

**ulink Series**

# ADX-172p/75/110

Guide to Installation  
and Operation  
M198-9900-301

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# Miniature Dual AES/EBU Audio Demultiplexer

# ADX-172p/75/110

## **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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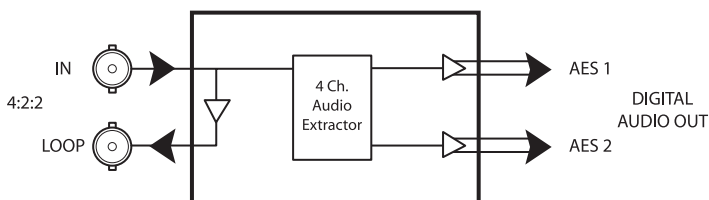


## 1 ADX-172p Miniature Dual AES/EBU Audio Demultiplexer

### 1.1 Introduction

The ADX-172p/75/110 are members of the picoLink family of miniature products. The ADX-172p is a miniature AES/EBU demultiplexer capable of extracting 2 AES/EBU signals (4 audio channels) from a 4:2:2 video signal. The ADX-172p is available in both 75 $\Omega$  unbalanced (ADX-172p/75) and 110 $\Omega$  balanced (ADX-172p/110) AES/EBU output version. The ADX-172p can extract any of the four embedded audio groups in a serial 4:2:2 video stream and provides a re-clocked serial digital output. The low cost and compact packaging of the ADX-172p make it ideal for standalone application.

**Figure 1.1** Functional Block Diagram



### 1.2 Features

- Serial 4:2:2 input detection
- Automatic 525/625 input detection
- 2 audio channels on 1 serial digital AES/EBU audio output
- AES3 or AES3-ID support
- Selectable group 1,2,3 or 4 extraction
- Synchronous & asynchronous audio capability
- Valid input signal LED

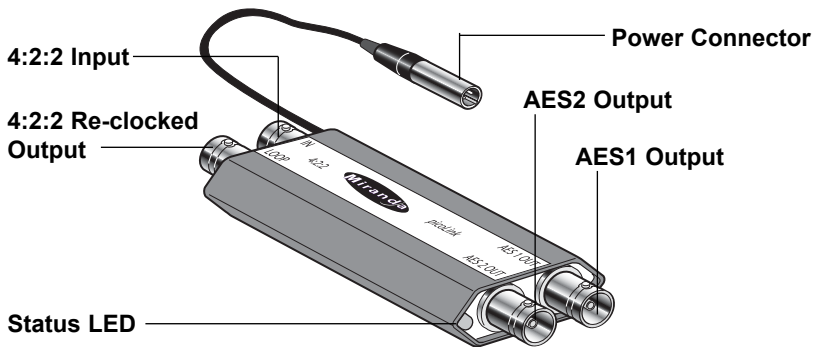




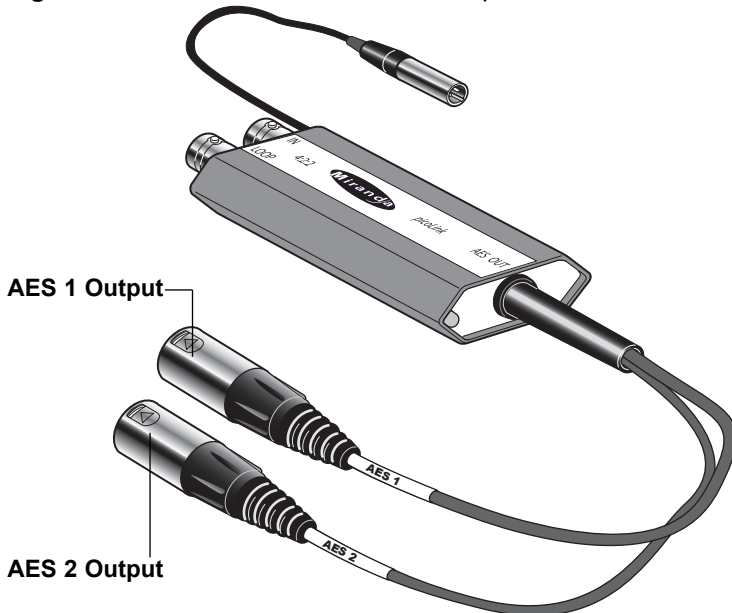
## 2 Overall view

Figure 2.1 and 2.2 illustrates the ADX-172p/75 and ADX-172p/110 major parts and their locations. The multiplexed signal is connected to the 4:2:2 IN BNC and the re-clocked video signal is provided by the OUT BNC. The extracted audio channel is provided by the two AES OUT BNC (ADX-172p/75) or XLR (ADX-172p/110) connectors.

**Figure 2.1 Overall View of the ADX-172p/75**



**Figure 2.2 Overall View of the ADX-172p/110**





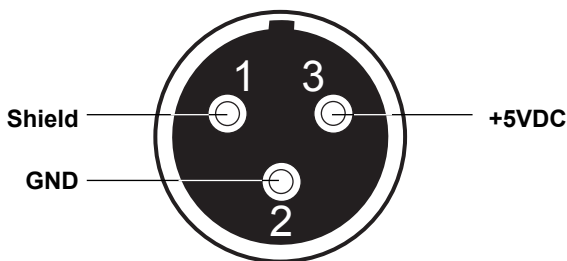
## 3 Installation

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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-172p/75/110. Each power supply provides a regulated +5VDC@750mA power source. Plug the power supply into a wall or power bar outlet. The ADX-172p 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-172p 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 AES/EBU Audio Output**

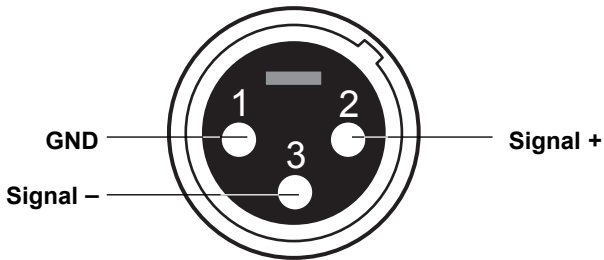
#### **ADX-172p/75**

The two AES/EBU signals are provided by the AES OUT BNC connectors.

#### **ADX-172p/110**

The two AES/EBU signals are provided by the AES OUT XLR connectors. Figure 3.2 provides a detailed pinout of the male connector.

**Figure 3.2** XLR connector pinout

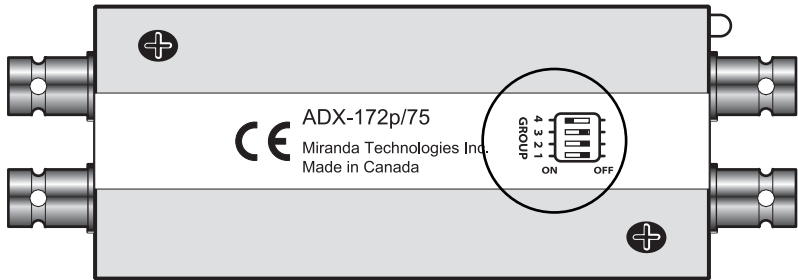


## 4 Operation

### 4.1 Audio Group Selection

Miniature slide switches provide the audio 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. Figure 4.1 indicates the location of the miniature switch at the back of the ADX-172p.

**Figure 4.1** ADX-172p Slide Switch location



### 4.2 Status LED

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

- |               |   |
|---------------|---|
| <b>Green:</b> | Indicates that the ADX-172p is powered and has detected a valid 4:2:2 input signal.   |
| <b>Red:</b>   | Indicates an error with the input signal has been detected or simply, there is no input cable connected.                                  |
| <b>Off:</b>   | 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

#### **AES3 (ADX-172p/110)**

Signal:	AES3-1992 (ANSI S4.40-1992)
Level:	3.5Vp-p nominal
Impedance:	110 $\Omega$ balanced
Jitter:	<2ns p-p

#### **AES3-id (ADX-172p/75)**

Signal:	AES3-ID-1995 (SMPTE 276M)
Level:	1.0Vp-p nominal
Impedance:	75 $\Omega$ unbalanced
Jitter:	<2ns p-p
Processing delay:	<250 us

<b>Power:</b>	2W
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## **6 Schematic Diagrams**

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