## ALIGNMENT EQUIPMENT

| | | |
|---|---|---|
| Signal Generator | - | Modulated 400 cps |
| Output Meter | - | 8 ohms impedance |
| Generator Series Capacitor | - | .1uF Part No. 4006-005-03 |
| Alignment Tools | | |

(a) Flat metal blade end - Part No. 4121-001-01 for I.F.T. and Osc. coil iron core adjustment.

(b) Hexagonal socket type - Part No. 4121-028-02 for trimmer capacitor adjustment.

## ALIGNMENT CONDITIONS

| | | |
|---|---|---|
| Volume Control | - | Maximum, clockwise. |
| Bass Control | - | Maximum, clockwise. |
| Treble Control | - | Maximum, clockwise. |
| Balance Control | - | Clockwise position. |
| Function Switch | - | "Radio" position, button "in" |
| Output Level | - | 50 milliwatts |
| Output Meter Connection | - | To right channel speaker socket (speaker disconnected). |
| Supply Voltage | - | 240 volt 50 cycle. |

## INTERMEDIATE FREQUENCY TRANSFORMER ALIGNMENT

Set tuning control to high frequency end of travel.
Insert .1uF capacitor in series with generator "hot" lead.

| Oper. No. | Generator Connection | Generator Frequency | Instructions |
|---|---|---|---|
| 1. | To pin "C" on "RF" circuit board(term 3 of rod aerial) | 455 Kc/s | Adjust iron core of 3rd IF trans. for max. output. |
| 2. | As oper. 1. | 455 Kc/s | Adjust iron core of 2nd IF trans. for max. output. |
| 3. | As oper. 1. | 455 Kc/s | Adjust iron core of 1st IF trans. for max. output. |

## SETTING THE DIAL POINTER

Turn tuning spindle until tuning capacitor plates are fully in mesh.

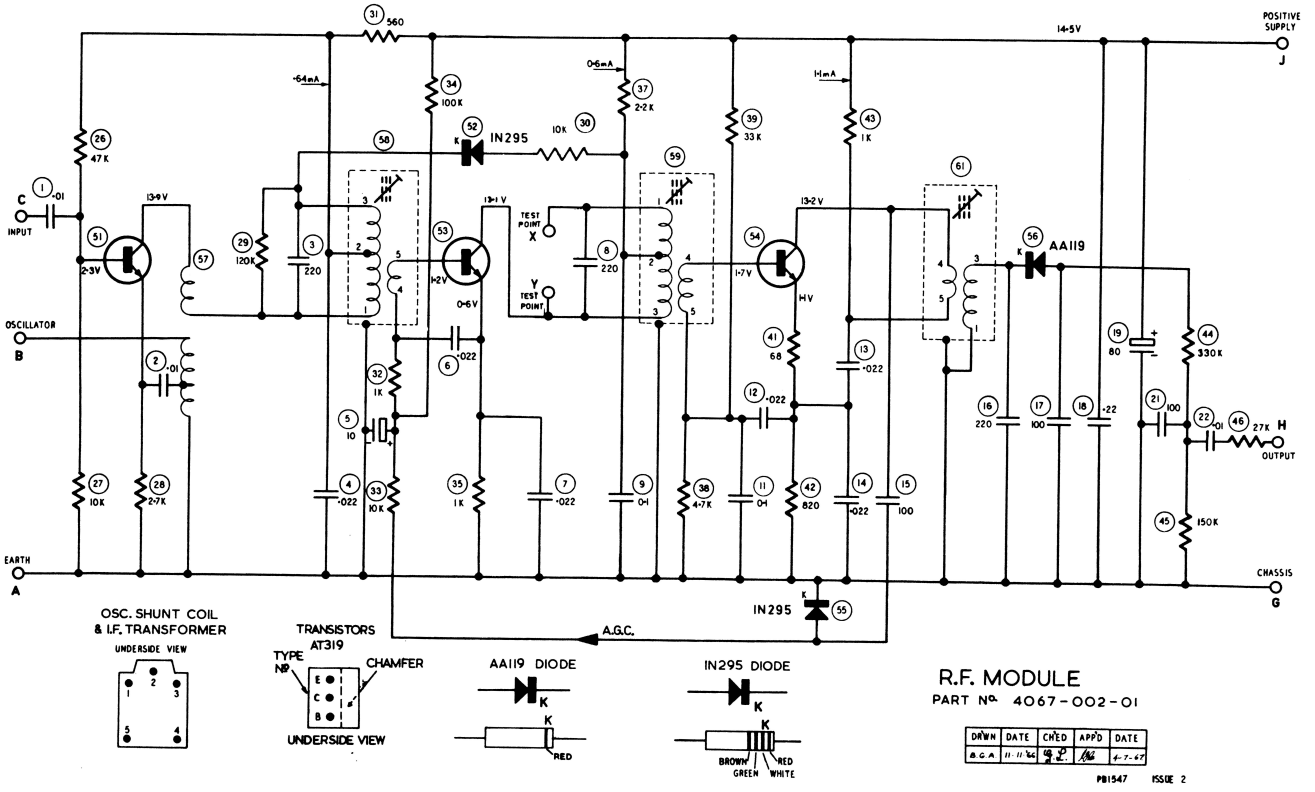
Slide pointer along cord until the pointer aligns with the end of travel spot on dial reading.

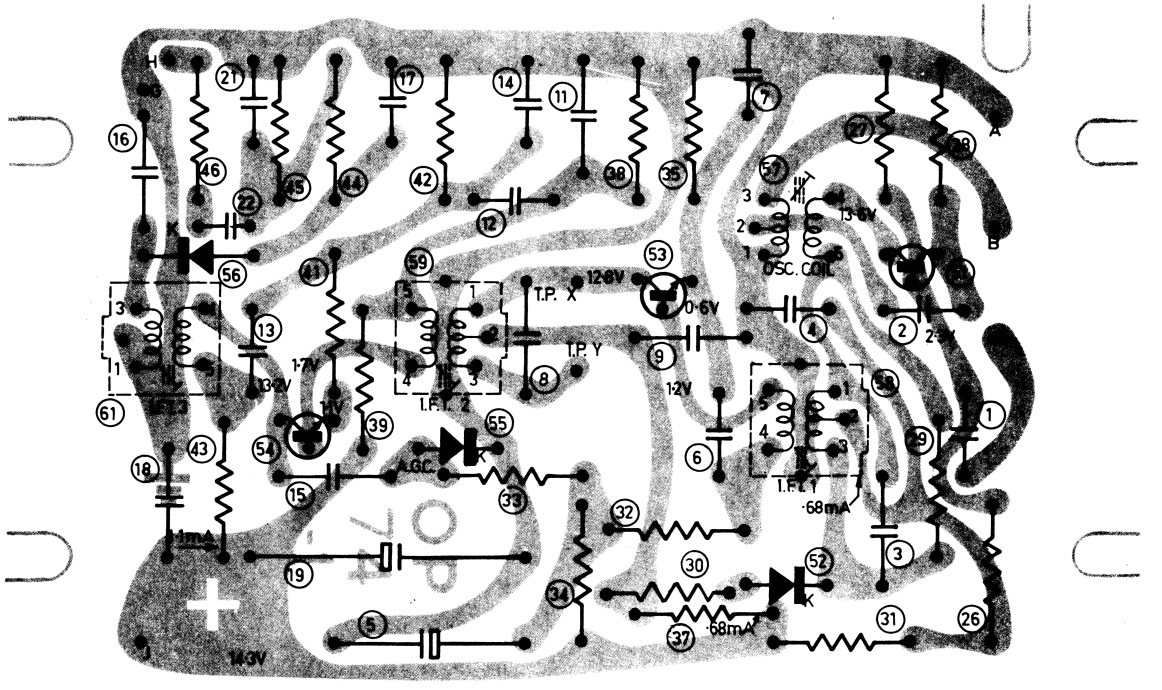
## BROADCAST ALIGNMENT

A. To inject a signal into the receiver connect 2 ft. of aerial wire to the "hot" terminal of signal generator. Fashion wire into a vertical position.

B. Place receiver so that ferrite aerial is uppermost and horizontal.
Tuning end of receiver is to be toward but not less than one foot from generator aerial wire

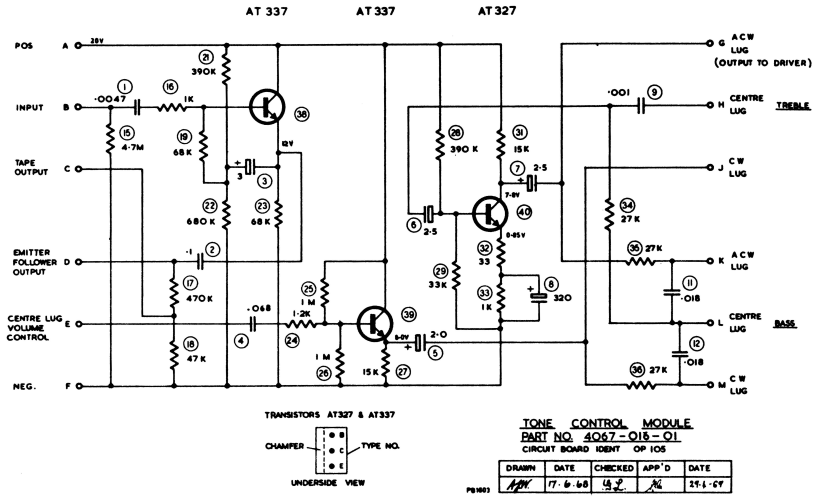
AT319 AT319 AT319

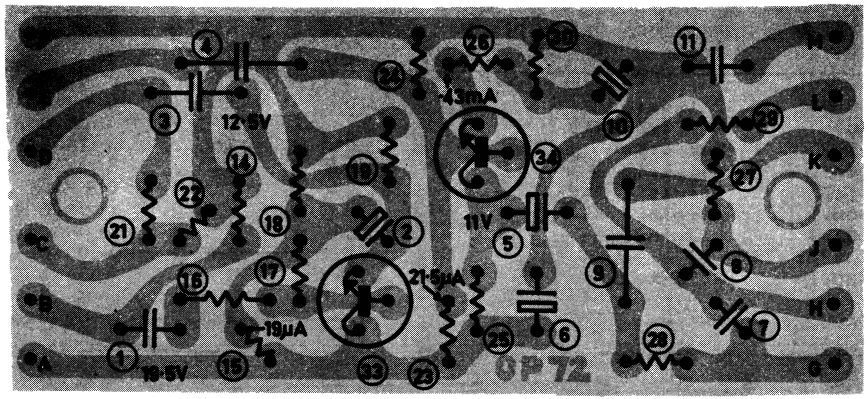


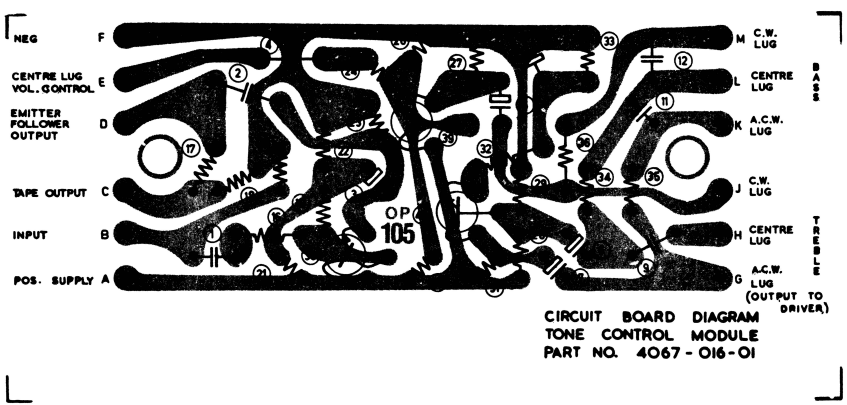



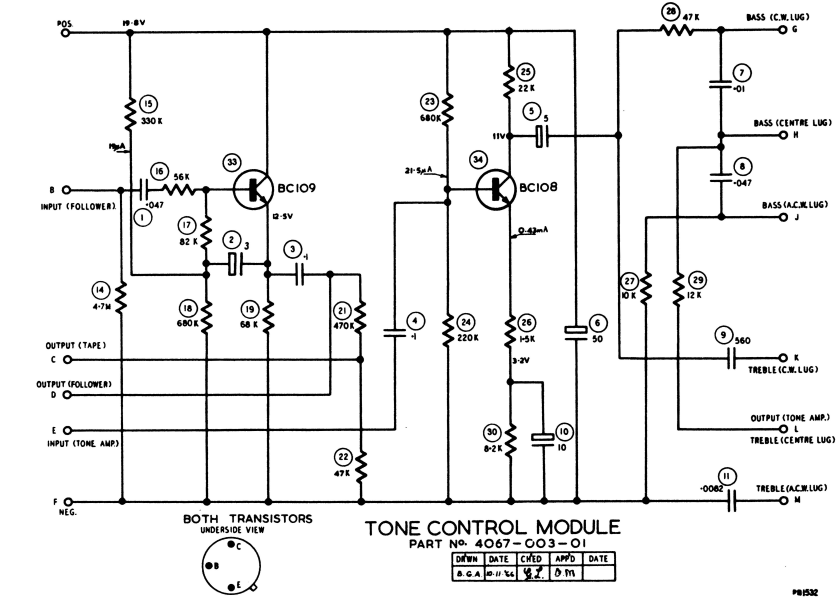

Astor GB021-026, GD029-041

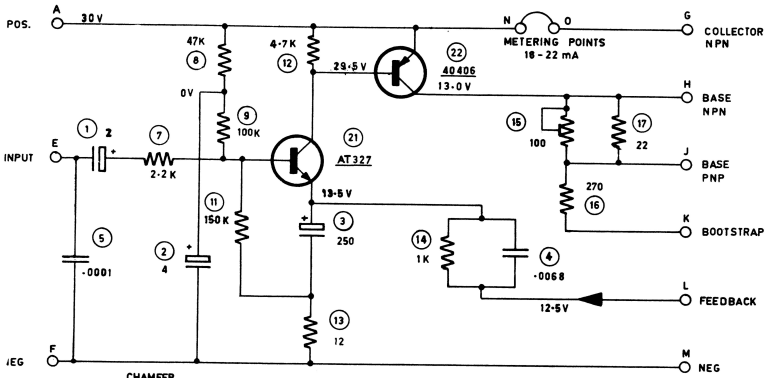
A92


AT 337
AT 337
AT 327
POS
INPUT
TAPE OUTPUT
EMITTER FOLLOWER OUTPUT
CENTRE LUG VOLUME CONTROL
NEG.
A C W LUG (OUTPUT TO DRIVER)
CENTRE LUG
TREBLE
C W LUG
A C W LUG
CENTRE LUG
BASS
C W LUG
TRANSISTORS AT327 & AT337
CHAMFER
TYPE NO.
UNDERSIDE VIEW
TONE CONTROL MODULE
PART NO. 4067-018-01
CIRCUIT BOARD IDENT OP 105
DRAWN
DATE
CHECKED
APP'D
DATE
17-6-68
29-6-69
PB1003


12·5V
43mA
11V
21·5μA
19μA
19·8V
OP72

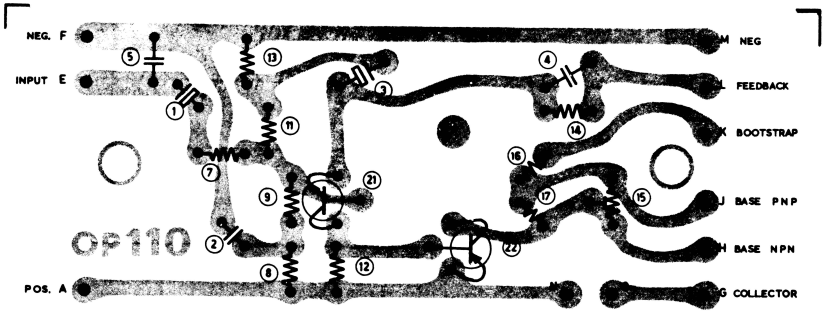

NEG
CENTRE LUG VOL. CONTROL
EMITTER FOLLOWER OUTPUT
TAPE OUTPUT
INPUT
POS. SUPPLY
C.W. LUG
CENTRE LUG
A.C.W. LUG
C.W. LUG
CENTRE LUG
A.C.W. LUG (OUTPUT TO DRIVER)
BASS
TREBLE
OP 105
CIRCUIT BOARD DIAGRAM
TONE CONTROL MODULE
PART NO. 4067-016-01


POS
19·8V
INPUT (FOLLOWER)
OUTPUT (TAPE)
OUTPUT (FOLLOWER)
INPUT (TONE AMP.)
NEG.
BC109
BC108
12·5V
11V
3·2V
BASS (C.W. LUG)
BASS (CENTRE LUG)
BASS (A.C.W. LUG)
TREBLE (C.W. LUG)
OUTPUT (TONE AMP.)
TREBLE (CENTRE LUG)
TREBLE (A.C.W. LUG)
BOTH TRANSISTORS
UNDERSIDE VIEW
TONE CONTROL MODULE
PART No. 4067-003-01
DRAWN
DATE
CHED
APP'D
DATE
B.G.A
10·11·66
PB1532

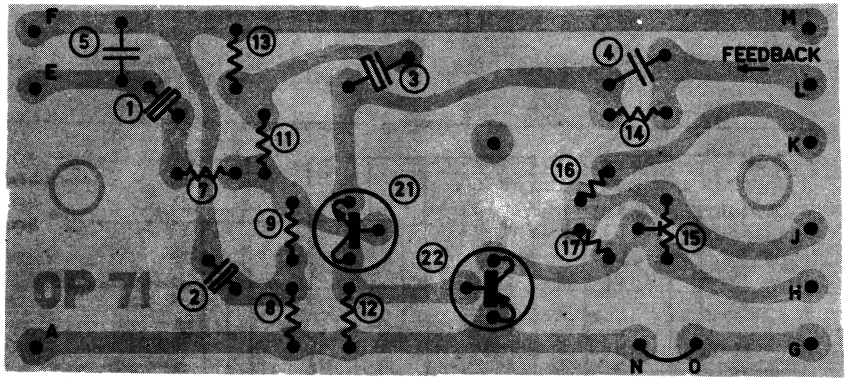



DRIVER MODULE
PART NO. 4067-017-01
CIRCUIT BOARD OP 110

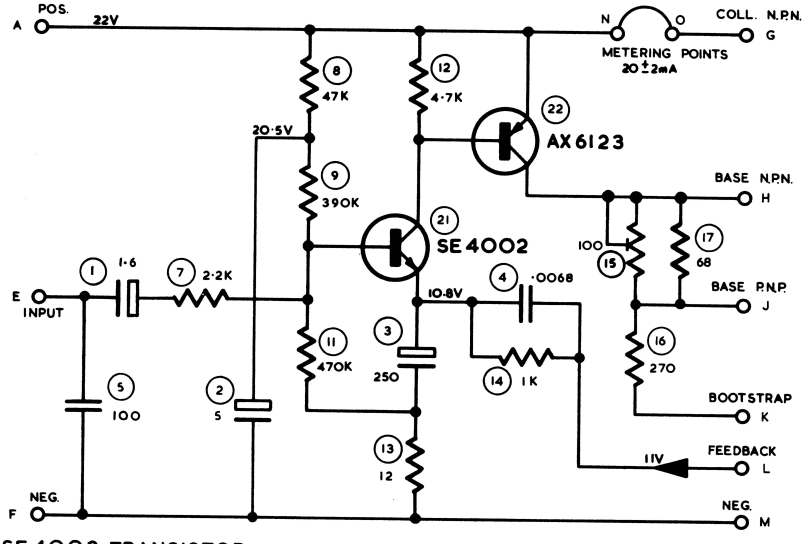
| | DRAWN | DATE | CH K D | APP D | DATE |
|---|---|---|---|---|---|
| PB1602 | | 16-12-66 | | | 29-4-69 |



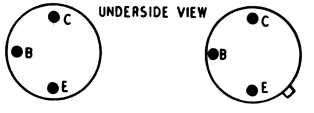

CIRCUIT BOARD DIAGRAM
DRIVER MODULE
PART NO 4067-017-01




ISSUE 2 CIRCUIT NO 5 ADDED PB1535 A




SE4002 TRANSISTOR
AX6123 TRANSISTOR
UNDERSIDE VIEW

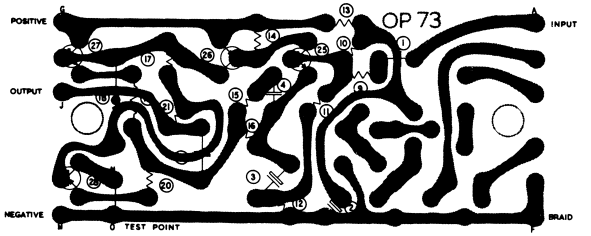



DRIVER MODULE
PART No. 4067-001-01

| DRWN | DATE | CH'ED | APP'D |
|---|---|---|---|
| G.B. | 11-11-66 | | |

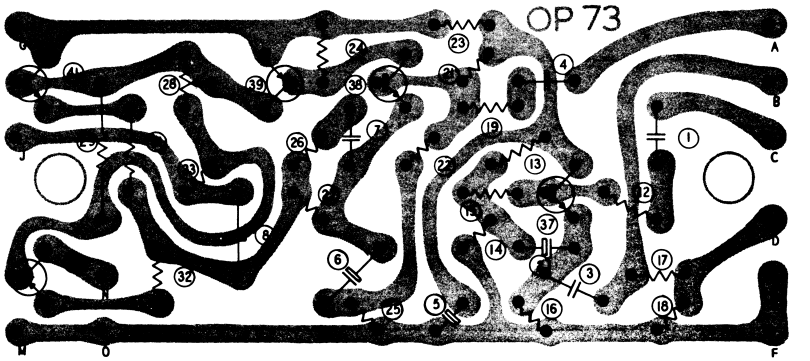
ISSUE 2 (1) WAS 5 uF. (5) 100pF ADDED

PB1534



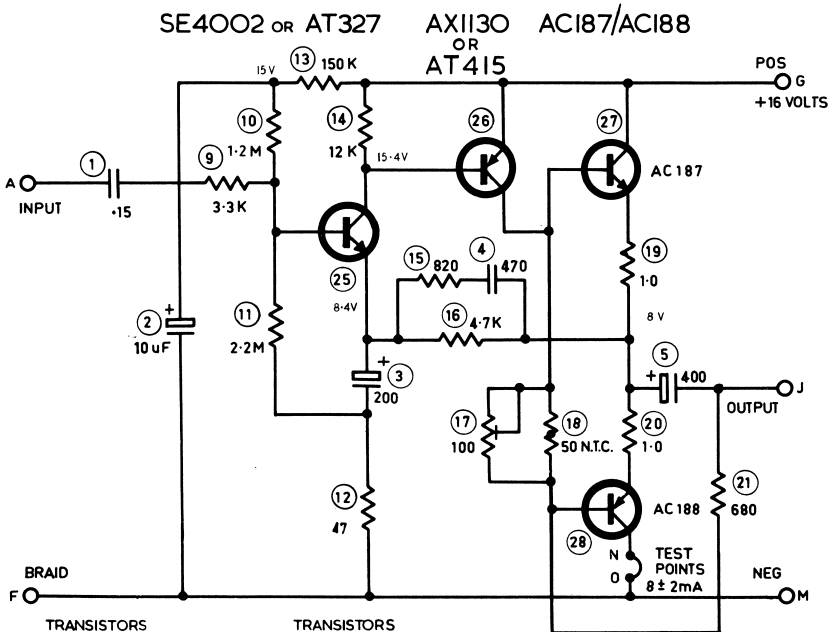

| DRAWN | DATE | CHE'D. | APP'D. | DATE |
|---|---|---|---|---|
| A.J.W. | 15-6-67 | | | 10-10-67 |

PB1546 A B




AUDIO OUTPUT MODULE
PART NO. 4067-004-01

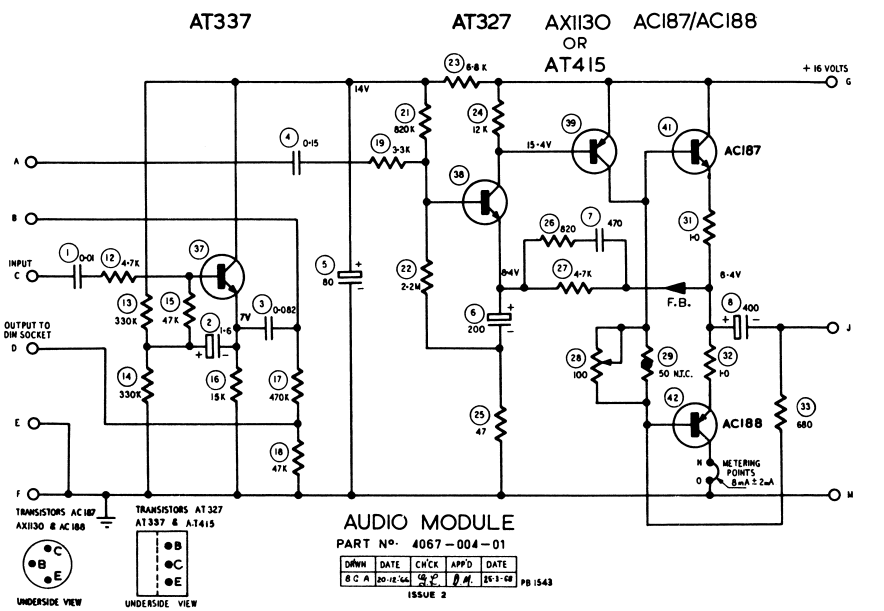
PB1542 A B




AUDIO MODULE
PART Nº 4067-007-01

| DRAWN | DATE | CH'ED. | APP'D. | DATE |
|---|---|---|---|---|
| K.J.D. | 16.5.67. | | | 13-9-67 |

ISSUE 2 PB1647




AUDIO MODULE
PART Nº 4067-004-01

| DRAWN | DATE | CH'CK | APP'D | DATE |
|---|---|---|---|---|
| B C A | 20-12-66 | | | 25-1-68 |

PB1543
ISSUE 2

## CHASSIS REMOVAL

1. Disconnect mains lead plug from supply socket then remove rear panel of control cabinet.
2. Identify connections then remove plugs from receiver sockets. Remove external aerial and earth terminal plate also the anchor clips from speaker leads.
3. Remove screws fastening chassis to cabinet.
4. Remove rotary control knobs and the barrel nuts.
5. Slide chassis out of cabinet.
6. Reverse procedure when refitting.

## RECORD CHANGER REMOVAL

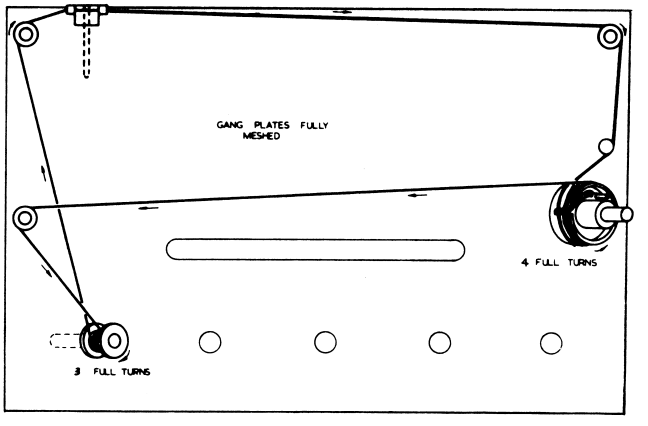
1. Disconnect mains lead plug from supply socket.
2. Identify connections then remove pick-up lead plugs and motor mains lead plug from changer sockets.
3. Screw down the changer transport screws then turn retainer clips to the vertical position.
4. Lift changer out of the cabinet.
5. Reverse procedure when refitting.

## PICK-UP STYLUS PRESSURE ADJUSTMENT

The stylus pressure is to be 4 grammes. A pressure gauge Part No.4121-013-01 is available from the Spare Parts Division.

To check the pressure ensure the unit is level with no record on the turntable. Place pressure gauge on the turntable then lower pick-up arm so that stylus locates into the hollow provided on gauge. Adjust for balance and note reading.

To adjust the pressure refer to details in record changer booklet or turntable instruction disc.




## CHASSIS SERIAL NUMBER

The number is stamped into the rear wall of the chassis and may be viewed when the cabinet back is removed.

| Oper. No. | Generator Connection | Generator Frequency | Instructions |
|---|---|---|---|
| 1. | Refer Para. A. & B. | 525 Kc/s | Tuning capacitor plates fully meshed against end of travel stop. Adjust oscillator coil from core and rod aerial adjusting ring for maximum output. |
| 2. | As per oper. 1 | 1610 Kc/s | Set tuning pointer to 1610Kc spot on dial. Adjust oscillator and aerial trimmer capacitors for maximum output. |
| 3. | As per oper. 1 | 600 Kc/s | Tune receiver to generator signal and adjust rod aerial adjusting ring for maximum output. |
| 4. | As per oper. 1 | 1400 Kc/s | Tune receiver to generator signal and adjust aerial trimmer capacitor for maximum output. |

## ADJUSTMENT OF COLLECTOR CURRENT

This should be performed after a driver module or output transistors or associated componentry have been replaced.

EQUIPMENT Current Meter - 0-50mA. DC. terminated with lead and socket assy. Part No.4078-018-01, positive terminal to red sleeve.

CONDITIONS Volume Control set at minimum. No input signal.
Connect an 8 ohm impedance speaker to receiver socket.
Remove link from pins "O" and "N" on Driver Module board.
Place meter lead socket on to test pins "O" and "N".
Connector with red sleeving is to be connected to pin "N".

Adjust 100 ohm potentiometer circuit No.15 until a meter reading of 20mA $\pm$2mA. is indicated.

Remove meter lead plug and reconnect link to test pins.

## AUDIO AMPLIFIER GAIN AND BALANCE TEST

| | | |
|---|---|---|
| Audio Frequency Generator | - | 1000 cps. - 600 ohms impedance. |
| Output Meter | - | 8 ohms |
| Volume Control | - | Maximum, clockwise |
| Bass Control | - | Maximum, clockwise |
| Treble Control | - | Maximum, clockwise |
| Balance Control | - | Clockwise position |
| Function Switch | - | GRAMO button "in"<br>MONO button "out" |

Disconnect pick-up leads from input sockets.
Connect audio generator output leads to an input socket.
Connect an 8 ohm speaker to one output socket and the output meter to the other output socket.
Set the output of audio generator to 16 millivolts.
With equipment connected as above, the output meter should read a minimum of 50 milliwatts.
Exchange output meter and speaker connections to opposite channels. Turn balance control to anticlockwise position.
Difference in output between the two readings must not exceed 2dB.