

How to connect an Epson POS Printer with a Micros IDN Adapter

Printers

TM-U220

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- Network Configuration
- Installing Adapter
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- Configuring Printer
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TM-U200

TM-U295

TM-U375

TM-T88III

TM-U88IV

TM-T88V

TM-U675

TM-U590

TM-H6000

Power Supplies

Interface Cards

Cables

Ribbons

Paper



Overview

A Micros IDN connection uses a Micros controller to connect to the POS printer. The printer plugs into the controller using RS422 patch cords.

Required Components

- Epson POS Printer with Connect-It Micros IDN adapter
- Micros Cluster Controller or equivalent (Local/Remote or Network Cluster Controller, including Micros 8700, 9700 or a NetCC Ethernet to RS422 converter). More on Micros compatible products

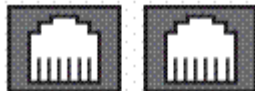
Epson Printers Covered

- TM-T88II
- TM-T88III
- TM-T88IV
- TM-T88V
- TM-U220
- TM-U200

Cabling

Micros controllers supports up to 15 IDN devices along the same RS422 line. The IDN card must have a unique printer ID on the line. The card contains a series of switches that let you set the device ID from the default value of 1.

- Dual RJ-11 Female (adapter end)



IDN cards use RS-422 patch cords



Tech Tip: Regular Serial (RS-232) versus RS-422

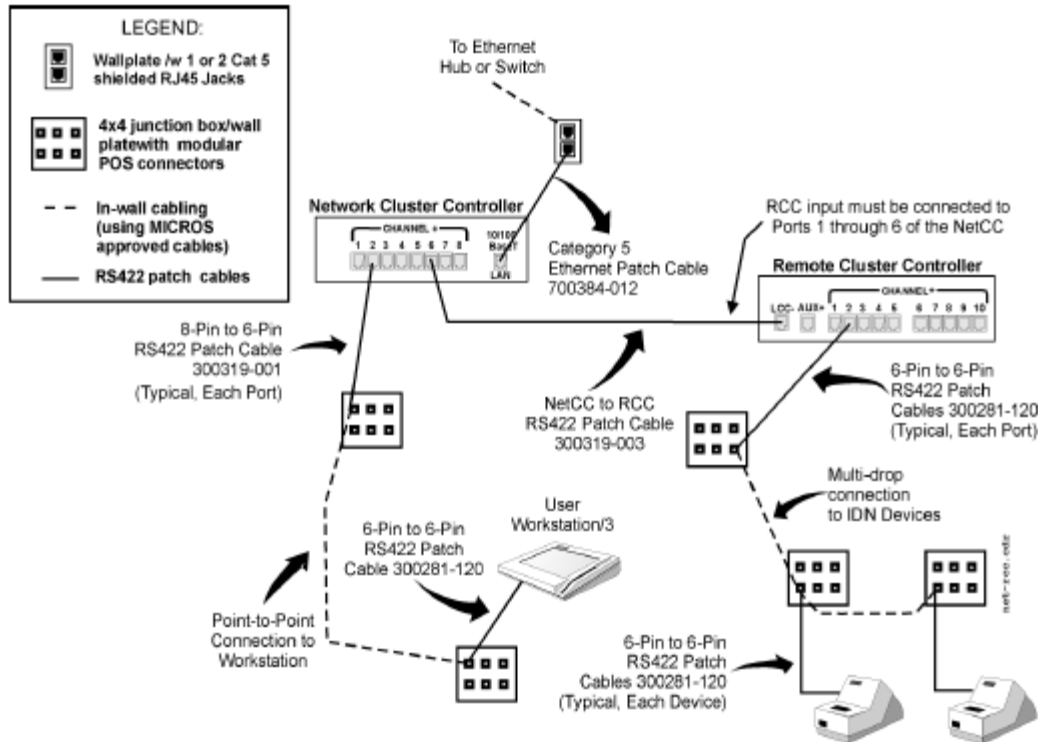
Though they are both serial protocols there is a difference between RS-232 and RS-422. RS-422 supports multi-drop, meaning more than 1 printer can exist on the physical line. RS-232 (9-pin serial) is single drop. RS232 cannot communicate with RS422 other without a converter. All RS422 cable runs should be 4000 feet or less, and all RS232 cable runs should be 50 feet or less. In environments with a high level of EMI, shorter runs may be required.

Note:

Some of the patch cords used by MICROS IDN devices use a 6-Pin RJ11 connector. Never plug this connector into an 8-pin RJ45 jack. The smaller body of the 6-pin connector can push pins 1 and 8 into the shielding around the jack, rendering the port inoperable.

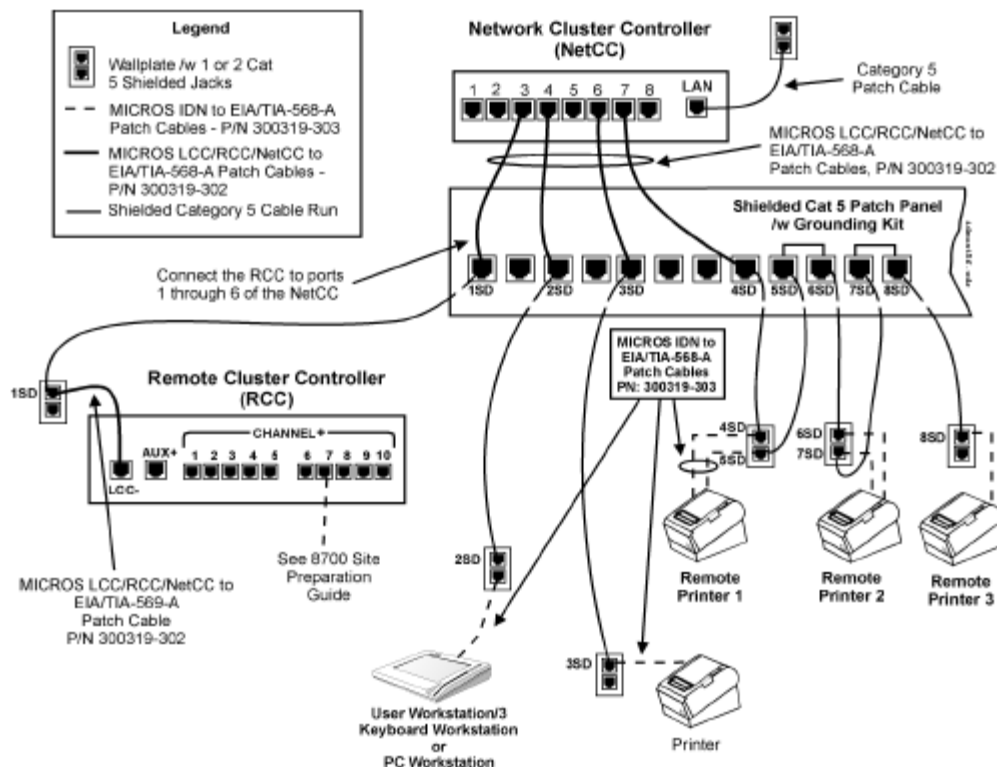
Network Configuration

A hypothetical Micros installation, showing the drop to IDN devices



With RS-422 multi-drop printers can be 'threaded' along the same RS422 line through a series of incoming and outgoing patch cords. The last printer on the line does not require a return.

The Network Cluster Controller provides a means of using CAT 5 distribution with IDN (RS422 printer connection)



The right side of the patch panel shows an example of how to create a daisy chain or multi-drop line for IDN Printers. Each IDN printer (with the exception of the last printer in the line) requires a pair of patch cords to attach to the pair of Category 5 cable runs.

Installation Steps for Installing Micros IDN Adapter

1. Disconnect power and other cables from the EPSON printer, and remove the printer DIP switch cover plate.
2. Remove the existing interface board from the printer by unscrewing 2 screws.
3. Properly align and push the new module into the printer. Fasten the two mounting screws through the faceplate of the new interface.
4. Set printer DIP switches as necessary; then attach the access cover.
5. Set the IDN DIP switches as necessary.
6. Connect the power cable to the printer and apply power.
7. Run a configuration report. This shows that the printer, module, and firmware are all installed and operating correctly and shows how the communication parameters are set.



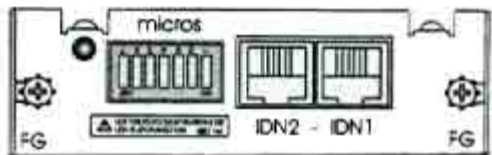
The IDN adapter can replace the existing adapter and is held in place by 2 screws.

Note: If changing a printer to Micros IDN you must change the specific dip switch on the Epson printer to allow for the Micros IDN card.

Getting Initial Printer and IDN Adapter Settings

Get the initial settings of the Micros IDN adapter. Run the printer self test (hold down the feed button while turning on the printer). The printer will print a list of initial settings including interface type and buffer capacity. verify that the interface is "Micros IDN"

A similar test can them be done on the IDN adapter:



Faceplate of IDN adapter, DIP switch 7 is the leftmost switch in this view

1. Turn OFF printer
2. Locate the series of 7 small switches on the faceplate of the IDN card
3. Set module DIP switch #7 to ON
4. Turn ON printer (don't press any buttons)
5. After power on. the printer prints the diagnostic printout
6. Power OFF the printer
7. Reset DIP switch #7 to OFF

A strip will print showing the version of the interface card, the character set in use and the switch configuration of the IDN card. If the test strip does not print, check the switch settings on both the printer and the IDN card.

Setting Address - DIP Switch Settings on IDN Card

The 7 position DIP switch can be on the front panel of the IDN

Switch 1-4 determines the ID printer (1-15, default ID is 1).

Switch 5-6 set the baud rate of the IDN interface (default is 9600 baud)

Switch 7 is used to run the diagnostic test (default is off)

Set the module DIP switches as follows:

Printer ID

DEVICE #	DS1	DS2	DS3	DS4
01	—	—	—	ON*
02	—	—	ON	—
03	—	—	ON	ON
04	—	ON	—	—
05	—	ON	—	ON
06	—	ON	ON	—
07	—	ON	ON	ON
08	ON	—	—	—
09	ON	—	—	ON
10	ON	—	ON	—
11	ON	—	ON	ON
12	ON	ON	—	—
13	ON	ON	—	ON
14	ON	ON	ON	—
15	ON	ON	ON	ON

Baud Rate

BAUD RATE	DS5	DS6
9600	—*	—*
19200	ON	—
38400	—	ON

* factory default

Configuration of Epson Series Printers to work with the IDN card

The Micros IDN module only supports 9600, 19200 and 38400 baud. The printer and the Micros IDN module must have

the same baud rates to communicate. The printer must be configured like a serial interface. These settings change the printer to 9600 baud (8 bits, No parity, DTR/DSR handshaking) with a small receive buffer

Set the printer DIP switches as follows:

TM-U200 series					
DIP switch bank 1			DIP switch bank 2		
	U200B	U200D		U200B	U200D
1	OFF	OFF	1	ON	ON
2	ON	ON	2	ON	OFF
3	OFF	OFF	3	ON	ON
4	OFF	OFF	4	OFF	OFF
5	OFF	OFF	5	OFF	OFF
6	OFF	OFF	6	OFF	OFF
7	OFF	OFF	7	OFF	OFF
8	OFF	OFF	8	OFF	OFF

TM-U220B			
DIP switch bank 1		DIP switch bank 2	
1*	OFF	1	ON
2*	ON	2	ON
3	OFF	3	ON
4	OFF	4	OFF
5	OFF	5	OFF
6	OFF	6	OFF
7	OFF	7	OFF
8	OFF	8	OFF

TM-U230			
DIP switch bank 1		DIP switch bank 2	
1*	OFF	1	ON
2*	ON	2	ON
3	OFF	3	ON
4	OFF	4	OFF
5	OFF	5	OFF
6	OFF	6	OFF
7	OFF	7	OFF
8	OFF	8	OFF

TM-T88IV/III			
DIP switch bank 1		DIP switch bank 2	
1	OFF	1	OFF
2	ON	2	OFF
3	OFF	3	OFF
4	OFF	4	OFF
5	OFF	5	OFF
6	OFF	6	OFF
7	ON	7	ON
8	OFF	8	OFF

* For the TM-U220 only, setting both DIP switch 1-1 ON and DIP switch 1-2 OFF enables right-side-up printing.
 † For the TM-U230 only, setting both DIP switch 1-1 ON and DIP switch 1-2 OFF enables right-side-up printing.

Note: The Micros IDN module only supports 9600, 19200 and 38400 baud. The printer and the Micros IDN module must have the same baud rates to communicate. For TM-T88IV settings use the TM-88III settings - see here.

Confirm the initial settings of the Printer

Run the printer self test (hold down the feed button while turning on the printer). The printer will print a list of initial settings including interface type and buffer capacity. Verify that the interface is "serial" for the Micros IDN adapter.

Self-Test - Running a Configuration Report

To Run the Config Report

1. Power on the printer,
2. Open the paper cover,
3. press the FEED button,
4. Close the paper cover.

The configuration report will now print. It should include information such as the MAC address, the IP address and the gateway address. After printing, don't forget to return DIP switch 1 to the off position.

For the EPSON TM-U200 printer:

Set DIP switch 1 on the Micros IDN Module to ON and power up the unit. After report has printed, power off unit and return DIP switch to the OFF position.

Installing the Device Drivers for Windows

Contact Micros for drivers for the IDN card.

There are no Windows drivers available for IDN card from Epson.

Troubleshooting

Connectivity Problems, never printed

- The IDN address is wrong or is a duplicate. Check switch settings on the IDN card.
- The printer or the interface card is defective. Confirm printer operation with self-test. Confirm interface card by swapping with another interface card or printer.

Prints Garbage

- The interface settings are not the same on both the printer and computer. Run the printer self test to show the current settings on the printer. Check the computer side to see that interface is parallel. Settings can be changed on the printer using the DIP switches on the underside of the printer
- The printer selected in the software is not correct or the software doesn't support the printer in use.

No longer prints

- The TM printer is turned off. Turn on the TM printer. Confirm the connection of the power supply unit or the voltage of the commercial power.
- The TM printer is offline. Turn the TM printer online.
- The ERROR LED of the TM printer is on or flashing. Remove the error cause.
- The printing port of the driver on the computer side is not specified correctly. Confirm the driver setting on the computer side.
- The printer is not online in Windows. Check the status of the printer in the Windows Control Panel, the printer should show status as ready. *Tip:* try stopping and restarting the Print Spooler from the Services applet of the Control Panel.

Printing is slow

- There are problems with the computer. Printing speed may go down due to problems with the network system or applications. Run the printer self test to confirm the printer is capable of printing at its normal speed.

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E-Mail: info@beaglehardware.com

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