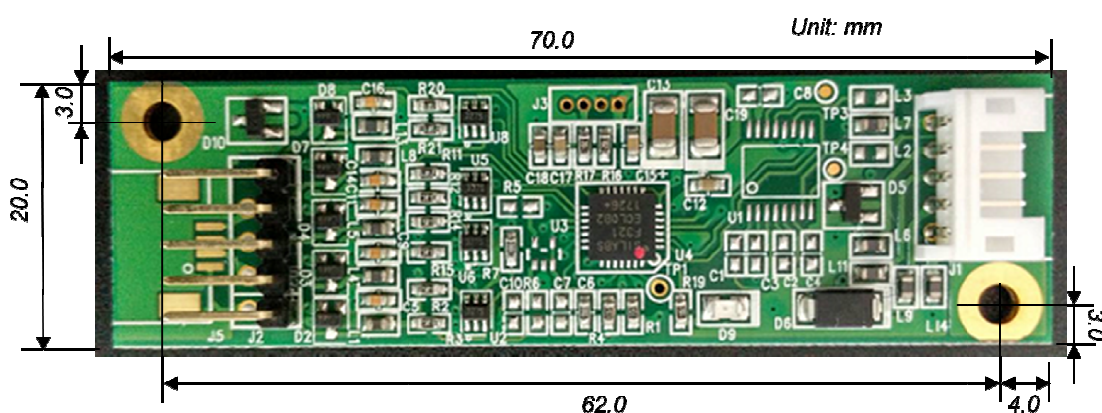
Calibration	4 /9/25 points calibration
OS support	<ul style="list-style-type: none"> - MS-DOS - Microsoft Windows Series... - Windows CE 4.0/4.2/5.0/6.0/7.0/Compact 2013,... - Linux OS... - Android 4.x/5.x...
Languages	Utility support multiple languages (English, Traditional Chinese, Simplified Chinese, Arabic, French, German, Greek, Hungarian, Korean, Portuguese, Russia, Spanish, Thai, Turkic)
Sound	Support audio sound and beep sound
Software Utility	<ul style="list-style-type: none"> - controller setting utility - drawing test - auto pin definition detect
Display support	<ul style="list-style-type: none"> - Support display rotation - Support multiple monitors - Support split monitor
Right click support	<ul style="list-style-type: none"> - Auto right click - manual right click

Chapter 2. Mechanical

2.1 CONSTRUCTION

- Two-layers surface-mount PCB design

2.2 MECHANICAL DRAWING



- Total Width: 20 mm
- Total Length: 70 mm (include connector)
- Total height: 8.5mm (include Through Hole Lead Trim Length)
- All mounting holes are plated through for chassis ground connection.

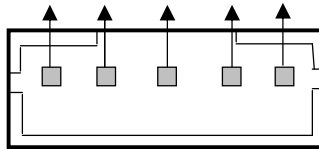
Chapter 3. Connections

3.1 USB COMMUNICATION

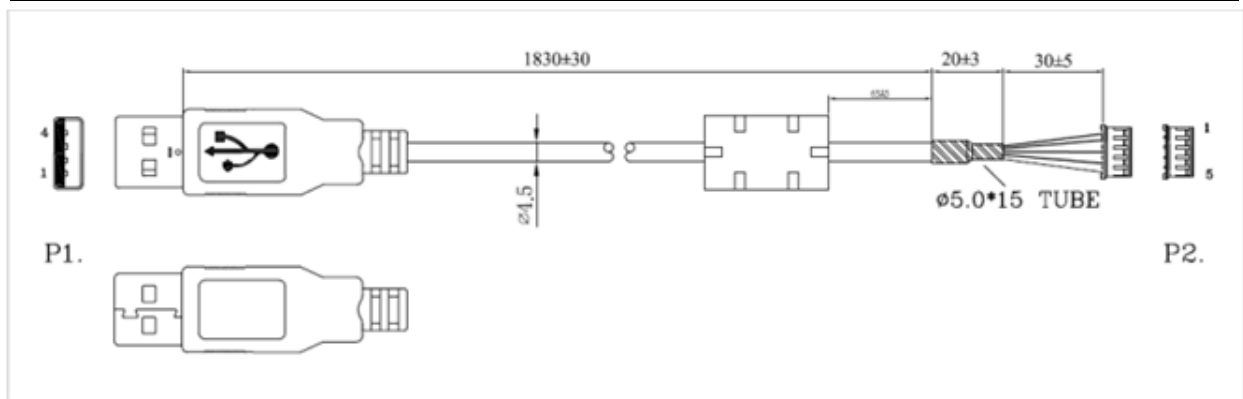
The connector configuration permits the controller to be placed in-line between the touch screen and serial I/O attachments

The USB I/O connector, J1, is a 5-pins header(2.0mm pitch). Refer to the following figure for pin number locations.

Pin diagram for USB connector, J1, as viewed from connector mating surfaces



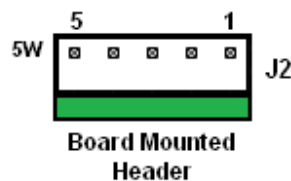
Signal definition for USB interface		
Signal	J1 pin	Signal Function
G	1	Cable shield ground
V	2	+5V power drain from host USB port
G	3	Signal ground
D+	4	USB bus signal D+
D-	5	USB bus signal D-



PIN ASSIGNMENT			
USB AM		HOUSING	
1 — RED	————	4	
2 — WHITE	XXXXXX	1	
3 — GREEN	XXXXXX	2	
4 — BLACK	————	3	
SHIELD	————	5	

3.2 SENSOR CONNECTION

The touch screen connector, J2, is a single row by five-position header with 0.025-inch square pins spaced on 0.1 inch centers. 5W sensor must be connected to this connector. The pins are numbered as shown in the figure.



The 5 Wire Touch screen connector, J2 and signal descriptions

Signal name	J3 pin	Signal function
LR(Y-)	5	Connect to touch screen Lower Right Conner of glass layer
LL(X-)	4	Connect to touch screen Lower Left Conner of glass layer
WIPPER	3	Connect to touch screen film layer
UR(Y+)	2	Connect to touch screen Upper Right Conner of glass layer
UL(X+)	1	Connect to touch screen Upper Left Conner of glass layer