

## **TS890 SERIES Transaction Terminal**

### **(Support Paypass, Paywave, J/speedy, express pay, D-PAS)**

Thank you for purchasing the TS890 series products.

The contactless & Signature Pad TS890 is to support the mag-stripe card , EMV / ISO 7816 card and contactless payment systems. The small footprint size of the device makes it easily to integrate to the current transaction system such as Point-of-Sale terminal as the part of the system. The device communicates with bank host by Modem , Ethernet or 3G. Allow to connect peripherals by RS232 or USB.

### **FEATURES**

- \_ **Build-in thermal printer**
- \_ **Support mag-stripe , ICC , contactless transaction**
- \_ **Support 3G communication**
- \_ **Support Modem and Ethernet**

### ***TS890 Specifications***

<b>Processor</b>	32 bits high performance processor
<b>Memory System</b>	Flash 8/16Mb, SDRAM 16Mb
<b>LCD Display</b>	128 x 64 pixels Graphical Display with LED Backlight
<b>SAM</b>	3 SAM Card Slots (support 5V and 3.3V SAM) <b>(option)</b>
<b>Contactless</b>	Build-in contactless module <b>(option)</b> , supported ISO 14443 13.56Mhz contactless card
<b>RTC</b>	Battery backup real time clock
<b>Communication</b>	Provided RS232/USB Ports for peripherals connection Provided standard USB Port to connect PC/Terminal Modem/Ethernet/3G
<b>Dimensions</b>	(L)199 x (W) 94 x (H) 75mm
<b>Power Requirements</b>	9VDC 5A
<b>Operation Environment</b>	Temperature 0 °C to +50 °C; Humidity 5% to 90%



## AGENCY APPROVAL

- Specifications for FCC Class B

Changes or modifications are not expressly approved by the manufacturer could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void your authority to operate such equipment.

### RF Exposure Information (SAR)

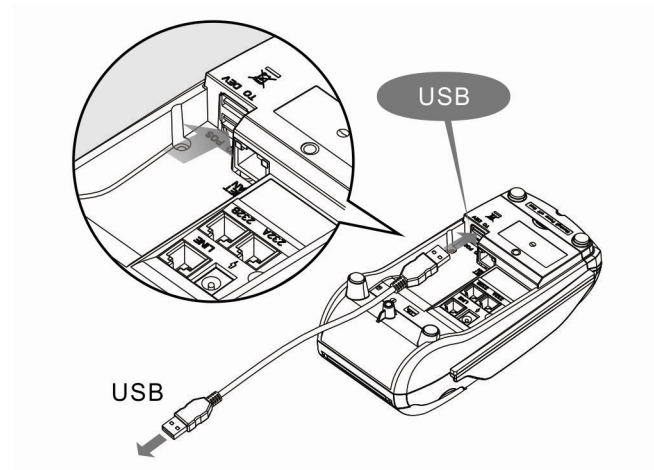
This device meets the government ' s requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR.

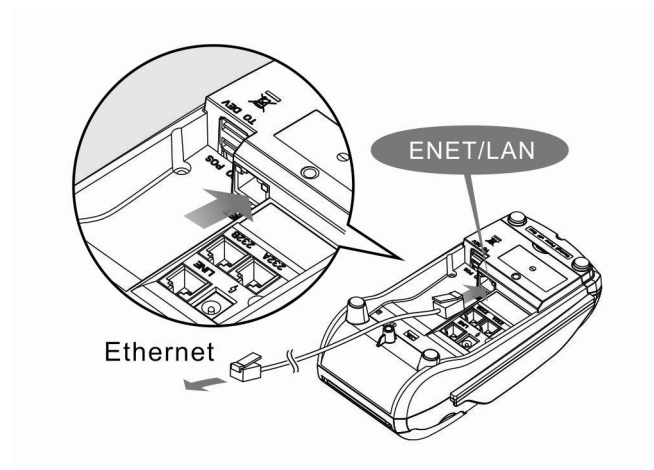
The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the EUT transmitting at the specified power level in different channels.

## Installation

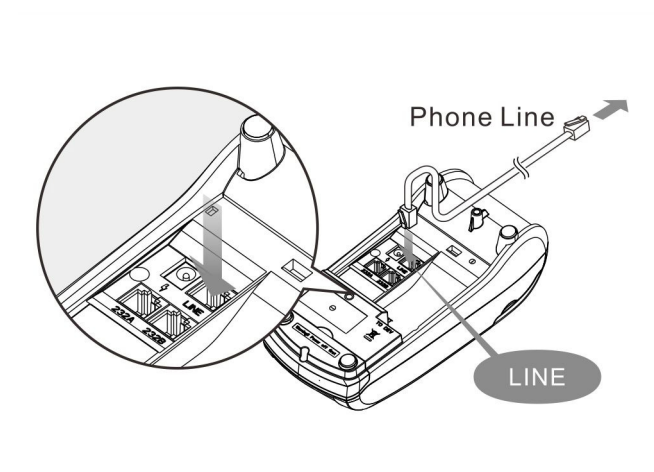
- USB port



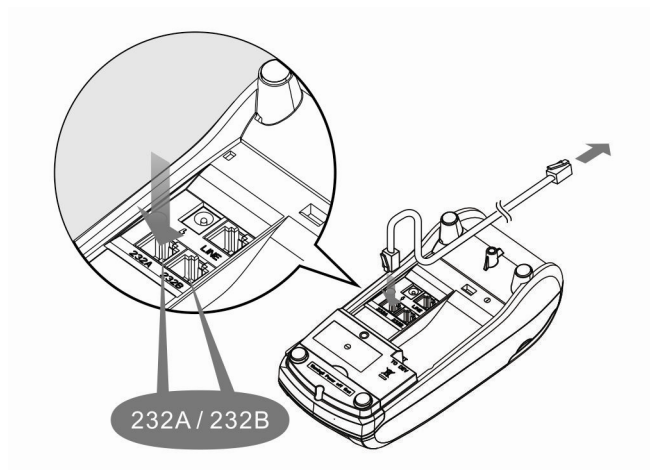
- Ethernet port



- Modem port



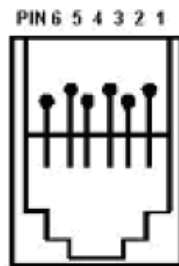
- RS232 port



#### Interface RJ11 Pin Assignment ( RS232 )

The 9.0V power comes from external 9V@5A adaptor , the 5.0V power comes from internal regulator .

#### ***Pin Assignment***



Pin	232A	232B
1	GND	GND
2	CTS	GND
3	Rx	Rx
4	RTS	5.0V
5	Tx	Tx
6	9.0V	9.0V

## TS890 3G model EMI test methods

### Standard model

#### 1. STD mode:

- a. Transaction mode: Fill the paper roll and power on the TS890.  
after booting select 4) Cardtes, select 1=TRANSACTIONS, select 1.Creadit card,  
Insert the test smart card. (The card's chip face up)
- b. Idle mode: test without smartcard.
- c. USB port test : Insert one USB disk to DEV USB port, start to test after select  
USB(5
- d. Ethernet connection: Set the IP of the PC to 192.168.0.XXX,connect the LAN cable  
to PC, enter the command : ping 192.168.0.99 -t.

#### 2. RFID mode:

- a. Select 2)RFID, put the RFID test card on the LCD display. Test the carry only no  
need the RFID test card.

#### 3. 3G mode:

- a. Power off the TS890, open the SAM door cover, insert the test SIM,select  
1.GPRS/3G/LTE, press 1)ATI to 7) Loop sequenced.
- b. Direct measure the 3G/LTE module output : The TS890 will lock after opening  
the case, Enter the password will unlock the TS890.

#### 4. Modem mode (Part68 test) : Insert the telephone cable to LINE port

Select 3)MODEM

- 1) ATDT : dail
- 3) ATH0 : On hook
- 4) ATH1 : Off hook
- 7) String : enter string

#### 5. Modem mode (Part15B test) :

One PC Connected with modem and telephone switch box.

Run the modem test program on the PC. (ModemTest.exe)

Press the "Cancel" key twice. Keyin "password" and then press "Enter" key.

Press "6" key to select the self-test function.

Press "F3" key on the right side of the ALPHA key.

Press "2" key to select the 2) Dialup

Key in the number of test, and press "Enter"

Key in the dial number, and press "Enter"

Start the testing

## Battery model

### 1. STD mode:

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Insert the test smart card. (The card's chip face up)
- b. Idle mode: test without smartcard.
- c. USB port test : Insert one USB disk to DEV USB port, start to test after select  
USB\5

### 2. RFID mode:

- a. Select 2)RFID, put the RFID test card on the LCD display. Test the carry only no  
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