ATI ADA206XLR Distribution Amplifiers User Manual

Contents

ATI ADA206XLR Distribution Amplifiers

Product Information

Product Description:
The ADA206XLR, ADA208XLR, and ADA412XLR Analog Audio Distribution Amplifiers are designed to provide distribution amplifier channels with balanced inputs and outputs. The ADA206XLR offers two (206) 1X3

distribution amplifier channels, the ADA208XLR offers two (208) 1×4 distribution amplifier channels, and the ADA412XLR offers four (412) 1X3 distribution amplifier channels. These amplifiers have XLR-type input and output connectors.

Product Specifications

- **Shipping Weight & Dimension:** 12 lbs. (5.5kg), 22x12x5
- **Models Available:** ADA206XLR Dual 1X3 Active balanced outputs, ADA412XLR Quad 1X3 Active balanced outputs, ADA208XLR Dual 1X4 Active balanced outputs

Warranty
The product comes with a one-year limited warranty from the date of purchase. ATI will repair or replace any defective product or part found upon inspection to be defective in materials or workmanship. To initiate a return, contact ATI at 856-719-9900 or email **sales@daysequerra.com** to obtain a Proper Return Authorization Number and instructions for return.

Product Usage Instructions

Installation
The ADA is designed for rack mounting on standard EIA 1-3/4 inch centers. It is recommended to avoid excessive heat buildup caused by nearby power amplifiers in unventilated racks to ensure maximum component life.

Audio Connections
Make sure to connect the audio input and output cables using the XLR-type connectors provided on the amplifier.

Adjustments
To provide nominal +4dBm outputs for a nominal +4dBu input, set the Master and individual Output level controls close to 2 o'clock. These settings allow a +6/-16dB output adjustment range around nominal, allowing outputs of +10 to -12dBm to be set. The Master gain has a +10dB to OFF adjustment range to compensate for input level variations from -6dBu to input clipping at +24dBu.

PRODUCT DESCRIPTION

The ADA206XLR, ADA208XLR, and ADA412XLR Analog Audio Distribution Amplifiers provide two (206) or four (412) 1X3 distribution amplifier channels, and two (208) 1×4 distribution amplifier channels, with balanced inputs and outputs. A master, gain adjustment for each channel controls all three outputs together to adjust for varying inputs, while individual trimmers for each output allow adjustment over a 20dB range to accommodate 10dbu semi-pro up to +8dBm line levels. Another of the ADA206XLR, ADA208XLR, and ADA412XLR Distribution Amplifiers many claim to fame is the use of XLR-type input and output connectors. XLRs are easy to use but make paralleling inputs for 1X6 or 1X12 operation difficult.

An LF347N quad bi-fet opamp forms the three variable gain output adjustment stages. These variable gain stages use a unique circuit arrangement that allows us to provide a smooth, logarithmic gain control for each output using an inexpensive (but good) linear cermet potentiometer. Since we actually reduce the stage gain for low outputs rather than taking the more conventional approach of reducing the input level to a fixed gain amplifier, you can use the ADA at low output levels with very little noise penalty. You can use the ADA to match console-level inputs (-20dBu) or to drive semi-pro IHF inputs without requiring outboard attenuator pads.

SSM2142 active balanced output drivers sense the voltage on their high and low output lines and will shut off the drive to a grounded output line while doubling the drive on the other. This capability allows you to connect the outputs to balanced or unbalanced loads without regard to whether or which side of the output is grounded. Maximum output at clipping is +22dBm into balanced loads; however, even though the gain is the same under either condition, the clipping output is reduced by 6dB when driving an unbalanced load since the full output swing

capability of only one driver of the two is available.

The ADA family operates from a 15W – 24VDC single output switching supply featuring universal AC input. Operating in the range of 85 – 264 VAC / 120 – 370 VDC, it offers low ripple and noise at a max 150mV peak to peak.

INSTALLATION

The ADA is designed for rack mounting on standard EIA 1-3/4 inch centers. Each unit dissipates approximately 10 watts and is designed for use in an office environment. Avoid excessive heat buildup (such as might be due to nearby power amplifiers in unventilated racks) to ensure maximum component life.

AUDIO CONNECTIONS

XLR inputs and outputs are wired with pins 2 as HI and pins 3 as LOW. Pin 1 (shield) of all input and output connectors is permanently grounded in accordance with current AES recommendations. The pin 1 grounds are routed via a large, low-impedance ground path directly to the chassis separately from any audio ground paths. Internal circuit ground is also connected to the chassis for shielding through an independent path. AC ground (green wire) is also separately grounded to the chassis. Active balanced outputs require a reference ground connection to the receiving device for proper operation. This ground is carried through pin 1. If the pin 1 shield ground is not carried through to the receiving device, the AC ground, rack frame, or studio ground system may complete this ground. Noisy grounds require excellent common mode rejection in the receiving device for quiet system operation.

We have taken measures to keep RFI out of your ADA, including split and bypassed input networks, beaded, bypassed, and isolated power inputs, nonconcentric wound, semi-toroidal power transformers, double ground plane PC boards, and a nice enclosure to keep rain and snow off the circuit boards. However, in difficult broadcast applications, the RF shielding and suppression system can be no better than the ground system into which it is trying to dump unwanted RF. For optimal product performance, be sure to have a good grounding system.

ADJUSTMENTS

The Master and individual Output level controls should all be set close to 2 o'clock to provide nominal +4dBm outputs for a nominal +4dBu input. These settings allow a +6/-16dB output adjustment range around nominal, which will allow outputs of +10 to -12dBm to be set. In addition, the Master gain has a +10dB to OFF adjustment range to compensate for input level variations from -6dBu to input clipping at +24dBu.

115VAC & 230VAC OPERATION

The ADA is ready for 115 VAC or 230 VAC. A single-output switching power supply offers protection from short circuits, overload, and overvoltage while capable of accepting VAC in the range of 85 – 264 VAC.

UL LISTING

The ADA206XLR, ADA208XLR, and ADA412XLR are listed by Underwriter Laboratories as "Listed Professional Audio Equipment 2D65."

PRODUCT SPECIFICATIONS

- **OUTPUT LEVEL:** +22dBm peak into 600-ohm balanced load, +18dBm peak, typical, into unbalanced loads
- **DISTORTION:** THD .10% maximum, 20 to 20,000Hz at peak output, IMD .05% maximum, SMPTE measurement
- **SLEW RATE:** 13 Volts per microsecond
- **RESPONSE:** ± .25dB, 20 to 20,000Hz

- **NOISE:** -95dBm out at maximum gain, 20kHz bandwidth
- **GAIN:** 40dB maximum
- **CROSSTALK:** 70dB minimum at 10kHz, any path
- **OUTPUT ISOLATION:** 70 dB minimum at 1kHz. A shorted output does not affect any other output.
- **OUTPUTS:** Active balanced, servo controlled, ground sensing, 50 Ohm output impedance, DC coupled. XLR type male connectors, Pin 2-HI, 3-LO, 1-GND.
- **INPUTS:** 20Kohm active balanced, split, and RF bypassed. +22dBm maximum input level, 60dB CMR at 60Hz. XLR-type female connectors, Pin 2-HI, 3-LO, 1-GND.
- **POWER:** 85-264 VAC ±1%, Output Voltage 24 VDC, Output Power 15 W, 47 – 63Hz frequency range.
- **SIZE:** 19” (48.3cm) W X 1.75” (4.45cm) H X 7.5” (19cm) D
- **SHIPPING WEIGHT & DIMENSION:** 12 lbs. (5.5kg), 22”x12”x5”
- **MODELS AVAILABLE:** ADA206XLR Dual 1X3 Active balanced outputs, ADA412XLR Quad 1X3 Active balanced outputs, ADA208XLR Dual 1X4 Active balanced outputs

ADA206XLR

ADA208XLR

ADA412XLR

ONE-YEAR LIMITED WARRANTY

- ATI warrants this product to be free from defects in materials and workmanship to its original owner for a period of one year from the date of purchase. ATI will repair or replace such product or part thereof, which upon inspection by ATI, is found to be defective in materials or workmanship.
- The Proper Return Authorization Number must be obtained from ATI in advance of the return. Contact ATI at 856-719-9900 or email **sales@daysequerra.com** to receive the number and instructions for the return of your unit.
- A written statement providing the name, address, daytime telephone number, and email address of the original owner, together with a receipt from the original purchase, and a brief description of any claimed defects, must

accompany all returns. Parts or products for which replacement is made shall become the property of ATI.

- The customer shall be responsible for the costs of transportation and insurance to the factory of ATI and shall be required to prepay such costs.
- ATI shall use reasonable efforts to repair or replace any product covered by this limited warranty within thirty days of receipt. In the event repair or replacement shall require more than thirty days, ATI shall notify the customer accordingly. ATI reserves the right to replace any product that has been discontinued from its product line with a new product of comparable value and function.
- This warranty shall be void in the event a covered product has been damaged, or failure is caused by or attributable to acts of God, abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation or maintenance, alteration, or lightning, power fluctuations, and other incidental or environmental conditions. Further, product malfunction or deterioration due to normal wear is not covered by this warranty.

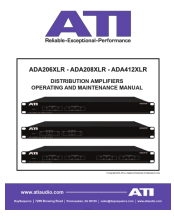
ATI DISCLAIMS ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR USE, EXCEPT AS EXPRESSLY SET FORTH HEREIN. THE SOLE OBLIGATION OF ATI UNDER THIS LIMITED WARRANTY SHALL BE TO REPAIR OR REPLACE THE COVERED PRODUCT, IN ACCORDANCE WITH THE TERMS SET FORTH HEREIN. ATI EXPRESSLY DISCLAIMS ANY LOST PROFITS, GENERAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES THAT MAY RESULT FROM A BREACH OF ANY WARRANTY, OR ARISING OUT OF THE USE OR INABILITY TO USE ANY ATI PRODUCT.

- Some states do not allow the exclusion or limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above limitations and exclusions may not apply to you.
- This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.
- ATI reserves the right to modify or discontinue, without prior notice to you, any model or style product.
- If warranty problems arise, or if you need assistance in using your product please contact us.

Contact Information

- DaySequerra 7209 Browing Road Pennsauken, NJ 08109
- sales@daysequerra.com.
- www.atiaudio.com.

Documents / Resources

	ATI ADA206XLR Distribution Amplifiers [pdf] User Manual ADA206XLR Distribution Amplifiers, ADA206XLR, Distribution Amplifiers, Amplifiers

References