Signal-Processing Output Modules

Models
ANS1R, CMP1R, and PEQ1R

Description

Bogen's plug-in signal-processing output modules add a new level of convenience and flexibility to the Power Vector amplifier line in that they automatically insert themselves into the mix bus signal path leading to the power amplifier stage.

All Bogen output modules include an unbalanced input that is controlled by the amplifier's input control so that the number of inputs is not forfeited when using an output module.

Features

AMBIENT NOISE SENSOR (ANS1R)

The ANS1R module is an ambient noise sensor module that adjusts the level of a page announcement and/or background music in an area of a building where ambient noise levels are continuously changing.

• Maximum gain control
• Ramp speed control
• Activity threshold control
• Ambient mic input threshold control
• Aux input can bypass gain control function
• Aux level input control
• Stereo unbalanced Aux inputs (electronically summed mono) with low priority
• Barrier strip connections for sensor microphone & remote defeat
• Gradual fade back from mute for Aux IN

COMPRESSOR/LIMITER (CMP1R)

The CMP1R module is a compressor/limiter module that can be used as a compressor to minimize the differences in level of all of the inputs on the mix bus, or can be used as a limiter to keep overall output at a desired level.

• Compressor ratio control
• Threshold control
• Make-up gain control
• Bypass switch
• Unbalanced input with low priority
• Gradual fade back from mute for unbalanced input

PARAMETRIC EQUALIZER (PEQ1R)

The PEQ1R is a 4-band equalizer that provides 2 mid bands of parametric equalization control with adjustments for filter bandwidth ('Q'), filter center frequency, cut or boost level, as well as cut or boost for bass and treble.
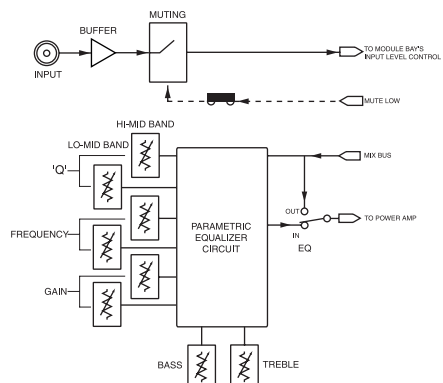
• 4-band equalizer
• 2 full parametric bands
• Center frequency control
• 'Q' bandwidth control
• Gain control
• Bass and Treble control
• Bypass switch
• Unbalanced input with low priority
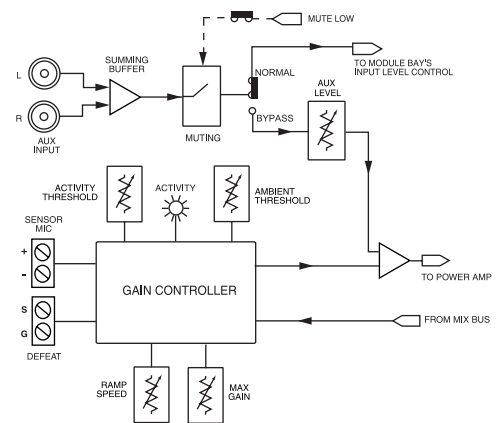• Gradual fade back from mute for unbalanced input

Block Diagrams

CMP1R Block Diagaram
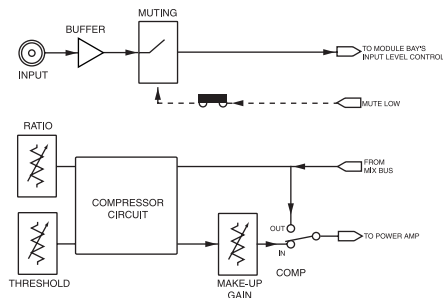
ANS1R Block Diagaram

PEQ1R Block Diagaram

Architect & Engineer Specifications

Ambient Noise Sensor Module (ANS1R)

The ANS1R module shall have a maximum gain control that sets the maximum amount of gain added, from 0 dB to 22 dB of gain, once the ambient noise level surpasses the sound pressure level set by the ambient threshold. The ANS1R shall have a ramp speed control that sets the speed by which gain is added to the signal once the ambient noise level surpasses the threshold, from less than 1 dB/s to greater than 20 dB/s.

The module shall have an activity threshold control with a corresponding bi-color LED that will illuminate amber when at mix bus threshold. The ANS1R shall have an ambient threshold control that shall adjust the microphone input threshold from 64 dBSPL to 112 dBSPL with the same LED illuminating green when at mic threshold.

The ANS1R module shall have stereo unbalanced RCA inputs that provide 20 k-ohm input impedance. The unbalanced inputs shall be electronically mono-summed and connected to the amplifier's front level control for the bay in which it is installed so that the input is not lost when using the output module. Or, it can be fed directly to mix bus through the modules' Aux level control, which bypasses the gain control function. The AUX level control shall control the input source when jumpered to the mix bus only. Aux inputs shall have the ability to be muted by higher priority modules. It shall have a gradual fade back from mute when the mute control is deactivated. The module shall have a 4-pin input barrier strip connector to make the input connection for the microphone and to connect a remote defeat switch (contact closure).

Compressor Limiter Module (CMP1R)

The CMP1R module shall have a compressor ratio control adjustable from 2:1 to infinite to alter the dynamics of the signal above the limiting threshold. The module shall have a gain/trim control that will allow the gain to be compensated up to +15 dB relative to 0 dB nominal gain. The CMP1R shall have a threshold control adjustable from -40 dBV to +10 dBV with the center of

rotation being approximately -10 dBV. The module shall also have a compression bypass switch to enable or disable the compression for instant comparison between compression and no compression while tuning the system.

The CMP1R module shall have an unbalanced RCA input that provides a 20 k-ohm input impedance. The unbalanced input shall connect to the amplifier's front level control for the bay in which it is installed so that the input shall not be forfeited when using the output module. Aux inputs shall have the ability to be muted by higher priority modules. It shall have a gradual fade back from mute when the mute control is deactivated.

Parametric Equalizer Module (PEQ1R)

The PEQ1R module shall have a 'Q' control that provides control over the 'Q' (bandwidth) of the two parametric filters. The 'Q' shall be continuously adjustable from 1.5 octaves to 1/6 octave in order to meet both wideband and narrow-band equalization requirements. The PEQ1R shall have a frequency control that shall provide control over the center frequency of the 2 parametric filters with a frequency range of 200 Hz to 4 kHz (Lo-Mid) and 1 kHz to 8 kHz (Hi-Mid). The parametric bands shall have a gain control that will allow 14 dB of cut or boost. The PEQ1R shall have bass and treble controls with a gain range of 12 dB cut or boost at 100 Hz for the bass and at 10 kHz for the treble. The PEQ1R shall have an equalizer bypass switch that shall provide instant comparison between equalization and no equalization during the tuning of the system.

The PEQ1R module shall have an unbalanced RCA input that provides a 20 k-ohm input impedance. The unbalanced input shall connect to the amplifier's front level control for the bay in which it is installed so that the input shall not be forfeited when using the output module. Aux inputs shall have the ability to be muted by higher priority modules. It shall have a gradual fade back from mute when the mute control is deactivated.

Technical Specifications

Ambient Noise Sensor Module (ANS1R)

Gain (Boost)	0 dB to 22 dB (± 1 dB)
Frequency Response	5 Hz to 80 kHz (+0 / -3 dB)
S/N (20Hz - 20kHz)	-96 dBV
Distortion	<0.007%
Input Impedance (Aux)	20 k-ohms
Gain Ramp Speed	1 dB/s to 20 dB/s
Power	± 24 V DC
Aux Muting Level	-50 dB
Controls	Maximum Gain, Gain Ramp Speed, Activity Threshold, Ambient MIC Input Threshold, & Auxiliary Level
Priority	Level 4 only (for Aux IN)
Connector	(2) RCA types & 4-position barrier strip
Weight	2.8 oz.
Dimensions	1-3/8" W x 3-1/8" H x 3-1/2" D

Compressor/Limiter Module (CMP1R)

Make-up Gain	0 dB to 15 dB
Frequency Response	5 Hz to 80 kHz (+0 / -3 dB)
S/N (20Hz - 20kHz)	-96 dBV
Distortion	<0.007%
Input Impedance (Aux)	20 k-ohms
Limit (threshold)	-40 dBV to +10 dbV
Priority	Level 4 only (for Aux IN)
Power	± 24V DC
Aux Muting Level	-50 dB
Controls	Make-up Gain, Compression, Threshold, Compressor Bypass
Connector	RCA type
Weight	2.8 oz.
Dimensions	1-3/8" W x 3-1/8" H x 3-1/2" D

Parametric Equalizer Module (PEQ1R)

Gain (Lo-Mid/Hi-Mid)	± 14 dB (@ filter center frequency)
Frequency Range	
Lo-Mid:	200 Hz to 4 kHz
Hi-Mid:	1 kHz to 8 kHz
'Q' Control	1-1/2 octaves to 1/6 octave
Bass/Treble	±12 dB @ 100 Hz and 10 kHz
Frequency Response	5 Hz to 100 kHz (+0 / -3 dB w/levels set flat)
S/N (20Hz - 20kHz)	-100 dBV
Distortion	< 0.005% (20 Hz-20 kHz)
Input Impedance (Aux)	20 k-ohms
Aux Muting Level	-50 dB
Priority	Level 4 only (for Aux IN)
Power	±24 V DC
Controls	Bass, Treble, Lo-Mid Freq., Hi-Mid Freq., 'Q' Lo-Mid, 'Q' Hi-Mid, Lo-Mid Gain, Hi-Mid Gain, EQ Bypass
Connector	RCA type
Weight	2.6 oz.
Dimensions	1-3/8" W x 3-1/8" H x 3-1/2" D

ANS500M Sensor Microphone
(one included with ANS1R)

- Up to 4 Microphone modules may be wired to an ANS1R with a maximum wire run of 2000 feet