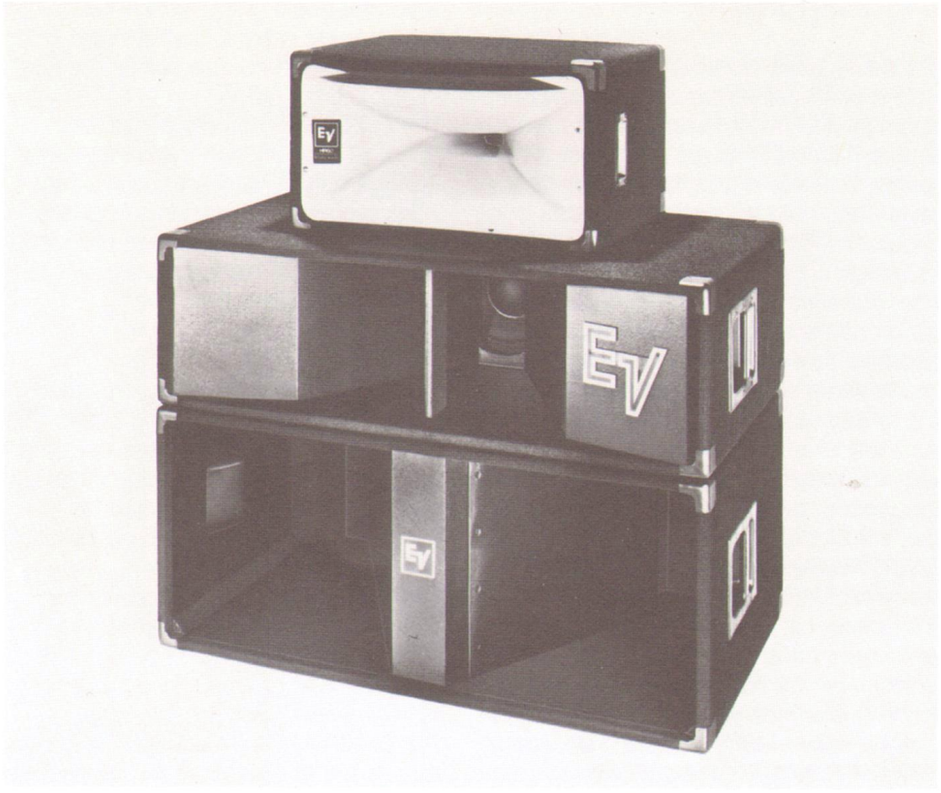
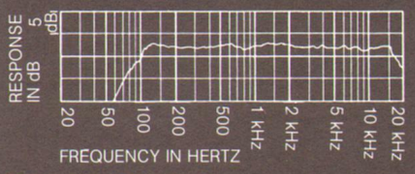


Electro-Voice®
a gulton company



Frequency Response

ELIMINATOR 84 SYSTEM

ELIMINATOR 84 SYSTEM (TL 6025 & TL 1525 & ELI 84H)

Specification	TL 6025	TL 1525	ELI 84 H	ELI 84 SYSTEM PASSIVE
Frequency Response	60–400 Hz	150–1500 Hz	600–20000 Hz	60–20000 Hz
Recommended Crossover Frequency	170 Hz	170 Hz and 1200 Hz	1200 Hz	–
Sound Pressure Level (1 Watt at 1 meter)	106 dB	109 dB	113 dB	107 dB
Long Term Average Power Handling Capacity (see Power Handling Section) (per EIA Standard RS-426A)	200 W	200 W	30 W	200 W
Maximum SPL at 4 Feet, Full Power	128 dB	130 dB	127 dB	130 dB
	WARNING: EXPOSURE TO SOUND PRESSURES OF THIS MAGNITUDE CAN CAUSE PERMANENT HEARING IMPAIRMENT.			
Beamwidth Nominal (long system axis horizontal	at frequencies below 170 Hz Beamwidth becomes greater than 180°	60°	60°	60°
Driver	EVM 15 B	EVM 10 M	DH 1506	–
Nominal Impedance	8 ohms	8 ohms	8 ohms	6 ohms
Minimum Impedance	7 ohms	7.5 ohms	6.5 ohms	4.5 ohms
Dimensions in cm (lxwxh cm)	104x62x44.5	104x62x32	58x60x34	104x62x110.5
Material and Finish	19 mm plywood with a covering of black carpet	16 mm plywood	16 mm plywood	16/19 mm plywood
Connection	2x XLR	2x XLR	2x XLR	1x XLR INPUT 2x XLR OUTPUT with connection cables
Net Weight	43 kgs	32 kgs	24 kgs	102 kgs

ELI 84 EQ

Number of Channels:
Two
Gain:
0 dB BELOW 1 kHz
(See Figure 4)
Input:
500 k ohm, unbalanced
Output:
Unbalanced
Internal Impedance:
560 ohms
Recommended Load:
⩾2000 ohms
Maximum Output Level:
+18 dBu (+16 dB V)
into 10 k ohm load
Noise, 20–20 kHz:
−90 dBu (input terminated with 600 ohms)
Total Harmonic Distortion:
<0.01% maximum
.002% typical at +12 dBu (+10 dBV)
Channel Separation (20–20 kHz):
>85 dB
Power Requirements:
200/240 V, 50–60 Hz
Dimensions (less rack adaptor plate):
4.2 cm (1.67 in.) height
24.3 cm (9.58 in.) width
11.1 cm (4.35 in.) depth
Weight:
822 grams (1 lb 13 oz)
Rack Space Required:
4.4 cm (1.75 in.)

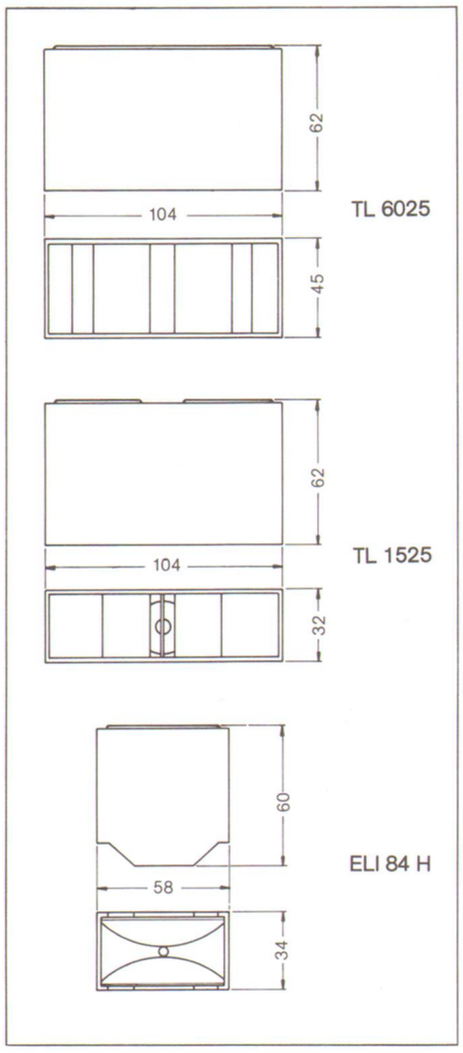


FIGURE 1
Dimensions

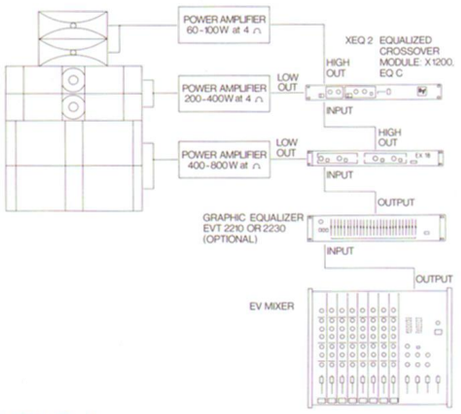


FIGURE 2
System Connections for Active Version

DESCRIPTION

For many years working bands and sound companies have stacked speaker cabinets and horns in rather random arrays. Although this approach has gained more over-all sound pressure level (SPL), it also creates enormous problems. The lack of control over horn coverage angles and the multiplicity of horns created a system which basically functioned as a giant comb-filter. The resultant "hot spots" and "dead spots" made these systems anything but pleasing to listen to in the audience position.
As a leader in the technology of controlled-directivity horn technology, EV has long recognized these problems and has introduced the ELIMINATOR 84 SYSTEM which is designed to solve these problems.
The system is designed to be very easy to transport and is therefore the ideal solution for the band "on the road". The system is a three-way active system but can be converted to a passive system with the ELIMINATOR 84 X Crossover with equalizer.

TL 1525 (ELIMINATOR 84 M)
TL 1525 Horn-Loaded Mid Bass Speaker System is designed to be used in ultra-high sound pressure level music reinforcement systems. The high-efficiency of the 60° horizontal constant-directivity horn geometry combined with the 200 watt continuous power capacity of the EVM 10 M driver provides a one watt/one meter sensitivity of 109 dB with full power ratings generating levels in excess of 129 dB continuous. The TL 1525 is designed to operate between 170 Hz and 1250 Hz.

TL 6025 (ELIMINATOR 84 S)
TL 6025 Folded-Horn Bass Speaker System is a high efficiency cabinet designed to be used as a low-frequency component in ultra-high sound pressure level music systems. The high efficiency of this horn combined with the 200 watt continuous power capacity of the EVM 15 B driver provides capability for levels exceeding 128 dB. The recommended crossover frequency when used with the TL 1525 is 170 Hz (up to 250 Hz).

ELI 84 H
The ELI 84 H encased in HR-constant-directivity horn is the heart of the system. The HR horn design is patented by Electro-Voice and offers precise, uniform pattern control over a wide range of frequencies. The advantage to you is that audience can hear the same clear, intelligible sound anywhere within the rated coverage angle of the horn – not loud in front, muddy in back, or dull at the sides. Every seat in the house will be the best seat in the house!
The ELI 84 H is complete with EV's famous DH 1506 high-frequency driver. A 60-microfarad series capacitor provides protection against low-frequency and DC inputs such as those produced by amplifier turn-on/turn-off and some types of amplifier failure.

ELI 84 X
The ELI 84 X is a complete crossover/equalizer system comprising of two complete passive crossovers including all connectors and connecting cables, and an equalizer which should be connected between the mixing desk and the amplifier.
The ELI 84 X is the ideal solution for bands who wish to start with a simple sound system driven by one amplifier and then later graduate to a full active system when funds are available.
The ELIMINATOR 84 equalizer is necessary as the ELIMINATOR 84 H system is a constant directivity horn. This means that the high frequencies are spread out with the same angle as the mid range frequencies. If the total power output of any driver or loudspeaker is measured it will be found to fall at a constant rate above a certain frequency (called the Newman Limit), due to physical reasons. This means that the high frequencies must be boosted in any system. The previous generation of sound system did this by limiting the beamwidth of the horn at high frequencies which meant that only a small part of the audience received direct high frequency sound. The equalization can also be achieved in the internal crossover for medium to low efficiency system. However, for high efficiency systems such as the ELIMINATOR 84 an active boost is necessary for any constant directivity system. The ELIMINATOR 84 equalizer boosts frequencies above 10 kHz by 10 dB thus giving a flat total power output. For the active system the boost is provided by the XEQ 2 with the EQ.C. module.

CONNECTION

ELIMINATOR 84 SYSTEM IN ACTIVE MODE
The connections are shown in fig. 2. It is important to note that the EVT EX 18 is correctly adjusted to 170 kHz and that the module X1200 and EQ C are fitted to the XEQ 2. The EQ boost and the time delay on the XEQ 2 should be set to a flat and "0" for this application.

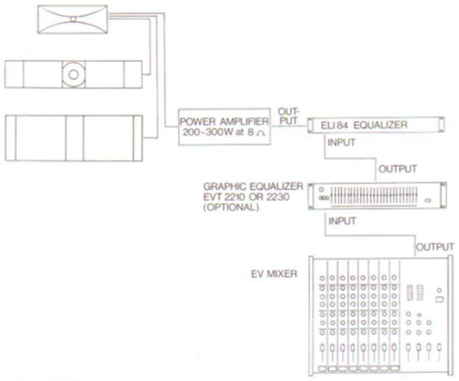
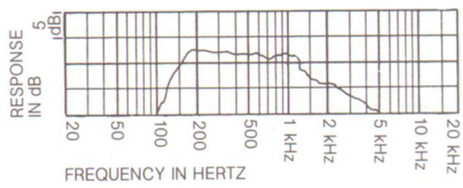


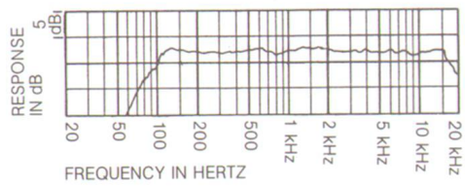
FIGURE 3
System Connections for Passive Version

TL 6025

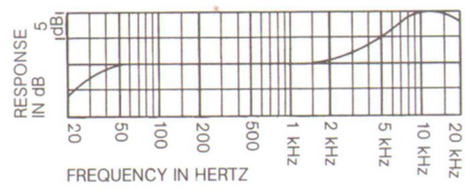


TL 1525

ELI 84 H



ELI 84 System Active or Passive



EQUALIZER

ELIMINATOR 84 SYSTEM
with passive crossover
The connection are shown in fig. 3. For the application one power amplifier with a power of 200 to 300 W is sufficient. Further systems can be added to the system shown either by paralleling more speaker systems to the amplifier up to its rated maximum or by paralleling further amplifiers and ELIMINATOR 84 systems to the ELIMINATOR 84 equalizer (up to a maximum of 5 power amplifiers can be used). Outputs to other loudspeaker systems should be taken before the ELIMINATOR 84 Equalizer.

Fitting the ELIMINATOR 84 Crossover in the ELI 84 H
Remove the screws holding the horn and remove the horn from its case by disconnecting the wires to the DH 1506 driver.

Unscrew the screws holding the connector plate on the back of the ELI 84 H case, unplug the connector to the terminal strip and remove the connector plate from the case. Screw the ELI 84 crossover onto the side of the ELI 84 H case as shown in the diagram. Push the new connector plate through the hole in the case and screw it onto the back of the case with the original screws.

Fit the blue wire from the crossover to the red terminal of the DH 1506 and the black wire to the black terminal. Refit the horn and driver into the case with the original screws. Connect the TL 6025 and TL 1525 to the crossover using the cables supplied and your ELIMINATOR 84 SYSTEM is ready for use.

POWER HANDLING

Proper use of the ELI 84 requires an understanding of the power test used to determine the 200 watt rating. This rating is based on extensive design testing using the EIA Standard RS-426A procedures. The EIA test spectrum uses equalized white noise applied for a period of 8 hours. The spectrum is filtered to provide a 6-dB per octave rolloff below 40 Hz and above 318 Hz. When measured using a constant percentage bandwidth analyzer (1/3 octave) the spectrum is down 3-dB at 100 Hz and 1200 Hz, with a 3-dB per octave slope above 1220 Hz. The long term average power is 200 watts with instantaneous peaks limited to 6-dB (800 watts). Voltages used in the test are based on a 6 ohm average impedance, so that the 200 watts continuous power is produced with an application of 35 volts true RMS. The restriction of peaks to 6-dB 70 volts) is important since some sound sources have peak to average ratios much greater than 6-dB. Without a limitation of these higher peaks, speaker damage can result from a 200 watt RMS signal.

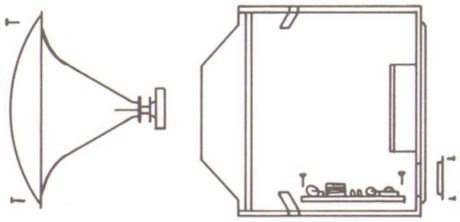


FIGURE 4
Fitting the Passive Crossover in the ELI 84 H

WARRANTY (Limited) —

Electro-Voice loudspeakers are guaranteed for five years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, the unit will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish, appearance items, burned coils, or other malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

For repair information and service locations, please write: Service Dept., Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone: 616/695-6831) or Electro-Voice West, 8234 Doe Ave., Visalia, California 93277 (Phone: 209/651-7777).

Electro-Voice S.A.
Römerstrasse 3
CH-2560 Nidau
Switzerland

Electro-Voice also maintains complete facilities for non-warranty service of EV products.

Specifications subject to change without notice.

Electro-Voice®
a gulton company