

Film-Tech

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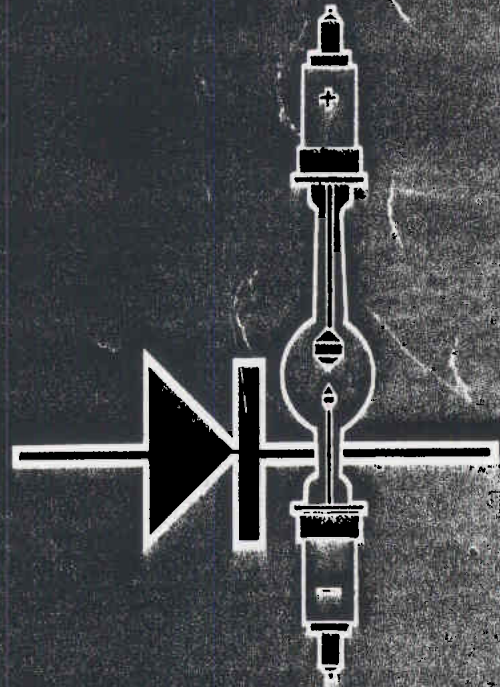
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C-40PT AMPLIFIER

C-40PT/PTA SOUND

X_ETRON[®]

PRODUCTS

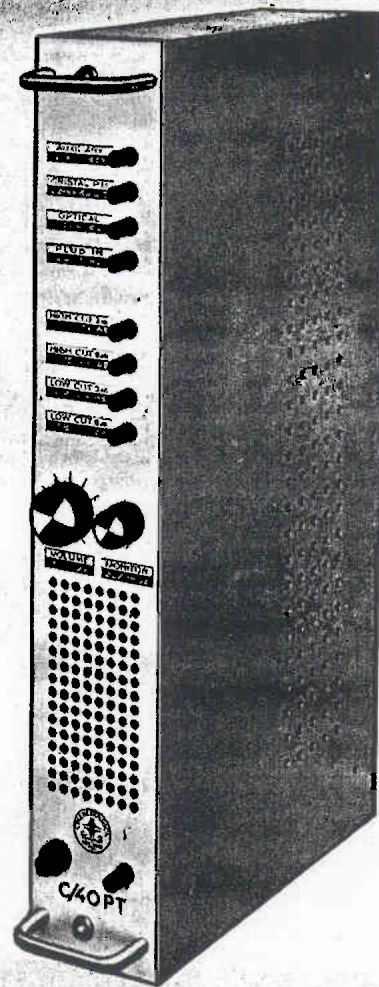


A DIVISION OF
CARBONS, INC.

CEDAR KNOLLS, N. J., U. S. A.

TRANSISTOR

AMPLIFIER C/40 PT VERSTÄRKER



Our sale agents will be glad to offer to all exhibitors the best and accurate technical assistance service at any moment they will require it.

Die sorgfältigste technische Betreuung wird den Kintheaterbesitzern von unseren Vertretern versichert die immer in der Lage sind nötigenfalls schnell zu Hilfe zu kommen.

C/40 PT integrated transistorized sound system - complete with preamplifier, power amplifier (40 watt peak, 25 watt continuous output), 5 watt monitor amplifier, monitor loudspeaker, stabilized power supply, high/low attenuator push button switches, input push button switch, complete with mounting bracket

C/40 PT Transistors-Verstärker - integriertes System - ausgerüstet mit Vorverstärker, Leistungsverstärker (40 W maximum - 25 W Gleichstrom), Verstärker 5 W für Kontroll-Lautsprecher, Kontroll-Lautsprecher, stabilisiertem Speiser, Hoch- und Tieftonknopfreger, Eingänge-Knopfschalter.

C/40 PT integrated sound system carries in a compact single cabinet: preamplifier, power amplifier, regulated power supply and monitor loudspeaker with separate amplifier. The packaging can be divided into three parts: the mounting bracket, the cabinet (with terminals and connectors) and the C/40 PT module.

This latter can be replaced in seconds by means of nylon guides, connectors and panlocks. The single bracket allows vertical, horizontal and flush to wall mounting or vertical mounting on Victoria IV/Et.

The double bracket allows vertical or horizontal wall mounting of two C/40 PT sound systems, one of which wired and the second unwired as a spare.

The panel has double wording to allow easy reading in vertical and horizontal positions. We foresee the C/40 PT sound system will be most popular in its flush to wall mounting. The very simple installation, the operational reliability, the very reasonable cost make the C/40 PT ideally suited for small and medium theatres. These theatres for the first time will get results in power and quality which could beforehand be achieved only with C/65. C/40 PT circuitry is obtained simplifying C/65 circuitry but keeping its basic structure and its design philosophy.

For instance, also C/40 PT sound system has a built-in regulated/stabilized power supply; its output circuit is transformerless and it can be replaced in seconds.

On the front panel the pilot lamp doubles as fuse holder. From the back of the module protrude the line voltage switch and the two connectors, one for inputs and the second one for line/output.

The monitor speaker amplifier sensitivity is such to allow 5 watt max. output in the booth even when the audience is run at only 2 W.

Supply:

110 - 125 - 140 - 160 - 220 - 240 V, 50/60 cycles, 65 VA - electronically stabilized/regulated power supply.

Inputs:

Optical sound head with cell/diode (photojunction) switch.

Piezo for crystal cartridge.

Aux sensitivity: 100 mV - impedance 100 KOhm.

Plug-in for preamplifier modules to come, for mike and mag. pick-up.

Output:

For loudspeaker from 6 to 16 Ohm - power 20 W, +0-2 db, from 20 Hz to 20 KHz; distortion at 20 W, 1000 Hz: 0.3 %.

Monitor loudspeaker:

Separate amplifier output: 5 W; speaker 70 x 120 mm.

Attenuator:

Push button type for HF and LF.

Dimensions: 485 x 95 x 300 mm.

Net Weight Kgs. 11 about

Der Verstärker C/40 PT ist ein integriertes Tonwiedergabesystem, worin ein Vorverstärker, ein Leistungsverstärker und ein Kontroll-Lautsprecher in nur ein Aggregat von geringen Ausmassen vereint sind. Vom mechanischen Standpunkt aus gesehen, setzt sich der Verstärker aus drei Bestandteilen, bzw. aus einem Tragebügel, einem Metallgehäuse mit Klemmtafeln für die verschiedenen Verbindungen, sowie aus einem Element C/40 PT zusammen, welches, dank eigens zu diesem Zweck vorgesehenen Führungen und Verbindungen, im Laufe von wenigen Sekunden auswechselbar ist.

Der einfache Bügel gestattet eine senkrechte, waagerechte, oder eine der Wand streifnahe, sowie eine senkrechte Montage auf Victoria IV/Et.

Der Doppelbügel gestattet die Montage auf senk- oder waagerechter Wand von zwei Verstärkern C/40 PT, wovon der eine angeschlossen wird und der andere als Vorratsverstärker dient.

Die auf der Stirntafel ersichtlichen Weisungen sind zweifacher Art und können sei es senkrecht, wie auch waagerecht abgelesen werden.

Der C/40 PT Stromkreis ist eine vereinfachte Ausführungsform des C/65 Stromkreises, wobei jedoch der Aufbau und die arteiligen Merkmale des letztgenannten Verstärkers unverändert geblieben sind. Tatsächlich weist auch der Verstärker C/40 PT einen auf elektrischen Weg einstellbaren und stabilisierten Speiser, einen Transformatorfreien Ausgang, sowie die rasche Anschlussmöglichkeit mittels eines Steckkontaktes auf.

Das auf der stirnseits befestigten Tafel vorgesehene Signallicht dient zu gleicher Zeit auch als Schmelzsicherungsschalter.

Rückseits des Apparates stehen der Spannungsveränder und zwei Verbinder hervor: ein Verbinder für die Eingänge und der zweite für die Ausgänge/Netz.

Die Sensibilität des Kontroll-Lautsprecher Verstärkers ist solcher Art, dass es möglich ist in der Kabine eine maximale Leistung von 5 W zu erzielen, selbst dann, wenn in dem Saal nur 2 W in Verwendung gelangen.

Speisung:

110 - 125 - 140 - 160 - 220 - 240 V, 50/60 Hz, 65 VA - Stabilisierte und elektronisch einregelbarer Speiser.

Eingänge:

Optisch, mit Zellen-Diodenschaltung (Photo-Diode).

Piezo für piezoelektrischen Pick-up.

Aux-Sensibilität 100 mV Impedanz 100 KOhm.

Plug-in für etwaige spätere Vorverstärker, Mikrofon, magnetische Pick-up.

Ausgang:

Für 6 bis 16 Ohm Lautsprecher-Leistung 20 W, +0-2dB, von 20 Hz bis 20 KHz; Distorsion von 20 W, 1000 Hz: 0.3 %.

Lautsprecher:

Leistung des getrennten Verstärkers 5 W Lautsprecher 70 x 120 mm.

Tiefton und Hochtonregler mit Druckknopf.

Abmessungen: 485 x 95 x 300 mm

Gewicht: ca. 11 Kg

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XETRONA DIVISION OF
CARBONS, INC.CEDAR KNOLLS, N. J. 07927
201 - 267-8200

C/40PT AMPLIFIER

Date: 10/1/70

This is a complete, self-contained amplifier system designed to operate with conventional 35mm. and 16mm. optical sound reproducers. Having an overall gain of approximately 125 Db and an output of 25 watts, it can be used in theatres having 400 - 600 seats with excellent results providing a standard stage speaker system is used. A built in monitor speaker and amplifier is provided as a means of constantly checking volume. The amplifier is of the plug in type, having two receptacles with gold plated contacts. For installation, four screws are removed to separate the two parts of the amplifier housing. The section having a terminal panel can be mounted on the wall vertically or horizontally and the conduit connected. One pair of #14 are required from the distribution panel to the terminal strip and a pair of #12's for the stage speakers. It is also necessary to pull in a #12 main ground plus another #14 ground to each projector base. This will provide maximum ground protection.

The amplifier construction is such that several can be used in multi-channel installations and as they are of the plug in type no switching panel is necessary. By having a spare unit, it can always be used to replace an inoperative unit in a few seconds. Unless the projectionist or sound man is familiar with transistor and printed board circuitry, it is recommended that any inoperative amplifier be returned to the dealer or Carbons, Inc. for repairs.

The power transformer has primary taps for 110 - 240 input with intermediate taps. A full wave solid state rectifier and voltage regulation system assures a constant voltage to the circuit components. Fuses in the primary side of the transformer and the load side of the power supply provide proper protection. The amplifier output circuit is of the "transformerless" type and is designed to work into loads of 4 to 16 ohms. Provisions are included to operate from gas type photocells, solar cells or photojunctions as required. No cables are supplied as the amplifier can be mounted in any convenient location, although the preferred position would be between the two machines. Single conductor microphone cable such as the Beldon #8401 is satisfactory. At the amplifier terminal strip the two photocell cable cores are connected in parallel to the "OPT" and the two shields to the adjacent "0". Additional inputs for the radio or tape player can be connected to the "AUX" and "0" and a high level phone cartridge direct to "PICKUP and 0".

Four pushbutton switches are provided to select the various inputs as required. An additional four pushbuttons are provided to give separate high frequency or low frequency attenuation values of 3, 6 or 9 Db. The amplifier should not be turned on without the stage speakers or a resistive load across the output. Fuses required are 1 ampere for F1 and F2.

For routine testing, using a vacuum tube volt meter or an instrument having a minimum resistance of 20,000 ohms per volt, representative direct current voltages are as follows:

BASE VOLTAGES T1 2.75, T2 6, T3 1.1, T4 22.5, T5 .6, T6 26, T7 25.5, T8 1.45, T9 24, T10 26, T11 .5, T12 25.5, T13 51.5, T14 51.

EMITTER VOLTAGES are T1 2.2, T2 5.5, T3 6.47, T4 23.5, T5, T6, T7 0, T8 .85, T9 24.8, T10 25.5, T11 0, T12 24.8, T13 51, T14 50.

COLLECTOR VOLTAGES T1 11, T2 6.5, T3 9.6, T4 .6, T5 25.5, T6 50, T7 0, T8 24, T9 .5, T10 50, T12 50, T13 70, T14 70.

This information should be of value in checking the circuits.

A few words are necessary in regards to the use of sound pickup devices. On the printed circuit board, a miniature single pole double throw slide switch marked "D" on one side and "C" on the other side provides the polarizing voltages as required. On the schematic these are shown as F.J. and F.C. respectively. This switch must be on the "D" side when using a photojunction and it provides 8 - 10 volts across the photojunction for normal operation. This must be measured with the exciter lamp turned off or blocked as the resistance of this cell changes with different amounts of light. "C" position is used with a solar cell and if other than the Cinemeccanica solar cell is used the bias can be reduced to zero volts by lifting one side of R11, 330,000 ohms, from the printed board. The solar cell as supplied by Cinemeccanica will have a .5 mfd blocking capacitor in the assembly to reduce the bias to zero. Please keep in mind that the response of a solar cell must be corrected with a shunt resistor, usually 500 to 1,000 ohms, connected across the cell. This also has the effect of reducing the output of the cell and requires more amplifier gain or perhaps operation of the exciter lamp at a higher level. Approximately .0035 volts can be expected with the exciter lamp operating at 3.0 amperes which is the optimum value.

The Cinemeccanica solar cell assembly includes the shunt resistor and blocking capacitor. This means it can be used as a substitute for a gas type photocell in connection with this particular amplifier. The switch must be on the "C" side for use with standard gas type photocells as this provides the necessary 70 - 80 volts for polarization.

SUPPLY 110-125-140-160-220-240V, 50/60Hz., 65VA electronically stabilized/regulated power supply.

INPUTS Optical soundhead with cell/diode switch, crystal cartridge, auxiliary-100MV-impedance 100K ohm.

OUTPUT 6 to 16 ohm

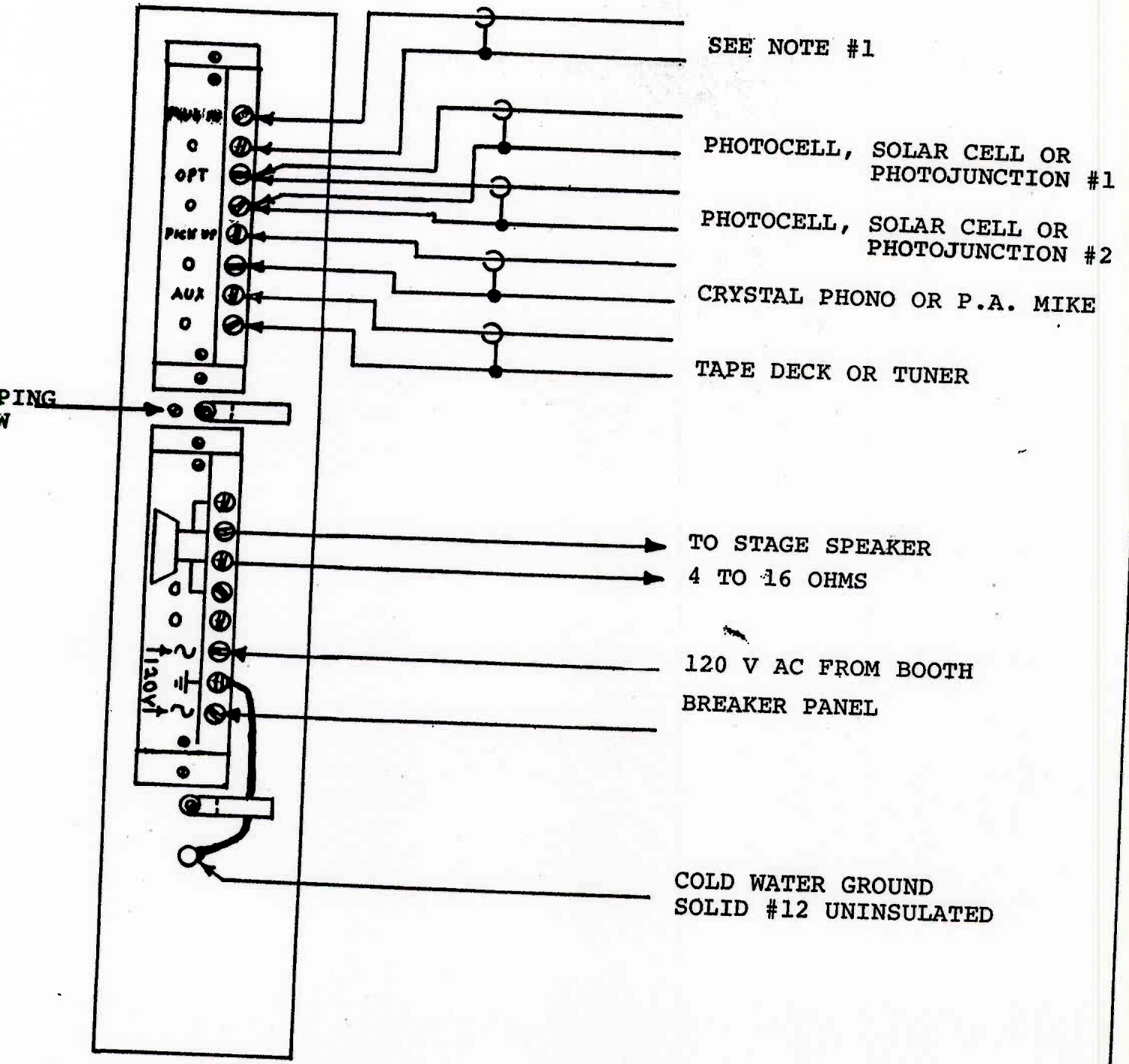
The following information is presented as several dealers have expressed a desire to have replacement transistors in their stock to take care of emergency situations. We now have many of these amplifiers in operation and are pleased to report that there have been no transistor failures. It is an excellent amplifier and we expect it to give first class results. In case of trouble it is our recommendation that the complete unit be returned to CARBONS, INC. for inspection and repair as we would like to analyze the problem and take corrective measures. As most theatres have a spare unit and many technicians are not equipped to work with small transistors and printed circuits, we believe this is the best approach.

Except for the first 4 transistors, all are made by RCA who also makes replacements for the four. The transistors are standard but may not be available from all supply houses. For this reason CARBONS, INC. will maintain an adequate stock of spares.

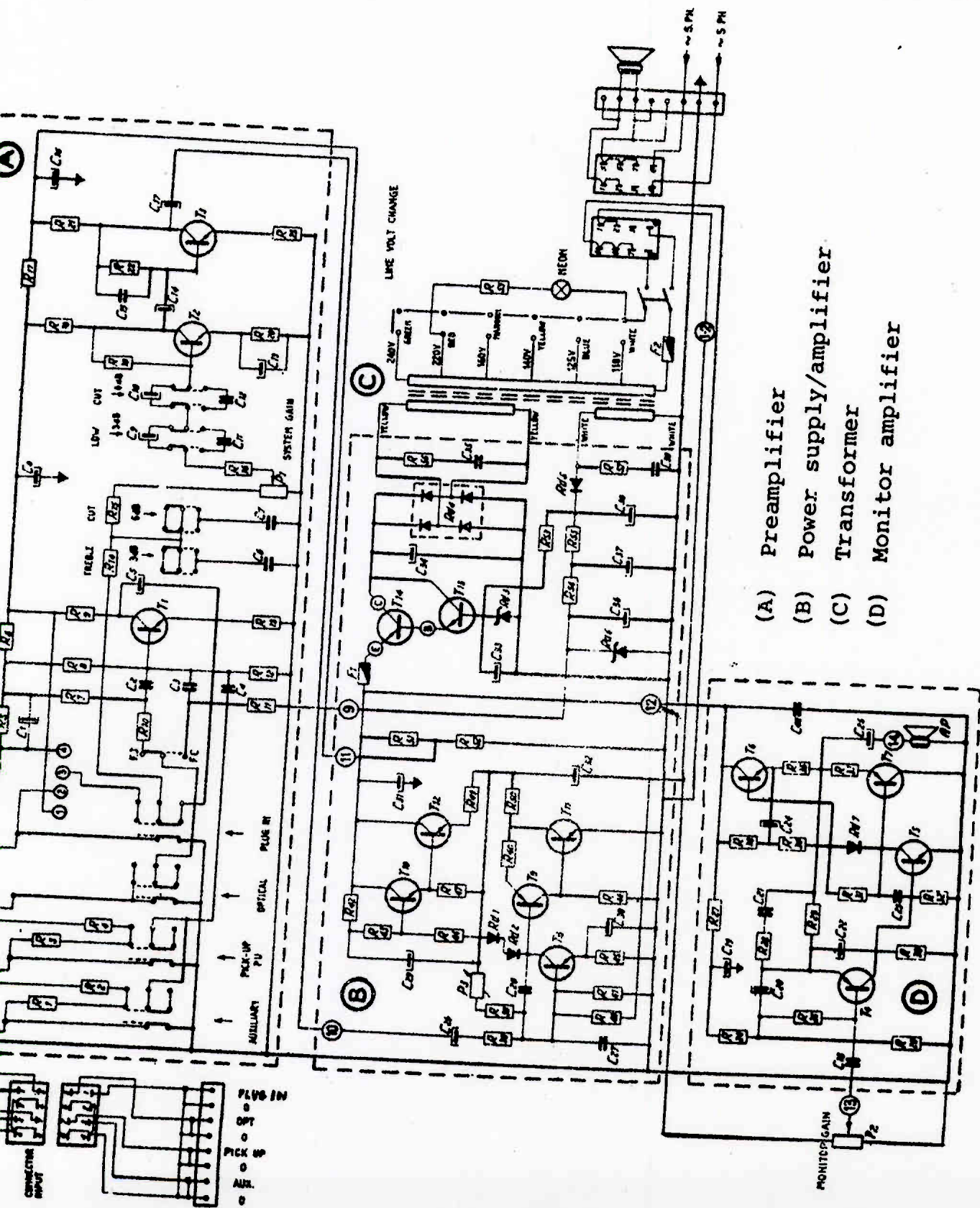
Ordering information is as follows:

T1, T2, T3	BC-149B	Can be replaced with RCA SK 3011
T4	BC-154	Can Be replaced with RCA SK 3004
T5, T6, T13	RCA-40409	
T7	RCA-40410	
T8	RCA-40360	
T9	RCA-40362	
T10	RCA-40361	
T11, T12, T14	RCA-2N5036	
Rd1, Rd2	RCA-SK3016 or IN 3754	
Rd3	IN 4178	
Rd4	WPL02	
Rd5	IN 2070A	
Rd6	IN 4184	

The fuses are standard miniature type "F" by "Littlefuse", F-1 ampere. The Buss prefix for the miniature fuse is GMA. GMA-1 ampere etc.



1 When used with Xetron Automation, the C40PT is modified for automatic non sync. The modified unit is called C/40PTA. (See Dwg.#7018-3) Terminate output from Panasonic Model RS-256 cassette deck on these terminals and power the deck from the automation for automatic non sync.



- (A) Preamplifier
- (B) Power supply/amplifier
- (C) Transformer
- (D) Monitor amplifier

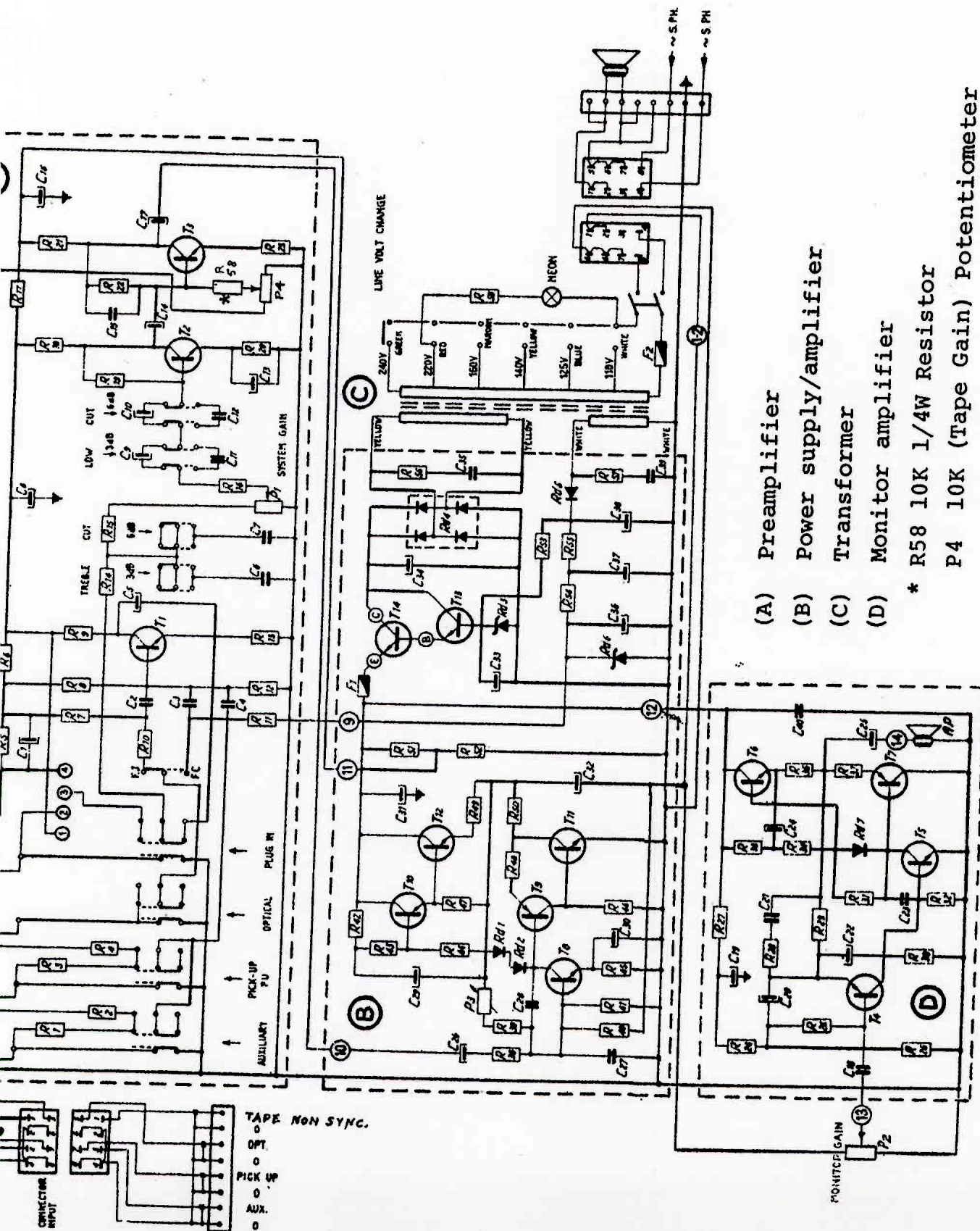
eTRON

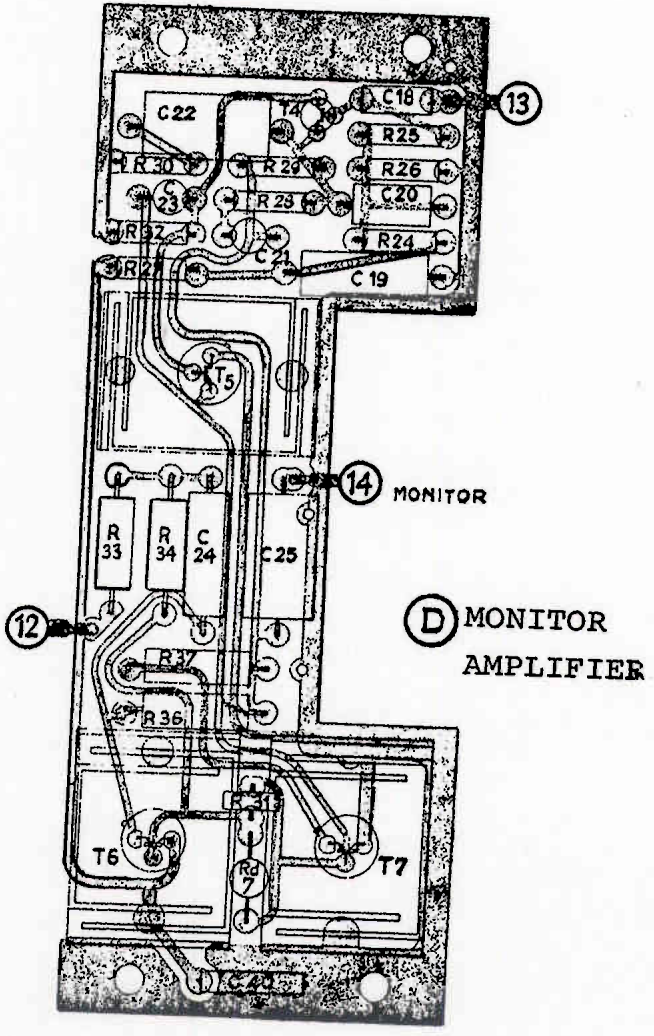
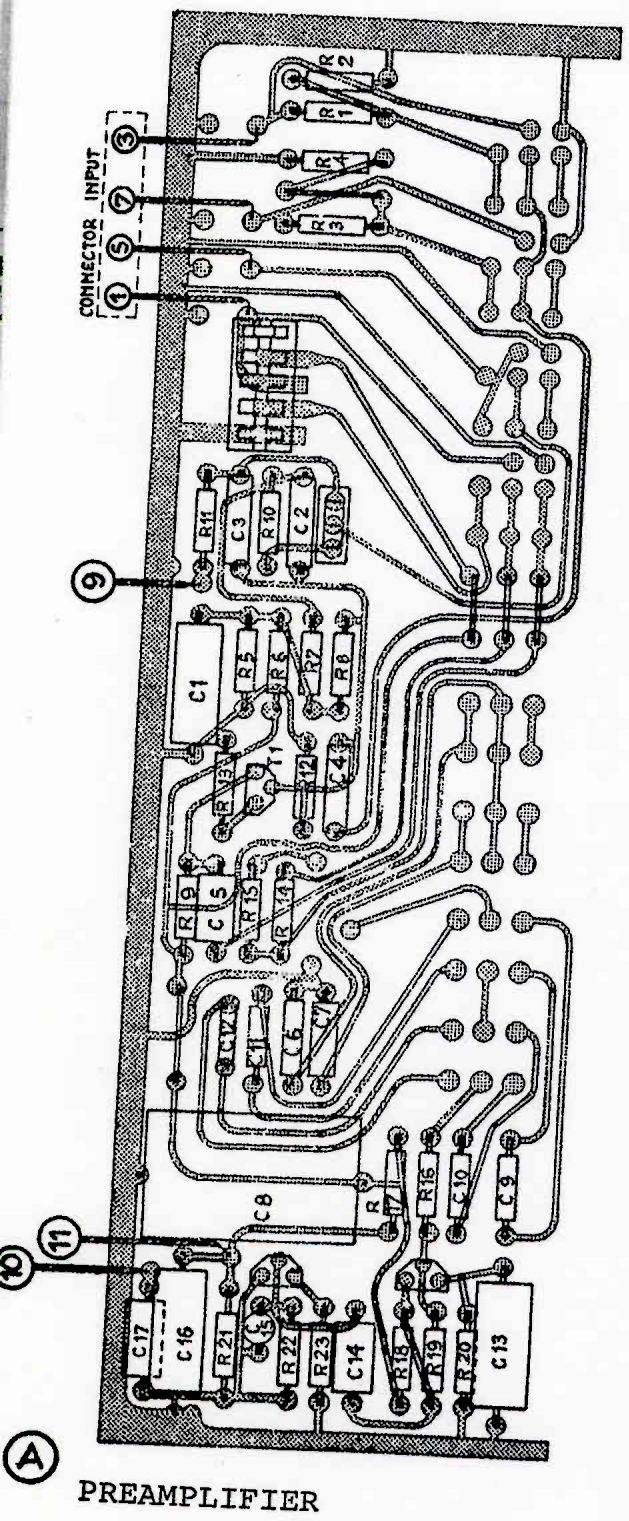
DIVISION OF
BONS, INC.
KNOLLS, N. J. 07927

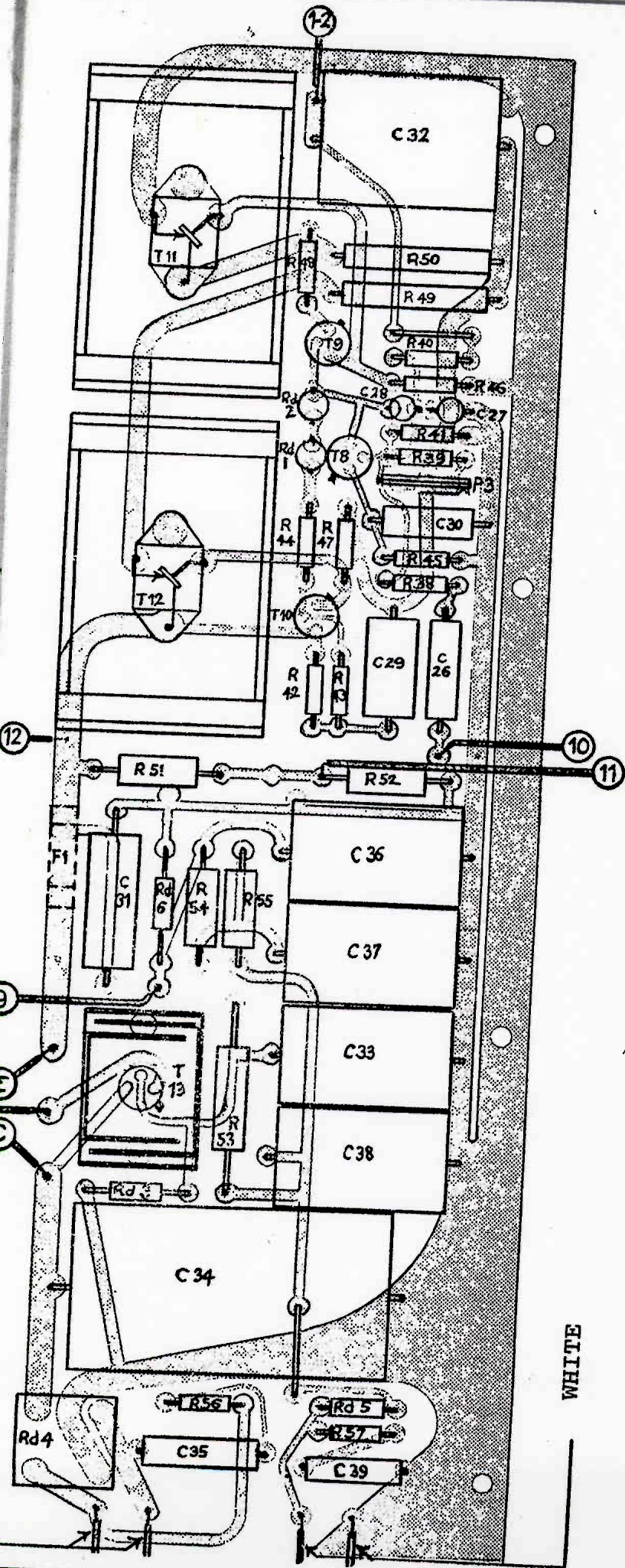
C-40PTA AMPLIFIER WIRING DIAGRAM WITH #7111 AUTOMATION

Drawing #7018-3

Date: 11/11/71







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CARBONS, INC.
 CEDAR KNOLLS, N. J. 07927

C-40 PT Power Amplifier
 Circuit Board and
 Component Layout

8/5/70
 Drawing #7018 B

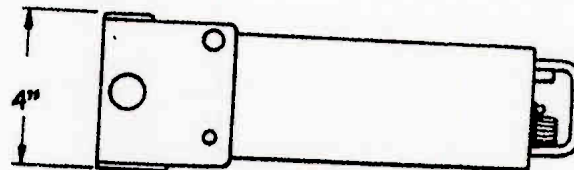
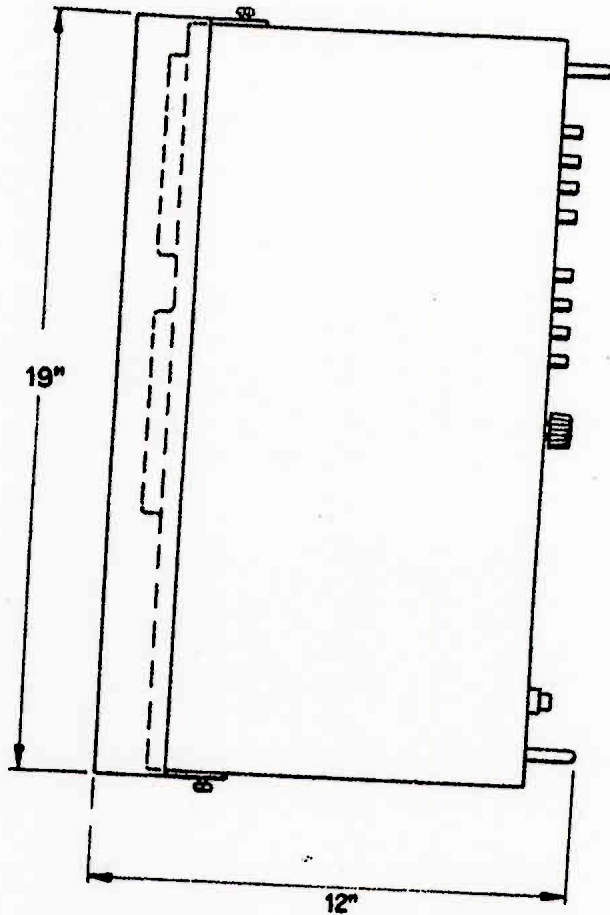
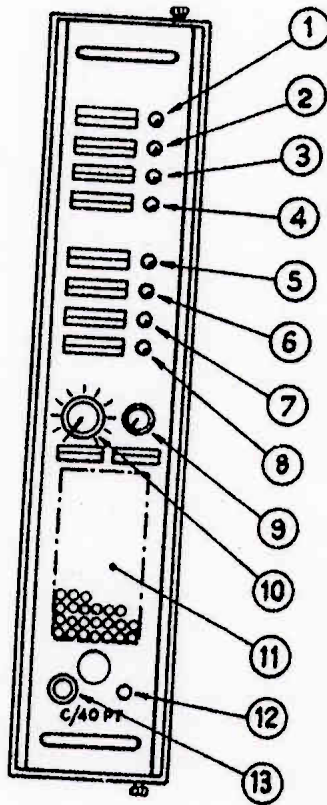
KeTRON

DIVISION OF
CARBONS, INC.
R KNOLLS, N. J. 07927

C/40PT AMPLIFIER OVERALL DIMENSIONS - CONTROLS

Drawing #7018-C

Date: 8/25/70



- (1) Auxiliary input
- (2) Crystal Pick-up
- (3) Optical
- (4) Plug-in preamplifier
- (5) Treble cut 3dB
- (6) Treble cut 6dB
- (7) Low cut 3dB
- (8) Low cut 6dB
- (9) Monitor volume
- (10) System volume
- (11) Monitor loudspeaker
- (12) Line switch
- (13) Pilot light and fuse holder

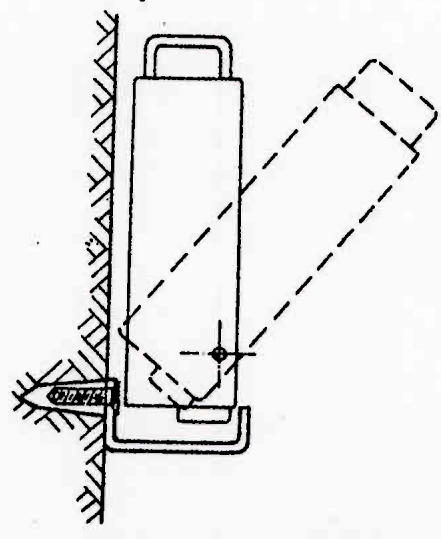
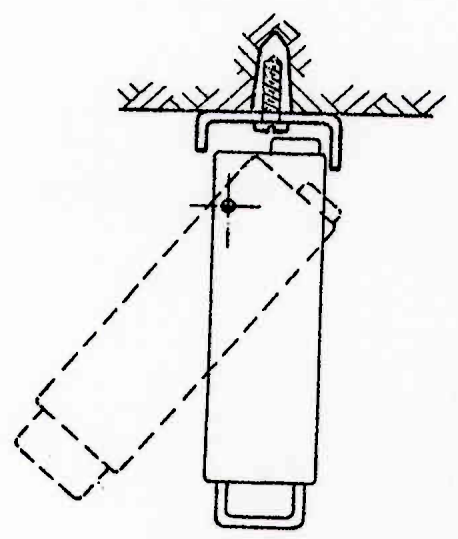
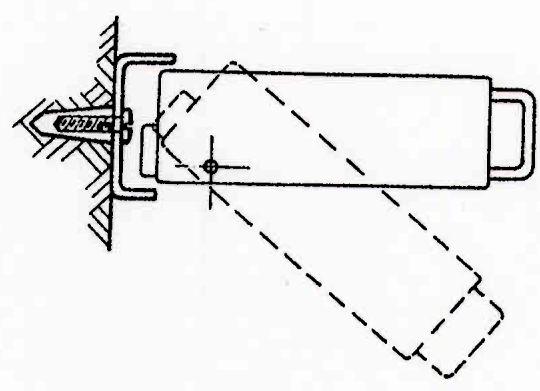
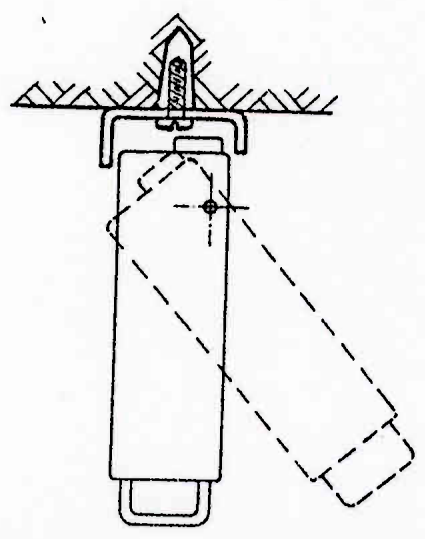
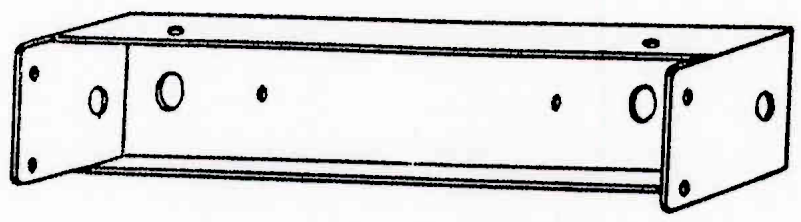
NEW WEIGHT - 24 LBS.

ETRON

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CARBONS, INC.
PO BOX 1000, N. J. 07927
201 - 267-8200

C/40PT AMPLIFIER
SINGLE MOUNTING

Drawing #7018-D
Date: 8/25/70

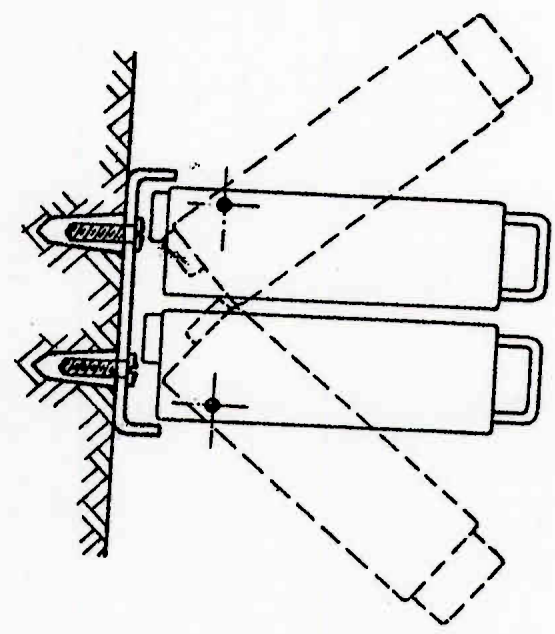
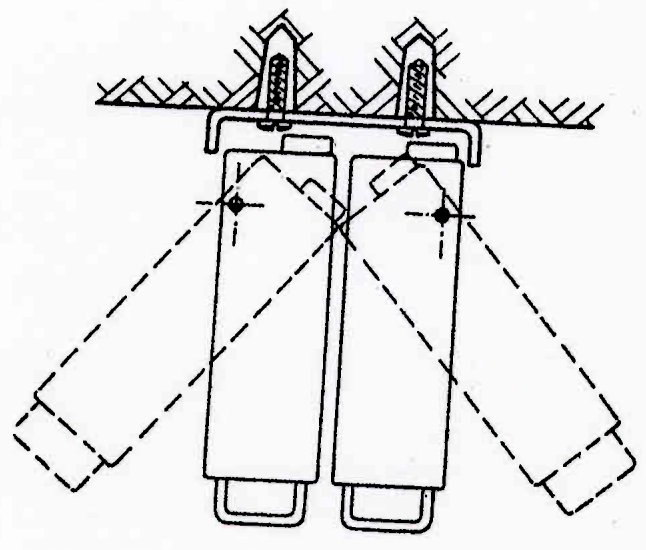
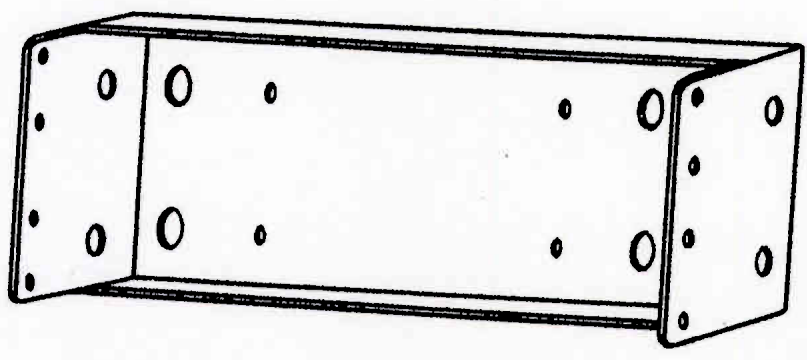


XETRON

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201 - 267 - 8200

C/40PT AMPLIFIER
DOUBLE MOUNTING

Drawing #7018-D1
Date: 8/25/70



XeTRON

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CEDAR KNOLLS, N. J. 07927

C/40PT ELECTRONIC PARTS

Date: 9/1/69

Drawing: #7018 E

R 1 = 120 KOhm	R 51 = 1.5 KOhm	A.P. = Monitor Spkr. 60 ohr
R 2 = 3.3 "	R 52 = 10 "	
R 3 = 1 MOhm	R 53 = 6.8 " 2 W	F 1 = Fuse 1 A
R 4 = 47 KOhm	R 54 = 10 " 1 W	F 2 = " 500 mA
R 5 = 10 "	R 55 = 4.7 " 1 W	
R 6 = 10 "	R 56 = 680 Ohm	P 1 = Pot. 22 KOhm
R 7 = 220 "	R 57 = 1 KOhm	P 2 = " 47 "
R 8 = 680 "	R 58 = 180 "	P 3 = " 47 "
R 9 = 33 "		
R 10 = 100 "	C 1 = 64 Mfd 25 V	
R 11 = 330 "	C 2 = 220K MMfd	Rd 1 = Diode IN3754
R 12 = 270 "	C 3 = 220 "	Rd 2 = " IN3754
R 13 = 6.8 "	C 4 = 220 "	Rd 3 = " IN4178
R 14 = 3.3 "	C 5 = 10 Mfd 16 V	Rd 4 = " WPLD2
R 15 = 3.3 "	C 6 = 1.2K MMfd	Rd 5 = " P400
R 16 = 10 "	C 7 = 2 "	Rd 6 = " IN4184
R 17 = 1 "	C 8 = 1000 Mfd 25 V	
R 18 = 22 "	C 9 = 10 "	
R 19 = 150 "	C 10 = 10 "	
R 20 = 8.2 "	C 11 = 68K MMfd	T 1 = Transistor BC149B
R 21 = 1 "	C 12 = 33 "	T 2 = " BC149B
R 22 = 270 "	C 13 = 64 Mfd 25 V	T 3 = " BC149B
R 23 = 33 Ohm	C 14 = 10 " 16 V	T 4 = " BC154
R 24 = 100 KOhm	C 15 = 100 MMfd	T 5 = " 40409
R 25 = 100 "	C 16 = 64 Mfd	T 6 = " 40409
R 26 = 100 "	C 17 = 10 "	T 7 = " 40410
R 27 = 33 "	C 18 = 100K MMfd	T 8 = " 40360
R 28 = 3.3 "	C 19 = 10 Mfd 64 V	T 9 = " 40362
R 29 = 1 "	C 20 = 10 " 16 V	T 10 = " 40361
R 30 = 15 Ohm	C 21 = 3.3K MMfd	T 11 = " 2N5036
R 31 = 130 "	C 22 = 160 Mfd 25 V	T 12 = " 2N5036
R 32 = 470 "	C 23 = 100 MMfd	T 13 = " 40409
R 33 = 330 "	C 24 = 25 Mfd 25 V	T 14 = " 2N5036
R 34 = 330 "	C 25 = 160 Mfd	
R 35 = 10 "	C 26 = 50 " 16 V	
R 36 = 1 "	C 27 = 390 MMfd	
R 37 = 1 "	C 28 = 100 "	
R 38 = 1.8 KOhm	C 29 = 50 Mfd 40 V	
R 39 = 47 "	C 30 = 100 " 6.4 V	
R 40 = 47 "	C 31 = 64 " 64 V	
R 41 = 4.7 "	C 32 = 1000 " 35 V	
R 42 = 3.3 "	C 33 = 500 " 50 V	
R 43 = 4.7 "	C 34 = 1000 " 100 V	
R 44 = 220 Ohm	C 35 = 470K MMfd	
R 45 = 270 "	C 36 = 100 Mfd 100 V	
R 46 = 220 "	C 37 = 50 " 150 V	
R 47 = 220 "	C 38 = 50 " 150 V	
R 48 = 4.7 "	C 39 = 220K MMfd	
R 49 = 1 "		
R 50 = 1 "		