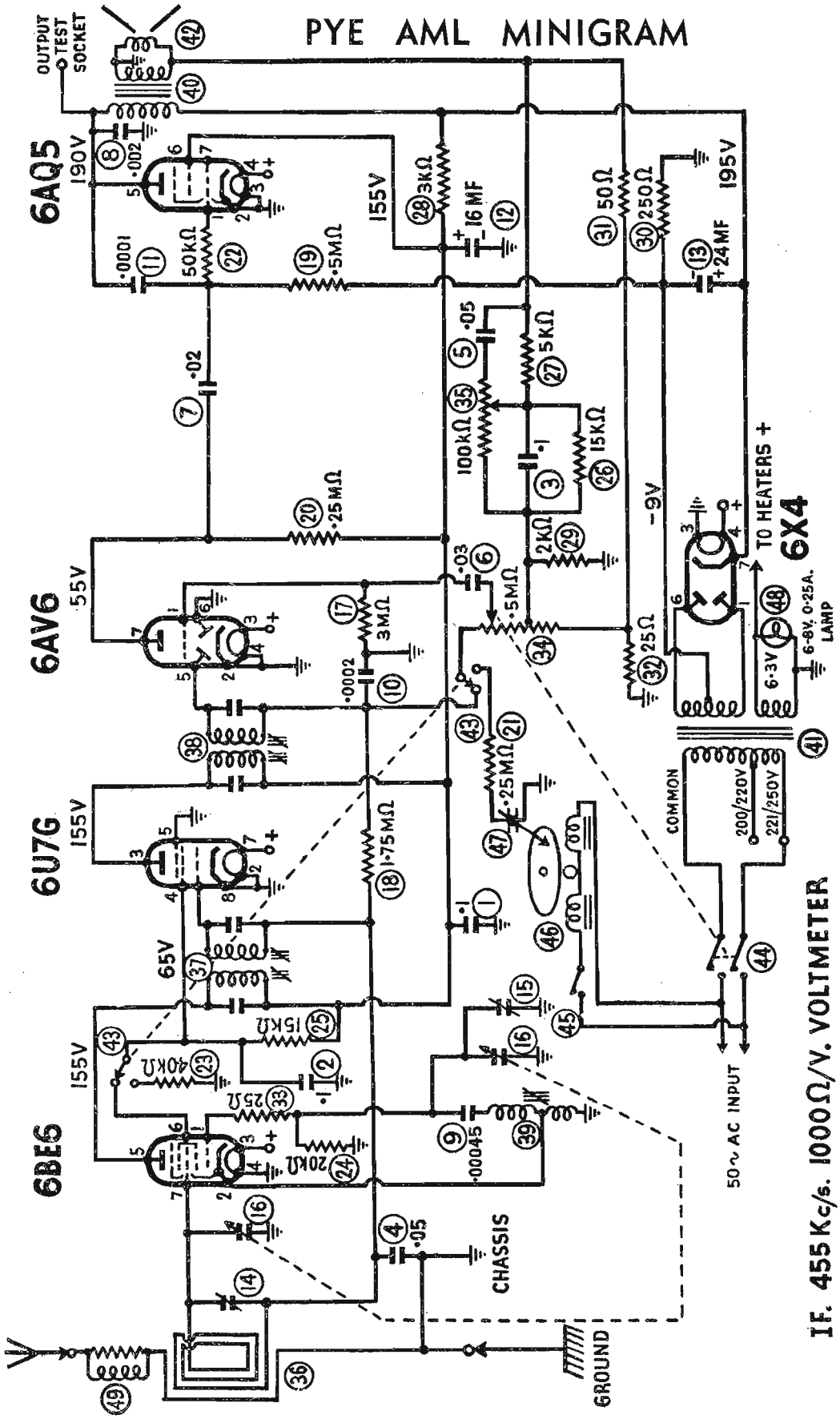
PYE RADIO

Manufactured by Pye Electronics Pty. Ltd., 65 Park Street, Abbotsford, Melbourne.

The following Pye Receivers, current in 1953, appeared in the "Australian Official Radio Service Manual." Vol. 11: APR (page 267); EMS (page 270); APS (page 272); APM (page 274); Vol. 10: APL (page 235); APJ (page 237).

PYE AML MINIGRAM



PYE AML MINIGRAM

5 VALVE SUPERHETERODYNE BROADCAST RECEIVER AND A 3 SPEED SINGLE RECORD PLAYER 33 , 45 and 78 R.P.M.

FOR OPERATION FROM:

200-250 Volts, 50 Cycle A.C. Supply Mains.

POWER CONSUMPTION:

Radio Operation - 40 Watts approx.
Gramo Operation - 60 Watts approx.

TUNING RANGE:

535-1610 Kilocycles. 560.7-186.3 Metres.

Circuit No.	Description	Tol.±	Rating
1.	.1MF Paper Cond.	20%	400V.DCW.
2.	.1MF Paper Cond.	20%	400V.DCW.
3.	.1MF Paper Cond.	20%	200V.DCW.
4.	.05MF Paper Cond.	20%	200V.DCW.
5.	.05MF Paper Cond.	20%	200V.DCW.
6.	.03MF Paper Cond.	20%	200V.DCW.
7.	.02MF Paper Cond.	20%	400V.DCW.
8.	.002MF Paper Cond.	20%	600V.DCW.
9.	.00045MF Mica Cond.	2½%	1000VT.
10.	.0002MF Mica Cond.	10%	1000VT.
11.	.0001MF Mica Cond.	10%	1000VT.
12.	16MF Elect. Cond.	20%	350PV.
13.	24MF Elect. Cond.	20%	350PV.
14.	1.5-18MMF Trim. Cond. part of loop aerial circuit No. 36		
15.	3-50 MMF Trimmer Cond.		
16.	2 Gang Varb. Cond.		
17.	3 Megohm Carb. Res.	10%	½ Watt
18.	1.75 Megohm Carb. Res.	10%	½ Watt
19.	.5 Megohm Carb. Res.	10%	½ Watt
20.	.25 Megohm Carb. Res.	10%	1 Watt
21.	.25 Megohm Carb. Res.	10%	½ Watt
22.	50,000 Ohm Carb. Res.	10%	½ Watt
23.	40,000 Ohm Carb. Res.	10%	1 Watt
24.	20,000 Ohm Carb. Res.	10%	½ Watt
25.	15,000 Ohm Carb. Res.	10%	1 Watt
26.	15,000 Ohm Carb. Res.	10%	1 Watt
27.	5,000 Ohm Carb. Res.	10%	½ Watt
28.	3,000 Ohm Carb. Res.	10%	1 Watt
29.	2,000 Ohm Carb. Res.	10%	½ Watt
30.	250 Ohm Wire Wound Res.	10%	½ Watt
31.	50 Ohm Wire Wound Res.	10%	½ Watt
32.	25 Ohm Wire Wound Res.	10%	½ Watt
33.	25 Ohm Wire Wound Res.	10%	½ Watt
34.	.5 Megohm Carb. Potentiometer tapped at 40K. ohms DP.ST. switch attached to rear of housing		
35.	100,000 Ohm Carb. Potentiometer	20%	
36.	Loop Aerial		
37.	No. 1 IF. Trans. 455 Kc/s.		
38.	No. 2 IF. Trans. 455 Kc/s.		
39.	Oscl. Coil		
40.	Speaker Input Trans. 5,500-3.7 Ohms Imped. Code No. EDB64		
41.	Power Trans. 200-250 volt 50 cycle mains		
42.	5" Permag. Speaker type 5F with F91 cone		
43.	Gramo Radio Change-over Switch		
44.	On/off Switch (part of vol. control circuit No. 34)		
45.	On/off Switch (part of motor assembly)		
46.	B.S.R. type GU4/A. Single Record Player 200-250V. 50 cycle AC. operation. Dual turn over type crystal cartridge head Motor, B.S.R. type 1A Motor Pulley, 50 Cycle, B.S.R. type 4A Jockey Pulley, B.S.R. type 1B.		
	Speed Change Knob, B.S.R. type 1C.		
	Pick-up Arm for Turn Over Crystal, B.S.R. type 3D.		
	Crystal Cartridge, B.S.R. type 2E, for turn over type pick-up, needles not included.		
	Long Playing Needle, B.S.R. type 4E (red spot), for turn over pick-up.		
	Standard 78 R.P.M. Needle, B.S.R. type 5E (green spot), for turn over pick-up.		
48.	6-8V. 0.25 Amp. Lamp T3¼ size bulb, Min. screw base.		
49.	Antenna Loading Coil (part of loop aerial assy.).		

NO OIL OR GREASE MUST BE ALLOWED TO GET ON THE RUBBER-TYRE ON THE RUBBER-TYRED JOCKEY WHEEL.

1. As the motor bearings are of the oil-retaining type, lubrication should only be necessary about every 1,000 hours of running. To lubricate, put a drop of fine machine oil in the bushes at each end of the motor.
2. The jockey pulley bearing should be oiled in a similar manner.
3. The turntable spindle should be removed, lightly smeared with grease, and replaced in its bearing housing. To remove the spindle, remove the screw in the bearing housing and lift out.
4. Only non-vegetable oil and grease must be used.

"WOW" OR SLOW RUNNING TURNTABLE:

If "WOW" is experienced or the turntable runs slow, the following action should be taken.

Remove the turntable and check that the turntable spindle revolves freely in its housing. Also check spindle to ensure that a vertical movement of at least 1/16" is possible. If not, remove the spindle, clean thoroughly and grease as instructed under the heading of 'Lubrication'. Check that the jockey pulley revolves freely in its bearing and that it is perfectly free in its slide.

PICK-UP TRACKING:

If the pick-up jumps a groove consistently -

(a) Oil the pick-up spindle with light machine oil.

(b) Check that the 1/64" longitudinal play in the pick-up spindle is maintained.

PYE AML MINIGRAM

ALIGNMENT PROCEDURE

EQUIPMENT		ALIGNMENT CONDITIONS	
Signal Generator:		Load Impedance:	5,500 Ohms when output meter is connected across speaker trans. primary.
Output Meter:			
Mica Capacitor:	0.01MF (for I.F. trans. alignment)	Load Impedance:	4 Ohms when output meter is connected across speaker transformer secondary.
Dummy Antenna:	200MMF. Mica Capacitor	Output Level:	50 Milliwatts
		Tone Control:	Treble position.
		Vol. Control:	Max.Vol. fully clockwise
		Intermed.Freq.:	455 Kc/s.
Alignment Tools:	Type M195 and Pm581.	Input Voltage:	230 Volts 50 Cycle AC. input to trans. 221-250 volt pri. tap.

Opera-tion No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions.
To remove the chassis from the cabinet, place the cabinet so that the speaker grille is nearest the operator.				
A. Pull the four push-on control knobs straight up off their spindles.				
B. Unscrew and remove 2 screws from each side of motor mount plate, also 2 screws, one at each end of control knob plate.				
C. Prise up front of control knob/motor mount plate and tilt it so that it rests against the cabinet lid.				
D. Unscrew and remove a screw from the top of each end of chassis, also 2 nuts, one at each end of the chassis fastening the small brackets to the inside bottom of the cabinet.				
E. Lift and turn the left hand end of the chassis toward the rear of the cabinet, then raise the right hand end of the chassis so that it rests on its left hand end and the cabinet. Leave all connecting wires attached to the chassis.				
1.	To control grid of 6U7G valve	455 Kc/s.	0.01MF. Mica capacitor in series with generator.	Leave grid cap on valve. Peak 2nd I.F. trans. pri. and sec. for max. output.
2.	To control grid of 6BE6 valve (pin No.7)	455 Kc/s.	0.01MF. Mica capacitor in series with generator.	Turn cond. gang plates fully out of mesh. Leave grid wire attached to valve socket. Peak 1st I.F. trans. pri. and sec. for max. output. Repeat operations No. 1 and 2.
3.	Repeat operations No.1 and 2.			
4.	Fully mesh the cond. gang plates. Set the centre of the dial pointer to align with the centre of the end of travel mark on the dial reading near 540 Kc/s.			
5.	To AVC end of loop aerial (outside turn of sec.)	600 Kc/s.	200 MMF Mica capacitor in series with generator.	Turn cond. gang and dial pointer to 600 Kc/s. and peak the oscl. coil ind. trim (iron core) for max. output. Rock the gang to and fro through the signal while adjusting.
6.	To AVC end of loop aerial (outside turn of sec.)	1400 Kc/s.	200 MMF Mica capacitor in series with generator.	Turn cond. gang and dial pointer to 1400 Kc/s. Adjust oscl. coil trim. cond. for logging and peak loop aerial trim. cond. for max. output. The loop aerial must be in its mounted position when the loop trimmer is being peaked.
7.	Repeat operations No. 5 and 6, then refit chassis to cabinet.			

SPEED CHANGE:

If the speed change mechanism is not operating correctly or severe vibration occurs on selected speeds, an adjustment is necessary:

Severe vibration is caused when the jockey pulley tyre runs permanently on the small cam on the motor pulley. This fault can be corrected as described below. The purpose of the cam is to throw the jockey pulley outwards DURING the speed change. Thereafter the jockey pulley tyre runs on the smooth surface of the motor pulley. Once correctly adjusted no further trouble should be experienced, and the speed change will be rapid and smooth. The slide faces of the jockey pulley slide (refer diagram) should be oiled only with thin oil. If they are allowed to get dry, no damage will result, but there is a risk of slight rattle developing during operation.

ADJUSTMENT OF SPEED CHANGE:

Do not allow oil to get on the jockey pulley tyre - Oil attacks rubber.

1. Set speed change knob at 78 R.P.M. position.
2. With the push rod resting on the rocker arm, slacken the jockey pulley slide fixing screw, and adjust the jockey pulley slide to the fully down position. Tighten the fixing screw.
3. Set the speed change knob to 45 R.P.M. and adjust the motor pulley (after slackening the grub screw) until the jockey pulley tyre is midway on the 45 R.P.M. step of the motor pulley. The tyre must be clear of the cam on motor pulley as shown by the dotted line in the diagram.
4. Check that the jockey pulley spring is coupled to the pulley slide plate, and that the pulley assembly slides freely. The spring should push the pulley to the extreme end of the slide.
5. Check that the push rod is free to move up and down.

THE AUTOMATIC STOP:

The Auto stop mechanism on the unit requires no critical adjustments. Should it be found that the auto stop does not operate at the correct time, slacken off the auto stop lever slightly on the pick-up spindle and adjust until pick-up needle will move into the centre of the turntable to a radius of 1-3/8" but no further. When set correctly tighten the auto stop lever on to the pick-up spindle. Should the auto stop not operate at all, try adjusting the auto stop cam upwards on the turntable spindle. Oil sparingly the on/off switch contacts. These contacts can be seen through the contact inspection holes when the cover plate has been removed from beneath the switch. Make sure that the switch makes and trips smoothly and easily.

NEEDLE REPLACEMENT:

To change a sapphire point needle in the change-over head the screw situated in the side of the crystal housing should be loosened. The needles can then be removed with a pair of tweezers. Re-tighten the fixing screw after replacing the needle. The needles are marked with colours to correspond to the crystal cartridge in the pick-up head :-

Red, for long playing micro-groove 33 and 45 R.P.M.

Green, for standard 78 R.P.M.

The crystal cartridge may be removed from the pick-up by unscrewing the screw in the shank of the turn-over knob, then pull the knob forward. Spring contacts to which the leads are attached may be prised off the rear lugs of the cartridge.

PICK-UP ARM CATCHING ON EDGE OF 12 in. RECORD.

Due to rough handling, it is possible that the rear end of the pick-up arm may tend to catch on the edge of a 12 in. record when playing. If this occurs, a simple adjustment is necessary. Using a pair of long nose pliers, bend the pick-up spindle bracket slightly. This bend should be sufficient to enable the rear of the pick-up arm to clear a 12 in. record by approximately 3/16 in.