



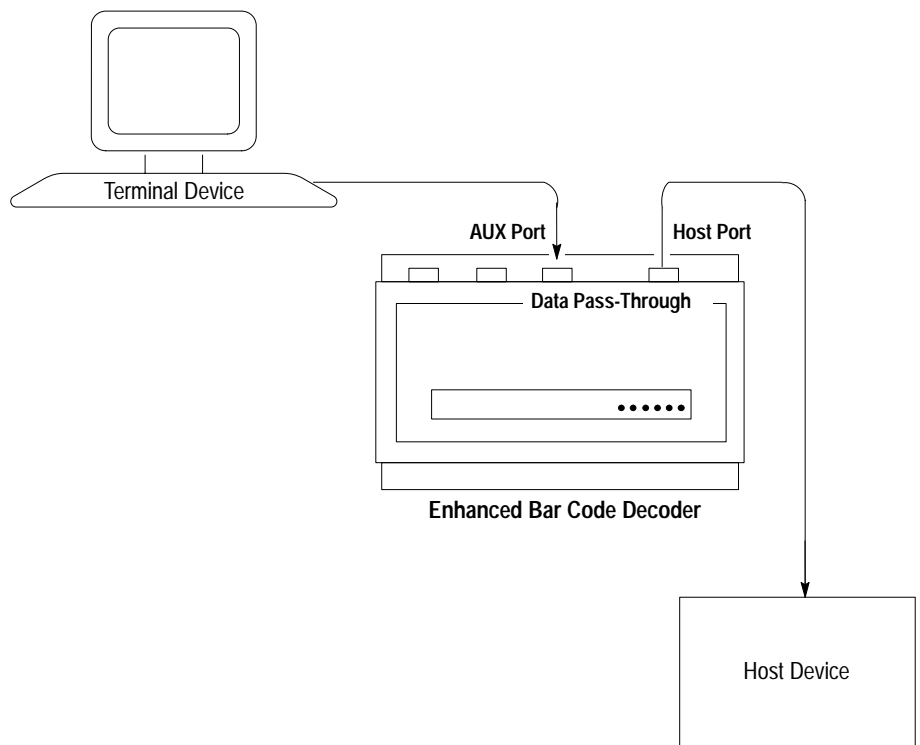
Bulletin 2755 Enhanced Bar Code Decoder Pass-Through Option

Application Note

Overview

This document describes how use the manual data entry Pass-Through function of an enhanced decoder. The Pass-Through function allows communications between a data entry terminal and a host device by passing information directly through the enhanced decoder. The operation works as follows:

1. Operator enters data at the terminal keyboard.
2. Information is transmitted through the decoder auxiliary port and out the host port to a host device.



For reference, this document also contains:

- Connection diagrams
- Enhanced Decoder information

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Hardware Requirements

A typical data pass through application requires the following hardware:

- 2755-DD/DS (Series A, Rev A) or greater enhanced decoder
- Dumb terminal or PC with terminal emulation software
- Cabling (See pages 6 to 10)

You also need a dumb terminal or a computer with terminal emulator software to configure the decoder. The dumb terminal can also be used to enter data into the system.

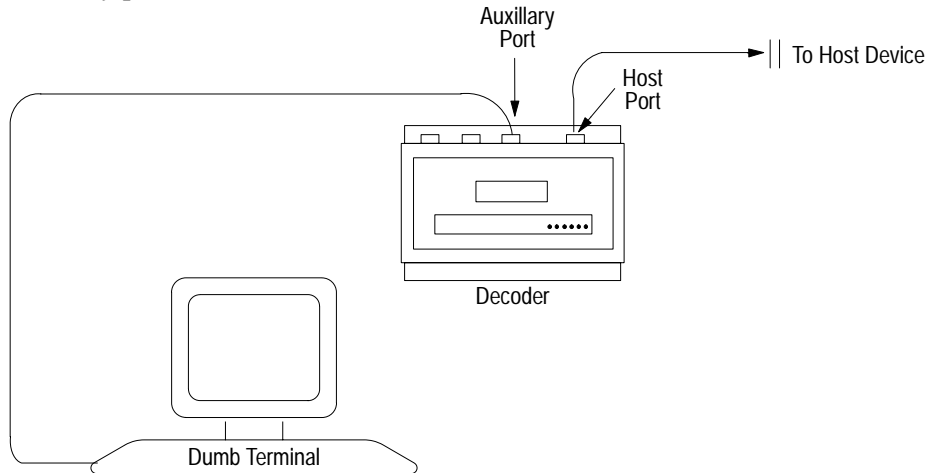
Related Publications

For additional information, refer to the following Allen-Bradley publications:

Publication Number	Title
2755-ND011/ND012	Bulletin 2755-DS/DD Series A Enhanced Decoder User Manual
2755-833	Bulletin 2755-DS/DD Series B Enhanced Decoder User Manual
2755-2.54	Interfacing a 2755-DS/DD Bar Code Decoder to a PLC-5 Using RS-232/ASCII Protocol with the 2760-RB Module and Either the 2760-SFC1 or -SFC2 Protocol Cartridge.
2755-2.55	Interfacing a 2755-DS/DD Bar Code Decoder to a PLC-5 Using DH485 Protocol With 2760-RB Module and the 2760-SFC Protocol Cartridge
2755-2.58	2755-DS/DD Bar Code Decoder Interfacing to new Platform PLC-5

Decoder Configuration

Connect the system as shown below with the dumb terminal connected to the auxiliary port of the decoder.



Note: The hardware/software handshaking to the Host port of the decoder is not reflected to the AUX port.

Cycle power on decoder. If connected to a terminal emulator, the first menu screen, **Select Language** should appear.

1. Enter the appropriate options for the **Select Language** and **Select CRT Type** screens.
2. After selecting the terminal type, the **Select Operation Screen** appears. Function 8 on the **Select Operation Screen** accesses the **AUX Terminal Data Entry Screen** used to configure the AUX terminal for manual data entry operations. Enter the following parameters on this screen.

```
-----AUX TERMINAL DATA ENTRY-----
ENABLE KEYBOARD ENTRY: Yes
CONFIRM ENTRY: No
AUX DATA FORMAT: Host Format
  RUBOUT CHAR: 8  BS
ECHO TO TERMINAL: Yes
SIZE OF DISPLAY: 80

DEFAULT PROMPT MESSAGE: ██████████

-----
Commands:ESC   Change:SPACE   Cursor Control:ARROWS
-----
```

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- Function 7 on the **Select Operation Screen** accesses the **Host Communications Screen**. Enter the following parameters into this screen.

```
-----HOST COMMUNICATIONS-----  
BAUD RATE*: 9600  
BITS/CHAR*: 8 Data 1 Stop  
PARITY*: None  
HOST PROTOCOL*: RS232  
DEVICE ADDRESS*: 1  
ACK CHAR*: None 255  
NAK CHAR*: None 255  
  
*Save and Restart required for these parameters to take effect.  
  
SCANNER A SCANNER B  
START SCAN CHAR: None 255 None 255  
STOP SCAN CHAR: None 255 None 255  
  
LARGE BUFFER: No  
SEND HOST MESSAGE: At End of Trigger  
TRANSMISSION CHECK: None  
  
-----  
Commands:ESC Change:SPACE Cursor Control:ARROWS  
-----
```

- Save the new configuration to EPROM and restart the decoder.

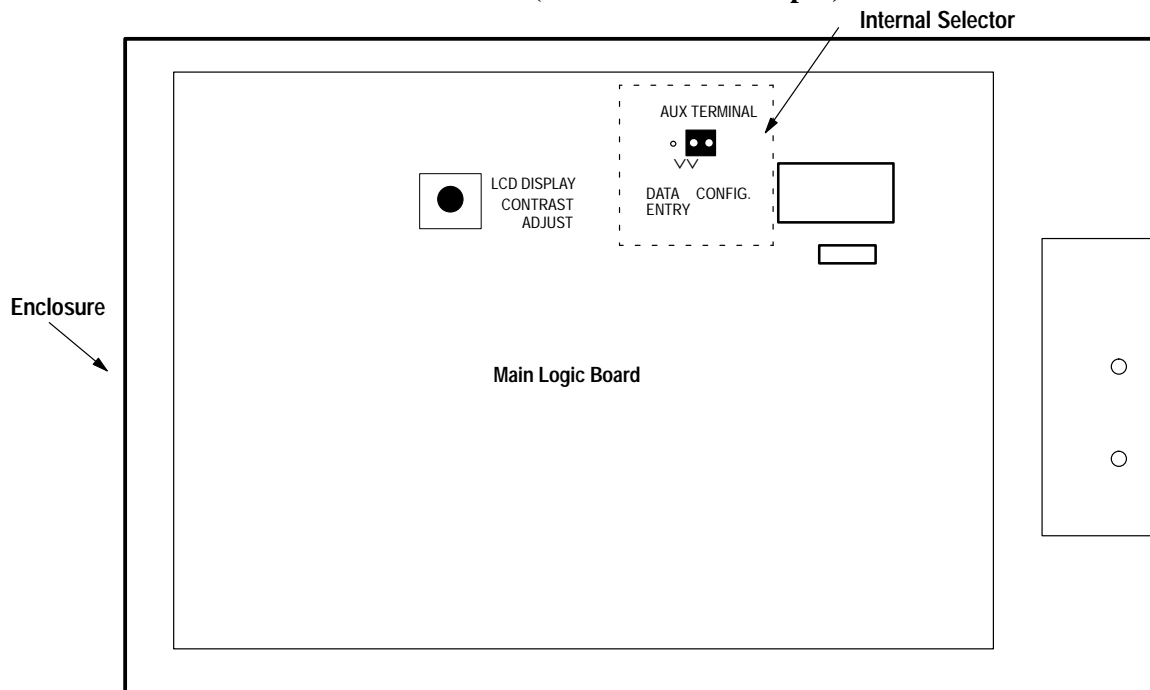
Switching to Manual Data Entry Mode

The AUX port of the decoder communicates with a standard ASCII terminal through an RS-232 interface. This terminal is referred to as the AUX terminal. The AUX port can switch between two mutually exclusive modes of operations, decoder configuration and manual data entry.

To enable the AUX terminal for manual data entry, as needed for the Pass-Through function, follow the instructions below:

1. Turn power off to decoder.
2. Open the face cover of the decoder to reveal the main logic board. The Internal Selector is a jumper on the main logic board, labelled AUX Terminal. See diagram below:

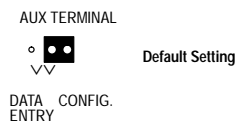
Internal Selector (AUX Terminal Jumper)



The jumper has two positions, which determine the mode of operation that is enabled for the AUX port terminal.

CONFIG (Jumper Open)

With the jumper open (as shown on the left) you can use the AUX terminal for configuration only. Configuration menus and screens are enabled. This is the factory default setting.



DATA ENTRY (Jumper Closed)

With the jumper closed (as shown on the left) you can use the AUX terminal for manual data entry and display functions only. Configuration menus and screens are disabled.



3. Switch the Internal Selector to the left most position on data entry. This will allow communications through the decoder, through the interface module to the PLC data table.

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Terminal Setup

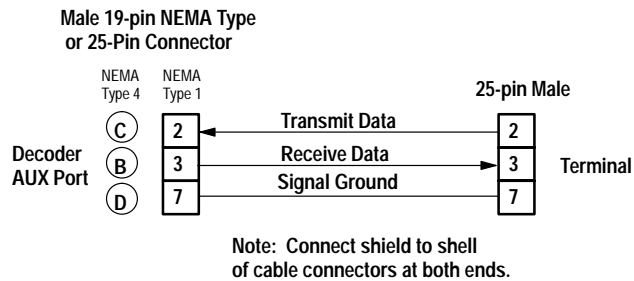
This section provides instructions on how to setup and connect the following terminals to the AUX port of the NEMA Type 1 or Type 4 decoder.

- Lear Siegler ADM 3E / Wyse Terminals
- DEC VT100
- 1784-T45
- 1771-T1, -T2, -T3
- Bulletin 2708 DH5 Workstations

Lear Siegler / Wyse Terminal

If using a Lear Siegler ADM 3E terminal or Wyse terminal:

1. Construct a cable to connect the terminal to the decoder. Use a Belden 8303, Alpha 45123, or equivalent type of cable. Use the following connector pinouts:



2. Plug terminal into power supply.
3. Power on terminal.
4. Press [Shift] [SETUP] to enter setup mode.
5. Use the arrow keys to set the following parameters on the terminal:
 - Full Duplex (FDX)
 - 9600 Baud Rate
 - 8 Data Bits per Character
 - No Parity
 - XON/XOFF Flow Control or Handshake
 - Blinking Block Cursor
6. To save the selected parameters, press [Ctrl] [S].
7. Exit setup mode by pressing [Shift] [SETUP].

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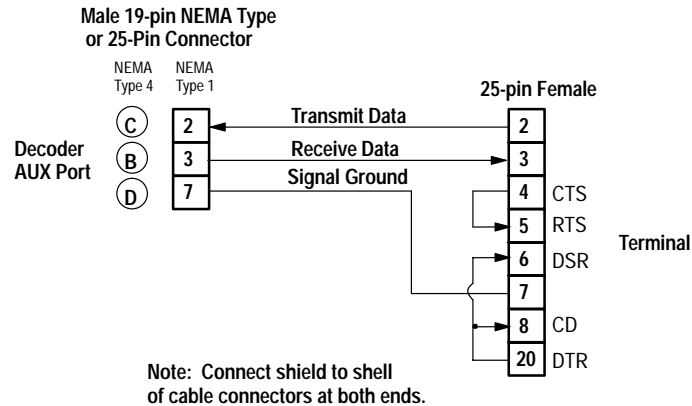
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1784-T45 Programming Terminal

Follow these steps if using an Allen-Bradley 1784-T45 terminal:

1. Construct a cable to connect the terminal to the decoder. Use a Belden 8303, Alpha 45123, or equivalent type of cable. Use the following connector pinouts:



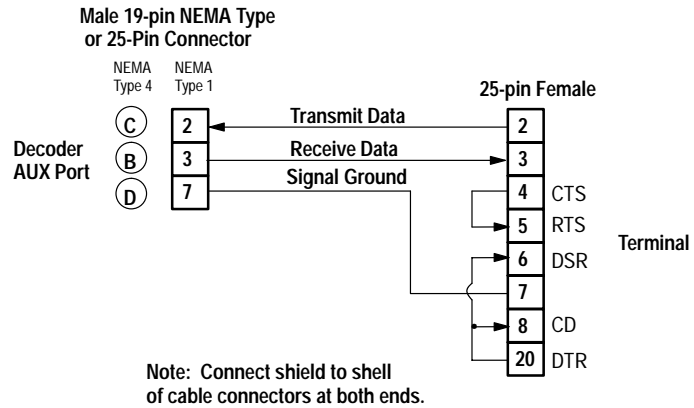
2. Power on the terminal. The switch is located on the left side of the unit.

The terminal will beep once, and then test itself. When the test is complete, a message appears. The last line should indicate that all tests have passed.
 - 3 Press [CTRL][ALT][CMD] key sequence to display the Main Menu (Press the [CMD] key while holding down the [ALT] and [CTRL] keys).
 4. Set the -T45 terminal emulation to the following settings (Refer to the terminal documentation for additional information):
 - F1 DGC D200 Terminal
 - F2 Modem = External
 - F3 Flow Control = On
 - F4 Duplex = Full
 - F6 Print = Off
 5. Set the COM1 parameters to:
 - F1 Baud Rate = 9600
 - F2 Parity = None
 - F3 Data Bits = 8
 - F4 Stop Bits = 1
 - F5 Type = Standard PC Compatible Com
- Note:** If using an internal modem, disable it using the MODE command.
6. When the Select CRT Type menu appears, select Data General DT100 emulation.

1784-T47 Programming Terminal

Follow these steps if using an Allen-Bradley 1784-T47 terminal:

1. Construct a cable to connect the -T47 terminal to the decoder. Use a Belden 8303, Alpha 45123, or equivalent type of cable. Use the following connector pinouts:



2. Apply power to the -T47 terminal and run your terminal emulator with the following Com 1 or 2 parameters:

Baud Rate = 9600
Parity = None
Data Bits = 8
Stop Bits = 1

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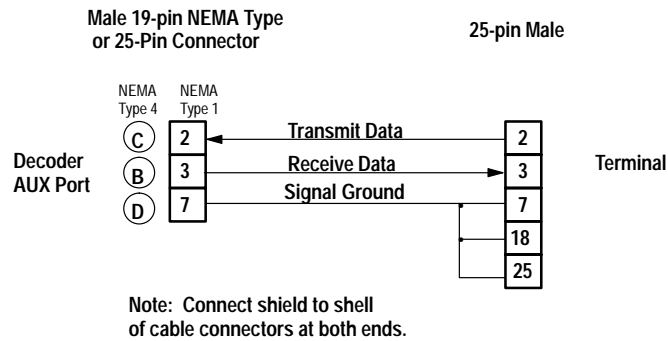
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1770-T1, -T2, -T3 Terminals

Follow these steps if using an Allen-Bradley 1770-T1, -T2, or -T3 terminal:

1. Construct a cable to connect the decoder to Channel B of the terminal. Use a Belden 8303, Alpha 45123, or equivalent type of cable. Use the following connector pinouts:



2. Plug terminal into power supply.
3. Install the alphanumeric keypad overlay on the terminal keyboard.
4. Power on terminal. Enter *I2* to select alphanumeric.
5. Select Alphanumeric Mode and set the following parameters (refer to your terminal documentation for additional information):

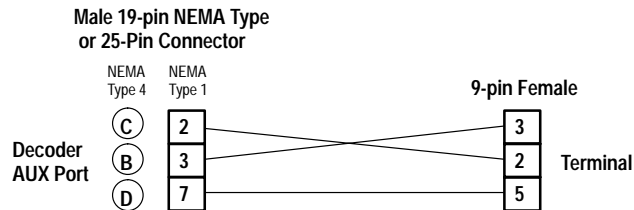
Baud Rate = 9600
Parity = None
Stop Bits = 1
Channel Config. = B IN/OUT
Duplex = Full
Channel C = On or Off
Cursor = On
Auto Line Feed after Return = Off
Control Code Display = Off

Note: Use the <CTRL> and U, D, L, or R keys for Up, Down, Left and Right cursor movement.

**2708-DH5
 Attended Workstations**

Follow these steps if using one of the Allen-Bradley 2708-DH5 Attended Workstations:

1. Construct a cable to connect the decoder to the COM1 port of the 2708-DH5 terminal. Use a Belden 8303, Alpha 45123, or equivalent type of cable. Use the following connector pinouts:



2. Plug terminal into power supply.
3. Power on terminal.
4. Select Network Menu (option 1) and set the following parameters:

Terminal Number = 0
 Terminal Type = Normal

The rest of the network parameters are not applicable.

5. Select Comm Port Menu (option 2) and set the following parameters:

Comm Mode XON/XOFF
 Comm Baud Rate = 9600
 Comm Data Bits = 8
 Comm Parity = None
 Comm Stop Bits = 1
 Comm CRLF = Disabled
 Comm Echo = Disabled
 Comm Handshake = Disabled

The rest of the parameters are not applicable.

Note: BASIC code does not have to be written in the DH5 Attended Workstation in order to use it as a dumb terminal.

Application Note

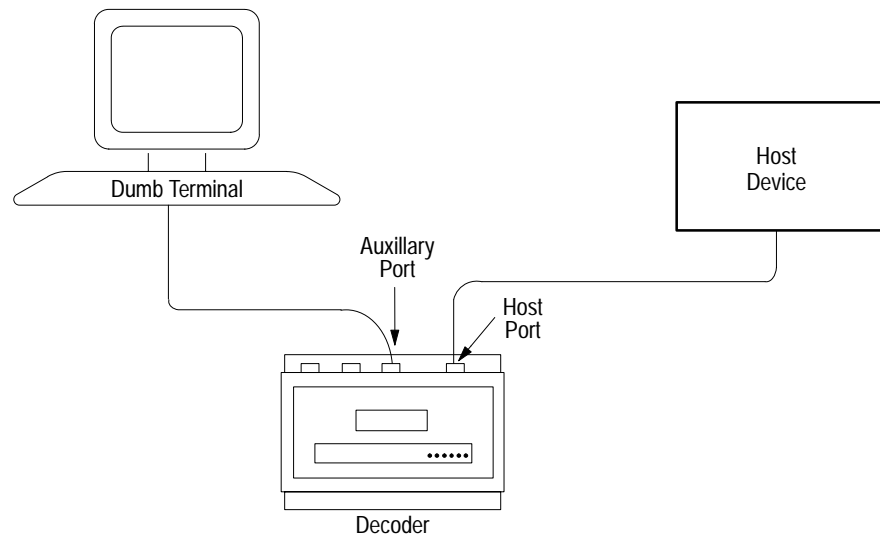
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Running the Application

To run the application, follow these procedures:

1. Be sure that the terminal emulator or dumb terminal is connected to the decoder auxiliary port.
2. Begin entering data at your terminal. You should see the information on your display screen. (Echo to terminal = YES)
3. Data is now transmitted through the decoder to the host device.



Note: If you are interfacing a decoder with a PLC host, refer to the related publications list on page 2.



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