

# ALM771



## AUDIO LEVEL MASTER

INSTRUCTION MANUAL

IB6179-01

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## 1.0 GENERAL DESCRIPTION

The ALM771 Audio Level Master is an audio level controller designed to maintain consistent audio program output levels over a wide range of input levels. The unit is designed to be used at cable television head-end installations, connected between the audio output of a satellite receiver - ad insert switch and the inputs of TV and FM channel modulators. It can also be used in any application where there is a need for high quality automatic level control.

The ALM771 can be connected in pairs to handle stereo program material. Simply connect one wire between two ALM771 and the control functions will track together to provide professional stereo automatic level control.

dB-linear control characteristics allow smooth gain control over a 30 dB range. Program input levels can vary plus or minus 15 dB while the output level remains constant. An elegant Voltage Controlled Amplifier (VCA) design provides very low noise and distortion. Program-dependent release time assure that gain is controlled without the usual compressor artifacts common to less sophisticated designs, such as "ducking", a sudden drop in average overall level after a loud transient, such as the sound of gunfire in a movie. Noise rush-up during pauses in program audio is eliminated by a noise gate circuit that prevents a gain increase when the input audio level drops.

A three color LED display allows for easy set-up and monitoring of the input audio level. This display can be easily observed from a distance. The ALM771 is a high performance audio controller that is transparent in its operation. It has no "sound" of its own, but automatically produces an output that sounds as if the input level is being correctly set manually, even with widely varying input levels.

## 2.0 INSTALLATION

Remove the ALM771 from its packaging material and select a place in your rack for mounting. There is a standard mounting bracket provided with each unit. Simply bolt the unit into the rear rack rail near the modulator to be controlled.

## 3.0 CONNECTION AND SETUP

Audio connections to the unit are made to a removable connector block at the rear of the unit. For ease of connection, unplug the connector block, connect wiring, and plug block back into unit. Connect wiring by inserting stripped wires into the appropriate holes in block, and secure by tightening the screws on top. **PUSH FIRMLY ON THE CONNECTOR BLOCK TO SNAP IT INTO PLACE.**

From a BALANCED output source to ALM771 input:

Refer to the connector block drawing on the next page.

SOURCE TIP or HI - to input T

SOURCE RING or LO - to input R

## CONNECTION AND SET UP (cont.)

Connect shield to GND at one end only, grounding at the signal source end is preferable. Connecting shield at only one end prevents current flow in the shield due to differences in AC ground potential between equipment, thus preventing ground loop-induced hum. The ALM771 input amplifier is active, balanced, and bridging.

### From an UNBALANCED output source to ALM771 input:

CENTER (SIGNAL) CONDUCTOR - to T

SHIELD - to R

### From ALM771 output to a BALANCED input:

OUTPUT T - to TIP or HI

OUTPUT R - to RING or LO

GND - Connect shield at ALM771 only.

### From ALM771 output to an UNBALANCED input:

OUTPUT T - to center conductor

OUTPUT R - no connection

GND - to shield

The output is balanced, and is capable of driving loads of 600 Ohms and higher with low distortion. Multiple output loads can driven but they must be high impedance.

## POWER SUPPLY

Connect the power cube into a suitable power strip or socket. Take the other end of the power wire and plug it into the rear of the ALM771 labeled POWER. Now you should see an LED lit on the front of the unit.

## MONO SETUP

Adjust the INPUT SET control of the ALM771 until the center green LED is lit with normal level program audio. This sets the input level to the center of the gain control range. At this point the unit will control audio levels over a +/- 15 dB input range. The display will move up during high level passages and down during low level passages.

## STEREO SETUP

### **READ THIS ENTIRE SECTION BEFORE MAKING ANY ADJUSTMENTS.**

For stereo operation it is necessary to use two ALM771 units, one for each channel (left and right). Be careful to wire each unit correctly. Make sure that HI or (+) connects to T and LO or (-) connects to R at both inputs and outputs. A reversal of polarity will cause cancellation of any center or monaural signal. Connect shields to GND at one end only.

## STEREO SETUP (cont.)

The most accurate stereo setup is done with KNOWN equal levels applied to both left and right units. This can be done by connecting both left and right inputs in parallel with jumper wires at the connector block (forcing equal levels to both inputs), feeding one program channel at normal level into both inputs. Adjust the input control of the left unit until the green LED is lit, then increase the input level control of the right unit until its green LED is lit. Now remove the jumpers and connect the left and right program lines to their respective inputs. Do not re-adjust INPUT SET controls. Set the channel balance of the program sources in your system. The green LED lights on the two ALM771 units can be used as an indicator of channel balance.

Next connect a wire from the ST position on the connector block to the ST connector on the second connector block. Then connect a wire from the ground connector terminal to the other units ground terminal block. It is not necessary to actually ground this connection, in practice no outside ground needs to be connected to this equipment. This connects the two control systems together to track stereo audio, and thus prevents the stereo image from shifting.

### **4.0 MAINTENANCE**

No routine maintenance or adjustment is required. If a problem develops, contact the factory. It is strongly recommended that if servicing is necessary, that the unit be sent to the factory for any adjustment or repair.