

342B AMPLIFIER

OPERATING INSTRUCTIONS

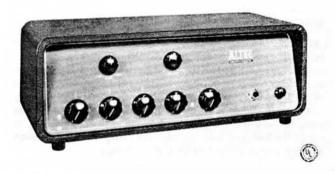
NEW RELEASE



REPRINT RELEASE WITH NO CHANGES



REPRINT RELEASE WITH CHANGES



SPECIFICATIONS

Type:

4 Channel Mixer Amplifier

Gain:

115 db

Input Sensitivity:

.0023 volt rms for rated output

Power Output:

35 watts at less than 2% thd, @ 1000 cps 35 watts at less than 5% thd, 45-12,000 cps

Frequency Response:

±1 db, 20-20,000 cps

Input Impedance:

22,000 ohms, nominal

Source Impedance:

30/50 and 120/200 with 4722 Plug-in Transformer

Load Impedance:

4, 8, 16 ohms and 70 v (150 ohm) line

Output Impedance:

Less than 20% of nominal load impedance

Noise Level:

Equivalent input noise -123 dbm

Output noise -30 dbm with master volume control at zero

Controls:

4 mixer, 1 master control; 1 bass, 1 treble control, 6 db boost, 10 db

cut; all continuously variable, composition type.

Power Supply:

117 volts, 60 cps, 110 watts

External Power Available: 117 volt ac receptacle at rear of chassis

Tubes:

3-12AX7, 1-6CG7, 2-7027, 1-GZ34/5AR4

Dimensions:

7" H, 19%" W, 8%" D overall

Color:

Green

Weight:

22 lbs.

Accessories:

4722 Plug-in Transformer

12864 Assembly — plug-in phono equalizer 12210 Assembly — rack mounting adapter

Cannon XLR-3-12 straight cord plug



Specifications and components subject to change without notice. Overall performance will be maintained or improved.

GENERAL DESCRIPTION

The 3428 Amplifier is a compact, high quality, 35 watt mixer amplifier, designed for portable or permanent public address applications. The unit provides a wide variety of input levels and impedances, with four mixing channels, master volume control, and separate bass and treble controls. DC operation of the heaters of the input tubes insures hum-free performance and eliminates the need for tube selection. The complete system is housed in a green leatherette covered cabinet.

INPUT CONNECTIONS

Input to each of the four channels is made by means of Cannon 3-pin XLR connectors. Pin #1 is the ground connection. An octal receptacle in each of the four channels provides the facility for easily accommodating any of the usual sources of program material. The amplifier has adapter plugs installed in each of these receptacles which provide for unbalanced high impedance inputs of either low or high level.

Low Level: (Microphone or equivalent) Connect to pins 1 and 3 of the XLR plug.

High Level: (Up to 10v. rms) Connect to pins 1 and 2 of the XLR plug.

Low Impedance Input: Accessory plug-in transformer #4722 may be installed to match any of the standard microphone impedances. Removing the adapter plug from the octal receptacle associated with the selected channel permits the 4722 transformer to be plugged in its place. Connect the speech line to pins 2 and 3 of the XLR connector and the shield to pin 1. As shipped, the 4722 transformer socket is connected for 120/200 ohms.

Phono Pickup Input: The use of the 12864 Assembly in either or both of channels 3 and 4 provides the RIAA playback characteristic necessary for variable reluctance cartridges. This assembly is installed by removing the adapter plug or 4722 transformer associated with the selected channel and replacing it with the 12864 assembly. Input connections are through pins 1 and 2 of the XLR connector.

OUTPUT CONNECTIONS

Output taps for loudspeaker loads of 4, 8 and 16 ohms, as well as a 70 volt line output, are provided.

Speaker Matching: The tap which most nearly equals the total speaker impedance should be used. Satisfactory results can be obtained with mismatches not exceeding $\pm 20\%$ of the tap value.

Use of 70 Volt Line: The constant voltage distribution system makes the connection to any number of speakers possible on a "required power" basis without regard for the impedances involved. In this system, each speaker has an associated transformer with multiple taps rated in terms of power. When connected to the 70 volt line, the transformer tap is chosen which will give the desired speaker power. The sum of the power in all speakers should equal or be less than the amplifier power rating.

CONTROLS

Individual gain controls for each channel provide simultaneous mixing of four program sources. A "master" gain control is common to all channels, as are the separate bass and treble controls which increase or decrease low and high frequency response. When the controls are positioned at the dots above the knobs, amplifier response is flat. Clockwise rotation from this point increases, and counter-clockwise rotation decreases the bass or treble.

VENTILATION

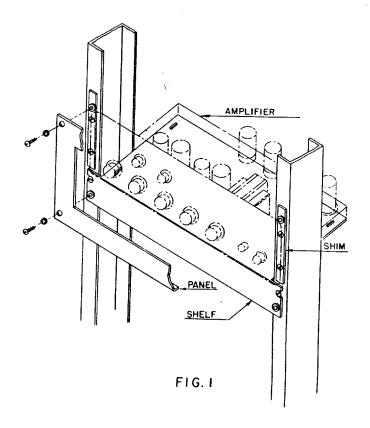
The cabinet design provides the necessary ventilation. Care should be taken to see that no large obstacle be placed closer than two inches from the rear of the cabinet. The air space between the cabinet and table which is provided by the rubber feet should remain open.

RACK MOUNTING

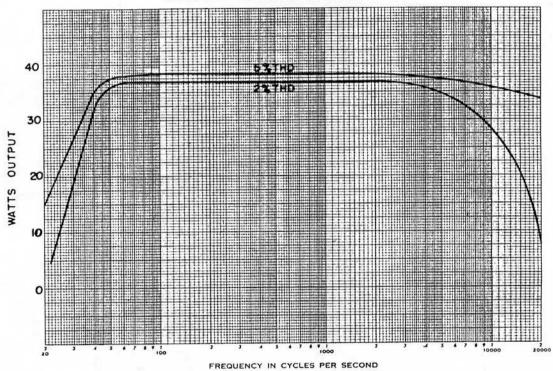
The 12210 Assembly is available to adapt the 342B Amplifier for rack mounting. It requires five units of rack space (8¾") and consists of a mounting shelf, two shims and a front mat. Installation is accomplished by fastening the shelf to the bottom of the 342B chassis by means of four screws through the slots in the shelf and in turn, mounting the whole assembly to the rack. The two shims are screwed to the rack rails per Fig. 1. Mount the front mat over the panel by means of screws through the four inserts provided on the shelf and shims.

MAINTENANCE

All circuitry is straightforward and the unit can be serviced by conventional voltage measurements using a DC voltmeter.



342 B AMPLIFIER FREQUENCY VS POWER AT SELECTED THD.



PARTS LIST

Cl	Capacitor, 50 x 50 x 50 x 50 mfd, 5 v	R13*	Resistor, 220,000 $\Omega \pm 10\%$, 1 w
CI	(Mallory FP20-20667)	R14, R15, R17	Resistor, 470,000 $\Omega \pm 10\%$, 1/2 w
C2 thru C6	Capacitor, 0.047 mfd, 400 v (Micamold or Astron)	R18, R40	CONTRACTOR OF CONTRACT PROPERTY OF THE WORKS
C7	Capacitor, 0.00068 mfd ± 10%, 600 v (Erie 811-861)	R16*	Resistor, 22,000 $\Omega \pm 10\%$, 1/2 w
C8	Capacitor, 0.0025 mfd ± 10%, 500 v (Erie 301x500)	R19	Resistor, $1800 \Omega \pm 10\%$, $1/2 w$
C9	Capacitor, 0.002 mfd ± 10%, 500 v (Erie 811-202)	R20, R24, R27	Resistor, $100,000 \Omega \pm 10\%$, 1 w
C10	Capacitor, 0.01 mfd ± 10%, 200 v	R22	Resistor, $47,000 \Omega \pm 10\%$, 1 w
CIO	(Micamold or Astron)	R23	Resistor, $1200 \Omega \pm 10\%$, $1/2 w$
C11, C19	Capacitor, 0.00025 mfd ± 10%, 600 v (Erie 811-251)	R25	Resistor, $1 \text{ meg } \Omega \pm 10\%$, $1/2 \text{ w}$
C12 C13 C14	4 Capacitor, 0.1 mfd, 400 v (Micamold or Astron)	R26	Resistor, $1500 \Omega \pm 10\%$, $1/2 w$
C15, C22	Capacitor, 50 mfd, 50 v (CD BR505)	R28, R29	Resistor, $47,000 \Omega \pm 1\%$, $1/2 \text{ w (dep. carbon)}$
C16, C22	Capacitor, 40-40-20-20 mfd, 350-350-350-25 v	R30, R31	Resistor, $100,000 \Omega \pm 10\%$, $1/2 w$
CIO	(FP419.3, 85° C)	R32	Resistor, $1000 \Omega \pm 10\%$, 1 w
C17	Capacitor, 40-40 mfd, 500 v (UP4450, 85° C)	R33	Resistor, 150,000 $\Omega \pm 10\%$, 1/2 w
C18	Capacitor, 1000-1000 mfd, 15 v (Mallory WP200)	R34 thru R36	Resistor, $4700 \Omega \pm 10\%$, 1 w
C20	Capacitor, 0.015 mfd ± 10%, 200 v	R37	Resistor, $220 \Omega \pm 10\%$, 1 w
C20	Capacitor, 0.001 mfd ± 20%, 3000 v	R38	Resistor, $1 \Omega \pm 10\%$, 1 w (wire wound)
CZI	(Erie HD-3-1000)	R39	Resistor, $27,000 \Omega \pm 10\%$, $1/2 w$
FI	Fuse, 2.5 amp, 250 v (Littelfuse 31202.5)	RS1	Rectifier, selenium (Radio Receptor selection 8Y1)
	1 ose, 2.5 dilip, 250 t (2.110.11000 c.25.5.)	RS2	Rectifier, selenium (Sarkes 4T 261C1-25)
J1 thr J4	Connector (Cannon XLR-3-13)		
J1 IIII J4	Connector (Cannon Act o 19)	S1	Switch (Altec 12180-1)
P1 thru P4, P7	Potentiometer, (Altec 12178-1)		2 2224
P5, P6	Potentiometer, (Altec 12179-2)	TI -	Transformer (Altec 6192A)
P8	Potentiometer, 5000 Ω (Melrain Type FFF-1)	T2	Transformer (Altec 16597)
PLI	Lamp, pilot (G.E. Mazda #44)	V1, V2, V3	Tube, vacuum (12AX7)
	Zamp, p. 1.1. (= 1.1. 1.1.	V4	Tube, vacqum (6CG7)
R1 thru R4	Resistor, $180 \Omega \pm 10\%$, $1/2 w$	V5, V6	Tube, vacuum (7027A)
R5 thru R8, R4		V7	Tube, vacuum (GZ34/5AR4)
R9 thru R12, R21Resistor, 220,000 Ω ± 10%, 1/2 w *Used on dummy plugs. Total of four required.			

