

# E R T SERVICE CHART 1701 PHILIPS N2500

**S**TEREO CASSETTE player with output suitable for twin channel stereo amplifier or audio section of stereo radiogram. Two pushbuttons for mains on/off and cassette ejection and single 4-position switch for rewind, play, stop and forward.

**Mains.** 110, 117, 200-250V AC, 50c/s (adjustable to 60c/s).

**Consumption.** 5W approximately.

**Transistors.** TR1, TR101 BC149/B or

BC148/B; TR2, TR102 BC148/B.

**Diodes.** D1, D2 OA81.

**Fuse.** FS1 thermal type.

**Outlet.** Plg 1, 5-pole 180 degrees DIN: Pin 3, left hand channel, Pin 5 right hand channel, Pin 2 common earth (screening).

**Output.** 1V approximately, 20K impedance.

**Frequency range.** 60c/s to 10kc/s.

**Tape system.** Compatible stereo/mono

Musicassette or recorded cassette, playback through external amplifying equipment.

**Tape speed.** 1 $\frac{7}{8}$ ips.

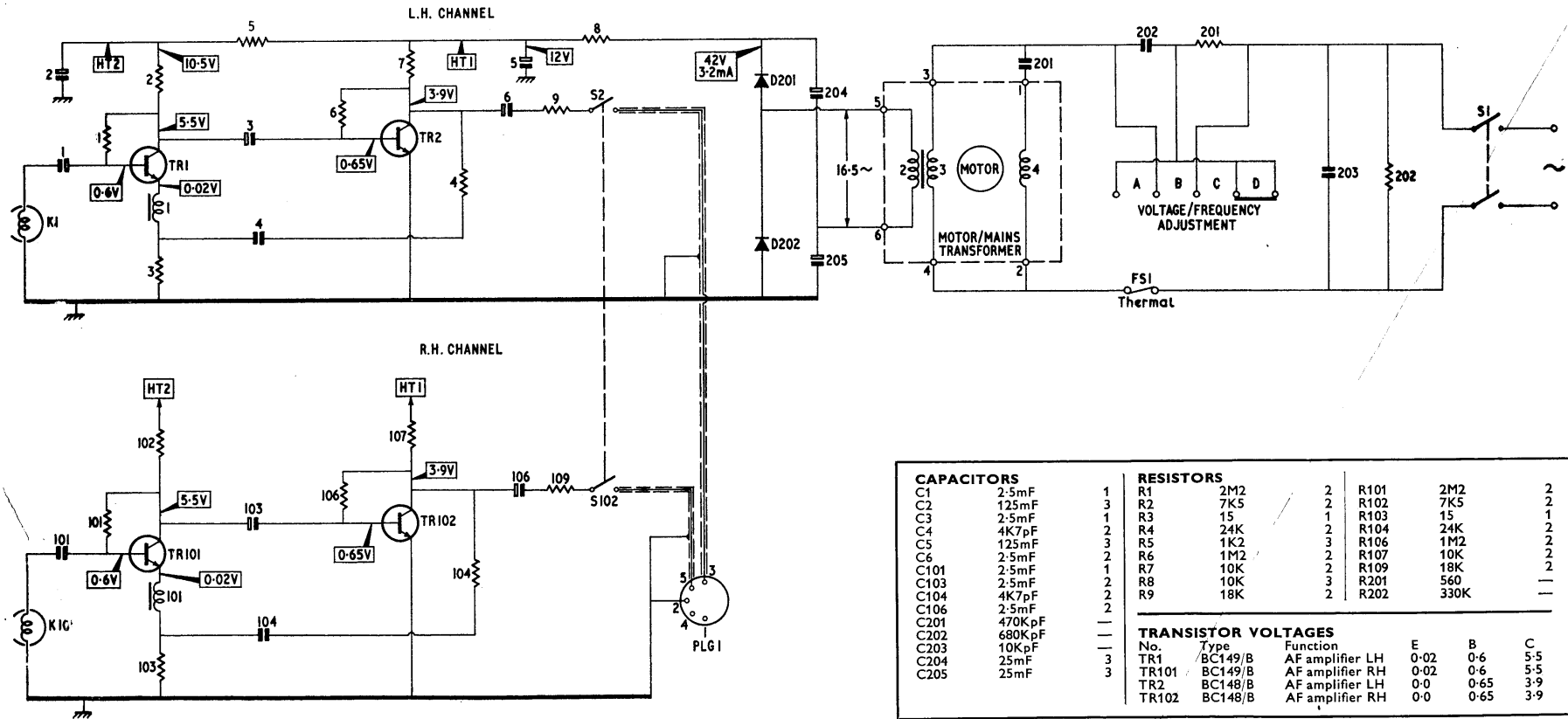
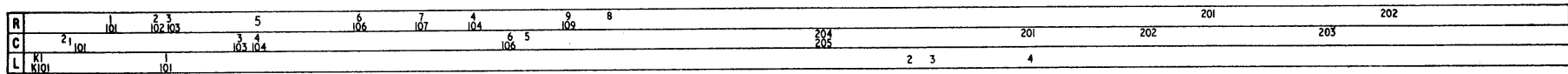
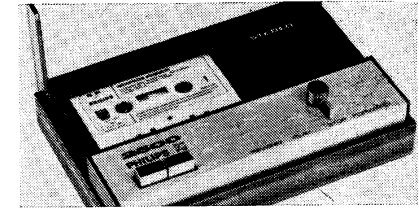
**Tape loading.** Philips compact cassette system.

**Tape width.** 0.15in., 3.81mm.

**Weight.** 2 $\frac{1}{2}$ lb.

**Dimensions.** 8 $\frac{3}{8}$  × 5 $\frac{3}{8}$  × 2 $\frac{7}{8}$ in.

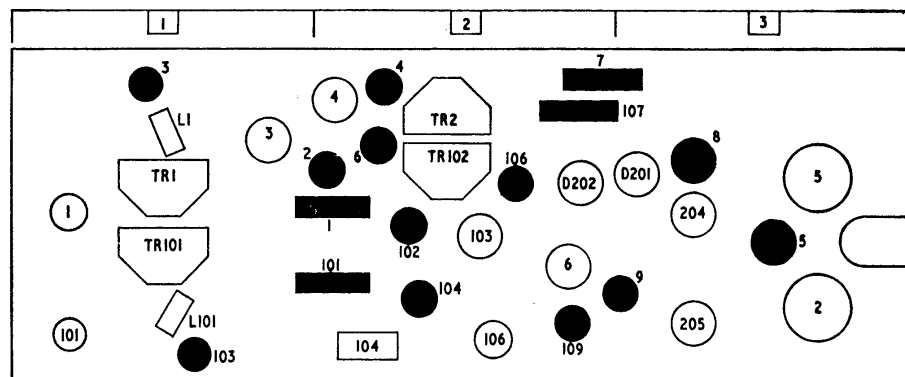
**Manufacturer.** Philips Electrical Ltd.



| CAPACITORS |        | RESISTORS |   |
|------------|--------|-----------|---|
| C1         | 2.5mF  | 1         | 2 |
| C2         | 125mF  | 3         | 2 |
| C3         | 2.5mF  | 1         | 2 |
| C4         | 4K7pF  | 2         | 2 |
| C5         | 125mF  | 3         | 2 |
| C6         | 2.5mF  | 2         | 2 |
| C101       | 2.5mF  | 1         | 2 |
| C103       | 2.5mF  | 2         | 2 |
| C104       | 4K7pF  | 2         | 2 |
| C106       | 2.5mF  | 2         | 2 |
| C201       | 470KpF | 1         | 2 |
| C202       | 680KpF | 1         | 2 |
| C203       | 10KpF  | 1         | 2 |
| C204       | 25mF   | 3         | 2 |
| C205       | 25mF   | 3         | 2 |

| TRANSISTOR VOLTAGES |         |                 |      |      |     |
|---------------------|---------|-----------------|------|------|-----|
| No.                 | Type    | Function        | E    | B    | C   |
| TR1                 | BC149/B | AF amplifier LH | 0.02 | 0.6  | 5.5 |
| TR101               | BC149/B | AF amplifier RH | 0.02 | 0.6  | 5.5 |
| TR2                 | BC148/B | AF amplifier LH | 0.0  | 0.65 | 3.9 |
| TR102               | BC148/B | AF amplifier RH | 0.0  | 0.65 | 3.9 |



**Service departments.** Combined Electronic Services Ltd, Queensway, Waddon Factory Estate, Croydon CR9 4DR. Tel: spares orders 01-686 7311; service enquiries 01-688 7722. After hours recorded messages on both lines. Telex 26308.

**DISMANTLING**

Remove rotary switch knob, unscrew four 3mm screws from bottom of cabinet and take off top and bottom mouldings, loosening cable clamp if necessary. All components are then accessible, but printed panels are easily detachable if further dismantling is required.

**SERVICE NOTES**

**Playback heads.** Insert cassette having pre-recorded steady tone of 4-6kc/s. Connect AC millivoltmeter to diode output at either S2 or Pin 3 of Plg 1 for adjustment on left hand channel, or S102 or Pin 5 of Plg 1 for adjustment on right hand channel. Adjust playback head to give maximum output, using screw to left hand of head, looking on face.

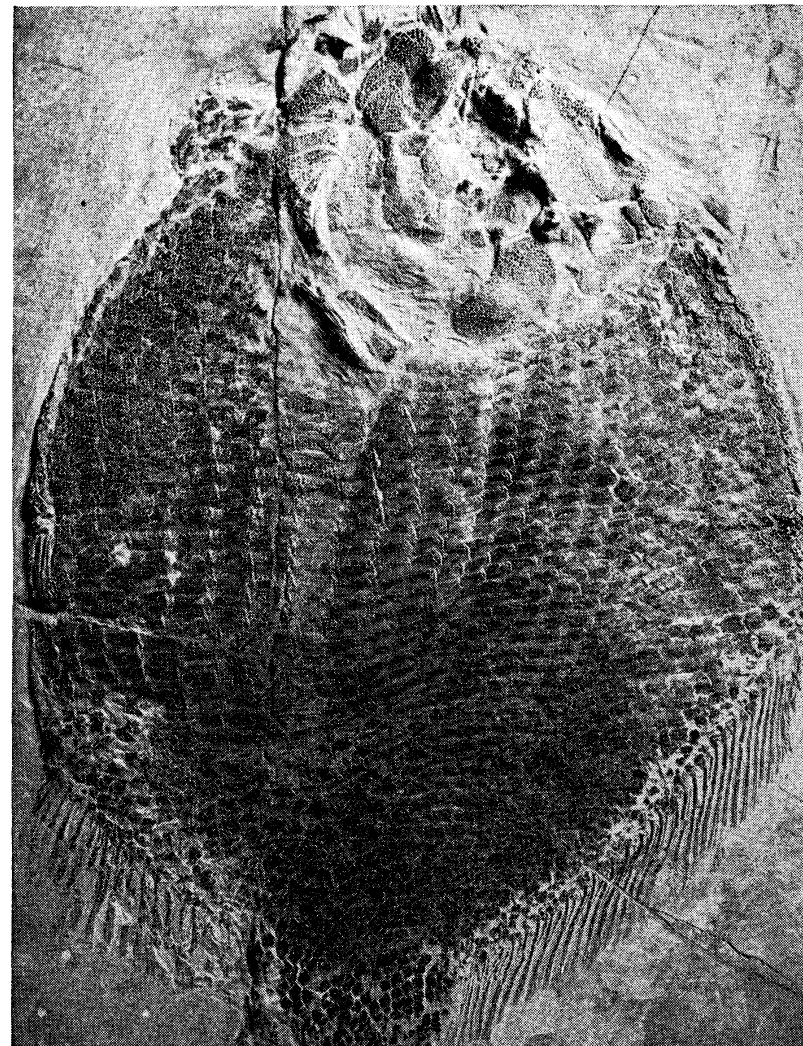
**Tape speed.** If a test tape with 800c/s signal modulated every 4.75m is available, play this through the machine and monitor output. Time between successive 800c/s signals should be between 97 and 103 seconds. Alternatively, a cassette with one short side cut away and edges smoothed may be used in conjunction with a tape strobe. The strobe is run in a loop pulled through the open side of the cassette. Speed should be 1 1/2 ips, or 4.75cm/sec. If tape speeds are not correct, check that for 50c/s mains supply the drive belt is in larger diameter groove

on motor pulley and smaller diameter groove on flywheel pulley. Check that force needed to pull pressure roller just clear of capstan is 290-350gm measured on roller bracket next to torsion spring slot. Force can be adjusted by fitting other end torsion spring into different hole. Check that flywheel and turntable rotate smoothly. Clean and lubricate if necessary. Check that drive belt is not dirty or greasy. Methylated spirit or industrial alcohol should be used if cleaning is needed.

**Frequency response.** For left hand channel replace chassis connection of K1 with a 100ohm resistor and across this resistor apply a 1kc/s signal via a 100K resistor. Connect an AC millivoltmeter between tags 3 and 2 of Plg 1 and switch to play. Adjust signal generator to give meter reading of 85mV, output of generator measured directly should be 40-60mV. Keeping input voltage constant, check output voltages at following frequencies:

| c/s    | mV      |
|--------|---------|
| 40     | 290-410 |
| 62.5   | 310-370 |
| 125    | 277-333 |
| 250    | 209-251 |
| 500    | 131-149 |
| 1000   | 85      |
| 2000   | 56-64   |
| 4000   | 47-57   |
| 8000   | 45-55   |
| 10,000 | 41-49   |

For right hand channel, procedure above is repeated with chassis connection of K101 replaced by 100ohm resistor and AC millivoltmeter connected to tags 5 and 2 of Plg 1.



From living animal to fossil takes nature many millenia. From receipt of your order for components to despatch takes us an average of some 40 minutes. One of the reasons why we have some 50,000 happy customers on our books is because there are no old fossils in our organisation.



**Radiospares**

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