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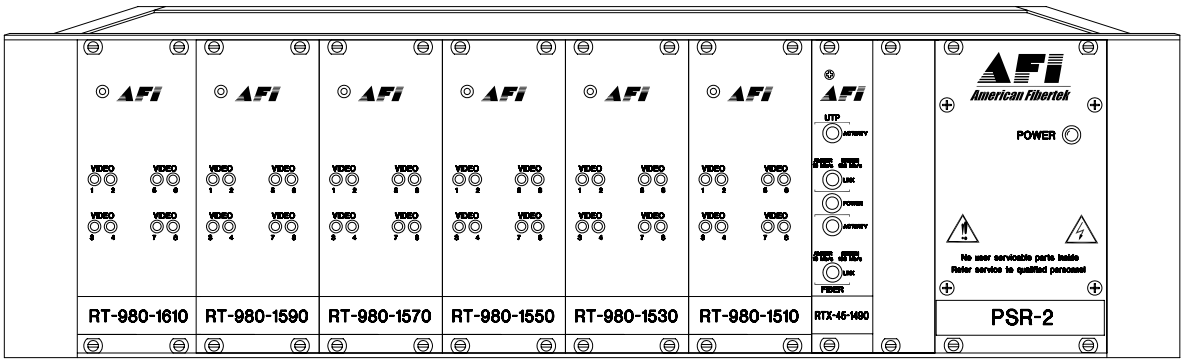

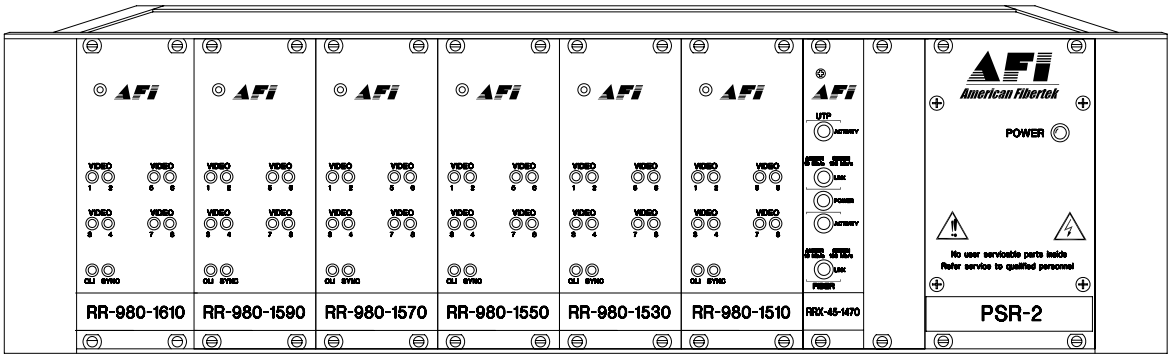

Conversion Addendum

RT-94845SL
RR-94845SL
Forty-Eight Channel Video Multiplexer With Bi-directional Ethernet Data

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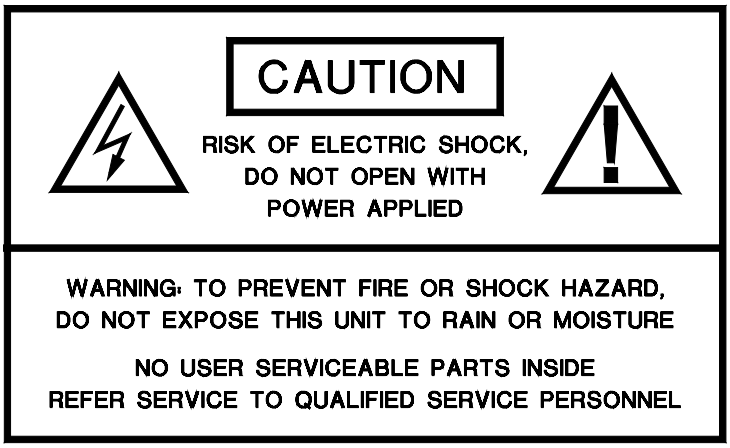


INSTALLATION AND OPERATION INSTRUCTIONS

INTRODUCTION

Thank you for purchasing your American Fibertek Series 94845SL conversion kit to modify your 94885SL singlemode forty-eight channel video multiplexer to include bi-directional Ethernet data. Please take a few minutes to read these installation instructions in order to obtain the maximum performance from this product.

FUNCTIONAL DESCRIPTION

The 94845SL Series units operate as a transmitter / receiver pair for the digital transmission of forty-eight simultaneous NTSC or PAL video signals along with one channel of bi-directional Ethernet data over one singlemode fiber optic cable. The Ethernet data channel in this application will be connected on each end to an N-PORT-5630-8 multiplexer which will combine eight RS485 data channels into one Ethernet channel for transmission over the fiber. An auto-configure feature in the N-PORT-5630-8 will eliminate the need to modify the external switch setting on the 45 series units that select MDI or MDIX connections.

RT-94845SL CONVERSION COMPONENTS

The RT-94845SL conversion requires the following components:

1) RTX-45-1490	2) PCSC/UPC-0.3	
1) MTX-CWDM-8	1) BPS-1	
1) N-PORT-5630-8	1) RJ45 / RJ45 cable	) RJ45 to RJ12 camera cables

RR-94845SL CONVERSION COMPONENTS

The RR-94845SL conversion requires the following components:

1) RRX-45-1470	2) PCSC/UPC-0.3	
1) MRX-CWDM-8	1) BPS-1	
1) N-PORT-5630-8	1) RJ45 / RJ45 cable	8) RJ45 to RJ12 matrix cables

INSTALLATION

THIS INSTALLATION SHOULD BE MADE BY A QUALIFIED SERVICE PERSON AND SHOULD CONFORM TO THE NATIONAL ELECTRICAL CODE, ANSI/NFPA 70 AND LOCAL CODES.

SYSTEM CONFIGURATION AND CONNECTIONS

Please refer to the 94845SL Instruction Manual included with this unit for proper configuration and connections to this unit.

PREPARATION OF RT-94885SL UNIT

To begin the conversion of the RT-94885SL to a RT-94845SL, remove the six patchcords connecting the RT-980 units to the CWDM at the rear of the rack. Save the patchcords, they will be reused for the RT-94845SL. Disconnect the power cord and the fiber connection to the CWDM from the fiber infrastructure and remove the MTX-CWDM-8-MPD. The MTX-CWDM-8-MPD will need to be returned to AFI using packaging from the replacement CWDM sent as part of this kit. From the front of the subrack, remove the BPS-2 blank plate from the left end of the rack. Then move each of the RT-980 units one double slot to the left with the RT-980-1610 at the leftmost side of the SR-20 subrack. This may require temporarily disconnecting the eight coax cables attached to each unit.

INSTALATION OF RT-94845SL CONVERSION COMPONENTS

Following the drawings in the RT-94845SL Instruction Manual, insert the RTX-45-1490 into the open slot next to the RT-980-1510. Install the BPS-1 blank plate over the remaining open slot in the subrack. Install the MTX-CWDM-8 in the location previously occupied by the MTX-CWDM-8-MPD. Use the six original patchcords along with two new patchcords from the conversion kit to connect the RT-980 units and the RTX-45 unit to the CWDM.

ADDITION OF NPORT COMPONENTS TO RT-94845SL

For a complete description of the NPORT multiplexer unit, please refer to the informational CD from NPORT included with this kit. Either of the NPORT multiplexers can be mounted directly below the MTX-CWDM-8 or next to source of the eight RS485 data outputs, whichever is more convenient to the application. Power for the NPORT units is generated by an internal power supply which accepts universal line voltage. Any mains supply from 100 to 240 VAC, 50 to 60 Hz, may be used without modification or adjustment. A universal power connector is provided on the rear of the unit to facilitate connection to the power mains.

NPORT MENU CONFIGURATION

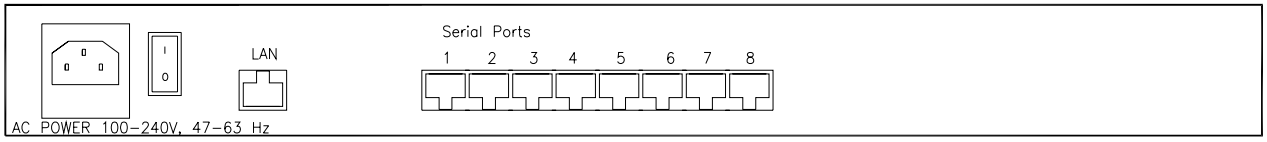
The NPORT units supplied for this application have been pre-configured at the AFI factory. These settings are designed for a point to point Ethernet connection between the NPORT and the 45 series unit. The NPORT unit with an IP address of 192.168.10.148 is configured as ‘Master’, the NPORT unit with an IP address of 192.168.10.149 is set as ‘Slave’. The RS485 ports are set to communicate with the default Panasonic Matrix camera control values of 8 data bits, 1 stop bit, no parity, and 9600 baud. To change these settings, please refer to the NPORT informational CD.

RS485 DATA INPUT / OUTPUT CONNECTIONS

An RJ45 to RJ12 cable (labeled ‘CAMERA’) is supplied to connect each of the eight Serial Ports on the back of the NPORT unit to the RS485 connection on each camera dome. See the drawing on the next page for the location of the eight RS485 serial ports on the NPORT unit.

ETHERNET DATA INPUT / OUTPUT CONNECTIONS

A standard RJ45 cable is supplied in the conversion kit to connect the LAN port of the NPORT unit to the Ethernet connection on the RTX-45-1490. Any standard RJ45 cable can be substituted for this cable if the supplied cable is not long enough.



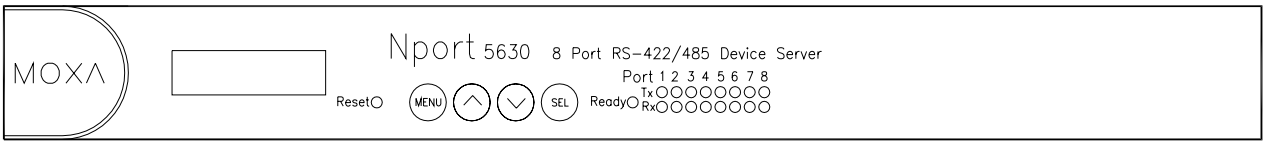
NPORT

PREPARATION AND INSTALATION OF RR-94845SL CONVERSION COMPONENTS

Using the 94845SL Instruction Manual for guidance, the RR-94845SL is configured in a similar manner as the RT-94845SL. Be sure to confirm the CWDM being used for the RR-94845SL is the MRX-CWDM-8 and the 45 series card being used is the RRX-45-1470. Note that there is a difference in the fiber patchcord configuration between the RRX-45-1470 and the RTX-45-1490 previously installed. Also note that the RJ45 to RJ12 cables used on the RR-9485SL are labeled 'MATRIX'.

NPORT STATUS INDICATORS

Along with a front panel LED that displays the IP address of the unit, the NPORT multiplexer provides the following LED status indicators for each of its eight ports to aid in installation and troubleshooting:



NPORT

PORT TX

A green LED indicator is provided to monitor the RS485 data output from the unit onto the Ethernet link. The intensity of this indicator will vary with input data patterns, however in typical applications it will cycle on and off as data is transmitted. RS485 status associated with this LED is summarized below.

DATA TX LED	RS485 Status
Green	Data Flow Present
Off	Data Flow Not Detected

PORT RX

An amber LED indicator is provided to monitor the RS485 data input into the NPORT unit from the RS485 link. The intensity of this indicator will vary with input data patterns, however in typical applications it will cycle on and off as data is transmitted. RS485 status associated with this LED is summarized below.

DATA RX LED	RS485 Status
Amber	Data Flow Present
Off	Data Flow Not Detected

Please see the NPORT informational CD included with this conversion kit if a more detailed explanation of these status indicators is required.