Electro-Voice®

ELECTRO-VOICE, INC.
BUCHANAN, MICHIGAN

Specifications and Instructions Model PC1 Music Control Center

Fig. 1 — Model PC1

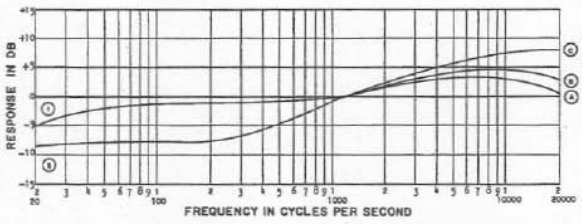
GENERAL DESCRIPTION — The Electro-Voice Model PC1 is a self-powered preamplifier and music control center for use with ultra-linear ceramic phonograph cartridges, crystal phonograph cartridges, low and high-level magnetic phonograph cartridges, tuner, television, and tape reproducers.

The PC1 is designed for use with Electro-Voice and other quality amplifiers and tuners. The PC1 is a basic modular height and thus may be stacked in equal height with Electro-Voice Models A15CL and A20CL low-boy amplifiers and Models 3305 and 3306 low-boy tuners or double stacked to match Models 3303 and 3304 stereophonic tuners.

FEATURES — The music control center has available more than 1800 fixed equalization contours, and an infinite number of variable frequency response curves. Many features such as bass and high cut, and continuously variable presence rise have been patterned after precepts laid down in the design of professional equipment.

The 6-position phono-equalizer switch is effective on both the magnetic and ceramic (high-impedance) phono channels. A recording signal, available at the record output jack, is affected by the equalizer circuits, but not the volume and response varying controls.

The low-impedance cathode-follower output allows long cable lengths to be used between the music control center and the power amplifier without degradation of frequency response. There are individual level set controls for the input channels.



KEY:
- 1B RIAA
- 1A LP
- 1C European 500 cycle crossover
- 2C European 300 cycle crossover
- 1A 78-500 cycle crossover
- 2A 78-300 cycle crossover

Fig. 2 — Record Equalizer Positions

SPECIFICATIONS

Frequency Response:	±1 db 20 to 20,000 cycles through tone control and cathode follower OUTPUT jack ±0.25 db 20 to 10,000 cycles through RECORD OUT jack
Harmonic Distortion:	Less than 0.3% at rated output
Intermodulation Distortion:	Less than 0.5% at rated output
Output:	1.25 V RMS rated, 10 V RMS max. from OUTPUT jack 0.5 V RMS rated, 4 V RMS max. from RECORD OUT jack
Hum Level:	75 db below rated output at maximum volume setting 90 db below rated output at minimum volume setting

Inputs:	Sensitivity	Impedance	Maximum Input
High-impedance Phono	0.5 V	6.5 MEG	4 V
Magnetic Phono	12 MV at 1 kc	47 K	150 MV at 1 kc
Tuner	0.5 V	500 K	4 V
Tape	0.5 V	500 K	4 V
TV	0.5 V	500 K	4 V
Auxiliary	0.5 V	500 K	4 V

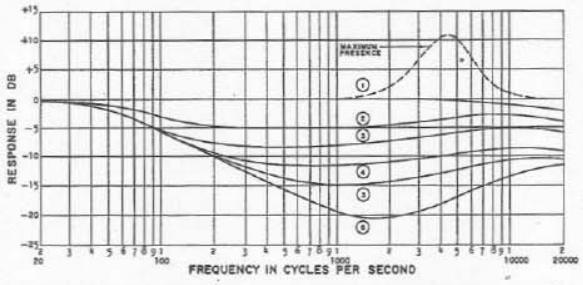


Fig. 3 — Loudness Compensation Contours and Presence Rise

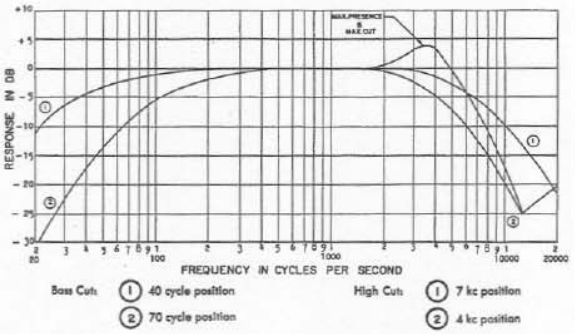


Fig. 4 — Effect of High and Bass-Frequency Cuts and Presence Rise

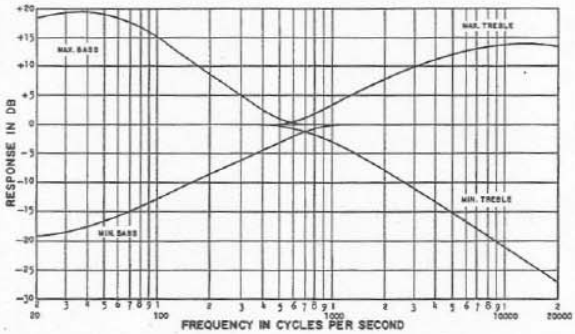


Fig. 5 — Tone Control Curves

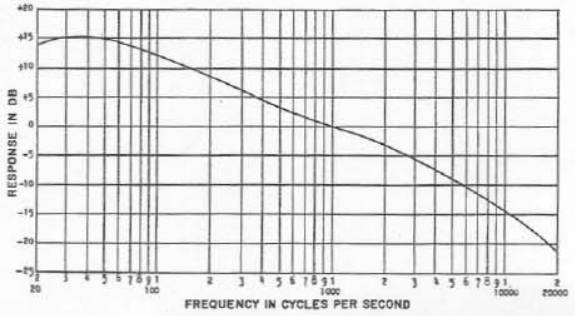


Fig. 6 — Magnetic Input Equalization with Record Compensation Switch in RIAA Position

Controls:	
Rear Chassis:	Magnetic-Ceramic Phono Switch 2 Hum adjustments 4 Individual level sets (all inputs except phono)
Front Panel:	a. Selector-Record Compensator (10 position) Phono-Equalizer Positions RIAA LP European 500 cycle crossover European 300 cycle crossover 78 RPM 500 cycle crossover 78 RPM 300 cycle crossover See Fig. 2 "Phono-Equalizer Positions" b. Volume c. Loudness (6 position) See Fig. 3 "Loudness Compensation Contours and Presence Rise" d. Presence See Fig. 3 and Fig. 4 e. Treble f. Bass See Fig. 5 "Tone Control Curves" g. High Cut (3 position slide) h. Bass Cut (3 position slide) See Fig. 4 i. Power
Tone Control Range:	Treble: +15 db to —20 db at 10 kc Bass: +20 db to —15 db at 50 cycles
High Cut:	—10 db at 10 kc in 7 kc position —20 db at 10 kc in 4 kc position
Bass Cut:	—10 db at 20 cycles in 40 cycle position —25 db at 20 cycles in 70 cycle position
Tubes:	Total of 4 as follows: 2 — 12AX7 1 — 12AT7 1 — 6X4
Power Consumption:	117V 60 cycles AC at 0.25 amps
Size:	15 in. wide x 8¼ in. deep x 4⅛ in. high
Weight:	9 lb net, 12 lb shipping

INSTRUCTIONS FOR SET-UP AND OPERATION

Immediately upon unpacking the PC1 music control center, carefully inspect it for physical damage. If damage is evidenced, notify the dealer from whom the unit was purchased, or the transportation company if the unit was shipped to you. Responsibility for shipping damage lies with the carrier and claim should be made for recovery.

MOUNTING — The PC1 is designed to operate in either horizontal or vertical position and is supplied with felt feet to prevent marring the surface on which it is placed. Because the PC1 is designed for convenient front installation, no knob extensions are required for panel mounting. The panel cutout should be approximately 14⅝" by 3$^{13}/_{16}$". Small variations of these dimensions are permissible for they will be covered by the 3/16" overhang of the PC1 front panel. Remove the felt feet from the PC1 bottom plate before installation. For permanent mounting, the E-V Model 523 accessory mounting kit may be used. The clips provided in this kit are engaged in the slots on the PC1 bottom plate and then fasten to the mounting board with the screws provided.

PREPARATION FOR USE — The PC1 may be connected to any power amplifier by means of the shielded jumper cable provided. For use in remote applications, up to 50 ft. of cable may be used without degradation of frequency response. The PC1 has also available a RECORD OUT jack unaffected by tone and volume controls for connection to tape recorders. The impedance of this output is 50K ohms, and should work into a minimum load of 250K ohms for flat response down to 20 cycles. Maximum shielded cable length for this connection is 5 ft.; longer cables will result in slight attenuation of high frequencies.

Connect input devices to the appropriate jacks on the rear of the preamplifier. The AUX input may be used for an additional tuner, tape recorder, or other audio source.

ADJUSTMENTS — The hum balance controls on the PC1 should be adjusted with the power amplifier connected, the input selector on phono and the phono pickup connected to the proper input. Adjust the ceramic hum control for minimum hum with the volume control advanced to the extreme clockwise position and the MAGNETIC-CERAMIC phono switch in the CERAMIC position. Then place the switch in the MAGNETIC position and adjust the magnetic hum control to minimum hum. Because the ceramic hum adjustment affects all channels, it should be made regardless of the type of cartridge to be used. The magnetic adjustment need be made only if a magnetic cartridge is used.

LEVEL CONTROLS — To eliminate variations in level when the selector switch is turned from one input source to another, adjust the individual level controls on the rear of the chassis, balancing each input to the level of the phono channel. With the PC1 volume control set at ½ rotation, pointing approximately straight up, the power amplifier level control is adjusted for average listening level. Further changes in level then may be made as required using only the PC1 volume control. This procedure assures good signal-to-noise ratio and minimum distortion.

OPERATION — The PC1 has two power receptacles on the rear of the chassis. The receptacle marked HOT has power available at all times, and the socket marked SWITCHED is energized only when the PC1 power switch is turned on. Neither socket is fused.

The Loudness contour control provides compensation for the relative insensitivity of the human ear to low and high frequencies at lower listening levels. The volume control should be set to the desired listening level, and the loudness contour switch adjusted to most pleasing musical balance.

Both High and Bass Cut controls are provided. The high-cut filter may be used to reduce surface scratch in older recordings, and AM inter-station interference. The bass-cut filter may be used for turntable rumble reduction, tape flutter reduction, and to reduce the effect of AM broadcast selective fading.

The Presence control is especially valuable in defining vocal artists from an orchestral accompaniment background. When used at full near position with high-cut switch set at 4 kc position, the apparent bandwidth is extended, while still allowing high frequency reduction.

Complete equalization for any phonograph cartridge is included in the PC1 preamplifier. Therefore, *no external load resistance should be placed across the magnetic cartridge terminals.* The magnetic preamplifier has been designed to accommodate either low or high-voltage output magnetic pickups.

SERVICE — The ½-ampere fuse located on the preamplifier is of the "slo-blo" 3AG tpye and in the event of a component failure, should be replaced with an identical ½-ampere type. The fuse will not blow in normal operation. In the event of repeated failure: (a) make certain preamplifier is mounted and connected in accordance with these instructions, (b) check tubes for possible shorts and replace if necessary, or (c) refer to the dealer from whom purchased for instructions. To gain access to tubes and pilot light, remove the three screws on back edge of top screen cover and slide cover back and off. *Disconnect power cord before removing cover.* Do not attempt to operate the unit without all tubes in place. In the event that the PC1 is returned to the factory for service, please include a note stating the nature of the defect.

CAUTION NOTES

1. Do not attempt to operate the preamplifier from a power source other than 105-125V 60 cycle AC.
2. Do not apply power to unit unless *all* tubes are in sockets.

PARTS LIST

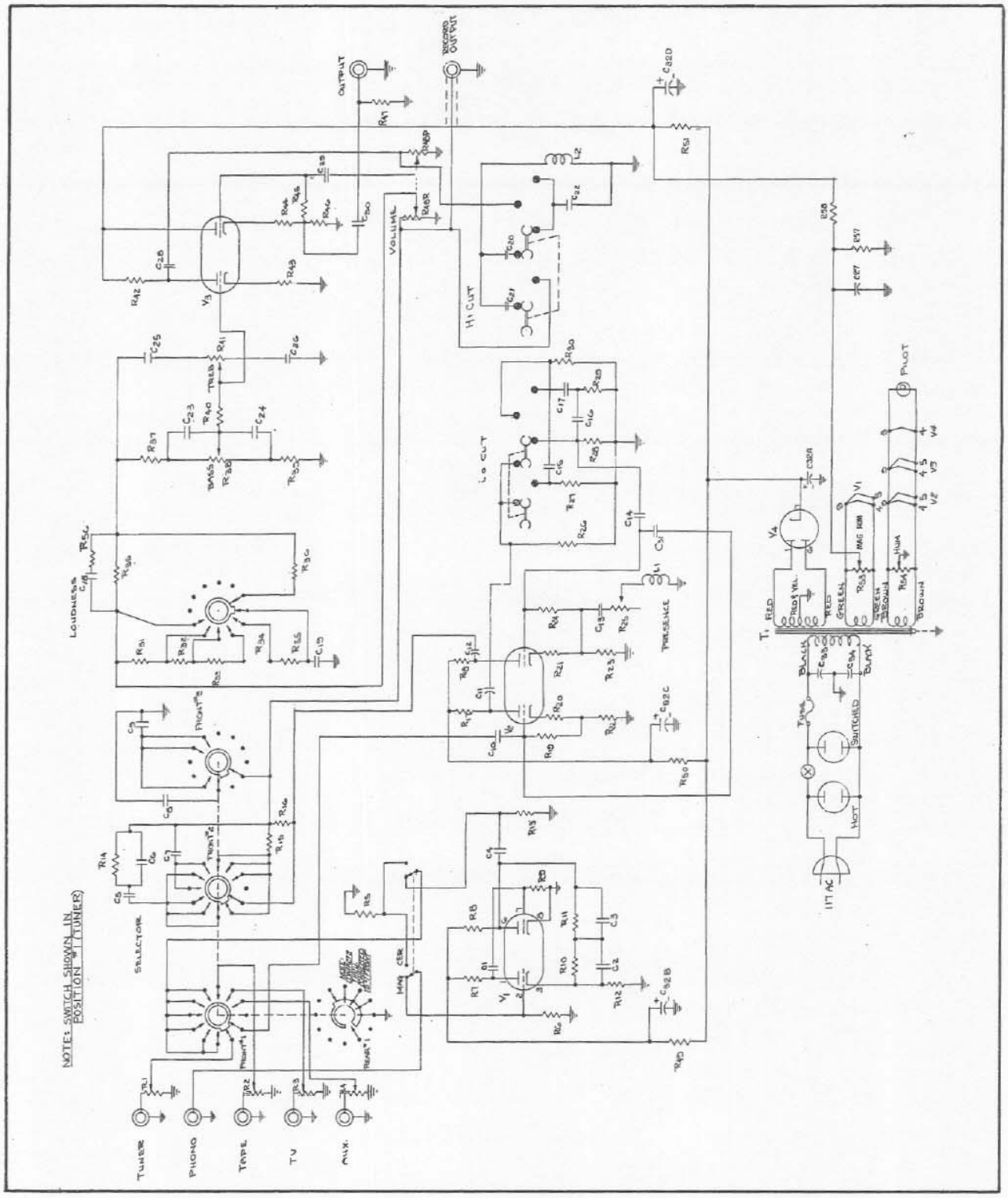
Key	Description	Part No.
C1	Capacitor, 0.01 MFD, 500 V, Ceramic	4252
C2	Capacitor, 0.0047 MFD, 400 V, Plastic Tubular	4261
C3	Capacitor, 0.002 MFD, 500 V, Ceramic	4259
C4	Capacitor, 0.01 MFD, 500 V, Ceramic	4252
C5	Capacitor, 0.01 MFD, 500 V, Ceramic	4257
C6	Capacitor, 500 MMF, 500 V, Ceramic	42003
C7	Capacitor, 0.001 MFD, 500 V, Ceramic	4258
C8	Capacitor, 500 MMF, 500 V, Ceramic	42003
C9	Capacitor, 800 MMF, 500 V, Ceramic	4253
C10	Capacitor, 0.01 MFD, 500 V, Ceramic	4252
C11	Capacitor, 0.047 MFD, 400 V, Plastic Tubular	4243
C12	Capacitor, 0.1 MFD, 400 V, Plastic Tubular	4245
C13	Capacitor, 0.0082 MFD, 500 V, Ceramic	42001
C14	Capacitor, 0.01 MFD, 500 V, Ceramic	4252
C15	Capacitor, 0.01 MFD, 500 V, Ceramic	4257
C16	Capacitor, 800 MMF, 500 V, Ceramic	4253
C17	Capacitor, 0.005 MFD, 500 V, Ceramic	42002
C18	Capacitor, 270 MMF, 500 V, Ceramic	4255
C19	Capacitor, 0.0068 MFD, 400 V, Plastic Tubular	4262
C20	Capacitor, 0.0015 MFD, 500 V, Ceramic	4254
C21	Capacitor, 500 MMF, 500 V, Ceramic	42003
C22	Capacitor, 270 MMF, 500 V, Ceramic	4255
C23	Capacitor, 0.001 MFD, 500 V, Ceramic	4258
C24	Capacitor, 0.01 MFD, 500 V, Ceramic	4257
C25	Capacitor, 200 MMF, 500 V, Ceramic	4256
C26	Capacitor, 0.002 MFD, 500 V, Ceramic	4259
C27	Capacitor, 0.1 MFD, 200 V, Plastic Tubular	4265
C28	Capacitor, 0.1 MFD, 400 V, Plastic Tubular	4245
C29	Capacitor, 0.1 MFD, 200 V, Plastic Tubular	4265
C30	Capacitor, 0.1 MFD, 200 V, Plastic Tubular	4265
C31	Capacitor, 10 MMF, 500 V, Ceramic	4212
C32A, C32B, C32C, C32D	Capacitor, 20-40-40-40 MFD, 350 V, Electrolytic	4299
C33	Capacitor, 0.047 MFD, 400 V, Plastic Tubular	4243
C34	Capacitor, 0.047 MFD, 400 V, Plastic Tubular	4243
*R1	Potentiometer, 500K	G4686
*R2	Potentiometer, 500K	G4686
*R3	Potentiometer, 500K	G4686
*R4	Potentiometer, 500K	G4686
R5	Resistor, 22 MEG, ½W, Carbon	4606
R6	Resistor, 47K, ½W, Carbon	4668
R7	Resistor, 120K, ½W, Carbon	4670
R8	Resistor, 120K, ½W, Carbon	4670
R9	Resistor, 12 MEG, ½W, Carbon	4672
R10	Resistor, 1.2 MEG, ½W, Carbon	4656
R11	Resistor, 120K, ½W, Carbon	4670
R12	Resistor, 2.2K, ½W, Carbon	4676
R13	Resistor, 2.2 MEG, ½W, Carbon	46025
R14	Resistor, 390K, ½W, Carbon	46028
R15	Resistor, 330K, ½W, Carbon	4685
R16	Resistor, 390K, ½W, Carbon	46028
R17	Resistor, 27K, ½W, Carbon	4651
R18	Resistor, 39K, ½W, Carbon	4697
R19	Resistor, 1.8 MEG, ½ W, Carbon	4673
R20	Resistor, 1.2K, ½W, Carbon	4658
R21	Resistor, 1.2K, ½W, Carbon	4658
R22	Resistor, 4.7K, ½W, Carbon	4675
R23	Resistor, 12K, ½W, Carbon	4649
R24	Resistor, 470K, ½W, Carbon	4650
*R25	Potentiometer, 25K	P4686
R26	Resistor, 820K, ½W, Carbon	46027
R27	Resistor, 220K, ½W, Carbon	46024
R28	Resistor, 4.7 MEG, ½W, Carbon	46026
R29	Resistor, 820K, ½W, Carbon	46027
R30	Resistor, 470K, ½W, Carbon	4650
R31	Resistor, 82K, ½W, Carbon	4696
R32	Resistor, 68K, ½W, Carbon	46019
R33	Resistor, 47K, ½W, Carbon	4668
R34	Resistor, 39K, ½W, Carbon	4697
R35	Resistor, 1.2 MEG, ½W, Carbon	4656
R36	Resistor, 27K, ½W, Carbon	4651
R37	Resistor, 120K, ½W, Carbon	4670
*R38	Potentiometer, 1 MEG	Q4686
R39	Resistor, 12K, ½W, Carbon	4649
R40	Resistor, 120K, ½W, Carbon	4670
*R41	Potentiometer, 1 MEG	Q4686
R42	Resistor, 120K, ½W, Carbon	4670
R43	Resistor, 1.8K, ¼W, Carbon	4677
R44	Resistor, 470 OHM, ¼W, Carbon	4654
R45	Resistor, 470K, ½W, Carbon	4650
R46	Resistor, 47K, ½W, Carbon	4668
R47	Resistor, 1.2 MEG, ½W, Carbon	4656
*R48P, *R48R	Potentiometer, 50K-250K	N4686
R49	Resistor, 68K, ½W, Carbon	46019
R50	Resistor, 33K, ½W, Carbon	4665
R51	Resistor, 33K, ½W, Carbon	4665
R53	Potentiometer, 500 OHM	R4686
R54	Potentiometer, 500 OHM	R4686
R55	Resistor, 22K, ½W, Carbon	4678
R56	Resistor, 150K, ½W, Carbon	4603
R57	Resistor, 120K, ½W, Carbon	4670
R58	Resistor, 1.2 MEG, ½W, Carbon	4656
*T1	Transformer, Power	1595
V1	Tube, 12AX7	4311
V2	Tube, 12AT7	4327
V3	Tube, 12AX7	4311
V4	Tube, 6X4	4336
	Pilot, #47	4318
*L1	Choke, Presence	1596
*L2	Choke, HI-cut	1596
	Fuse, ½ AMP 3 AG	20066

Note: 1K=1,000 OHMS 1 MEG=1,000,000 OHMS

Tolerances: Capacitors±20%, Resistors±10%, unless otherwise indicated.

These parts are available from electronic parts dealers, except those marked with an asterisk (*) which may be ordered from Electro-Voice.

Schematic Diagram Model PC1 Music Control Center



WARRANTY

The Electro-Voice Model PC1 music control center is guaranteed against defects in workmanship and material.

ELECTRO-VOICE, INC. / BUCHANAN, MICHIGAN

Part No. 53260

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