

## Fiber Optic Audio/Data/Control Mux/Demux



*Bi-directional transmission of 8 audio plus 8 data plus 4 switch closures, all on one optical fiber*

The **Adder 882** is a unique audio, data and control multiplexer that simultaneously transmits large amounts of information bi-directionally on one or two fibers. Signals improve, distance increases and installation labor decreases.

Use the **Adder** by itself, or to augment other systems like Telecast's **Viper™** video/audio/intercom/control system.

The **Adder 882** maintains full signal band-width and integrity over distances up to 30km—with no repeaters or equalizing amplifiers—on one or two fibers.

You get all the benefits of fiber optic cabling, including small size, light weight, battlefield-proven durability, easier installation, higher security, greater safety and total electrical isolation. The affordable **Adder** saves installation time and labor by more than 90%.

### Signal Quality Is Improved

Fiber optic cable also eliminates all types of electromagnetic and RF interference. No clicks; no pops; no crosstalk; no hum.

### Audio—Flat, Wide and Quiet

Telecast delivers sixteen (16) channels of outstanding quality mic/line level audio (8 channels in both directions). Each channel is flat ( $\pm 0.2$  dB) to 20 kHz. Signal to noise ratio is better than 90 dB.

### High Speed Data and/or CCU

The eight independently selectable, full duplex data interfaces include standard RS232 and RS422, as well as Sony® camera control (CCU-7, RM-M7/P3).

### Switch Closures

The **Adder 882** also simultaneously provides four (4) 2-way switch closure paths for tally, call, or control of remote devices.

### Applications

- Audio/Video Production
- ICOM Matrix & Keypanel Links
- Camera/Robotics Control
- Remote Studios
- Campus Distribution
- CATV/Telco Backhaul

### Features

- 18-bit digital mux, 1 or 2-fibers
- 8 audio+8 data+4 GPI each way
- 20 Hz to 20 kHz, 90+ dB audio
- Switchable mic/line input
- RS232, RS422 or Sony CCU data
- GPI Switch closures for control
- Up to 30 kilometer range
- Small indoor/outdoor unit (2RU)  
AC or 12-24 VDC power
- Internal UPS supply
- Power efficient—no fans

### Fixed or Mobile Applications

The **Adder 882** is intended for 19" rack mounting. With its compact, lightweight frame, it can be used in both permanent and mobile rack mounted applications. Only Telecast fiber systems can operate in demanding, worldwide outdoor environments—all the way from -40° to +65° C.

The power efficient **Adder 882** needs no fans or wiring harnesses—everything is built in and simple to set up. It operates on either AC via adapters or on 12 to 24 VDC. For increased reliability, the internal alarmed UPS supply keeps the **Adder** operating for up to 30 minutes in the event of power loss or fluctuations.

# Specifications

## Audio

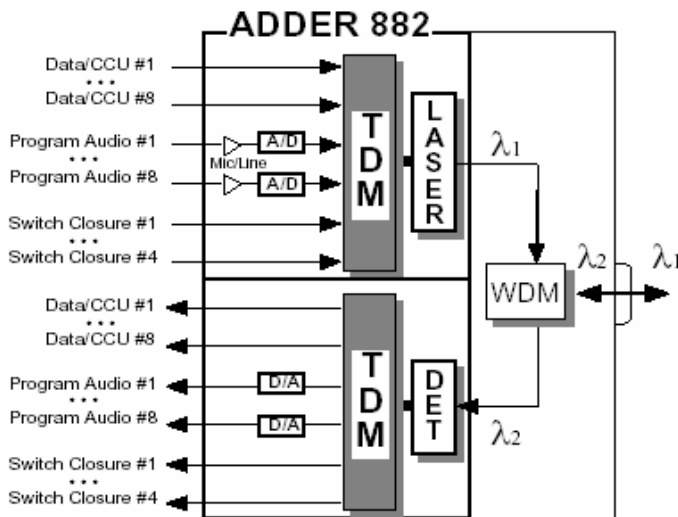
Transmission Method..... Digital, TDM, 18-bit, 48 ksamples/sec  
 Input Impedance ..... 60 0Ω balanced or 5 kOhms balanced (switchable)  
 Output Impedance .....30 Ohms balanced  
 Maximum Input Level (600 Ω balanced mode "Low Z<sub>in</sub>" setting)  
 Unity Gain Setting ..... +18 dBm (peak)  
 +10 dB Gain Setting..... +8 dBm (peak)  
 +40 dB Gain Setting..... -22 dBm (peak)  
 Maximum Input Level (5 κΩ balanced mode "High Z<sub>in</sub>" setting)  
 Unity Gain Setting.....+16 dBV (peak)  
 +10 dB Gain Setting.....+6 dBV (peak)  
 +40 dB Gain Setting.....-24 dBV (peak)  
 Maximum Output Level (from 30 Ω balanced)  
 Unity Gain Setting.....+ 18 dBm into 600 Ω  
 10 dB Attenuate Setting .....+ 8 dBm into 600 Ω  
 Frequency Response (@ 8 dBm)  
 from 20 Hz to 20 kHz .....±0.2 dB  
 Total Harmonic Distortion + Noise  
 from 20 Hz to 20 kHz (@ +8 dBm).....<0.05%  
 at 1 kHz (@ +18 dBm) .....<0.0085%  
 Intermodulation Distortion (SMPTE),  
 60 Hz + 3 kHz mixed 4:1 @ +8 dBm.....<0.04%  
 Signal to Noise Ratio, unweighted,  
 20 Hz -20 kHz, ref. to +18 dBm clip level.....>90 dB  
 Aggregate Digital Data Rate ..... 43 Mbaud

## Mechanical/Electrical/Environmental

Dimensions: w/o mounting ears (WxLxD).....16.7" x10.5" x 3.5"  
 Weight..... 8 pounds  
 Audio Connectors .....3-pin XLR (male & female)  
 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 System Margin Data (typ.)

Operating Wavelength .....1300 nm .....1550 nm  
 TX Output into cable .....-10 dBm.....-10 dBm  
 RX Sensitivity.....-30 dBm.....-30 dBm



Adder 882 uses wavelength division multiplexing for single fiber operation

## AUXILIARY ASSIGNMENTS, IN/OUT, PIN SELECTABLE

Left Bank	CCU	RS422	RS232	RS423	Closure
Port #1		x	x	x	x
Port #3		x	x	x	x
Port #5		x	x	x	x
Port #7		x	x	x	x

Right Bank	CCU	RS422	RS232	RS423	Closure
Port #2	x	x	x	x	
Port #4	x	x	x	x	
Port #6	x	x	x	x	
Port #8	x	x	x	x	

## CCU/Data

Transmission Rate  
 RS232 .....±8 Vp-p level.....0 to 19.2 kBits/sec  
 RS422 ..... Balanced TTL levels.....0 to 150 kBits/sec  
 RS423 ..... TTL level.....0 to 150 kBits/sec  
 Sony® CCU..... Bidirectional, single line.....0 to 20 kBits/sec  
 Jitter ..... 1.12 μsec

## Contact Closure Ports

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 μΩ

## Ordering Information

Part Number	Fiber Type		Wavelength (nm)		#Fibers	
	MM	SM	1300nm	1550nm	1F	2F
ADDR-882-LL-2	x	x	TX/RX			x
ADDR-882-WW-2	x	x		TX/RX		x
ADDR-882-LW-1	x		TX	RX		x
ADDR-882-WL-1	x		RX	TX		x
ADDR-882-SW-1		x	TX	RX		x
ADDR-882-WS-1		x	RX	TX		x

Use LW/WL and SW/WS versions in sets.

## AC ADAPTERS

Order ADAP-AC-02 power cube or the rack mounted EEL™ 4-port universal AC/DC power converter