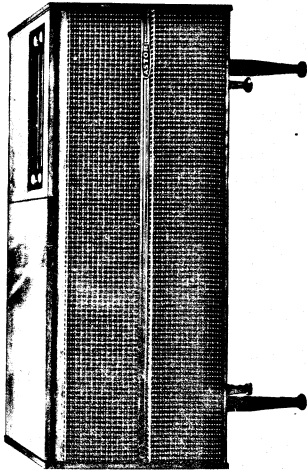


SERVICE DATA
ASTOR MODEL "G3X"
STEREOGRAM-RADIO

An automatic four speed record changer and a five valve broadcast band radio receiver.



- (f) Identify pick-up leads then unplug from chassis sockets.
- (g) Disconnect record changer mains and chassis leads from chassis junction block.
- (h) Unplug external aerial and earth lead pins from chassis sockets.
- (i) Remove the four screws fastening chassis to rear of cabinet front.
- (j) Support chassis and remove from cabinet.
- (k) Refitting is the reverse procedure to removal.

REPLACEMENT OF DIAL READING

3.
 - (a) Remove rear panel from receiver end of cabinet.
 - (b) Pull off the four control knobs.
 - (c) Remove the two jack sockets from the dial reading.
 - (d) Unplug external aerial and earth lead pins from chassis sockets.
 - (e) Remove four screws fastening dial background to cabinet top.
 - (f) Remove four screws fastening chassis to rear of cabinet front.
 - (g) Lower the chassis to floor of cabinet.
 - (h) Remove screws from dial reading support then lift support and dial reading out of cabinet.
 - (i) Refitting is reverse procedure to removal.

CAUTION: Disconnect power plug from mains socket before making adjustments inside the cabinet.

CHASSIS SERIAL NUMBER

To view the number, remove rear panel from receiver end of cabinet. The number is located near the left hand end on the underside of the chassis section which forms the dial background.

ACCESS TO CHASSIS

1.
 - (a) Remove rear panel from receiver end of cabinet.
 - (b) Most service adjustments may be performed with the chassis retained in this position.

REMOVAL OF CHASSIS

2.
 - (a) Remove rear panel from receiver end of cabinet.
 - (b) Pull off the four control knobs.
 - (c) Remove the two jack sockets from the dial reading.
 - (d) Remove the four screws fastening dial background to cabinet top.
 - (e) Identify leads then unplug speaker lead plugs from chassis sockets.

REMOVAL OF RECORD CHANGER

4.
 - (a) Remove rear panels from both sides of cabinet.
 - (b) Identify leads then remove pick-up lead plugs from chassis sockets.
 - (c) Disconnect record changer chassis and mains leads from chassis junction block.
 - (d) Rotate changer transport screws clockwise then from beneath motor board remove the rubber split washers from above retaining clips.
 - (e) Turn retaining clips to the vertical position then lift changer out of cabinet.
 - (f) Refitting is the reverse procedure to removal.

TRANSPORTING THE UNIT

5.
 - (a) Before transporting the receiver, the record changer transit screws must be turned fully anti-clockwise until unit mount plate is firm against mount board.
 - (b) Check that unit has completed the play cycle and returned to the "OFF" position. The pick-up arm is then automatically locked in the rest position.
 - (c) Press overarm downward at pivot end then turn arm anti-clockwise to the lock position.
 - (d) Before use turn overarm clockwise to unlock and turn the transit screws fully clockwise to free changer suspension.

ALIGNMENT EQUIPMENT

R.F. Signal Gen - modulated 400 cps
 Output Meter - 15 ohm imped.
 .01mf Capacitor - Part No.4003-031-02

Alignment Tools: -

Blade tip type, Part No.4121-015-01
 (trim caps, adj. and IFT core adj.)
 Flexible rod type Part No.4121-018-01
 (osc. core adj.)
 I.F. Attenuator Part No.4121-007-02

ALIGNMENT CONDITIONS

The chassis does not have to be removed from the cabinet for alignment purposes; refer paragraph:
 ACCESS TO CHASSIS.
 Function Switch - Radio position
 Volume Control - Max.vol. (fully clockwise)
 Tone Control - Max.treble (fully clockwise)
 Balance Control - Mid position
 Output Level - 50 milliwatts
 Output Meter - Across sec. of one output transformer
 Connection - Speaker voice coil disconnected.

INTERMEDIATE FREQUENCY TRANSFORMER ALIGNMENT

IMPORTANT: Maximum output peaks will be obtained at two positions of transformer cores. Correct setting is where cores are furthest apart.

Oper. No.	R.F. Sig. Gen. Connection	Generator Frequency	Instructions
1.	.01mf cond. in series to grid end of rod aerial.	455 Kc/s	Turn tuning control to HF end of travel. Peak 2nd IFT. pri. and sec. cores for max.
2.	As oper. 1	455 Kc/s	Peak 1st IFT pri. & sec. cores for max.

DIAL POINTER SETTING

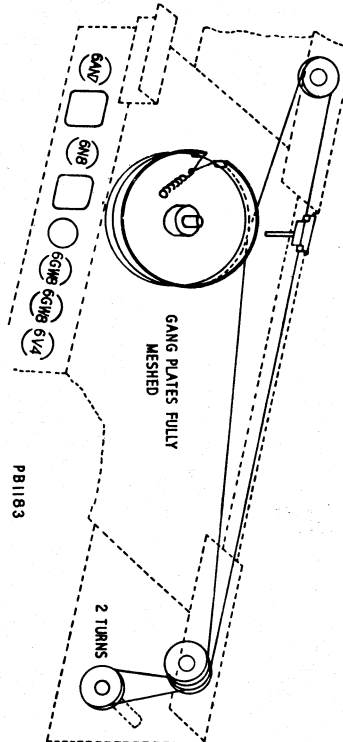
Turn tuning capacitor to L.F. end of travel; plates fully meshed. Set centre of dial pointer on centre of end of travel spot at end of dial.

BROADCAST ALIGNMENT

- To inject a signal into rod aerial, connect to Sig. Gen. active terminal approx. two feet of aerial wire, then fashion wire to a vertical position.
- Place vertical wire in line with, and not less than 1 ft. from inductance trimmer end of rod aerial.
- Connect IF attenuator between pin 2 of 6N8 socket and chassis.

Oper. No.	R.F. Sig. Gen. Connection	Generator Frequency	Instructions
1.	Refer para. A & B.	600 Kc/s	Turn tuning gang and dial pointer to 600 Kc/s dial mark. Leave gang and pointer set in this position. Adjust oscil. coil core and rod aerial ind. trim (metal ring) for max. output.
2.	Refer para. A & B.	1400 Kc/s	Turn tuning gang and pointer to 1400 Kc/s dial mark. Adjust oscil. and aerial trimmer capacitors for max. output.
3.	Repeat operations 1 and 2.		Tuning range after alignment 525 to 1630 Kc/s approx.

ASTOR MODEL G3X



AUDIO AMPLIFIER GAIN AND BALANCE TEST

Function Switch - Mono position.
 Volume Control - Maximum Volume (fully clockwise)
 Tone Control - Maximum Treble (fully clockwise)
 Output Meter and Speaker connections - Output meter across one channel output (speaker voice coil disconnected) and a speaker voice coil across the other channel output.
 1000 cps.

Before proceeding note colours of leads and connections, then disconnect amplifier input leads from pick-up sockets. Connect generator to one of the input leads to amplifier.
 100 millivolts.

With equipment connected as above the output meter should read between .25 and .6 watts.

Leave input signal set at 100 mV; exchange output meter and speaker connections to opposite channels.

Check output meter reading which should be between .25 and .6 watts.

The difference in output between the two channels must not exceed 2DB or 150 milliwatts (approx.).

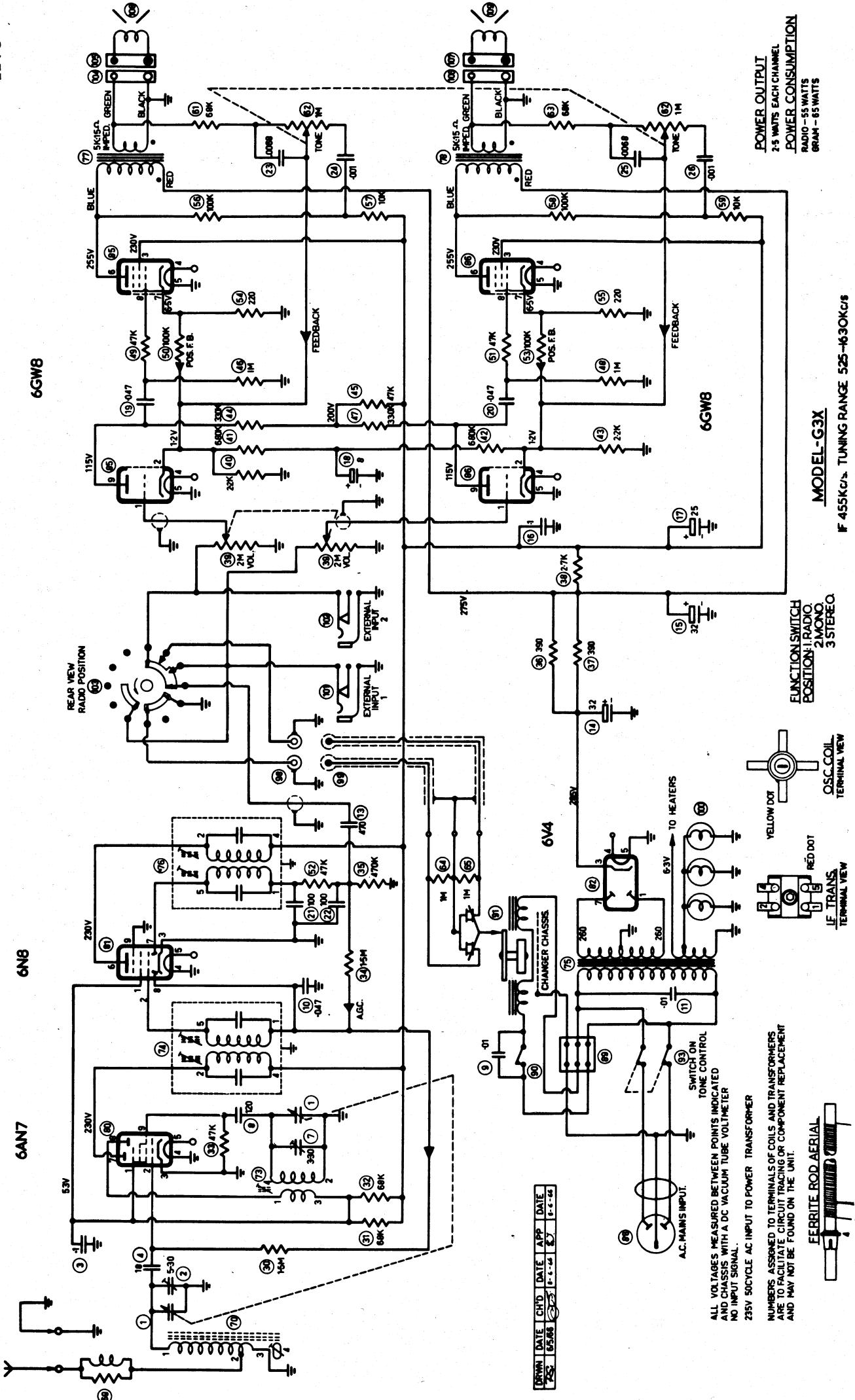
SPEAKER PHASING

It is essential that the speakers be phased correctly.

If a speaker has to be removed for service, note the lead connections to ensure correct phasing when reconnecting.

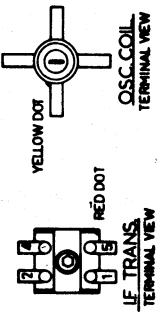
A method used for checking the phasing of the speakers is detailed in the following paragraphs.

- Play a monophonic record.
- To conduct the following test the listener should be located at a position four feet away in front of the centre of the cabinet.
- If the phasing is correct the reproduced sound will appear to be radiated from a point near the centre of cabinet front.
- With incorrect phasing the quality of reproduction will be poor, it will appear to be lacking in bass response and will appear to be radiated from both ends of the cabinet.
- If the speakers are incorrectly phased, reverse the leads connected to the voice coil terminals of one speaker then repeat the test detailed above.



DRWN	DATE	CHD	DATE	APP	DATE
PS	1/25/68		1-1-68		1-1-68

ALL VOLTAGES MEASURED BETWEEN POINTS INDICATED AND CHASSIS WITH A DC VACUUM TUBE VOLTMETER NO INPUT SIGNAL.
 235V 50CYCLE AC INPUT TO POWER TRANSFORMER
 NUMBERS ASSIGNED TO TERMINALS OF COILS AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT BE FOUND ON THE UNIT.



FUNCTION SWITCH POSITION: RADIO 2 MONO 3 STEREO

MODEL-G3X

IF 455KC/s TUNING RANGE 525-1630KC/s

POWER OUTPUT
 2.5 WATTS EACH CHANNEL
 POWER CONSUMPTION
 RADIO - 55 WATTS
 GRAM - 65 WATTS

Balfour Princess Record Changers

TO REMOVE TURNTABLE

- (a) Remove centre spindle.
- (b) Press inwards the legs of the plastic 45 r.p.m. centre-piece and lift out of slots in turntable.
- (c) Remove spring and circlip.

TO REFIT TURNTABLE

Make sure that thrust washers and ball race are in place and that rim of turntable is free from grease and foreign matter. Refit table, making sure idler pulley is pushed under rim, then refit circlip, spring and plastic centre-piece.

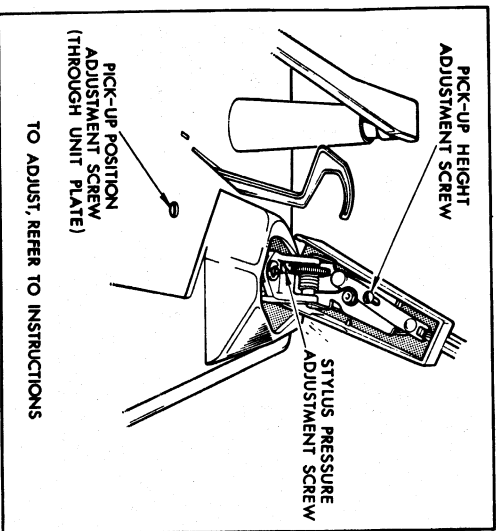
To refit plastic centre-piece, press in legs to locate in turntable slots.

TO REMOVE AND REFIT RECORD CENTRE SPINDLE

Lift and rotate centre spindle clockwise and remove. To refit centre spindle press lightly and rotate clockwise in turntable spigot until positive location is felt.

NOTE: The stylus pressure is to be between 5 and 7 grammes. A pressure gauge Part No. 4121-013-01 is available from the Spare Parts Division.

PICK-UP ARM ADJUSTMENTS



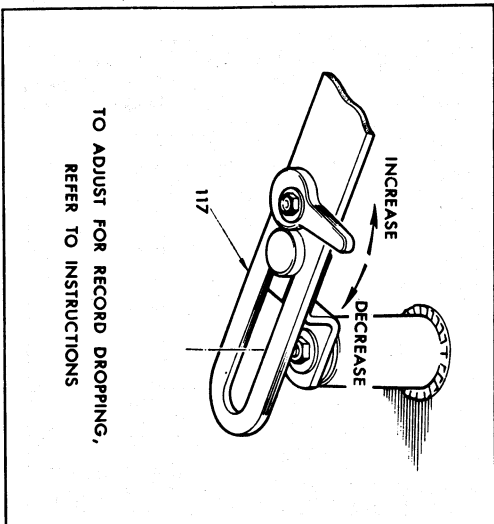
Pick-up Arm Height Adjustment. Should the pick-up arm height require adjustment, i.e., should the arm foul or not clear sufficiently a stack of 10" records, the height can be increased by turning the pick-up height adjustment screw anti-clockwise; conversely, clockwise adjustment decreases the height.

Stylus Pressure. Before leaving the factory, the stylus pressure will have been adjusted to the correct playing weight of the cartridge. It is not advised that the changer be operated at a stylus pressure lighter or heavier than this figure. If re-adjustment is required, increase the pressure by turning the pressure control anti-clockwise or decrease the pressure by turning clockwise. This adjustment should be carried out with an efficient weight tester reading the weight of the stylus.

Pick-up Arm Position. The contact point of the stylus on the record is adjusted during manufacture. To re-adjust, release the pick-up lock by moving the right hand switch to the "ON" position. Now, move the pick-up slowly by hand to a position approximately half an inch away from the turntable rim. At this point the pick-up position adjustment screw will be visible through the inspection hole in the unit plate. With a screwdriver, rotate the adjustment screw CLOCKWISE if the pick-up arm is dropping too far onto the record. Rotate the screw ANTI-CLOCKWISE if the pick-up arm is dropping too far from the outer edge of the record.

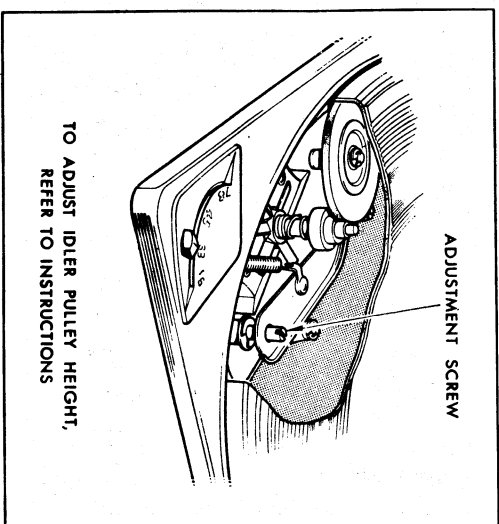
ASTOR MODEL G3X

TAKE CARE NOT TO GET OIL OR GREASE ON THE FOLLOWING POINTS:— Idler Wheel Rubber Tyre. Inside of Turntable Rim. Motor Pulley. Auto Trip Plates (20) and (21).



RECORD DROPPING ADJUSTMENT

With the centre spindle located correctly operate the start/stop lever whilst rotating the turntable manually. Whilst so doing it will be necessary to observe the operation of lever (117) which is located centrally underneath the unit plate. Rotate turntable until lever (117) is exactly in the position shown in the illustration. Loosen hexagon headed bolt and move eccentric plate anti-clockwise to increase pressure on record dropping pawls (39) in record spindle and clockwise to decrease pressure. The maximum movement necessary of the eccentric plate should not be much more than 1/8" in either direction. Normally it will only be found necessary to increase the pressure.



IDLER PULLEY ADJUSTMENTS

The height of the idler pulley in relation to the motor pulley can be easily adjusted, after removing the turntable, by means of a screw at the pivot end of the bracket, which holds the idler pulley. Turn clockwise to raise the idler pulley, and anti-clockwise to lower.