# DYNATRON '100' Series, Models HFC100, HFC100A, HFC101, HFC101A, HFC102, 'Dorchester' HFC103, HFC104

**General Description:** These models are high fidelity instruments of advanced design incorporating the '100' series stereo amplifier and tuner/amplifier which is fitted with a multiplex decoder and will therefore reproduce stereo radio broadcasts without modification. A 'beacon' lamp shows when a stereo broadcast is being received. Reproduction of mono and stereo radio, records and tape recordings is accomplished via a dual-channel audio amplifier system.

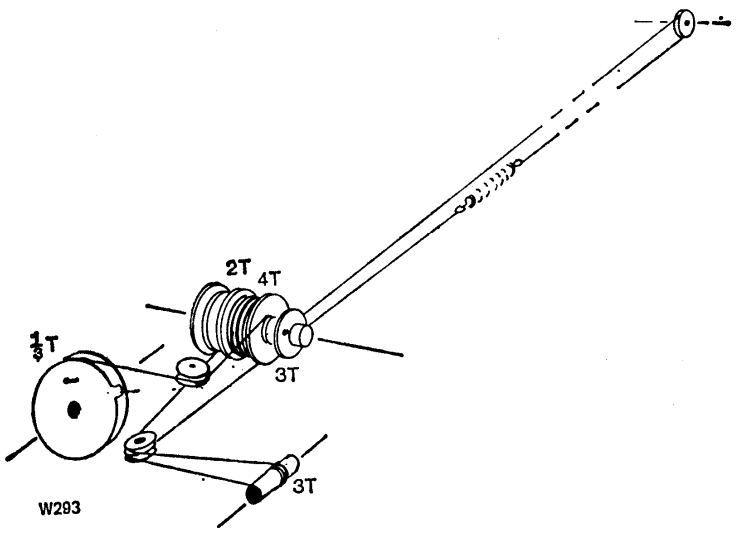
On models HFC100A, HFC101A, and HFC104 two extra speaker units may be connected for synthesized four-channel listening. (See 'Recent Developments'.)

The Goldring Lenco GL75 and GL78 record playing units fitted are equipped with specially selected magnetic cartridges of high quality, both the Goldring G800 and the Shure M55E cartridges being used.

Sockets are provided at the rear of the cabinet for connecting aerials, loudspeakers, etc., and there is also a mains outlet socket for the A.C. supply to auxiliary equipment.

Loudspeakers chosen from the Dynatron 8Ω range will complete the installation and a socket is provided for the connection of stereo headphones of 8–16Ω impedance.

**Models HFC103 and HFC104 Only:** The cassette record/playback tape deck fitted is designed to enable recordings to be made from microphone, radio, or record sources and for playing back pre-recorded cassettes. Earlier




(W293) Drive Cord (Models HFC101/101A/104)—'100' Series

Model HFC103's were fitted with the Philips N2505/10 Deck whereas later HFC103 and all HFC104 models are fitted with the Philips N2505/51 Deck with DNL (Dynamic Noise Limiter).

**Mains Supplies:** 220–240V, 50Hz.

**External Mains Fuse:** 1·6A (F).

**Internal Fuses:** Power Amplifiers (2) 1·6A(F)20×5mm. Models HFC100, HFC101, HFC102, and HFC103.

**Internal Fuses:** Power Amplifiers (2) 2·5A(F)20×5mm. Models HFC 100A, HFC101A, and HFC104.

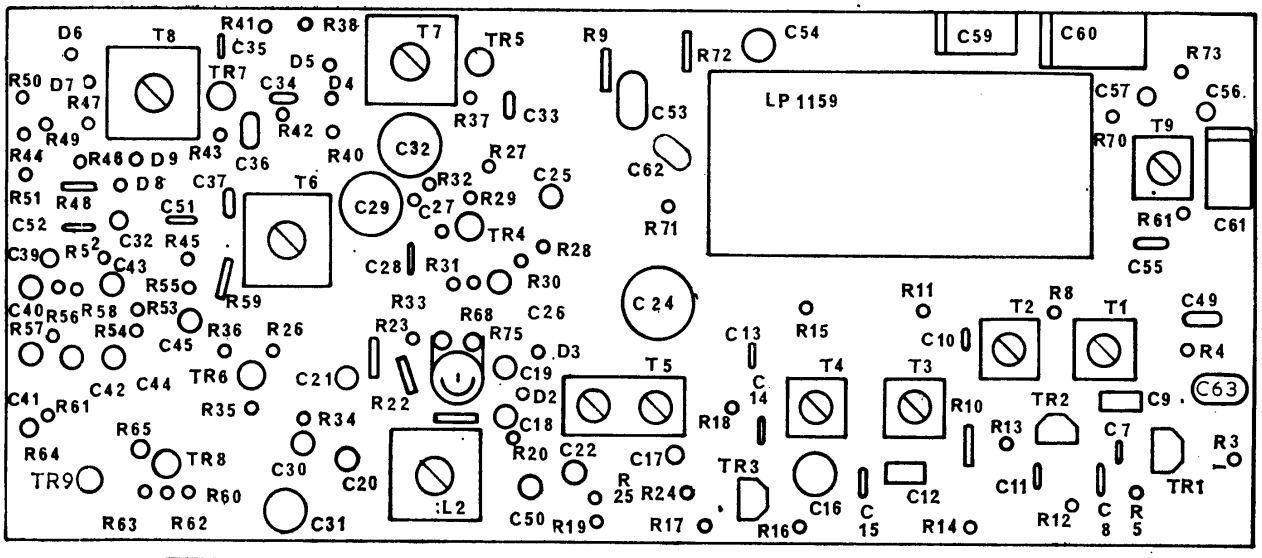
**Tuning Range:** Models HFC101, HFC101A, HFC104. Manual 87·5—108MHz. Models HCF102, HFC103. Preset 87—104MHz. M.W. 185—570m, 1,620—525kHz. L.W. 1,100—2,000m. 150—270kHz.

**Input Sensitivity at 1kHz:** For an output of 45W r.m.s. into 8Ω load: Radio: 165mV (6V Max.); Tape Replay: 165mV (6V Max.); Phono Magnetic: 2·4mV (100mV Max.).

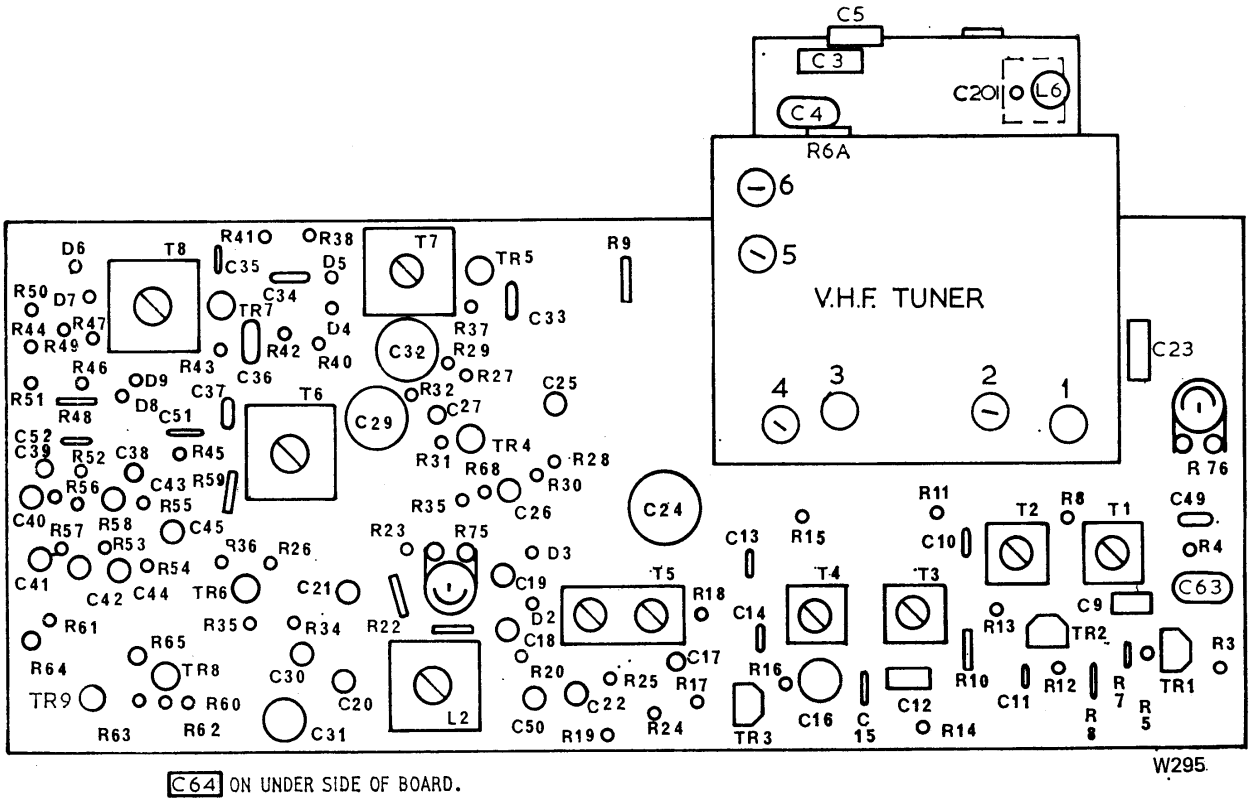
**Input Impedances:** Radio: 230kΩ; Tape Replay: 230kΩ; Phono Magnetic: 47kΩ.

**Tape Recording Output: Socket 1:** 165mV via 22kΩ (6V max. @ 1kHz); **Socket 2:** 165mV via 68kΩ (6V max. @ 1kHz).

**Headphone Jack Socket:** 8—16Ω, 6mm dia.




(W294) Component Layout (I.F. Unit)—Models HFC101/101A/104




(W295) Component Layout (I.F. Unit)—Models HFC102/103

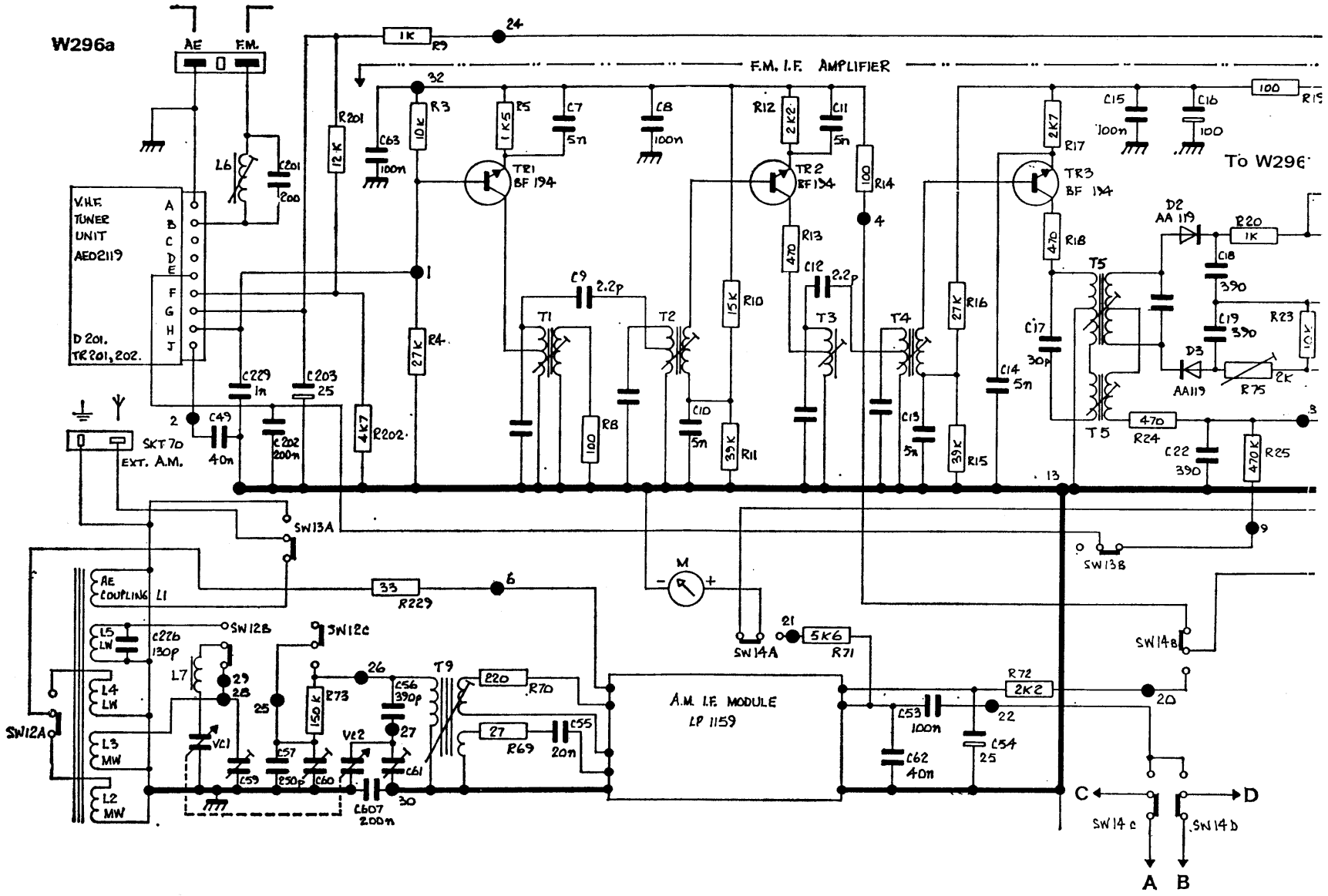
## Rated Power Output R.M.S. Watts:

| *Load* Ω | *Single channel operating* | *Both channels operating* |
|---|---|---|
| 4 | 60W | 50+50W |
| 8 | 55W | 45+45W |
| 16 | 32W | 25+25W |

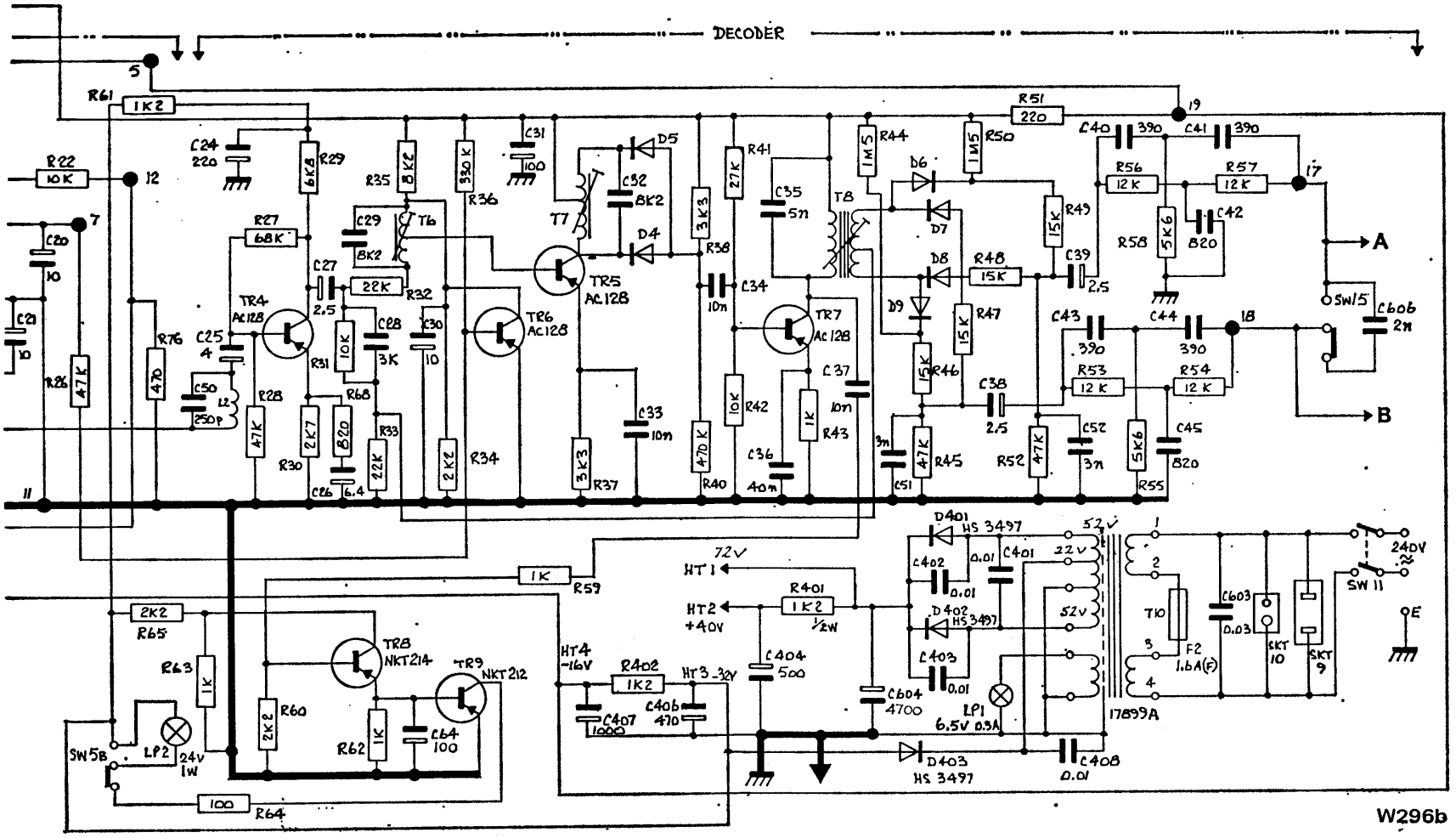
## Rear Panel Connections

**Models HFC101, HFC101A, HFC102, HFC103, and HFC104:** Tape 2 Socket is for the connection of external tape recorders which have on record a low impedance input (17kΩ–5kΩ) with a high sensitivity in the order of 2mV, and on playback provide an output signal greater than 500mV. This socket is therefore suitable for connection to those tape recorders, in particular cassette type units, where the microphone socket also acts as the radio/amplifier I.P. socket, or where the microphone and separate I.P. sockets are wired in parallel.

Tape 1 socket is a direct connection to and from the amplifier, it is therefore suitable for connection to the majority of High-Fidelity tape recorders where the I.P./O.P. DIN socket is marked RADIO or DIODE I.P./O.P. e.g. where the output signal from the tape recorder is of the order of 100—500mV and the input required is approximately 150mV. On Model HFC100, 100A this socket is marked 'Tape In/Out'.




(W296a) Circuit Diagram (Tuner and I.F. Stages)—Models HFC101/101A/104




(W296b) Circuit Diagram (Decoder and Power Stages)—'100' Series

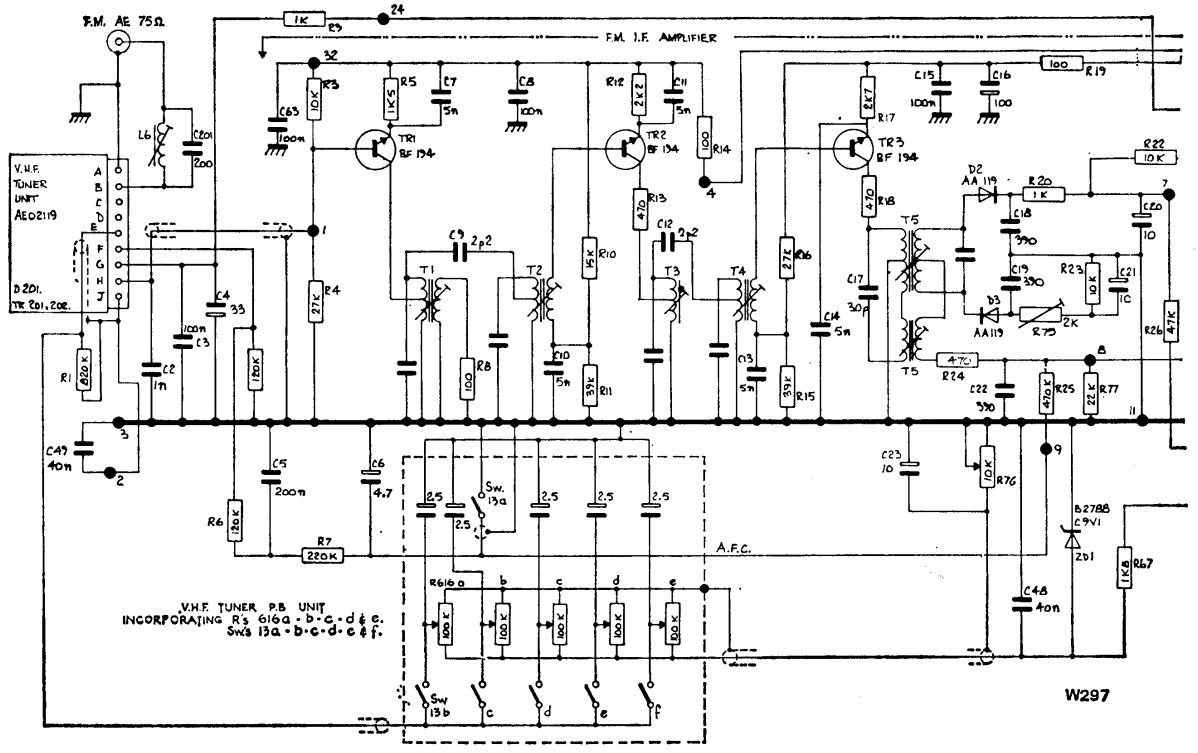
Radio in socket (Model HFC100, 100A). This socket is a high impedance input socket for the connection of an external radio tuner with an output level of ideally 156mV, but suitable for levels from 100mV—2V.

**Using an External Tape Recorder:** The tape recorder should be connected via a 5 pin DIN pattern plug to the socket marked 'Tape 1' or 'Tape 2' on Model HFC101, HFC101A, HFC102, HFC103 and HFC104, or socket 'Tape in/out' on Models HFC100 and HFC100A.

'Tape 1' or 'Tape in/out' socket is a direct connection to and from the amplifier and is therefore suitable for connection to most high fidelity tape recorders where the output signal is in order of 100—500mV and the input required is approximately 150mV.

'Tape 2' socket is for the connection of tape recorders having a low impedance input on record (1—5kΩ) with a high sensitivity in the order of 2mV, and which on playback provide an output signal greater than 500mV.

When **Recording** from the '100' series instruments, the output signals from the tape sockets are independent of volume and tone control settings and the recording level should be adjusted using the tape recorder recording level control.



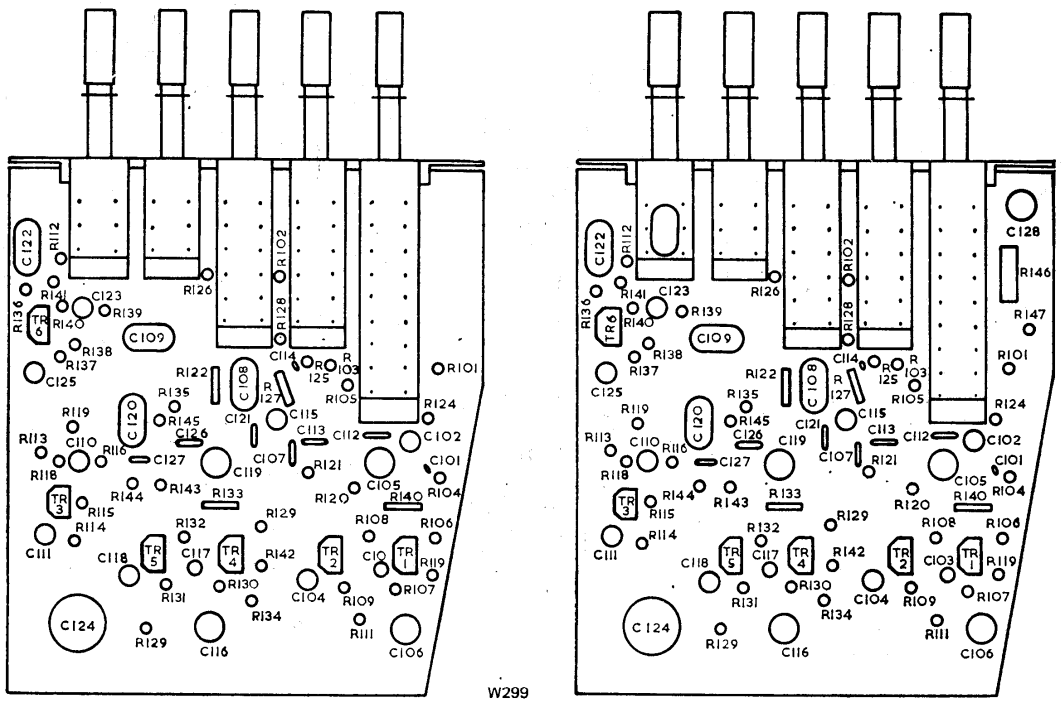

(W297) Circuit Diagram (Tuner and I.F. Stages)—Models HFC102/103

When **Replaying** a tape recorder through a 100 series instrument the selector button should be depressed and the volume and tone controls adjusted for loudness and tonal balance to suit requirements. The mains outlet socket at the rear of the Dynatron instrument will conveniently provide mains power for operating an external tape recorder.

## Dismantling

**Chassis Removal:** To remove chassis first release the motor board by removing the four screws in the top, and with models HFC103 and HFC104 only, two additional screws at the rear of the cabinet which screw into the rear edge of the motor board.

Lift rear edge of the board first to release the 'D' clip at the front, then raise the board sufficiently to permit the connecting leads to be unplugged and, in the case of models HFC103 and HFC104, it is necessary to disconnect the supply lead to the interior cabinet light from the terminal block on the Lenco motor. Then lift the motor board clear of the cabinet. Models HFC400, HFC100A, HFC101, HFC101A, and HFC102. Remove the four screws from the underside of the cabinet and slide the chassis out through the front.



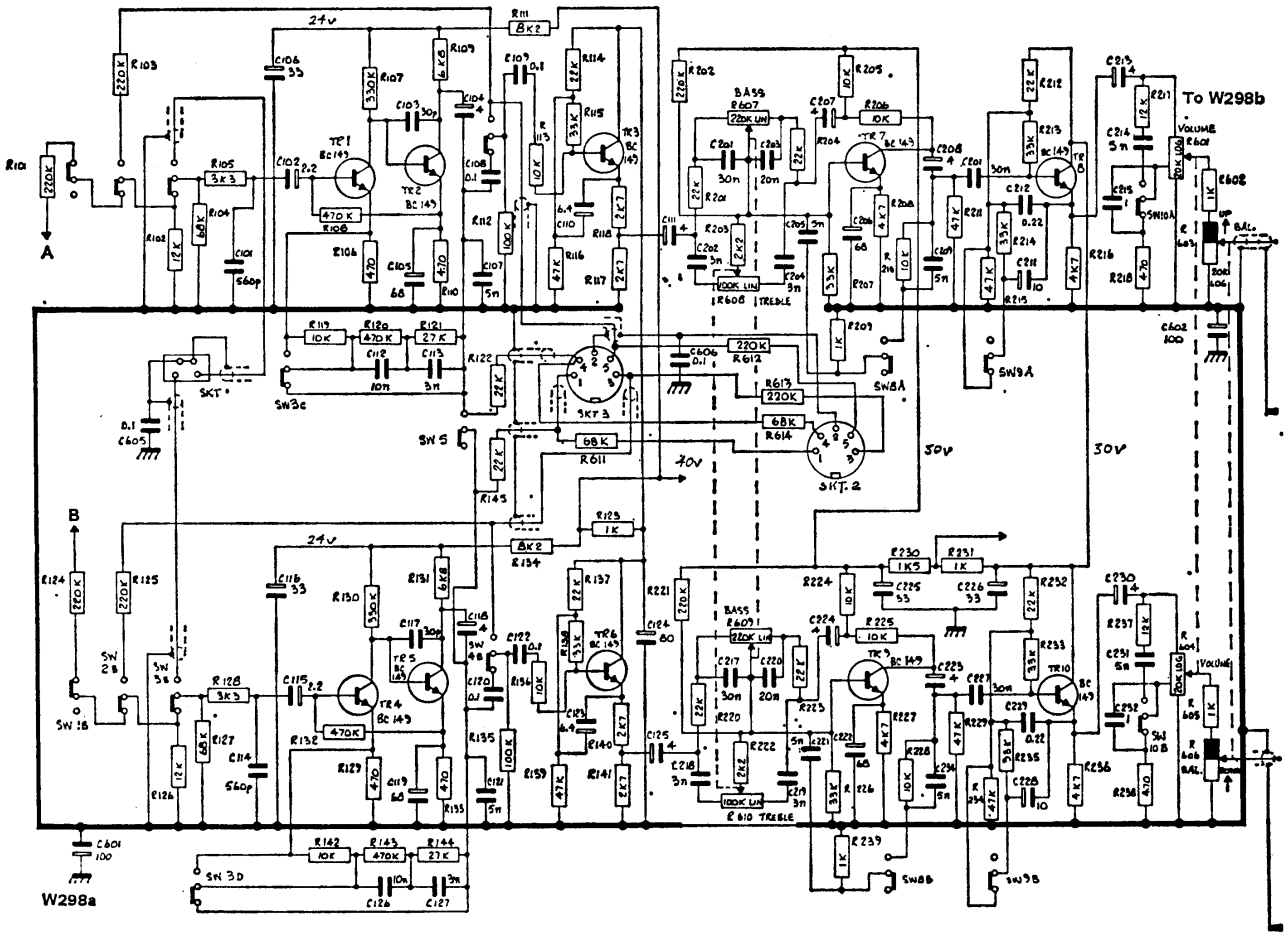

INPUT SELECTOR
MODEL Nos. HFC 100 & HFC 100A.

INPUT SELECTOR
MODEL Nos. HFC 101, HFC 101A, HFC 102, HFC 103 & HFC 104.

(W299) COMPONENT LAYOUT (INPUT SELECTORS)—'100' SERIES

Models HFC103 and HFC104. Remove the two drawer stops from the underside of the cabinet. Unplug the tape unit mains supply and audio leads from the rear of the chassis, remove the two drawers and then, after releasing the four screws from the underside of the chassis, withdraw the chassis forward.

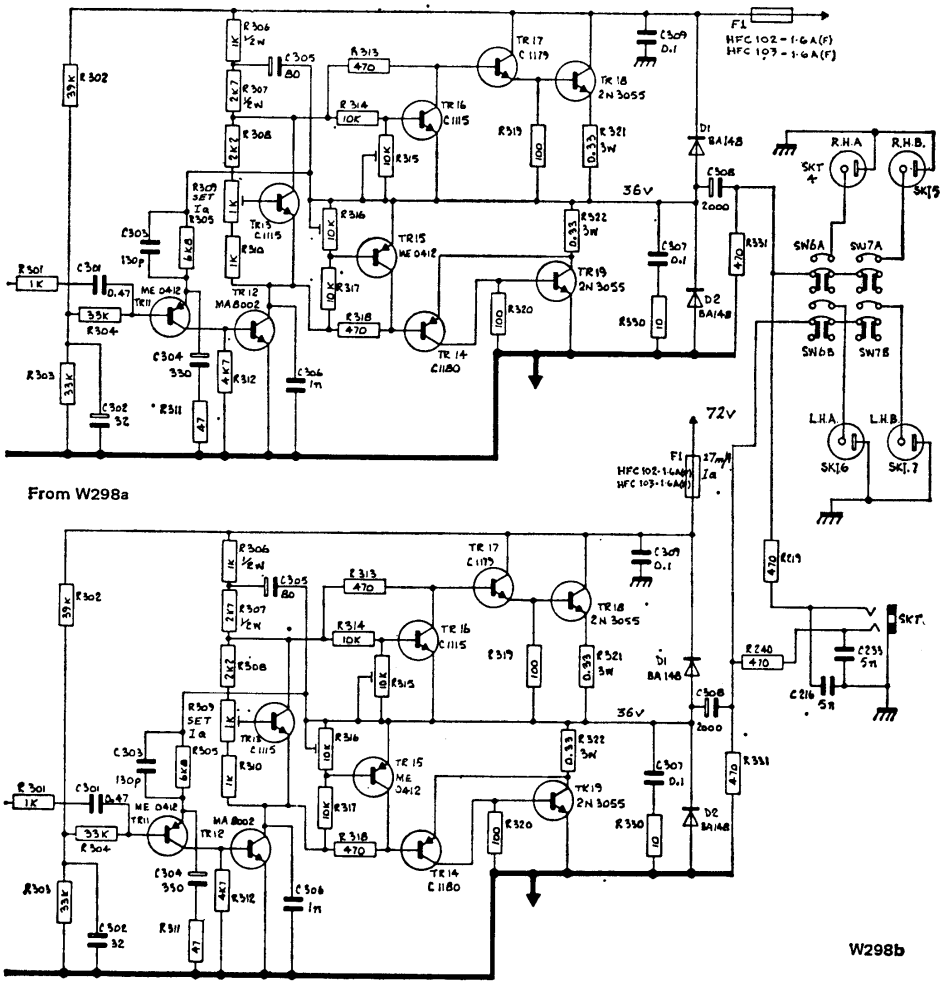
**Removal of Front Panel:** Remove chassis from cabinet. Pull off slider knobs and tuning knob where fitted, unscrew jack socket lock ring. Locate and



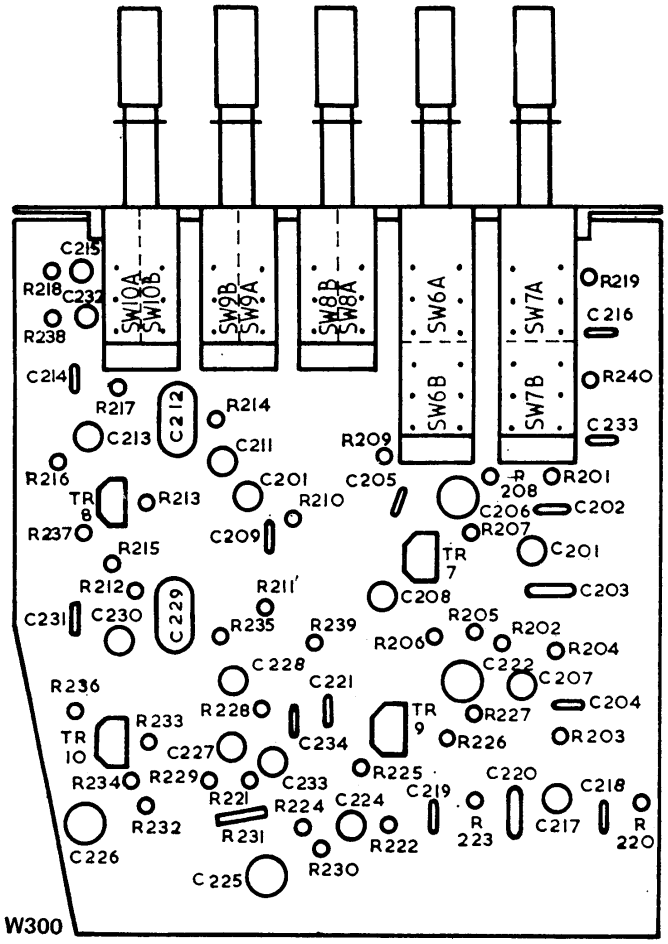

(W298a) Circuit Diagram (A.F. Stages)—'100' Series (*Part*)

remove three self-tapping screws along top and bottom edges of extrusion. Re-assemble in reverse order.

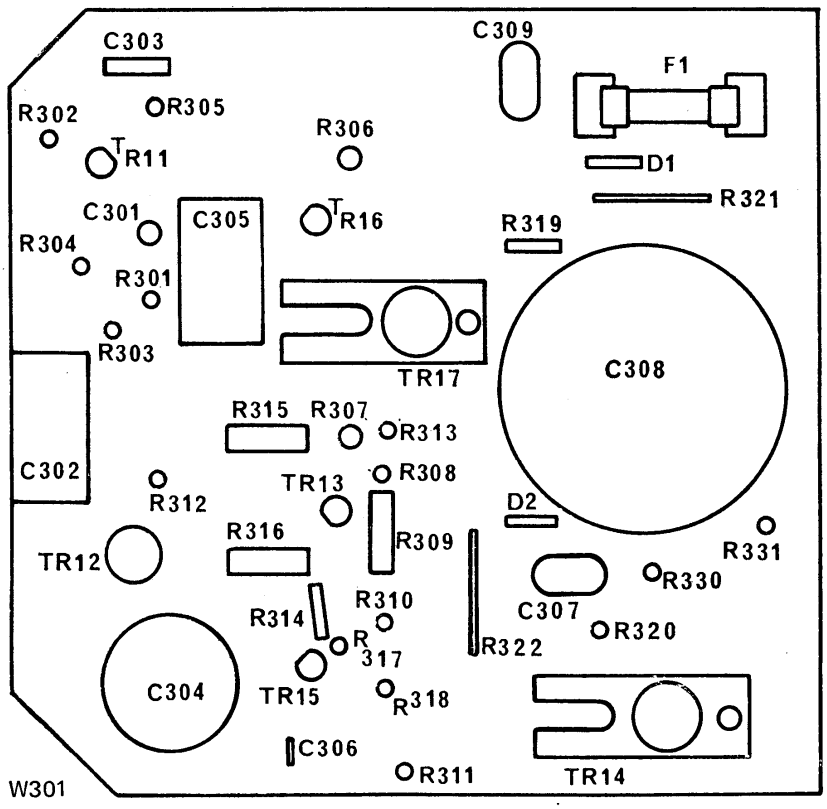
**Removal of Tuning Scale—Models HFC101, HFC101A, and HFC104:** Remove front panel as above. Locate drum on rear of tuning pointer spindle and hold to prevent rotating. Unscrew pointer clamp from spindle. Remove self-tapping screws holding 'U' channel scale clamp pieces. Remove scale. Re-assemble in reverse order.




(W298b) CIRCUIT DIAGRAM (A.F. STAGES)—'100' SERIES (*Continued*)




(W300) Component Layout (Tone Control Panel)—'100' Series




(W301) Component Layout (A.F. Amplifier Panel)—'100' Series