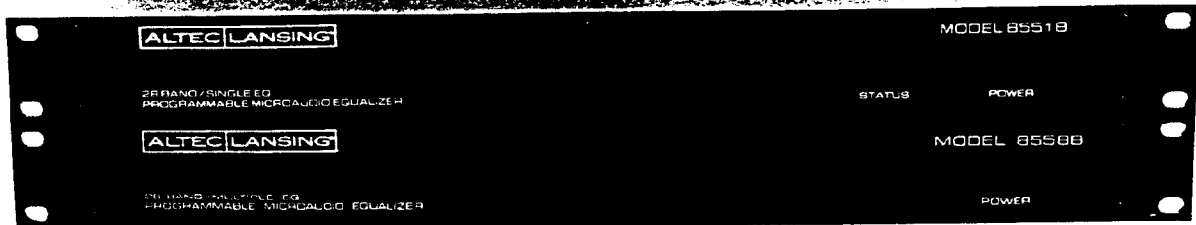




8551B/8558B PROGRAMMABLE MICROAUDIO EQUALIZERS



DESCRIPTION

Proper equalization of a room or hall can smooth many acoustic anomalies to enhance the sound, raise the feedback ceiling, and increase intelligibility. Unfortunately, even small changes made to the equalization settings by unauthorized personnel can upset the delicate balance of the acoustical environment. Therefore, the equalizer should offer protection against unauthorized changes. In most equalizers, the means of protection is a security cover. While this helps, no manufacturer can guarantee that a person with a screwdriver will be denied access to the controls. ALTEC LANSING has taken a new direction in equalizer design which results in a truly tamperproof equalization system.

ALTEC LANSING Model **8551B** Programmable MicroAudio Equalizers are single-channel, one-third octave equalizers without any front panel attenuator controls. In fact, there are no user-accessible controls anywhere on the units. As a result, each fits in one standard rack space. These new equalizers are microprocessor-controlled and can only be programmed by a removable programmer. This makes them 100% tamperproof and ideal for fixed installations.

The equalizers have 28 one-third octave bands centered on the preferred ISO center frequencies.

The microprocessor precisely controls the amount of boost or cut for the 28 bands, and the programmable master gain control, in 1 dB steps over a ± 12 dB range. High filter Q's offer improved selectivity for more precise equalization control. The noise floor is typically less than -90 dBm which results in 110 dB of dynamic range. Both units have an electronically-balanced input and output with internal space provided for optional input and output transformers.

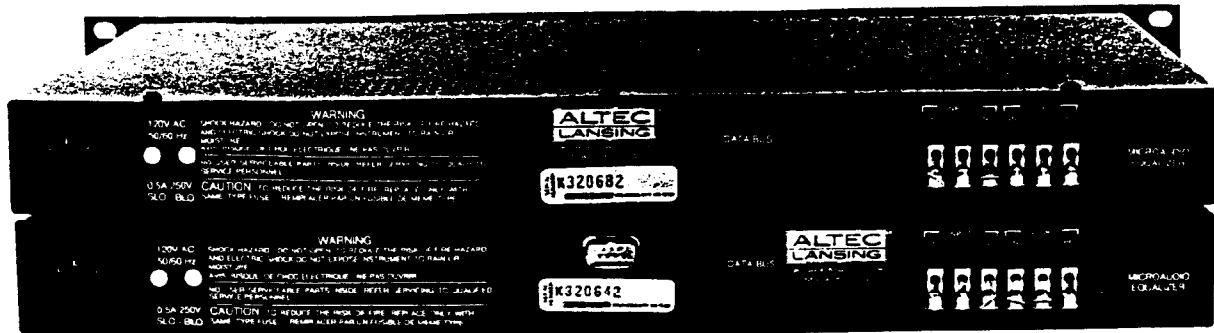
The **8551B** has one non-volatile memory while the **8558B** has eight. Once preprogrammed, any one of the eight memories may be selected by simple contact closures connected to the rear 9-pin remote connector. Both units may be programmed from the **8055B** handheld programmer, the **8051A** MicroAudio Autoprogrammer, or the **8061A** PC Control Adapter and our Acousto-Graphics™ software.

The **8551B** and the **8558B** programmable equalizers offer complete freedom from unauthorized changes and the highest degree of precision in terms of equalizer adjustment and repeatability of settings. Combined with ALTEC LANSING quality and support, these equalizers are ideal for any professional audio application.

SPECIFICATIONS FOR THE 8551B AND 8558B PROGRAMMABLE MICROAUDIO EQUALIZERS
 (The specifications apply to both units unless noted.)

Type	Active analog filter set	Connectors:	
Number of Bands:	28 one-third octave bands located on ISO center frequencies from 31.5 Hz to 16 kHz	Audio:	6 term. barrier strip
		Data bus:	9-pin D-subminiature female connector
		Power:	IEC power connector
		RMS (8558B only):	9-pin D-subminiature male connector
		(Remote Memory Select)	
Programmable Features:		Non-volatile Memories:	
Boost/Cut of each band:	±12 dB in 1 dB steps ±6 dB in ½ dB steps (with user modification)	8551B:	one
Master Gain Control:	±12 dB in 1 dB steps ±6 dB in ½ dB steps (with user modification)	8558B:	eight
		Indicators:	Power LED Status LED
Input Circuitry:		Power Requirements:	100, 120, 200, 220, 240 V ac, 50/60 Hz, 15 watts
Type:	Electronically-balanced, transformer option	Turn-on Protection:	Approx. 3 second turn-on delay circuit, Automatic ac failure bypass
Impedance:	20 kΩ balanced 15 kΩ unbalanced		
Nominal Level:	0 dBu (0.775 V rms)	Operating Temperature Range:	Up to 50°C (122°F)
Maximum Level:	+18 dBu	Dimensions:	(Depth dimension measured from rear edge of front panel)
Output Circuitry:		Height:	1.75 in. (4.4 cm)
Type:	Electronically-balanced, transformer option	Width:	19.0 in. (48.2cm)
Source Impedance:	20 Ω balanced 10 Ω unbalanced	Depth (unit only):	9.0 in. (22.7cm)
Load Impedance:	600 Ω or greater	Depth (with cables):	10.75 in. (27.3cm)
Nominal Level:	0 dBu (0.775 V rms)	Weight:	
Maximum Level:	+18 dBm (+24 dBu into 2 kΩ or greater load)	Net:	7.75 lbs. (3.5 kg)
		Shipping:	9 lbs. (4.1 kg)
High Pass Filter:		Color:	Black
Type:	3-pole (18 dB/oct), fixed frequency	Enclosure:	Rack-mount chassis, 3/16 in. aluminum front panel
f₋₃:	10 Hz	Included Accessories:	Rack-mount hardware kit, IEC Power Cord, Universal Voltage Stickers, Operating Instructions
Low Pass Filter:		Optional Accessories:	15560 Input/Output Transformer
Type:	single-pole (6 dB/oct), fixed frequency (slope becomes 12 dB/oct at approx. 60 kHz 40 Hz)		
f₋₃:			
Frequency Response:	20 Hz — 20 kHz, +0 dB, —1.5 dB (includes effects of HPF and LPF)		
Total Harmonic Distortion:	< 0.015% at unity gain from 20 Hz to 20 kHz		
IMD (SMPTE 4:1):	< 0.015% at unity gain		
Noise Floor:	< —90 dBm, A-weighted, all controls at 0 dB		
Dynamic Range:	> 105 dB (peak signal to A-weighted background noise)		

Altec Lansing continually strives to improve products and performance. Therefore specifications are subject to change without notice.



ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The equalizers shall have twenty-eight programmable one-third octave bands at the preferred ISO center frequencies from 31.5 Hz to 16 kHz, and a programmable master gain control. There shall be no internal or external gain controls. The equalizers shall be microprocessor-controlled and programmable only by external means. One equalizer model shall have one non-volatile RAM memory for storing one equalizer setting. The other equalizer model shall have eight non-volatile RAM memories, and a 9-pin rear-panel mounted D-subminiature connector for the remote selection of any one of the eight possible equalizer settings which may be stored in the non-volatile RAM memory.

Each of the twenty-eight one-third octave band-pass filters, and the master gain control, for both equalizers, shall be programmable from -12 dB to $+12$ dB in one dB increments. The equalizers shall include 10 Hz, 18 dB/octave high pass filters for protection from low frequency signals and

noise. The inputs and outputs of the equalizers shall be electronically balanced with provisions for the inclusion of optional input and output signal isolation transformers. The equalizers shall be operable from a 120 V ac, 60 Hz supply.

The equalizers shall meet the following performance criteria. Maximum input level: at least 6.16 V rms. Input impedance: at least 15 k Ω . Maximum output power level: at least +18 dBm. Output noise: < -90 dBm A-wtd (all gains at unity). Dynamic range: at least 100 dB. THD: $< 0.025\%$ (all gains at unity). IMD (SMPTE 4:1): $< 0.025\%$ (all gains at unity).

The single memory equalizer shall be the ALTEC LANSING Model **8551A** 28 Band Single EQ Programmable MicroAudio Equalizer. The eight memory equalizer shall be the ALTEC LANSING Model **8558B** 28 Band Multiple EQ Programmable MicroAudio Equalizer.



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