



DESCRIPTION

The ALTEC 1612A Limiter Amplifier is a two-input device that functions either as a line amplifier or as a limiter amplifier, with the operating mode set by a LIMITING switch. Circuitry is solid state, with gain controlled by a unique MOS-FET circuit and low distortion insured by a feedback linear integrated circuit output. Rated output of +27 dBm into 600 ohms is a conservative 3 dB below minimum clipping level. An isolated output transformer couples to either 150-ohm or 600-ohm loads. Individual INPUT LEVEL controls and an ATTACK-RELEASE switch accommodate a wide range of

compression levels. The OUTPUT LEVEL control is independent of compression level. The ATTACK-RELEASE switch allows fast response for speech or a slower response more suitable for music. A LIMIT/LINE BALANCE control allows limiting to be switched off without shifting the average preset output level. Based on +8 dBm reference, the output VU level in the line or limiter mode is accurately given by a panel-mounted meter. When the METER switch is actuated, compression in dB is indicated on the meter.

SPECIFICATIONS

Type:	Line or limiter amplifier
Gain as Line Amplifier:	90 dB with 1588C Microphone Preamplifier 40 dB with 15095A trans- former bridging 600-ohm line
Input Sensitivity as Line Amplifier:	30 mV rms for rated output with 15356A transformer matching 600-ohm line
Rated Output as Line Amplifier:	+27 dBm at 0.4% THD from 20 Hz to 20 kHz
Total Harmonic Distortion as Limiter Amplifier:	1% THD typical from 50 Hz to 20 kHz (direct) at +8 dBm output, threshold to 25 dB compression
Frequency Response as Line Amplifier:	± 1 dB at rated output, 20 Hz to 20 kHz (direct)
Input Impedance (direct):	750 ohms nominal
Source Impedance:	150/250 ohms with 1588C Microphone Preamplifier Up to 15,000 ohms with 15095A bridging transformer
Load Impedance:	150/600 ohms, transformer isolated
Output Impedance:	100 ohms nominal
VU Meter, Line or Limiter Amplifier:	Zero VU corresponds to +8 dBm output
Gain Level Meter, Limiter Amplifier:	0 dB to 25 dB compression
Limiter Threshold:	Variable from -74 dBm input with 1588C Microphone Preamplifier, from -40 dBm direct input
Limiter Slope:	Nominally 20:1 from thresh- old to 25 dB compression
Attack Time:	Typically 10 microseconds on FAST, 33 microseconds on SLOW
Release Time:	Typically 0.8 second on FAST, 2.8 seconds on SLOW
Limit/Line Balance:	Effective range 0 dB to 20 dB of compression
Noise Level (20 kHz bandwidth):	-130 dBm equivalent input noise with 1588C Microphone Preamplifier

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The limiter amplifier shall contain two input channels and shall operate either as a line amplifier or as a limiter amplifier. As a line amplifier, it shall meet the following performance criteria. Gain; 90 dB with a microphone preamplifier module, 40 dB with a line-bridging input transformer. Rated output; +27 dBm at 0.4% THD (direct), 20 Hz to 20 kHz. Frequency response; ± 1 dB at rated output, 20 Hz to 20 kHz (direct). Input impedance (direct), 750 ohms nominal. Output impedance, 100 ohms nominal. Load impedance; 150/600 ohms, transformer isolated. Output noise; -55 dBm with input level controls fully ccw, output level control fully cw. As a limiter amplifier, the unit shall meet the following performance criteria. Total harmonic distortion; 1% THD typical from 50 Hz to 20 kHz (direct) at +8 dBm

Noise Level (20 kHz bandwidth): continued
Maximum output noise
-55 dBm with input level
controls fully ccw and
output level control fully cw

Controls and Connectors— Front Panel Controls:

INPUT A LEVEL,
potentiometer
INPUT B LEVEL,
potentiometer
LIMIT/LINE BALANCE,
potentiometer
OUTPUT LEVEL,
potentiometer
LIMITING OFF-ON,
rocker switch
ATTACK-RELEASE FAST/
SLOW, rocker switch
GAIN LEVEL/VU OUTPUT
METER, rocker switch
POWER OFF-ON,
rocker switch

Rear Chassis Controls:

PUSH TO RESET,
circuit breaker
Battery power fuse,
3AG $\frac{1}{2}$ A, Slo-blo
BATT 24/28V dc, +/—,
2-terminal barrier strip
OUTPUT 150 Ω , 600 Ω and
GND, 5-terminal barrier strip
Input A and Input B,
Cannon XLR receptacles
Accessory Sockets INPUT A
and INPUT B, octal sockets
MULTIPLE and STEREO,
RCA phono jacks

Power Requirements:

120/240V ac, 50/60 Hz,
15 watts nominal
24/28V dc battery, negative
ground, 0.2A nominal

Operating Temperature Range:

Up to +55°C (131°F) ambient

Dimensions:

3 $\frac{1}{2}$ " (8.9 cm) H, 19" (48.3 cm)
W, 9 $\frac{1}{4}$ " (23.5 cm) D

Weight:

11 pounds, 4 ounces (5.1 kg)

Enclosure:

Cold-rolled steel chassis,
cover and panel

Color:

ALTEC dark green

Accessories (Must be ordered separately):

1579C, 1588C,
15095A, 15356A

output, threshold to 25 dB compression. Limiter threshold; variable from -74 dBm input with microphone preamplifier, from -40 dBm direct input. Limiter slope, nominally 20:1 from threshold to 25 dB compression. Attack time; typically 10 microseconds on FAST, 33 microseconds on SLOW. Release time; typically 0.8 second on FAST, 2.8 seconds on SLOW. Limit/line balance, effective range 0 dB to 20 dB of compression. Meter: VU readout, either line or limiter amplifier; +8 dBm reference; gain level, limiter amplifier, 0 dB to 25 dB of compression. Power required; 15 watts nominal at 120/240V ac 50/60 Hz, 0.2A nominal at 24/28V dc. Dimensions; 3 $\frac{1}{2}$ " H x 19" W x 9 $\frac{1}{4}$ " D. Weight; nominally 11 pounds, 4 ounces. The limiter amplifier shall be the ALTEC Model 1612A.

1515 SOUTH MANCHESTER AVENUE, ANAHEIM, CALIFORNIA 92803