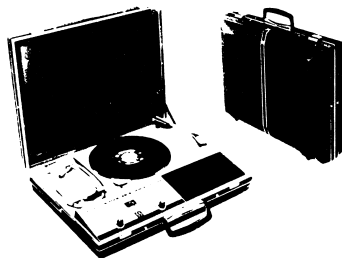




## SERVICE MANUAL

MAINS PORTABLE RECORD  
PLAYER. MODEL . . . . .  
BATTERY/MAINS PORTABLE  
RECORD PLAYER. MODEL . .

CC-8P  
H7-8P



### SPECIFICATION

MODEL CC-8P

POWER SUPPLY:  
240-250 volts, 50 Hz

CONSUMPTION:  
Amplifier: 6 mA (no signal)  
Motor: 8 watts

SEMI-CONDUCTORS:  
SE4010 (Silicon NPN) — Pre-amplifier

AY1108 (Silicon PNP) — Driver  
OC987 (Germanium NPN)  
OC988 (Germanium PNP) — Matched Output Pair  
AS25 (Silicon Diode) — Power Rectifier

OUTPUT LOAD IMPEDANCE:  
27 ohms at 400 Hz

### SPECIFICATION

MODEL H7-8P

POWER SUPPLY:  
Battery: 8 Eveready type 1050 cells  
Mains: 240-250 volts, 50 Hz

CONSUMPTION:  
Amplifier: 10 mA (no signal)  
115 mA (1W output)  
Motor: 35 mA

SEMI-CONDUCTORS:  
AY1110 (Silicon PNP) — Pre-amplifier  
SE6002 (Silicon NPN) — Driver  
AC127 (Germanium NPN)  
AC128 (Germanium PNP) — Matched Output Pair

OUTPUT LOAD IMPEDANCE:  
15 ohms at 400 Hz

Transistors can be permanently damaged by excessive external heat, or by heat generated within the circuit by means of excessive current flow. When servicing this equipment, the following precautions should be observed.

Supply polarity should never be reversed. Never remove or replace a transistor or circuit component without first switching the unit off.

When soldering transistor leads, use a small iron. Solder as rapidly as possible, keeping the iron well clear of the transistor body.

The use of a 240-volt soldering iron should be avoided, as leakage and capacitance effects can destroy a transistor. To avoid this problem, a low voltage iron with a step-down transformer should be used.

To unsolder multi-terminal components, it is best to apply heat simultaneously to all terminals, using a special iron tip. If a normal iron tip is used, apply the iron to each soldered joint in turn, and brush away the solder with a stiff brush.

Disconnect transistors before making circuit checks with an ohm meter. Failure to do so will give misleading results and the transistors may be damaged by excessive conduction, caused by the ohm meter battery. Check polarity of the ohm meter leads. Electrolytic capacitors may be damaged if the ohm meter battery voltage is applied in reverse polarity.

**When taking voltage measurements, avoid accidental short-circuits by the voltmeter probes.**

The output transistors are operated in a complementary symmetry configuration. **Care**

**must be taken not to connect the emitters of these transistors to earth.**

Fault finding can be carried out in the usual manner, keeping in mind that a transistor failure is unlikely.

When using a signal generator, a D.C. blocking capacitor should be used in the live lead to prevent disturbance of the transistor D.C. circuits.

Before connecting the generator, adjust its attenuator for minimum output. Signal generators designed for vacuum tube circuits can often deliver more signal than a transistor can safely handle.

The output must be correctly loaded in each case during these tests. If the output load is reduced below the correct value, the maximum dissipation of the output transistors will be exceeded at medium and high output levels. When taking output measurements, an output meter having a resistance of at least 250 ohms may be connected across the speaker voice coil. Do not use a meter of lower resistance.

### IMPORTANT

It is desirable that when any repairs are done to the audio amplifiers, the supply rail be reduced to half the normal voltage to enable a quick check on the performance to be made without the possibility of damage occurring due to faulty components, etc.

This is best done by inserting a series resistor between the battery (or rectifier diode(s) and the supply rail before the electrolytic filter capacitor, the approximate values (under no-signal conditions) being:

Model	Series Resistor	Reduced Voltages	
		Supply Rail	Junction R31/32 (Vm)
CC Audio Amplifier only	1000 ohms	12V	5.5V
H7 Audio Amplifier only	2000 ohms	6V	2.2V

Under no-signal conditions all voltages, except those shown above, will be roughly halved; the amplifiers will continue to operate with considerably reduced power of the output stage. If the amplifier does not operate, do not restore the full supply rail voltage until the fault has been rectified.

### DISMANTLING

- (1) Disconnect the power plug from the power point.

- (2) Check that the pickup arm is securely fastened to its rest.
- (3) Unclip the lid stay, swing the lid fully down and lift off hinges.
- (4) Remove two "Phillips" screws, one on either side of the handle, one from each side of the cabinet and the two **inner** hinge screws from the rear, then lift up the complete unit.

Speaker, mechanism and printed board are now accessible for inspection.