

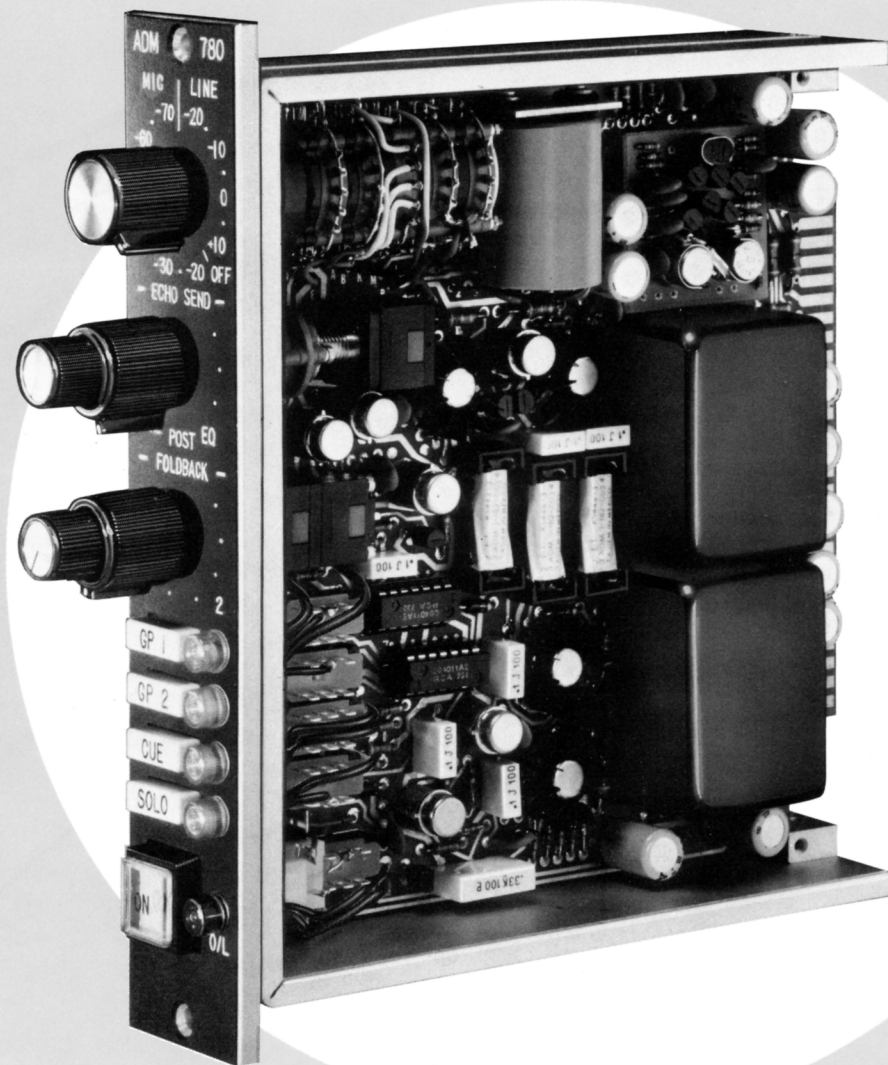
**Another great advance from ADM<sup>®</sup>**

# THE 780 INPUT MODULE

**a new standard  
in broadcast modules**

## FEATURES

- Both Microphone and Line level inputs
- Input attenuator from -70 dBv to +20 VU in 5 dB increments
- Echo Send selectable Pre-, Post- and PGM with level control
- 2 Independent Foldback outputs, each with level controls
- Cue output
- Solo output
- 2 Group OFF/ON logic controls
- LED status indicators
- Rugged aluminum chassis construction with dust covers
- Engraved nomenclature
- All integrated circuits are plug-in
- Gold plated edge connector
- Illuminated OFF/ON switch
- LED overload indicator



# ADM

*The Audio Company*

**Audio Designs and Manufacturing, Inc.**

16005 Sturgeon, Roseville, Michigan 48066

Phone: (313) 778-8400

TLX-23-1114

- Mic/Line Input Selector with Attenuator in 5 dB Increments
- Echo Send Selectable Pre-, Post- and PGM with Level Control
- 2 Independent Foldback Level Controls
- Group 1 and Group 2 Module Off/On Assignment with LED Indicators
- Cue Switch Parallels Slidex Cue Detent with LED Indicator
- Solo Output to Monitor Buss with LED Indicator
- Illuminated Off/On Module Output Switch
- Module Overload (O/L) LED Indicator



# THE 780 INPUT MODULE

ADM brings to the professional Broadcaster a new dimension in input pre-amplifiers. The 780 module has been designed to give the Broadcaster the ultimate in both operational features and electrical specifications. The 780 module is divided into four basic components — the input amplifier, the output amplifier, the auxiliary amplifiers and the logic functions.

Paramount in the design of a pre-amplifier is the optimization of signal-to-noise ratio and headroom.

Since signal to noise ratio and headroom are opposing parameters, a rather unique solution to this problem was required. As an input amplifier, ADM designed a discrete component operational amplifier allowing us to achieve better equivalent input noise than can be realized with monolithic devices. A current amplifier with gain was used as the output amplifier building block. Having these two building blocks available, a careful use of switchable feedback between them permits the optimization of signal to noise ratio and headroom thru the entire microphone input range.

Using 11 positions of the 19 position input gain control, the gain of the amplifiers are varied in precise 5 dB increments permitting the 780 module to accommodate microphone input levels from  $-70$  dBv to  $-20$  dBv while always preserving the near theoretical equivalent input noise and headroom. The remaining 8 positions of the input gain control include an off position and 7 positions dedicated to the line level input of the 780 input module. As in the microphone position, the gain of the pre-amplifier and output amplifier are varied in precise 5 dB increments to once again optimize signal to noise ratio and headroom. The 780 will accommodate nominal input levels of  $-12$  dBm to  $+18$  dBm.

The 780 module has three auxiliary outputs — two are foldback and the third is echo send. The foldback outputs derive their source from the pre-amplifier output. The position of the Slidex® at-

tenuator will have no effect on the foldback level. Both foldback one and two have individual gain controls permitting two totally independent foldback mixes to be accomplished. Echo send is a separate feed on the 780 input module. It derives its source from three points within the input module chain. These points are: 1) the pre-amplifier output, 2) the equalizer output associated with the 780 module and 3) the 780 module output. Selection of the echo source is a three position switch that is concentric with the echo send level control.

Included in the logic section of the 780 input module are the following functions: OFF/ON, Cue, Solo and two Grouping functions.

The illuminated OFF/ON push button turns the entire input chain OFF or ON. The cue push button directs the output of the pre-amplifier to the cue buss within the console. The cue push button in the module is in parallel with the cue switch in the Slidex attenuator, permitting the operator to cue a source without having to move the Slidex into its cue detent. The solo push button directs the output of the pre-amplifier to the monitor buss in the control room. This permits the operator to preview an ON-AIR signal while ON-AIR without any interruption of the program feed.

A unique innovation to the 780 is the Group Functions. Two push buttons are provided in the 780 and designated group one, group two. Any combination of 780's may be assigned to either the group one or group two busses. Then by use of the master group switches (one or two), a group of inputs may be turned OFF or ON with the use of the master only. LED status indicators are adjacent to the cue, solo and the two group push buttons.

Transformer coupling is used in both the microphone and line level input of the 780 input module. In addition, a pre-amplifier output transformer is included when the 780 is used in a console that includes extra built-in or accessory Patchbays.

# SPECIFICATIONS

## Pre-Amplifier Gain:

Low Level ..... 28 to 78 dB adjustable in  
5 dB steps

High Level ..... -10 to +20 dB adjustable in  
5 dB steps

Program Amplifier Gain: 10 dB

Total Gain: ..... 88 dB

Frequency Response: ..  $\pm$ .5 dB from 20Hz - 20 KHz

## Noise:

Low Level ..... Equivalent to an input noise  
of -127 dBv over the band  
20Hz to 20KHz

High Level ..... Absolute noise of -85 dBv  
S/N Ratio of 93 dB based on  
+8 dBv input and output level  
over the band 20Hz - 20 KHz

Distortion: ..... < .15% from 100 Hz - 20 KHz  
< .3% from 30 Hz - 100 Hz  
Measured at any level up to  
+24 dBm

Clipping Level: ..... +27 dBm

Input: ..... Transformer

## Input Impedance:

Low Level ..... > 2500 ohms

High Level ..... > 6000 ohms

## Output:

Pre-Amplifier ..... Transformer

Program Amplifier ... Transformer

Foldback Amplifier .. Unbalanced

Echo Amplifier ..... Unbalanced

## Load Impedance:

Pre-Amplifier ..... 600 ohms

Program Amplifier ... 600 ohms

Power Requirements: .. Audio  $\pm$ 20V 100 mA  
Lamps and Logic +20V 75 mA

Height: ..... 7 $\frac{3}{4}$ " (196.85mm)

Width: ..... 1 $\frac{1}{2}$ " (38.1mm)

Depth: ..... 7" (177.8mm)

## WARRANTY

Audio Designs<sup>®</sup> warrants our consoles or components to be free from defective material and workmanship for a period of five years from the date the console is placed in service. All defective parts will be replaced and repair work required by normal use will be performed, without charge, within this five year period.

This warranty shall be exclusive and in lieu of all other warranties expressed or implied.