

1707C/1715C

Six Channel Mainframe Mixer/Power Amplifier



COMMERCIAL

General Product Description

The **Electro-Voice 1707C/1715C** Mixer/Power Amplifier is a six channel user-configurable mainframe amplifier. By selecting from the large array of system component options, the 1707C/1715C can become a six-in/one-out microphone mixer/amplifier or a one-in/six-out distribution preamplifier.

The basic mainframe combines a fully protected 75-watt (for the 1707C) or 150-watt (for the 1715C) power amplifier with six ports which can be input or output. Multiple 1707C/1715C mainframes can be linked together for situations where more than six input/output ports are required.

Built-in features include a trap-door on the top panel for easy access into the unit, compressor/limiter, low and high frequency shelving equalizers, muting, remote volume control capability, and a tone generator which produces four different sounds.

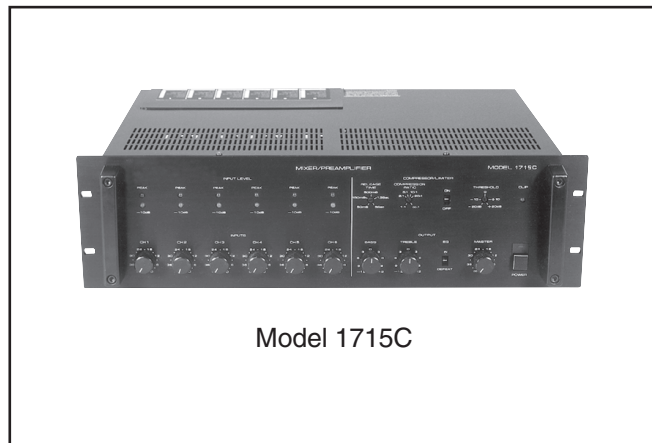
Input Modules: The **1781A/1781AT** Programmable Input module accepts either mic or line level signals through a wide variety of connector interfaces.

Output Modules: The **Electro-Voice 1783** Line Output module allows the user to interface with other professional equipment.

The **Electro-Voice** model **1707C/1715C** mixer/power amplifier systems respond to most design tasks with the ease and versatility of systems that far exceed the cost of the **1707C/1715C**. As a result, these systems are *the choice* for use in professional installations requiring high quality, flexibility in design, and low cost.

Architects' and Engineers' Specifications

The mixer/power amplifier shall have six configurable ports and be capable of operating from 100, 120, 200, 220, or 240 Vac, 50/60 Hz line, or from ± 48 VDC. Each port shall be usable with a microphone or other high level device. The mixer/power amplifier mainframe shall include a compressor/limiter, low and high frequency shelving equalizers, and a tone generator capable of producing general purpose and emergency warning signals.



Model 1715C

The power amplifier shall meet the following performance criteria: Power Output: 75 watts (**1707C**) at less than 0.05% THD from 20 Hz to 20 kHz (8 ohms direct output), or 150 watts (**1715C**) at less than 0.05% THD from 20 Hz to 20 kHz (4 ohms direct output). Frequency Response: 20 Hz to 20 kHz, ± 1 dB (direct output).

Source Impedance: 150 ohms to 250 ohms nominal with a microphone preamplifier, 600 ohms with a bridging transformer, 150 ohms to 600 ohms with a line matching transformer, and greater than 30 kohms with a tape preamplifier. Equivalent Input Noise: < -120 dB with a low impedance microphone preamplifier. Output Noise: < -85 dBm (with all controls off).

The mixer/power amplifier shall be rack mountable and finished in black. The amplifier's dimensions shall be 5¼" (H) x 19" (W) x 12¼" (D) and its net weight shall be 24.2 lbs. (**1707C**), or 30.8 lbs. (**1715C**).

The plug-in accessory modules shall be the **1781A** or **1781AT** Input modules and the **1783** Line Output module. The accessory transformer usable with the **1783** Line Output module shall be the **1786** Output Isolation transformer. The connector subassemblies shall be the **1791** female XLR, **1792** male XLR, **1793** dual phono, and the **1794** 5-lug screw terminal connector.

The mixer/power amplifier shall be the Electro-Voice Model **1707C/1715C**.

SPECIFICATIONS:

Frequency Response: (Ref. 1 kHz)

Direct Output: ± 1 dB, 20 Hz - 20 kHz (1 watt output)
Preamp Output: ± 1 dB, 20 Hz - 20 kHz
(0.775 Vrms output, 600 ohm load)

Total Harmonic Distortion (THD): (Ref 1 kHz)

Direct Output: <0.05%, 20 Hz - 20 kHz
(rated output power, 30 kHz low-pass filter)
Preamp Output: <0.0594, 20 Hz - 20 kHz
(0.775 Vrms output, 600 ohm load, EQ flat, compressor/limiter off, 30 kHz low-pass filter)

Signal-to-Noise Ratio:

Direct Output: >80 dB below rated output
(master at maximum) power, A-weighted
Preamp Output: >75 dB below 0.775 Vrms
output, A-weighted, EQ off, compressor/limiter off

Continuous Average Power:

1707C: 75 watts
1715C: 150 watts

Maximum Midband Output Power:(Ref. 1 kHz at 1% THD)

1707C: 100 watts
1715C: 175 watts

Power Bandwidth: (Ref. 1 kHz at rated output)

Direct Output: > 20 Hz - 20 kHz

Intermodulation Distortion: (SMPTE 4:1)

Direct Output: <0.1% at rated power

Damping Factor:

Direct Output: >40, 20 Hz - 1 kHz

Rated Output Level: (Ref. 1 kHz)

Direct Output: (unbalanced)
1707C: 24.5 Vrms/8 ohm load
1715C: 24.5 Vrms/4 ohm load

Preamp Output: (unbalanced) 0 dBm, 600 Ω min. load

Transformer Output:

1707C 17.4 Vrms/4 ohm load,
25.0 Vrms/8 ohm load, 70.7 Vrms/66.6 ohm load
1715C: 25.0 Vrms/4.2 ohm load
34.6 Vrms/8 ohm load, 70.7 Vrms/33.3 ohm load

Equalization: (Shelving type)

Bass: ± 12 dB at 100 Hz
Treble: ± 12 dB at 10 kHz

Compressor/Limiter: Feedforward Topology

Threshold: -20 dB to +20 dB
Continuously variable (Ref. 100 mVrms on Link input)

Compression Ratio: 1:1 to ∞ :1 Continuously variable

Release Time: 50 msec to 5 sec. Continuously variable

Tone Generator: Electronically produced

Tones: Buzzer, siren, single-tone chime,
and repeating tone chime
Control: Tones are initiated by external switch closures
Level Adjustment: Rear panel

Protection System:

Amplifier: Short circuit current limiting
Over voltage limiting
Thermal sensing
Spurious oscillatory protection
Low AC line sensing

Load: Output DC detection
Subsonic detection
Turn-on/off transients (≈ 3 secs)

Front Panel Controls:

Input: 6 - Input Level adjust
Compressor/Limiter: 1 - Release Time adjust
1 - Threshold adjust
1 - Compression Ratio adjust
1 - On/Off switch
EQ Controls: 1 - Bass adjust
1 - Treble adjust
1 - EQ In/Defeat switch
Output: 1 - Master Level adjust
Miscellaneous:
1 - AC Power switch

Rear Panel Controls:

Tone Generator: 1 - Output Level adjust

Front Panel Indicators:

6 - Green LED's (Nominal Input) 6 - Red LED's (Peak Input)
1 - Red LED (Main Output clip)
1 - AC Power ON

Connectors:

Amplifier Input: 1 - RCA phono receptacle
Link Input: 1 - RCA phono receptacle
Battery: 1 - 3-terminal barrier strip
Amplifier Output: 1 - 7-terminal barrier strip
Preamp Output: 1 - RCA phono receptacle
Link Output: 1 - RCA phono receptacle
Mute and Tone Generator: 7 - Screw terminals

Power Requirements: (Ref. 1 kHz, rated output with no modules installed)

AC Mains: 100/120/200/220/240 VAC, 50/60 Hz.
Battery: ± 48 VDC bipolar
1707C: 1.5 amps maximum
1715C: 3.0 amps maximum

Power Consumption and Heat Produced:

1707C:
75 watts output: 165 W consumed, 306 BTU/hour
25 watts output: 130 W consumed, 357 BTU/hour
1715C:
150 watts output: 320 W consumed, 578 BTU/hour
50 watts output: 230 W consumed, 612 BTU/hour

Operating Temperature Range: Up to 50°C (122°F)

Dimensions:

Width: 19 inches (48.3 cm)
Height: 5 1/4 inches (13.3 cm)
Depth: 13 inches (33.0 cm)

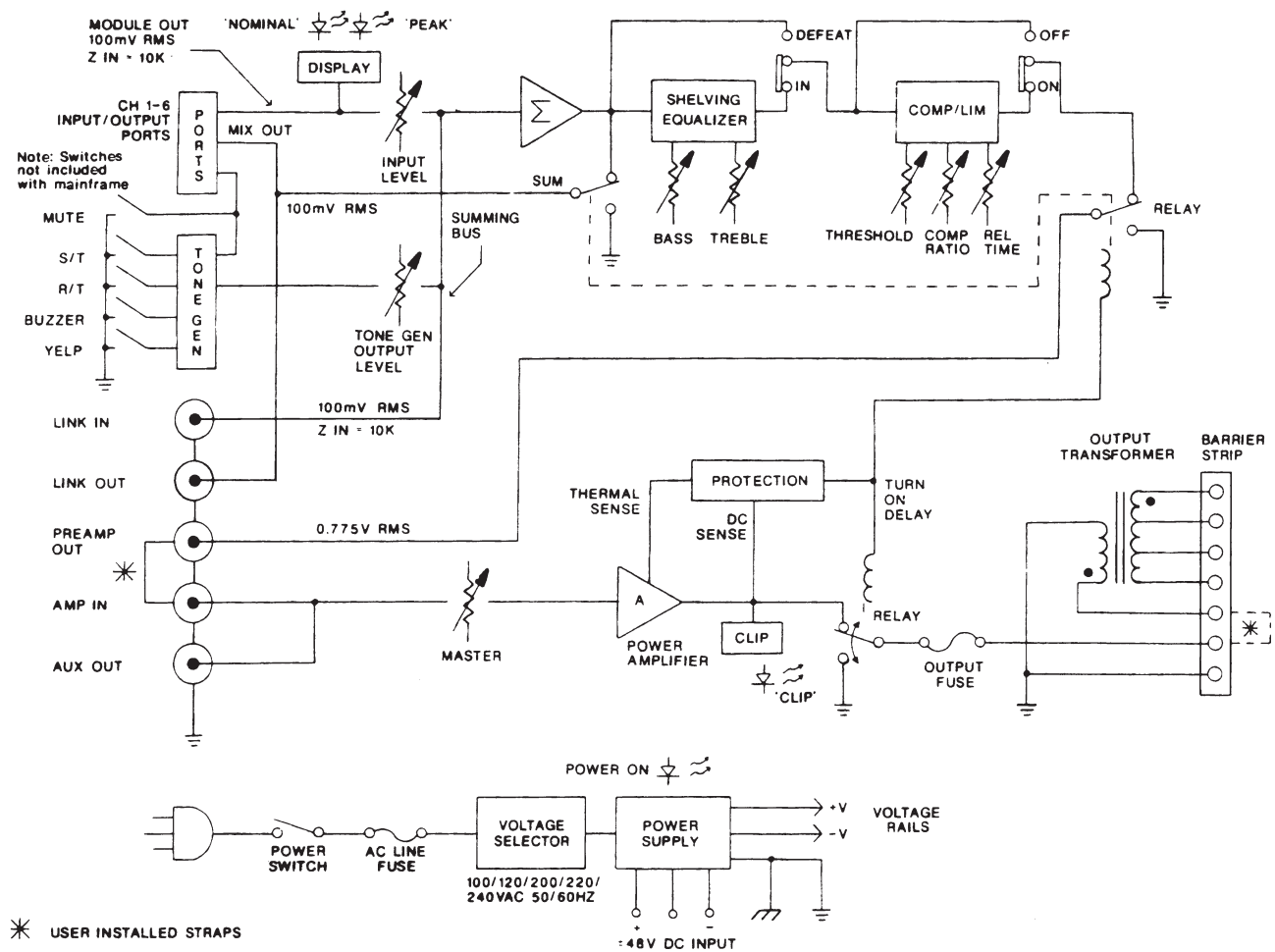
Net Weight:

1707C: 25 lbs. (11.4 kg)
1715C: 32 lbs. (14.5 kg)

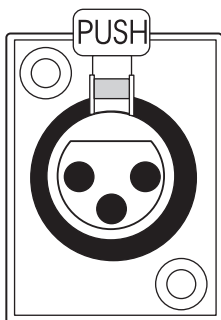
Finish Color: Black

CONFIGURING THE MAINFRAME

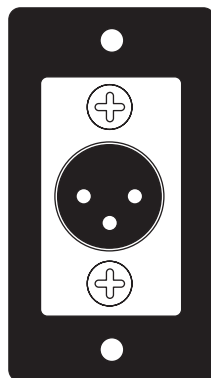
The Mainframe's Inner Workings



1707C/1715C Block Diagram



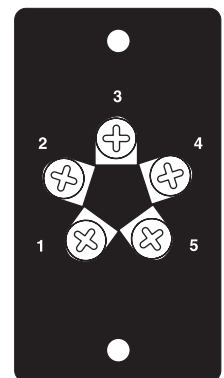
1791



1792



1793



1794

Connectors for use with 1783

USA 12000 Portland Ave South, Burnsville, MN 55337, Phone: 952-884-4051, FAX: 952-884-0043
Canada 705 Progress Avenue, Unit 46, Scarborough, Ontario, Canada, M1H2X1, Phone: 416-431-4975, 800-881-1685, FAX: 416-431-4588
Switzerland Keltenstrasse 11, CH-2563 IPSACH, Switzerland, Phone: 41/32-331-6833, FAX: 41/32-331-1221
Germany Hirschberger Ring 45, D94315, Straubing, Germany, Phone: 49 9421-706 392, FAX: 49 9421-706 287
France Parc de Courcerin, Alle Lech Walesa, Lognes, 77185 Marne La Vallee, France, Phone: 33/1-6480-0090, FAX: 33/1-6480-4538
Australia Unit 23, Block C, Slough Business Park, Slough Avenue, Silverwater, N.S.W. 2128, Australia, Phone: 61/2-9648-3455, FAX: 61/2-9648-5585
Hong Kong Unit E & F, 21/F, Luk Hop Industrial Bldg., 8 Luk Hop St., San PO Kong, Kowloon, Hong Kong, Phone: 852-2351-3628, FAX: 852-2351-3329
Japan 2-5-60 Izumi, Suginami-ku, Tokyo, Japan 168, Phone: 81-3-3325-7900, FAX: 81-3-3325-7789
Singapore 3015A Ubi Rd 1, 05-10, Kampong Ubi Industrial Estate, Singapore 408705, Phone: 65-746-8760, FAX: 65-746-1206
Mexico Av. Parque Chapultepec #66-201, Col. El. Parque Edo. Mex. 53390, Phone: (52) 5358-5434, FAX: (52) 5358-5588
UK 4, The Willows Centre, Willow Lane, Mitcham, Surrey CR4 4NX, UK, Phone: 44 181 640 9600, FAX: 44 181 646 7084
Africa, Mid-East 12000 Portland Ave South, Burnsville, MN 55337, Phone: 952-887-7424, FAX: 952-887-9212
Latin America 12000 Portland Ave South, Burnsville, MN 55337, Phone: 952-887-7491, FAX: 952-887-9212

www.electrovoice.com • Telex Communications, Inc. • www.telex.com

© Telex Communications, Inc. 02/2001
Part Number 38109-874 Rev A



Electro-Voice®

U.S.A. and Canada only.

**For customer orders, contact the Customer Service department at
800/392-3497 Fax: 800/955-6831**

**For warranty repair or service information, contact the Service
Repair department at 800/685-2606**

For technical assistance, contact Technical Support at 866/78 AUDIO

Please refer to the Engineering Data Sheet for warranty information.

Specifications subject to change without notice.