

WTI Part No. 13912
Rev. B

Serial Cables & Adapters

for WTI Products

1. Introduction

This publication describes the serial cables and snap adapters that are used to connect your RSM-8R4 series or MPC series unit to the serial console port on various common devices.

For more information on connecting devices, please refer to Section 4 (Hardware Installation) in your User's Guide.

1.1. Straight RJ-45 Cables and Rollover RJ-45 Cables

All of the connection examples described in this document include the use either an RJ-45 Straight cable or an RJ-45 Rollover cable. The difference between the two types of cables is the way that the pins in the connectors at each end of the cable are linked to each other.

In Straight Cables the pins on each connector are linked to the same pin number on the connector at the other end of the cable; for example, Pin 1 on the right hand connector is linked to Pin 1 on the left hand connector, as shown in Figure 1.1 below.

For Rollover Cables, the order of the pins is reversed; Pin 1 on the right hand connector would be linked to Pin 8 on the left hand connector, as shown in Figure 1.2.

WTI RJ-45 Straight cables are available in three different models:

- RJX-7-15: 15 Feet Long
- RJX-7-25: 25 Feet Long
- RJX-7-30: 30 Feet Long

WTI also offers an RJ-45 Rollover cable:

- RJ-ROLL

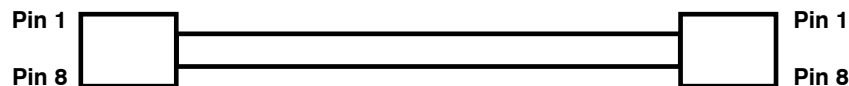


Figure 1.1: Straight Cables

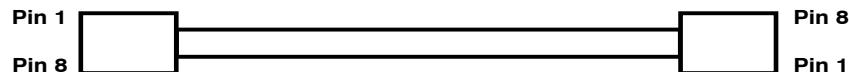


Figure 1.2: Rollover Cables

1.2. The RJ-45 Serial Port Interface

DCD and DTR hardware lines function as follows:

1. **When connected:**
 - a) If either port is set for Modem Mode, the DTR output at either port reflects the DCD input at the other end.
 - b) If *neither* port is set for Modem Mode, DTR output is held high (active).
2. **When not connected:**
 - a) If the port is set for Modem Mode, upon disconnect DTR output is pulsed for 0.5 seconds and then held high.
 - b) If the port is *not* set for Modem Mode, DTR output is controlled by the DTR Output option (Serial Port Parameters Menu, Option 23). Upon disconnect, Option 23 allows DTR output to be held low, held high, or pulsed for 0.5 seconds and then held high.

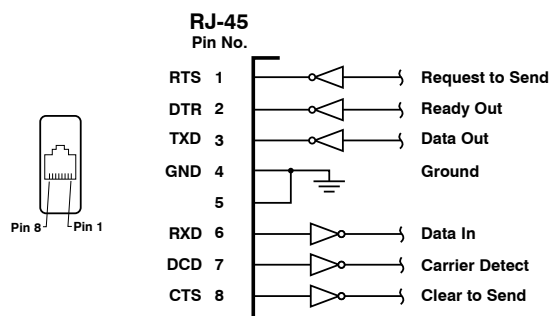


Figure 1.3: RSM-8R4 RS-232 Serial Port Interface

1.3. The MPC AUX Port Interface

The MPC AUX Port is described in Figure 1.4 below.

Note: The MPC AUX ports do not support DTR or DCD lines.

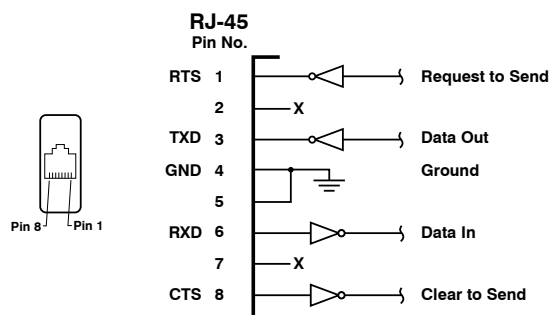


Figure 1.4: MPC Series AUX Port Interface

2. Connecting Devices to RJ-45 Serial Ports

This section describes the snap adapters and serial cables that are used to connect various devices to RJ-45 Serial Ports on WTI products.

2.1. Connecting DB-9M DTE Devices

The DX9F-DTE-RJ Snap Adapter can be used with a Straight RJ-45 cable to attach the following DB-9M DTE devices to RJ-45 Serial Ports on WTI Products:

- PCs and Laptops
- Console Ports on WTI RSM-8, RSM-16 and RSM-32 units
- Console Ports on WTI MPC Series Units
- Other Devices with a DB-9M DTE Console Port

When connecting a DB-9M DTE device to an RJ-45 Serial Port on a WTI Product, please refer to Figure 2.1 and Figure 2.2 below:

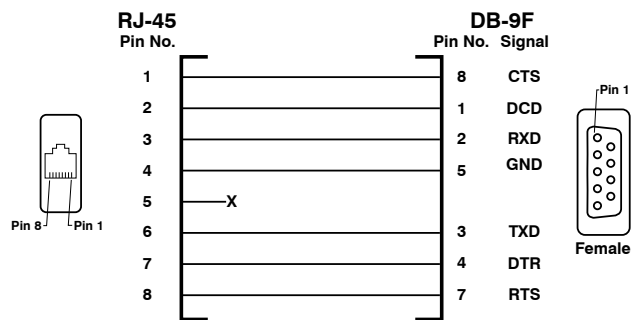


Figure 2.1: DX9F-DTE-RJ Snap Adapter Interface

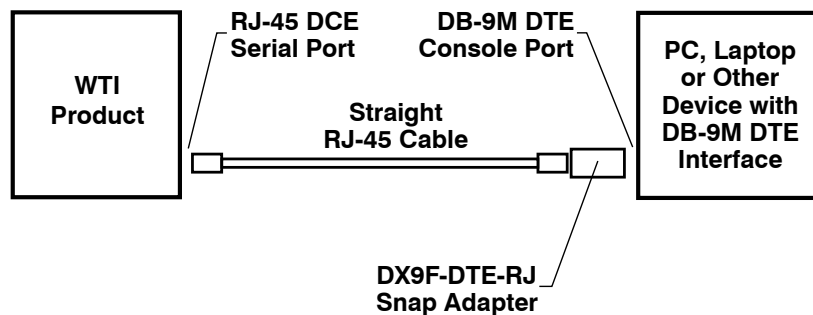


Figure 2.2: Connecting DB-9M DTE Devices to RJ-45 Serial Ports on WTI Products

2.2. Connecting DB-25F DTE Devices

The DX25M-DTE-RJ Snap Adapter can be used with a Straight RJ-45 cable to attach the most DB-25F DTE devices to RJ-45 Serial Ports on WTI products.

When connecting a DB-25F DTE device to an RJ-45 Serial Port on a WTI Product, please refer to Figure 2.3 and Figure 2.4 below:

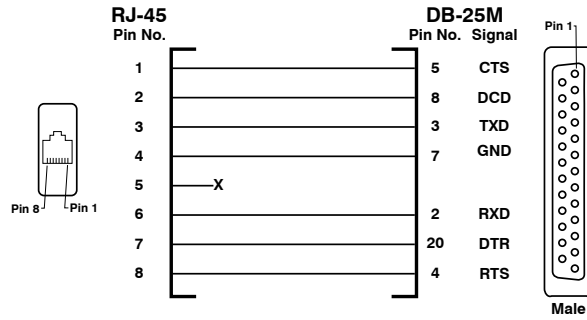


Figure 2.3: DX25M-DTE-RJ Snap Adapter Interface

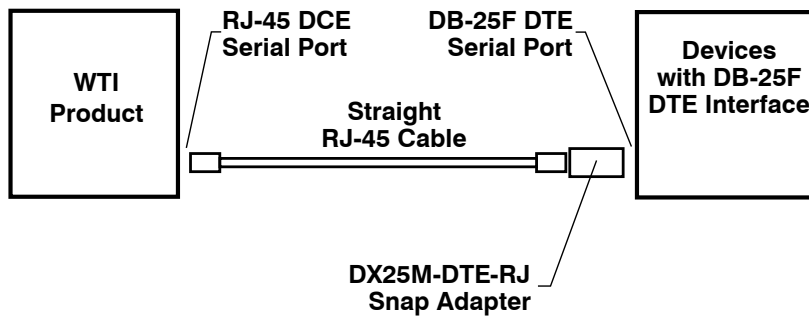


Figure 2.4: Connecting DB-25F DTE Devices to RJ-45 Serial Ports on WTI Products

2.3. Connecting DB-25F DCE Devices

The DX25M-DCE-RJ Snap Adapter can be used with a Straight RJ-45 cable to attach the following DB-25F DCE devices to RJ-45 serial ports:

- External Modems with DB-25F DCE Serial Port
- Other Devices with a DB-25F DCE Console Port

When connecting a DB-35F DCE device to an RJ-45 serial port, please refer to Figure 2.4 and Figure 2.5 below:

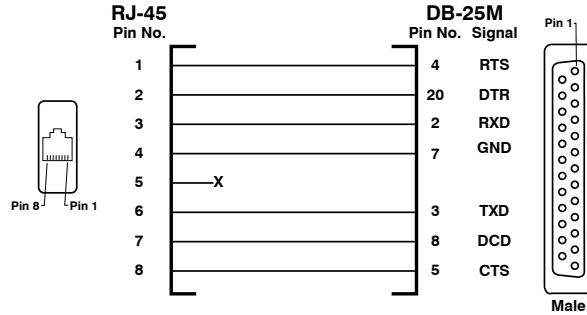


Figure 2.5: DX25M-DCE-RJ Snap Adapter Interface

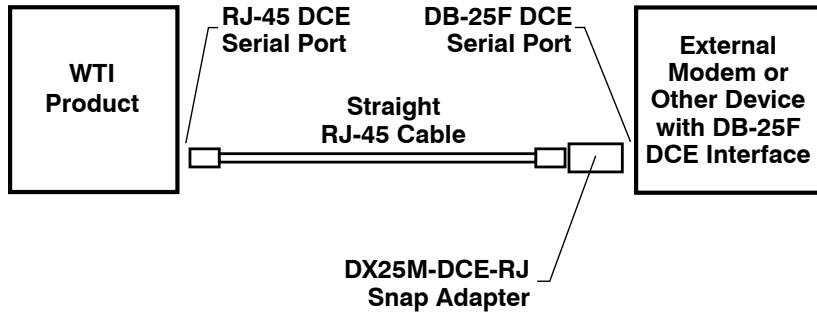


Figure 2.6: Connecting DB-25F DCE Devices to RJ-45 Serial Ports on WTI Products

2.4. Connecting RJ-45 DCE Devices

An RJ-ROLL Rollover cable can be used to connect the following RJ-45 DCE devices to the RJ-45 serial ports on WTI Products:

- Cisco Routers with RJ-45 DCE Console Port
- Sun Routers with RJ-45 DCE Console Port
- Other Devices with RJ-45 DCE Console Port

When connecting an RJ-45 DCE device to an RJ-45 serial port, please refer to Figure 2.7 below:

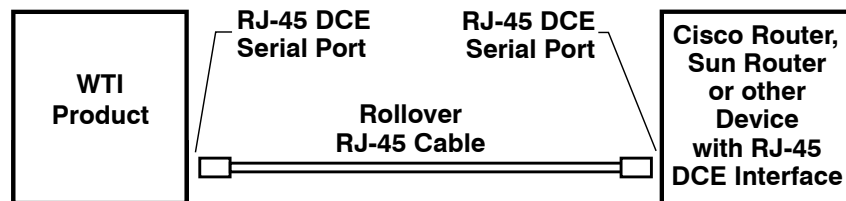


Figure 2.7: Connecting RJ-45 DCE Devices to the RSM-8R4

2.5. Connecting an Auxilliary MPC Unit to the MPC AUX Port

Use a DX9F-DTE-RJ Snap Adapter and an RJ-45 Straight Cable to connect an optional Auxilliary MPC unit to the AUX Port on your MPC master unit as shown in Figure 2.8 and Figure 2.9 below:

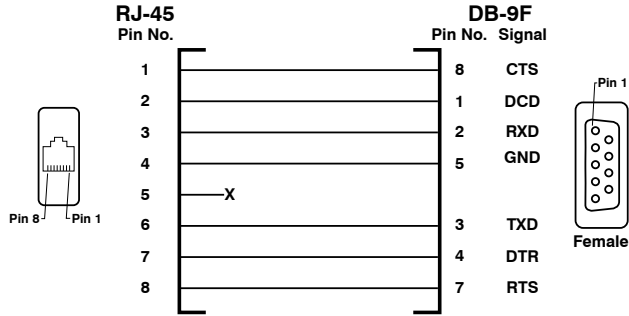


Figure 2.8: DX9F-DTE-RJ Snap Adapter Interface

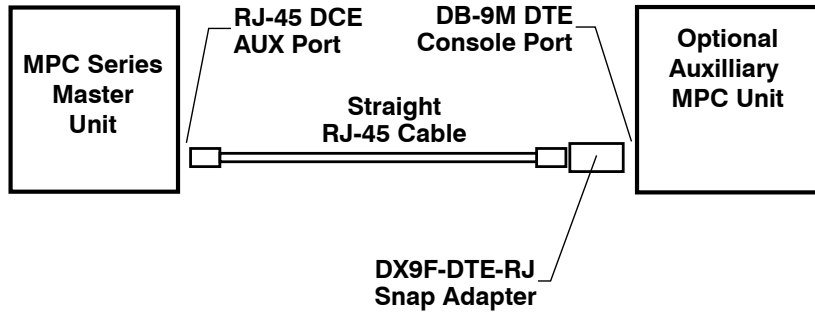


Figure 2.9: Connecting an Optional MPC Auxilliary unit to the MPC Master Unit

2.6. Connecting an MPC-DISPLAY Unit to an MPC Master Unit

Use an RJ-45 Straight Cable to connect the optional MPC-DISPLAY unit to your MPC series master unit. Connect one end of the cable to the RJ-45 serial port on the back of the MPC-DISPLAY unit, and the other end of the cable to the "Remote" port on the face of the MPC series master unit. For a description of the operation procedure for the MPC-DISPLAY unit, please refer to the MPC User's Guide.

When connecting an MPC-DISPLAY unit to your MPC master unit, please refer to Figure 2.10 below:

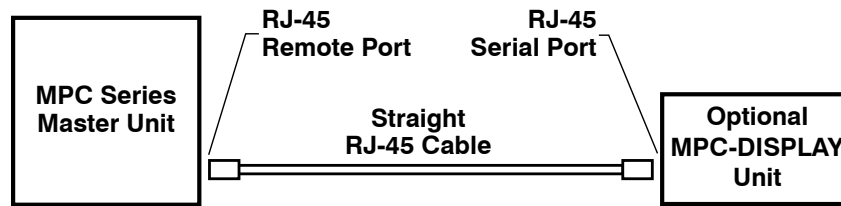


Figure 2.10: Connecting an Optional MPC-DISPLAY Unit to an MPC Series Master Unit

3. Making Extension Cables

This section describes how WTI Snap Adapters and RJ-45 cables can be used to make Extension Cables for connecting to DB-9 ports and DB-25 Ports. This essentially allows you to use your existing Cat 5 RJ-45 cable stock and connectors to make your own, economical alternatives to expensive pre-made cables.

3.1. Null Modem Extension Cable (DTE to DTE)

Use a DX9F-DTE-RJ Snap Adapter, a DX9F-NULL-RJ Snap Adapter and an RJ-45 Straight Cable to make a Null Modem Extension Cable (DTE to DTE) as shown in Figures 3.1, 3.2 and 3.3 below:

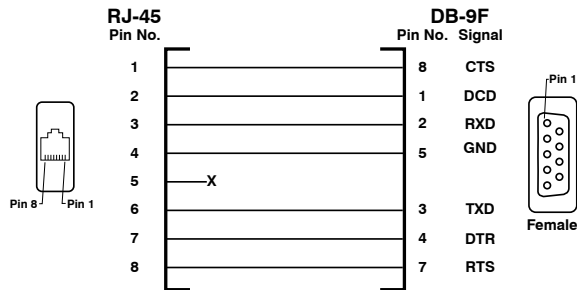


Figure 3.1: DX9F-DTE-RJ Snap Adapter Interface

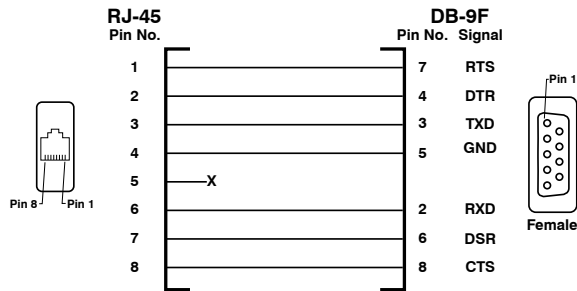


Figure 3.2: DX9F-NULL-RJ Snap Adapter Interface

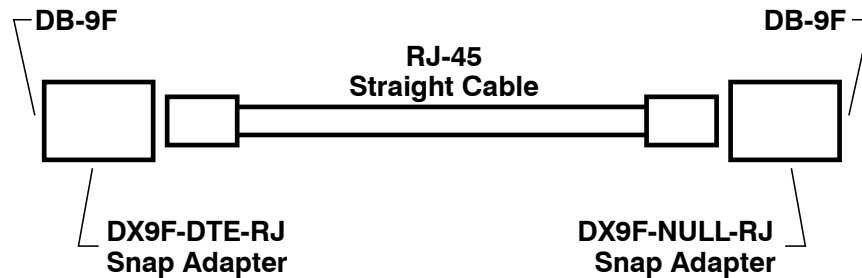


Figure 3.3: Making a Null Modem Extension Cable (DTE to DTE)

3.2. Straight Through Extension Cable (Pins 1 - 5, 7 & 8)

Use two DX9F-DTE-RJ Snap Adapters and an RJ-45 Straight Cable to make a Straight Through Extension Cable (Pins 1 through 5, 7 and 8) as shown in Figures 3.4 and 3.5 below:

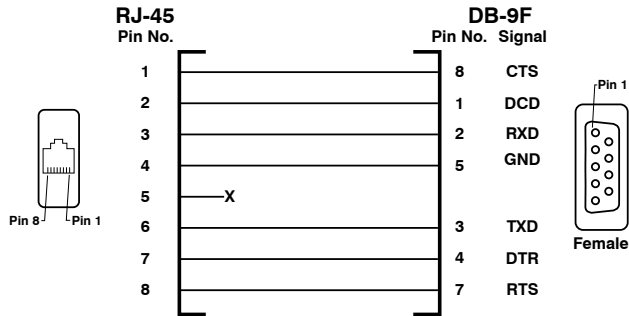


Figure 3.4: DX9F-DTE-RJ Snap Adapter Interface

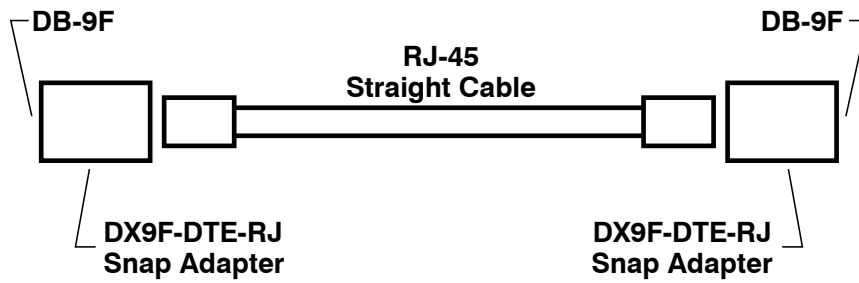


Figure 3.5: Making a Straight Through Extension Cable (Pins 1 - 5, 7 & 8)

3.3. Straight Through Extension Cable (Pins 2 - 8)

Use two DX9F-NULL-RJ Snap Adapters and an RJ-45 Straight Cable to make a Straight Through Extension Cable (Pins 2 through 8) as shown in Figures 3.6 and 3.7 below:

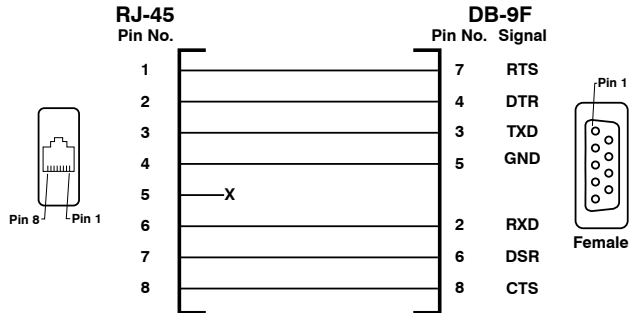


Figure 3.6: DX9F-NULL-RJ Snap Adapter Interface

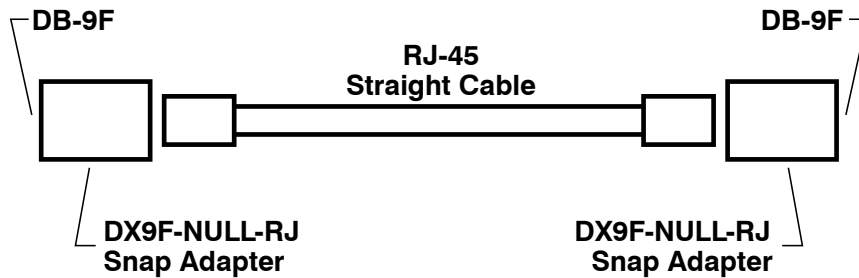


Figure 3.7: Making a Straight Through Extension Cable (Pins 2 - 8)

3.4. DB-9F DTE to Modem DCE Extension Cable

Use a DX9F-DTE-RJ Snap Adapter, a DX25M-DTE Snap Adapter and an RJ-45 Straight Cable to make a DB-9F DTE to Modem DCE Extension Cable as shown in Figures 3.8, 3.9 and 3.10 below:

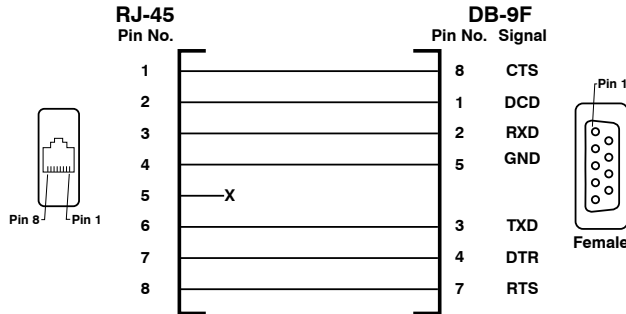


Figure 3.8: DX9F-DTE-RJ Snap Adapter Interface

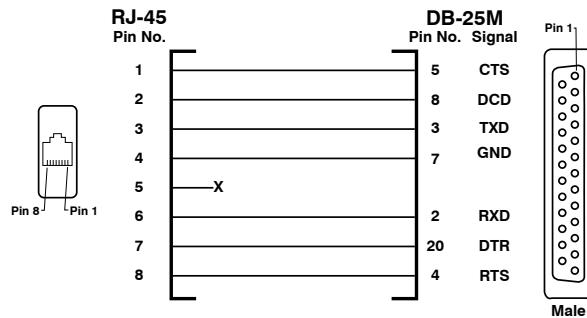


Figure 3.9: DX25M-DTE-RJ Snap Adapter Interface

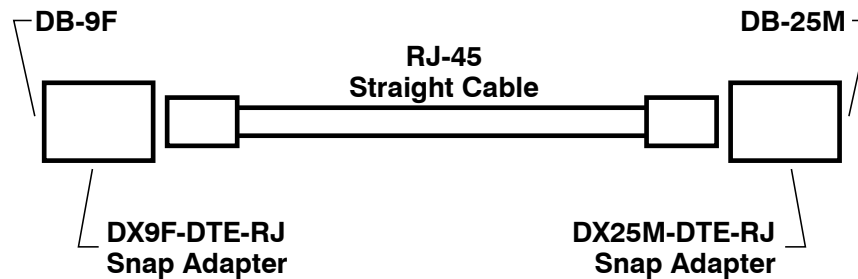


Figure 3.10: Making a DB-9F DTE to Modem DCE Extension Cable