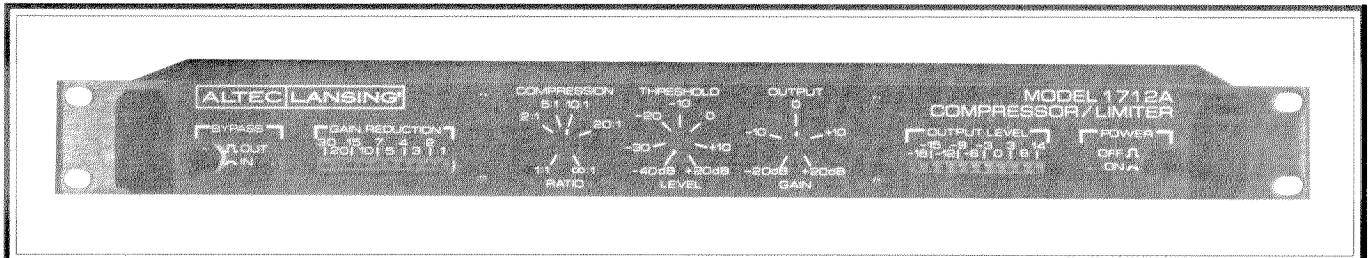




a MARK IV company

# 1712A Compressor/Limiter



- ★ Minimizes Coloration and Audible Side Effects
- ★ Automatic AC Dropout Bypass
- ★ RMS-Calibrated Linear Integration Detector
- ★ Hard-Wired Bypass Switch

## KEY SPECIFICATIONS

- Frequency Response:** 20 Hz to 20 kHz, +0/-1 dB.  
(reference 1 kHz)
- Threshold Range:** Continuously variable  
from -45 to +20 dB.
- Compression Ratio:** Continuously variable  
from 1:1 to ∞:1.
- Maximum Compression:** 60 dB.
- Attack Time:** Program dependent; 12 ms  
for 10 dB input level above  
threshold, 8 ms for 20 dB,  
4 ms for 30 dB.
- Release Time:** Program dependent; auto-  
matically variable from  
0 to 750 ms; affected by  
front panel control settings.
- Output Gain:** Continuously variable  
from -20 to +20dB.
- THD:**  
(0 dBv input, unity gain, <0.03%.  
no compression, 30 kHz low pass filter)
- (0 dBv input, unity gain, <0.05% .  
reference 1 kHz, up to 20 dB compression)
- IMD (SMPTE):**  
(0 dBv input, unity gain, <0.03%.  
no compression)
- Noise:**  
(below maximum output, <-86 dB.  
output gain control at  
+20 dB, 30 kHz low pass filter)

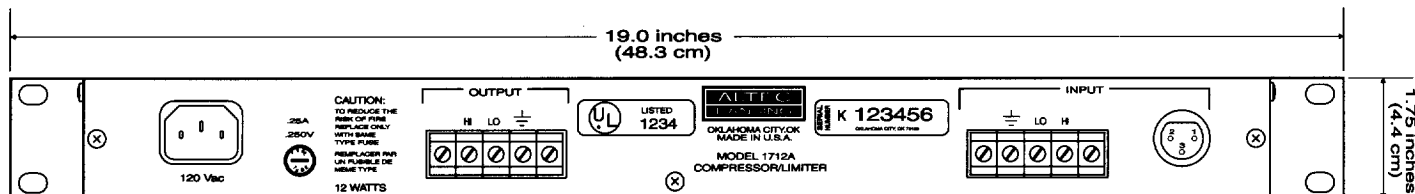
## DESCRIPTION

The **1712A Compressor/Limiter** addresses the minimization of level differences between paging system announcers and transient protection for loudspeaker systems. Its feed-forward design permits compression ratios up to ∞:1 with complete stability to automatically restrict the system output to a predetermined level. Special compensation circuitry minimizes coloration and audible side-effects for virtually unmatched sonic qualities.

The single channel unit features an rms-calibrated linear integration detector. Its logarithmic output (linear in decibels) closely matches the characteristics of the human ear for a more natural sounding response when undergoing gain changes. The detector is also compensated to prevent "peak reversion" - a condition that occurs when low frequency signals are below the period chosen for the integration time. Without correction, an rms or averaging detector would revert to peak detection resulting in an overmeasurement of the low frequency energy. This causes over-compression, increased distortion, and audible pumping. The **1712A** is free from these side effects.

The input level for a 0 dB reference is determined by an internal jumper which may select -10, 0, +4, or +8 dBv. This permits interfacing with virtually any industry standard line level. Two LED arrays simultaneously display gain reduction and output level for effective monitoring of system operation. The continuously variable Threshold, Compression Ratio, and Output Gain controls are recessed in screwdriver slotted adjustments to minimize inadvertent changes to the control settings. Program-dependent attack and release times assure natural sounding compression without the need for continuous manual adjustment. The Altec Lansing model **1712A** compressor/limiter is the choice among professionals where serious level control and transient protection is demanded.

## Back Panel of 1712A



## ARCHITECT'S and ENGINEER'S SPECIFICATIONS

The compressor/limiter shall be a single channel unit of solid state design that is capable of detecting input levels above the threshold control setting and automatically reducing the gain of the signal level in accordance with the compression ratio control setting. The 0 dB reference level of the detector circuitry shall be selectable to be -10, 0, +4, or +8 dBv. The amount of gain reduction introduced by the system and the output level of the compressor/limiter shall be presented on their respective LED displays. The gain reduction display shall have a range from -1 dB to -30 dB of attenuation and the output level display shall show levels from -18 dB to +14 dB with a variable sensitivity for 0 VU equals -10 dBm to +8 dBm. Automatic bypass and manual hard-wire bypass of the compressor/limiter shall be provided, along with a turn-on delay to eliminate start-up/shutdown transients. The compressor/limiter shall be capable of operating from a 120/240 VAC, 50/60 Hz line.

The compressor/limiter shall meet the following performance criteria. Maximum input level: +20 dBv (7.75 V rms). Input impedance: 20K ohms balanced, 10K ohms unbalanced. Maximum output level: +20 dBm (7.75 V

rms). Output impedance: 44 ohms balanced, 22 ohms unbalanced. Frequency response: 20 Hz to 20 kHz, +0, -1 dB. Threshold range: continuously variable from -45 to +20 dB. Compression ratio: continuously variable from 1:1 to ∞:1. Attack time: program dependent; 12 msec for 10 dB input level above threshold, 8 msec for 20 dB above threshold level, 4 msec for 30 dB above threshold level. Release time: program dependent; automatically variable from 0 to 750 msec. Output gain: continuously variable from -20 to +20 dB. THD: less than 0.03% from 20 Hz to 20 kHz with no compression, less than 0.05% at 1 kHz with up to 20 dB of compression. IMD (SMPTE): less than 0.03% with no compression. Noise: less than -86 dB below maximum output with the threshold control, compression ratio control, and output gain control fully clockwise.

The compressor/limiter shall be 1.75 inches (4.4 cm) high by 19.0 inches (48.3 cm) wide by 9.0 inches (22.9 cm) deep, and shall have a net weight of 6.3 lbs (2.86 kg).

The compressor/limiter shall be the ALTEC LANSING Model **1712A**.

# SPECIFICATIONS (continued)

**Input:**  
(reference 0 dBv = 0.775 V rms)  
Impedance: 20K ohms balanced.  
10K ohms unbalanced.  
Nominal Level: Selectable by internal jumper for  
-10, 0, +4, +8 dBv.  
Maximum Level: +20 dBv (7.75 V rms).

**Output:**  
(reference 0 dBm = 0.755 V rms across 600 ohms)  
Impedance: 44 ohms balanced.  
22 ohms unbalanced.  
Maximum Level: +20 dBm (7.75 V rms).

**Controls and Switches:** Threshold control,  
Compression ratio control,  
Output gain control,  
Bypass switch,  
Power switch.

**Front Panel Indicators:** Power LED,  
Bypass LED,  
Output level display indicating -  
18 to + 14 dB,  
Gain reduction display indicating -  
1 to -30 dB.

**Connections:**  
Input: Female XLR.  
3 terminal barrier strip.  
Output: 3 terminal barrier strip.  
AC: IEC power cord receptacle.

**Power Requirements:** 100, 120, 200, 220, 240 Vac, 50/  
60 Hz, 12 Watts.

**Operating Temperature  
Range:** up to 60° C (140° F) ambient .

**Dimensions:**  
Height: 1.75 inches (4.45 cm).  
Width: 19.0 inches (48.26 cm).  
Depth: 9.0 inches (22.86 cm).

**Weight:**  
Shipping: 10 lbs (4.55 kg).  
Net: 6.3 lbs (2.86 kg).

**Color:** Black.

**Enclosure:** Rack mount chassis,  
18 GA steel main chassis,  
18 GA steel top/rear cover,  
1/16 inch thick black anodized alu-  
minum alloy front panel.

**Accessories:** **15560** 600 ohm line transformer.  
**15550A** 15K ohm input transformer.

**Design and Performance Approvals:**  
Meets the requirements of UL Stan-  
dard 813.

Altec Lansing continually strives to improve products and perfor-  
mance. Therefore, specifications are subject to change without  
notice.