

## Fiber Optic Intercom/Data Utility Multiplexer



*Multiplexes and transmits up to ten intercom channels, eight duplex data signals, and four duplex switch closures over 1 optical fiber or dual coaxial cables.*

The **Adder 882i** is a specialty system that delivers utility communications signals found in video and audio production environments. It handles the many intercom channels you need and all the data channels you want.

### Up to 10 Intercoms

This modular unit is both a multiplexer/transmitter and demultiplexer/receiver which has four (4) slots for plug-in intercom modules. Each plug-in intercom module handles two single-channel intercom paths (Clear-Com® 2-wire or 4-wire) or one dual-channel Telex RTS® path. You can mix and match the types of intercom channels you use. For instance, you can connect via 4-wire at your truck and plug in your 2-wire belt pack at the remote end for better control over your system. Two-wire modules provide local power for a string of up to six belt packs per channel.

Two fixed 5-pin XLR connectors provide a ninth and tenth 4-wire circuit, which maybe used with Telex Adam™ or Clear-Com Matrix™ series intercom systems, when used with optional RS485 adapters. These circuits also serve as convenient pathways for connecting a Telecast Ring-Neck® dual-channel telephone interface.

### Datas, CCU and Tallys

The **Adder** also gives you eight data channels in both directions. Select from RS232 or RS422 on any of the eight 9-pin D connectors, or Sony® CCU interfaces, such as RM-M7, RM-P3 or CCU-7, on four of the ports. On each of the other four you simultaneously have bi-directional switch closure interfaces.

### Interconnection Options

Use the **Adder 882i** by itself, or to augment other Telecast systems like the **Viper™** or **Diamond-Back™** video systems.

There are several transmission options for the Adder. Use two optical fibers, one for send and one for receive, where fiber conductors are plentiful and inexpensive. Where fiber availability is limited, use an Adder equipped with wavelength division multiplexers (WDM) for bidirectional transmission on one fiber.

### Piggyback on Your DiamondBack

The **Adder 882i** also features coaxial BNC input and output for distances up to 500 meters (1640 feet). Or connect the **882i** to a coaxial input/output of your **DiamondBack** to simultaneously carry all your intercom, data, video and audio channels on one optical fiber conductor.

You get all the benefits of tactical fiber optic cabling, including small size, lightweight, battlefield-proven durability, easier installation, higher security, greater safety, and total electrical isolation.

## Features

### Intercom

- 8 Intercom channels
  - 4 dual-ch. RTS, or
  - 8 Clear-Com, or
  - 8 Four-wire, or—
  - an assortment of all
- 2 more dedicated 4-wire (for Adam or MatrixPlus)
- Clear intercom sound
  - 85 dB dynamic range
  - 20 kHz response
- Intercom 2-wire controls
  - Input/Output Gain
  - Nulling Adjustment
  - Wet (Pwr.)/Dry Port
  - Termination On/Off
- Translation between types
  - 4-wire to 2-wire
  - RTS to Clear-Com

### Data/Control

- 8 Duplex Data Channels
  - Sony® CCU
  - RS422
  - RS232
- 4 Tally/Closure interfaces

### General

- Up to 30 kilometer range
- AC or 12-24 VDC power
- Internal UPS supply
- Power efficient—no fans
- Wide temperature range

## Applications

- Television Production
- Long Distance Intercom
- Camera/Robotics Control
- Remote Studios
- Campus Distribution

# Specifications

## Intercom

Number of modules per frame	4
Number of channels per module	2
Transmission Method	Digital, TDM, 16-bit, 48 ksamples/sec
Dynamic Range	>85 dB
Frequency Response	±3 dB, 20 Hz to 20 kHz
Compatibility	

### 4-Wire Module and Built-In Fixed Intercom Channels 9 and 10

Signal	Duplex, balanced
Power	Unpowered
Connector type	5-pin XLR
Number of connectors per module	2
Adjustments and Switches	Mic/Line Switch on backplane

### Telex® RTS Compatible Module

Signal	Duplex, unbalanced
Power	Up to 6 belt pack chain
Connector type	3-pin XLR
Number of connectors per module	1
Adjustments and Switches	Input Gain Adjust Output Gain Adjust Null Adjust Termination On/Off Power Wet/Dry

### Clear-Com® Compatible Module

Signal	Duplex, unbalanced
Power	Up to 6 belt pack chain
Connector type	3-pin XLR
Number of connectors per module	2
Adjustments and Switches	Input Gain Adjust Output Gain Adjust Null Adjust Termination On/Off Power Wet/Dry

## Data, Full Duplex

### Connectors 1 through 8

Data Type	Description	Transmission Rate*
RS232	±8 Vp-p level, full duplex	0 to 19.2 kBits/sec
RS422	Balanced TTL, full duplex	0 to 150 kBits/sec
RS423	TTL level, full duplex	0 to 150 kBits/sec

\*Higher data rates possible dependent on user jitter tolerance.  
Jitter 1.12 µsec

## Sony® CCU Interface

### Connectors 5 through 8

Data Type	Description	Transmission Rate*
Sony® CCU	RM-XX, CCU-7, half duplex	0 to 20 kBits/sec

## Contact Closure Ports

### Connectors 1 through 4

Input	Normally High TTL level
Logic 1 to open remote contacts; ground (Logic 0) to actuate	
Output	Form 1A SPST, "Normally Open" isolated contacts
Switch Voltage Rating	200 VDC
Switch Current Rating	500 mA
Carry Current Rating	1.2 A
Contact Resistance	200 m Ohms

## Mechanical/Electrical/Environmental

Dimensions: w/o mounting ears (WxLxD)	16.7" x 10.5" x 3.5"
Weight	8 pounds
4-Wire Intercom Connectors	5-pin XLR (male)
Auxiliary CCU/Data/Closure Connectors	9-pin D (female)
Optical Connector(s)	ST-type
Power Connector	4-pin XLR (male)
Input Voltage Range	12 to 24 VDC (30 VDC max.)
Power Consumption (per end, all channels at full level)	12 watts
Temperature Range	-40° to +65°C
Humidity Range	0 to 95% non-condensing

## Electro-Optical

Optical Source	Laser Diode	
Detector	PIN Diode	
<b>System Margin Data</b>	<b>1-Fiber TX/RX (WDM)</b>	<b>2-Fiber TX/RX</b>
TX Output into cable	-12 dBm	-10 dBm
RX Sensitivity	-28 dBm	-30 dBm
Nominal Link Budget	16 dB	20 dB

### Distance Limit Recommendations by - level options

-L2 level (2-fiber, multimode—50 or 62.5/125 µm, 1300 nm)	10 km
-LW level (1-fiber, multimode—50 or 62.5/125 µm, 1300/1550 nm)	8 km
-S level (2-fiber, single mode—8.7/125 µm, 1300 nm)	30 km
-SW level (1-fiber, single mode—8.7/125 µm, 1300/1550 nm)	20 km

Using the Adder 882i in conjunction with the DiamondBack Video Multiplexer



Up to 7 video + 10 intercoms + 8 data + 4 closures  
both directions on one fiber