

ALBA 5601, 5701

mono radiograms



Model 5701

RELEASE DATES AND ORIGINAL PRICES

5601: August 1961; 49!gn
5701: August 1961; 53gn

These two radiograms are designed to operate from a.c. mains supplies of 200V to 250V 50c/s. The difference between the 5601 and the 5701 lies in the cabinets, the 5601 having a sapele mahogany matt finish with wooden legs, and the 5701 African walnut veneers and metal legs.

Coverage

The receivers cover 194m to 550m on medium waves, 1100m to 2000m on long waves, and from 100Mc/s to 87Mc/s on v.h.f./f.m. Waveband and gram selection is by means of four push-buttons centrally positioned below the tuning scales on the front of the cabinet.

The auto-changer unit incorporated is designed to play all mono 78rev/min, 45rev/min, 33rev/min and 16rev/min records. The audio output is about 4W maximum on all functions.

Valves

The valves used are UCC85 (f.m. r.f. amplifier and frequency-changer); UCH81 (a.m. frequency-changer and first f.m. i.f. amplifier); UF89 (second f.m. and first a.m. i.f. amp.); UABC80 (f.m. ratio detector and a.m. detector, and audio amplifier); UL84 (audio output); UY85 (h.t. rectifier).

DISMANTLING

To remove the tuning-scale, first

pull off the knobs. Take out the four screws on the underside of the brass strip at the base of the tuning-scale and it can then be taken out.

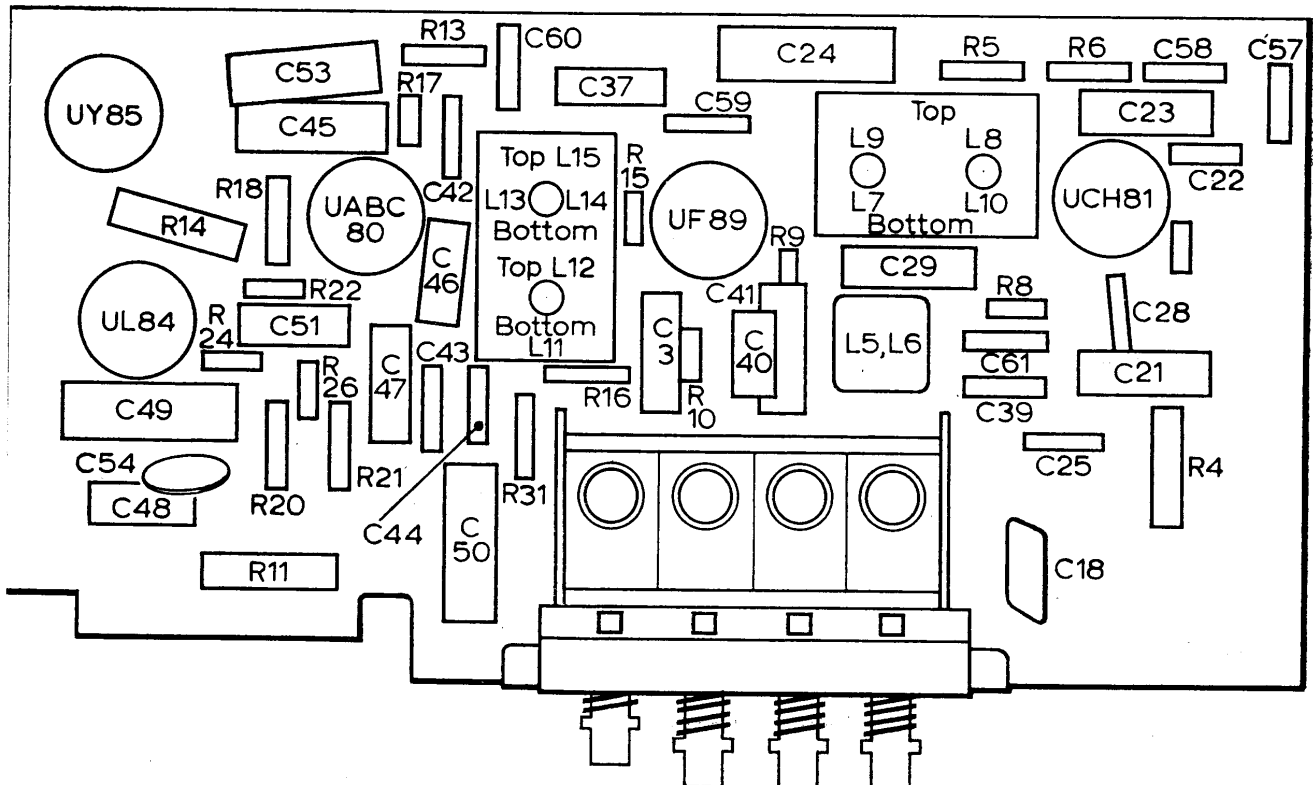


Fig. 1—Layout of the parts on the printed panel of the receiver. The four push-buttons select l.w., m.w., v.h.f. and gram. Test-point 1 is located immediately below C47 (on this layout diagram), and test-point 2 is immediately below C42. These points are used in the alignment of the f.m. sections.

F.M. TUNER UNIT

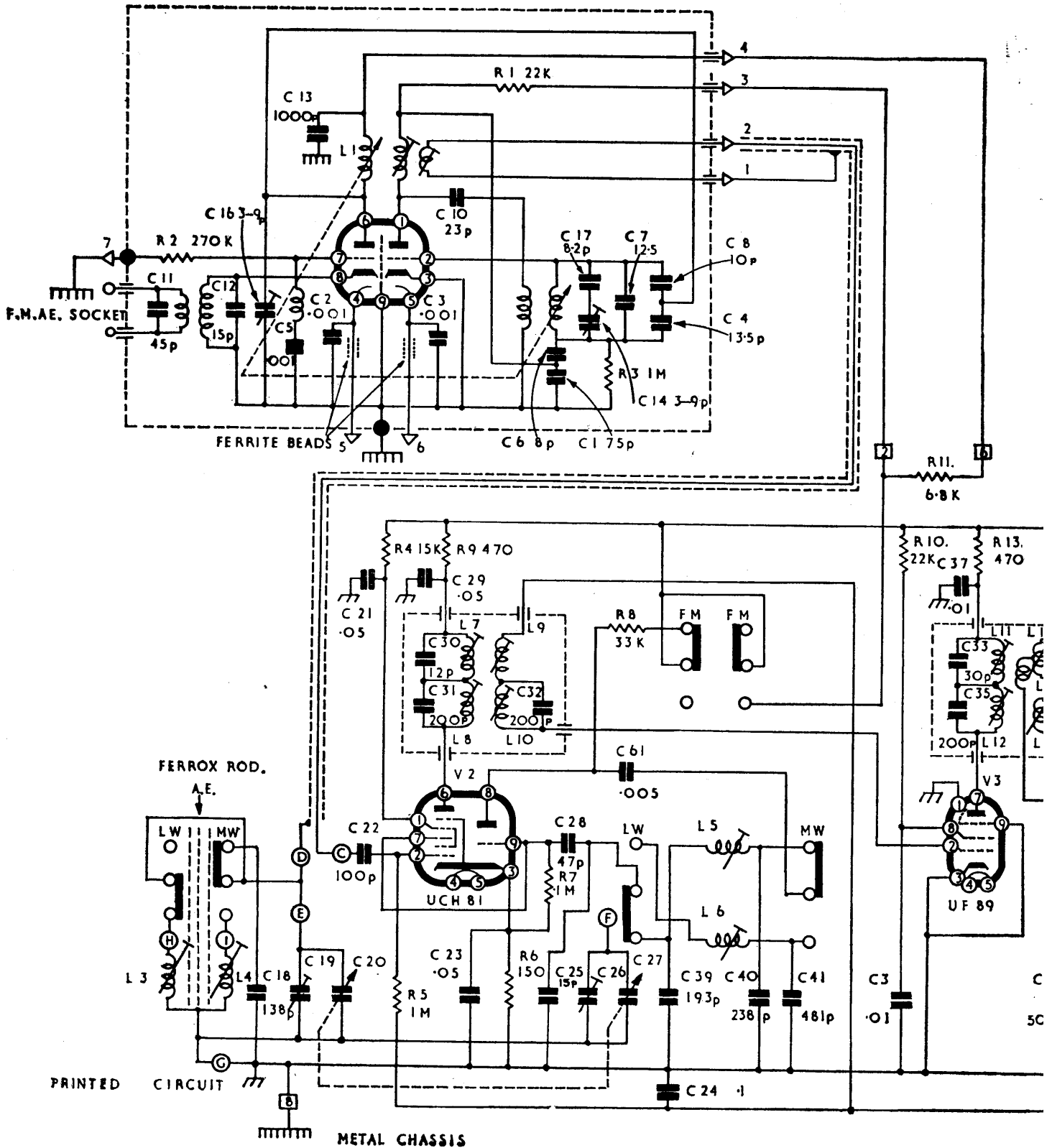
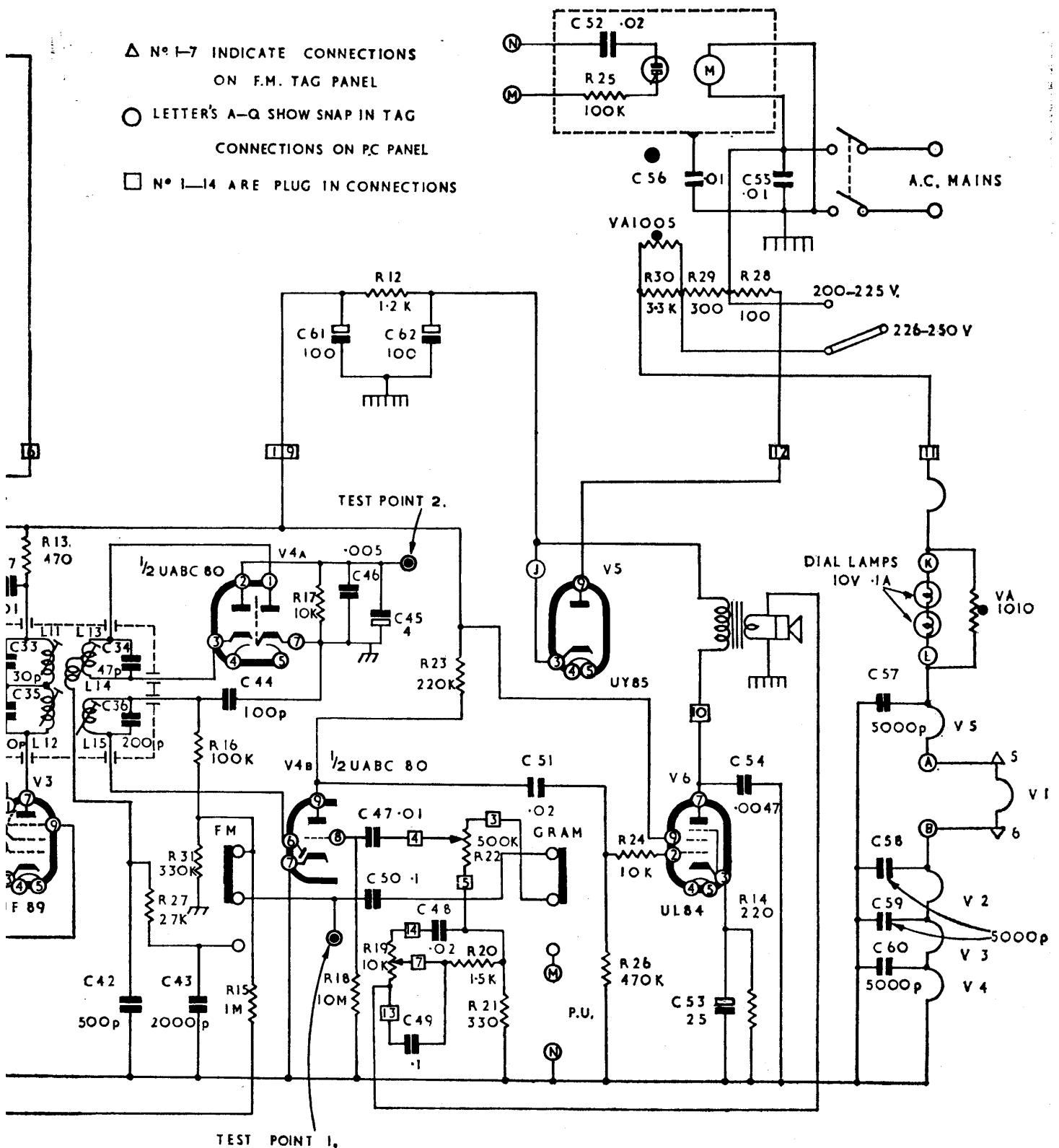


Fig. 2—The circuit diagram. Valve V1 is a UCC85 and functions as the f.m. r.f. amplifier and frequency-changer; V2 is a UCH81 (a.m. frequency-changer and first f.m. i.f. amplifier); V3 is a UF89 (second f.m. and first a.m. i.f. amplifier); V4 is a UABC80 (f.m. ratio detector, a.m. detector and audio pre-amplifier); V5 is a UL84 (audio output); V6 is a UY85 (h.t. rectifier).

Removal of printed-panel

To remove the printed-panel, first remove the radio back-panel, the aerial panel and the cable-clamp. The four retaining-screws (one in each



corner) should then be withdrawn allowing the panel to be pulled out to the rear. When doing this, take care that the various connections to the printed-panel

(by flying leads) are not broken off.

Auto-changer unit

To remove the auto-changer unit, remove the back of the cabinet and

release the transit-bolts. These bolts have turn-over clips which should be turned parallel to the bolts to allow the auto-changer unit to be withdrawn completely.

The auto-changer drawer is locked in the 'down' position by the upright angle-bar on the right of the unit—this retains the pick-up arm in position when the drawer is closed.

Removal of the chassis complete

Should it be necessary to remove the chassis complete, take off the backs of both the radio and auto-changer compartments and release the two retaining-bolts.

ALIGNMENT PROCEDURE

Equipment needed

A signal generator covering m.w., l.w., 470kc/s, 10.7Mc/s and 87Mc/s to 100Mc/s will be required. The signals should be modulated to 30% at 400c/s.

Output levels

First, either connect an a.c. voltmeter across the speech coil of the loudspeaker or replace the loudspeaker with an output meter. During the alignment procedure, keep the level of the signal injected such that the audio output from the receiver is about 50mW.

I.F. stages (A.M.)

Switch the receiver to m.w. and turn the tuning capacitor to the position of maximum capacity (vaner fully meshed). Inject a signal at 470kc/s into the grid circuit of V2—in other words, to pin 2 of V2, or to connection No. 2 on the f.m. tuner unit.

Short out the oscillator section of the tuning capacitor (C27) and adjust the cores of L12, L15, L8 and L10 for maximum output—note that where two tuning-peaks are encountered, the outer is the correct one.

Repeat these adjustments until no further improvement results.

R.F. stages (A.M.)

Turn the tuning capacitor to its fully-meshed position and check that the shorter leg of the tuning-pointer lines up with the 'Start' dot on the scale pan, as shown in Fig. 3 on this page.

Remove the short-circuit placed across C27 during the a.m. i.f. alignment and couple the signal generator to some six turns of insulated wire wound to a diameter of about 10in. Insert a resistor in series with the output from the generator—about 470Ω. Position the coupling coil on the axis of the ferrite rod of the receiver about 12in to 24in away from it.

Inject a modulated signal at 600kc/s and tune the receiver to the 500m mark on the scale-pan. Adjust the core of the m.w. oscillator coil L5 (bottom

core) for maximum output and then adjust the position of the m.w. aerial coil L3 on the ferrite rod for maximum output.

Repeat these two adjustments (to L5 and L3) until no further improvement results.

Inject a signal at 1500kc/s and tune the receiver to the 200m mark on the scale-pan. Adjust the oscillator trimmer capacitor C26 and the r.f. trimmer capacitor C19 for maximum output (both these trimmers are on the two-gang tuning capacitor).

Repeat the two earlier adjustments to L5 and L3 at 600kc/s and then the adjustments to C26 and C19 at 1500kc/s until no further improvements result.

L.W. alignment

Switch the receiver to l.w. and inject a signal at 200kc/s. Tune the receiver to the 200kc/s mark on the scale-pan. Adjust the l.w. oscillator coil L6 (top core) and the position of the l.w. aerial coil L4 on the ferrite rod for maximum output.

Repeat these two adjustments for optimum results. Then disconnect the signal generator and check the calibration on the l.w. Light Programme on 200kc/s.

I.F. stages (F.M.)

Check that the neutral of the mains supply is connected to chassis if a

1:1 mains-isolating transformer is not being used and connect a 50μA or similar microammeter between test-point 2 and chassis, using a 100kΩ resistor in series with the negative lead of the meter (the one connected to test-point 2).

Switch the receiver to f.m. and inject a signal at 10.7Mc/s to pin 2 (grid) of the UCH81 (V2). Adjust the cores of L7, L9 and L11 for maximum output and note the reading on the meter. Connect the meter between test-point 1 and chassis and adjust the core of L13/L14 to give a reading which is half that obtained at test-point 2.

Repeat the above adjustments (to L7, L9, L11 and L13/L14) for optimum results.

R.F. stages (F.M.)

Open the tuning capacitor fully and check that the grub-screw on the spindle of the f.m. tuner rests against the front (horizontal) stop. Check that when a signal at 93.5Mc/s is injected into the f.m. aerial sockets, and the receiver is tuned to it, the pointer is opposite the 93.5Mc/s calibration-dot on the scale-pan; an error of $\pm \frac{1}{16}$ in is permissible. Disconnect the signal generator and connect an f.m. aerial. Check the calibration against the received stations and adjust the trimmers C16 and C14 if necessary.

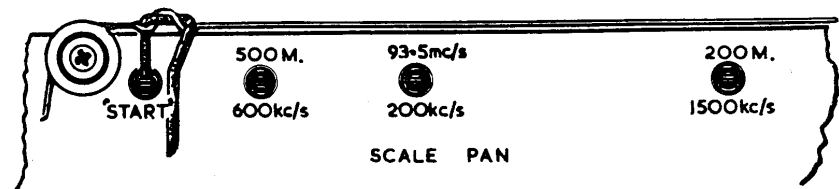


Fig. 3 (above)—The arrangement of the calibration marks on the scale-pan. Note that the shorter limb of the pointer is used for calibration.

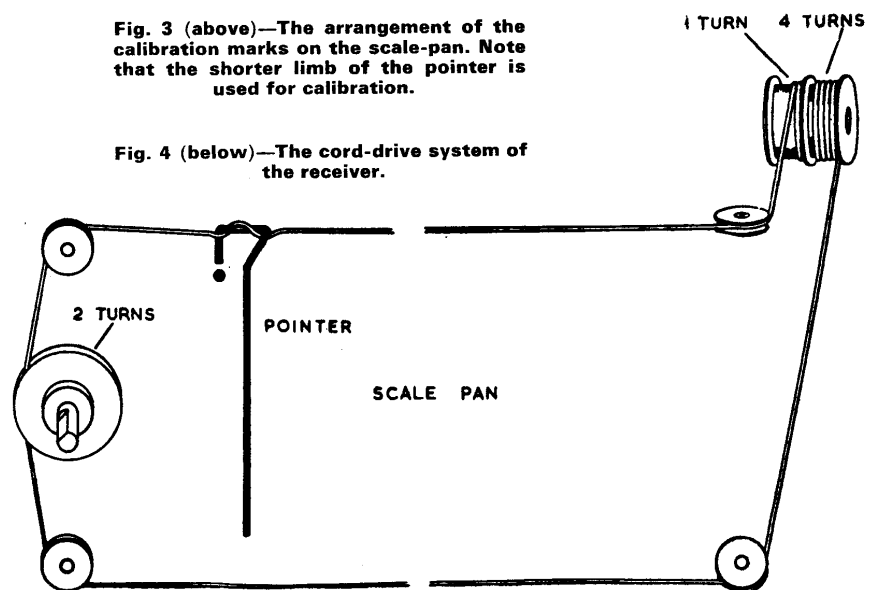


Fig. 4 (below)—The cord-drive system of the receiver.