

**ulink Series**

# ADX-171p

Guide to Installation  
and Operation  
M199-9900-201

Miniature  
Analog Audio  
Demultiplexer

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ADX-171p

### Warranty Policies

#### Warranty Statement

Miranda Technologies Inc. warrants that the equipment it manufactures shall be free from defects in material and workmanship for a period of two (2) years from the date of shipment from the factory. If equipment fails due to such defects, Miranda Technologies Inc. will, at its option, repair or provide a replacement for the defective part or product. Equipment that fails after the warranty period, has been operated or installed in a manner other than that specified by Miranda, or has been subjected to abuse or modification, will be repaired for time and material charges at the Buyer's expense.

All out-of-warranty repairs are warranted for a period of ninety (90) days from the date of shipment from the factory.

Miranda Technologies Inc. makes no other warranties, expressed or implied, of merchantability, fitness for a particular purpose or otherwise. Miranda's liability for any cause, including breach of contract, breach of warranty, or negligence, with respect to products sold by it, is limited to repair or replacement by Miranda, at its sole discretion. In no event shall Miranda Technologies Inc. be liable for any incidental or consequential damages, including loss of profits.

Effective January 1, 2002

#### Warranty Exchange Policies

Miranda Technologies Inc. warrants that the equipment it manufactures shall be free from defects in materials and workmanship for a period of two (2) years from the date of shipment from the factory. If equipment fails due to such defects, Miranda will provide repair of the failed unit under the terms of the Miranda warranty.

If the equipment has been proven to be defective on arrival, Miranda will ship a new product in exchange, usually within 36 hours of factory notification.

If the equipment to be repaired is essential and the customer so requests, Miranda will, at its option, provide a service replacement or loaner part or product, usually within 36 hours of factory notification, weekends and holidays excluded.

All warranty exchange or loaner parts or products shall be shipped to the Buyer with a packing list clearly describing the items and stating the date of shipment. Repaired parts or products will be shipped to the Buyer with a similar packing list. In the case of exchange, the defective products or parts must be returned to Miranda within fifteen (15) days from receipt by the customer of the exchange product. In the case of a loaner, the loaned products or parts must be returned to Miranda within fifteen (15) days from receipt by the customer of the repaired equipment.

If the equipment is not returned within fifteen (15) days, as described for either exchanges or loans, A Rental Invoice will be generated. Rental terms will be fifteen (15) percent of the current list price of the products or parts per month or a fraction thereof. Before returning the equipment to Miranda Technologies Inc., for any reason, the Buyer must first obtain a Return Authorization Number from Miranda Technologies Inc. Miranda Technologies Inc will pay freight and insurance charges

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for the delivery of the loaner or exchange products or parts. Freight and insurance charges for the return of the defective product or part will also be paid by Miranda Technologies.

### **Out-Of-Warranty Repair Policy**

Miranda will repair equipment which is out of Warranty. The current pricing structure for this service is available from the Miranda web site at [www.miranda.com](http://www.miranda.com) or from Miranda Technical Support Services at (514) 333-1772. All out-of-warranty repairs are warranted for a period of 90 days from the date of shipment from the factory. Before returning the equipment to Miranda Technologies Inc., for any reason, the Buyer must first obtain a Return Authorization Number from Miranda Technologies Inc. In the case of a product deemed by Miranda to be beyond repair, the customer must purchase a new product at current retail prices.

The Buyer will pay freight and insurance charges for the return of the defective product or part to the manufacturer for repair. Miranda Technologies will pay freight and insurance charges for the return of the repaired product or part to the Buyer.

### **Out-Of Warranty Equipment Updates and Spare Parts Policy**

Miranda Technologies' current pricing structure for out-of-warranty equipment updates, or the sale of spare parts, is available from Miranda Technical Support Services at (514) 333-1772.

## **Radio Frequency Interference and Immunity**

This unit generates, uses, and can radiate radio frequency energy. If the unit is not properly installed and used in accordance with this guide, it may cause interference with radio communications. Operation with non-certified peripheral devices is likely to result in interference with radio and television reception. This equipment has been tested and complies with the limits in accordance with the specifications in:

- FCC Part 15, Subpart B
- CE EN50081-1:1992
- CE EN50082-1:1992.

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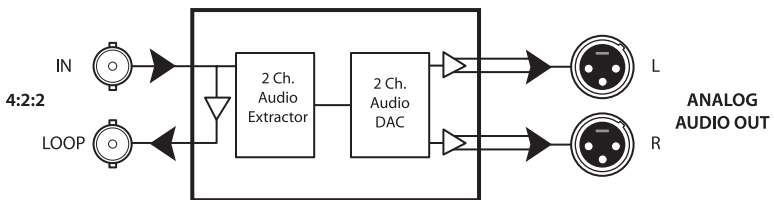


## 1 ADX-171p Miniature Analog Audio Demultiplexer

### 1.1 Introduction

The ADX-171p is a member of the picoLink family of miniature products. The ADX-171p Analog Audio DEMUX is the world's smallest audio demultiplexer, packing both audio extraction and 20 bits quality D to A conversion in a very compact unit. The ADX-171p can extract either AES pair from any of the 4 embedded audio groups in a 4:2:2 video stream. The full scale output level (0 dBFS) can be set at 20, 22 or 24 dBu. The ADX-171p provides a re-clocked serial digital output and is ideal for stand-alone monitoring and DEMUX application.

**Figure 1.1** Functional Block Diagram



### 1.2 Features

- Serial 4:2:2 input detection
- Automatic 525/625 input detection
- 20-bit high-quality digital to analog audio conversion
- AES1/AES2 audio channel pair selection
- Selectable group 1,2,3 or 4 extraction
- Selectable +24 dBu, +22 dBu or +20 dBu output level range (0 dBFS)
- Single stereo/2 monaural analog audio output
- Synchronous & asynchronous audio capability
- Valid input signal LED

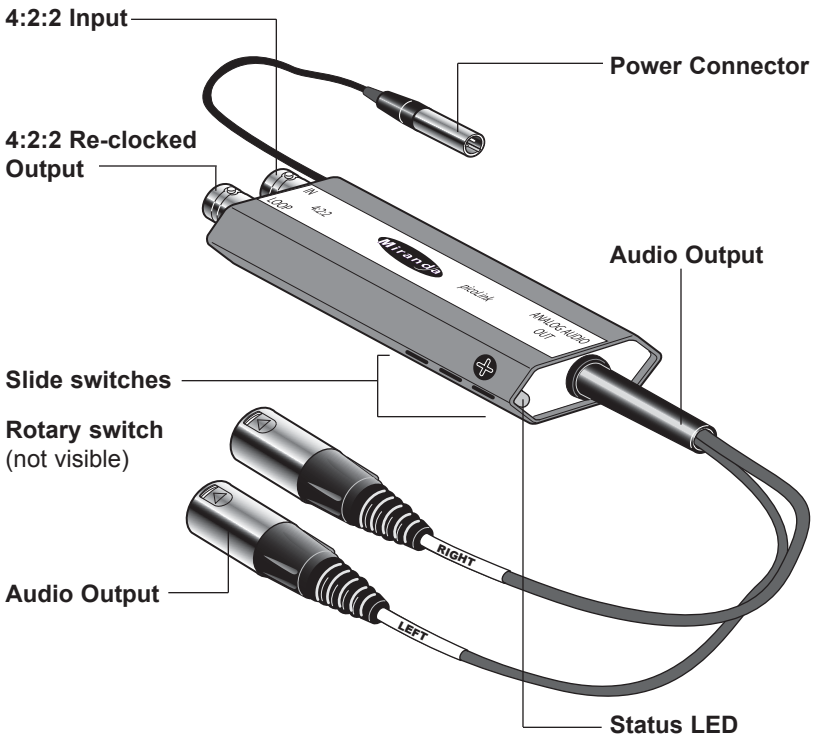


## 2 Overall view

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Figure 2.1 illustrates the ADX-171p major parts and their locations. The multiplexed signal is connected to the 4:2:2 IN BNC and the re-clocked video signal is output through the OUT BNC. The extracted audio channels are output through the two XLR connectors; these connectors are labeled left and right for stereo output.

**Figure 2.1 Overall View of the ADX-171p**



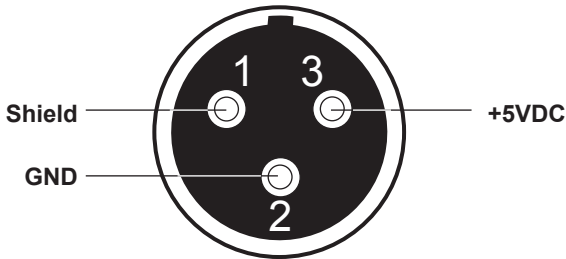
### 3 Installation

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#### 3.1 Power Supply

The power supplies LKS-WSA and LKS-WSE, for 110V and 220V operation respectively, are used to power the ASX-171p. Each power supply provides a regulated +5VDC@750mA power source. Plug the power supply into a wall or power bar outlet. The ADX-171p uses a mini XLR-3 connector for its power needs; figure 3.1 provides a detailed pinout of the male connector.

**Figure 3.1** Power connector pinout



#### 3.2 4:2:2 Input

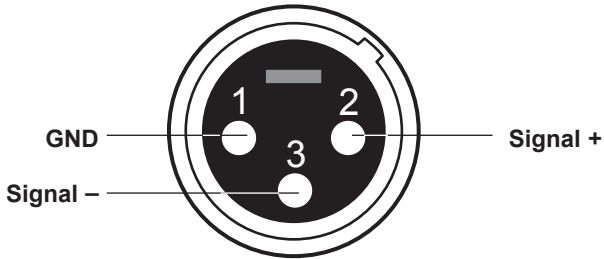
Connect a 4:2:2 serial digital signal to the BNC labeled 4:2:2 IN. The ADX-171p accepts a 4:2:2 serial digital video signal in either 525 or 625 lines format. The 4:2:2 signal must conform to the SMPTE 259M-C standard.

Make sure that the 4:2:2 input signal cable has a maximum length of 175 m (560'). Also ensure that all serial digital video equipment are connected point-to-point. For instance, there must be a point-to-point connection between the 4:2:2 IN BNC and the source equipment. If a T-connector is used to connect other equipment, the maximum specified cable length is no longer valid.

### 3.3 Analog Audio Output

Two monaural or one stereo analog audio signal is provided by the XLR connectors. Figure 3.2 provides a detailed pinout of the male connector.

*Figure 3.2 XLR connector pinout*

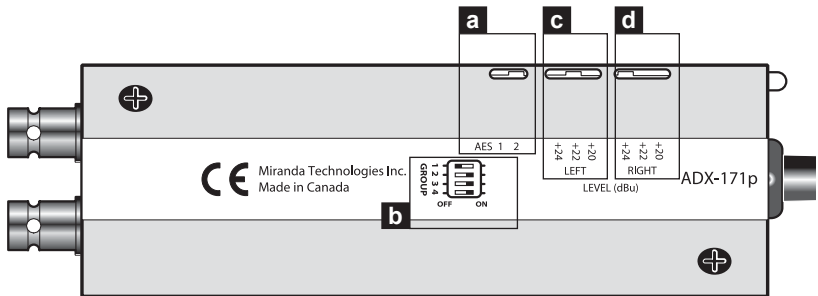


## 4 Operation

### 4.1 Switch Settings

Figure 4.1 indicates the locations of the miniature switches at the back of the ADX-171p.

**Figure 4.1** ADX-171p Switches location



#### **a- AES Selection**

This slide switch selects the AES pair (pair 1 or pair 2) of audio signal to extract.

#### **b- Group Selection**

Miniature slide switches provide group selection. Only one of the 4 groups should be switched On; in the event where more than one group is switched On, the demultiplexing operation is performed by default on group 1. Switching all groups Off effectively disables all audio channels.

#### **c & d- Level Attenuation**

Each analog audio output level can be individually attenuated by these slide switches. 3 levels of attenuation of the full scale output (0 dBFS) are provided: +20, +22 or +24 dBU.

## 4.2 Status LED

The bi-colored status LED, located next to the output cable, is provided to identify any input error or power supply malfunction. The following lists the possible situations:

- Green:** Indicates that the ADX-171p is powered and has detected a valid 4:2:2 input signal.
- Red:** Indicates an error with the input signal has been detected or simply, there is no input cable connected.
- Off:** The unit is not powered on. Check that it is connected to the power supply, and the power supply is properly connected to a power source.

## 5 Specifications

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### **Inputs**

Video signal:	SMPTE 259M-C 4:2:2 serial 525/625@270 Mbps with active loop-through embedded
Cable length:	175 m (560')
Return Loss:	>15 dB up to 270 MHz
Connector:	BNC 75 ohm

### **Outputs**

Analog audio signal:	1 stereo/2 monaural balanced audio
Impedance:	>50 $\Omega$
0 dBFS level:	+24 dBu, +22 dBu, +20 dBu selectable

### **Processing performance**

Audio quantization:	20 bits
Sampling:	48 kHz (128X oversampling)
Dynamic range:	>95 dB (A-weighted)
SNR:	>95 dB (A-weighted)
Distortion:	<-93 dB
Crosstalk:	<-95 dB
Frequency response:	$\pm$ 0.1 dB (20 Hz to 20kHz)
Processing delay:	<450 us