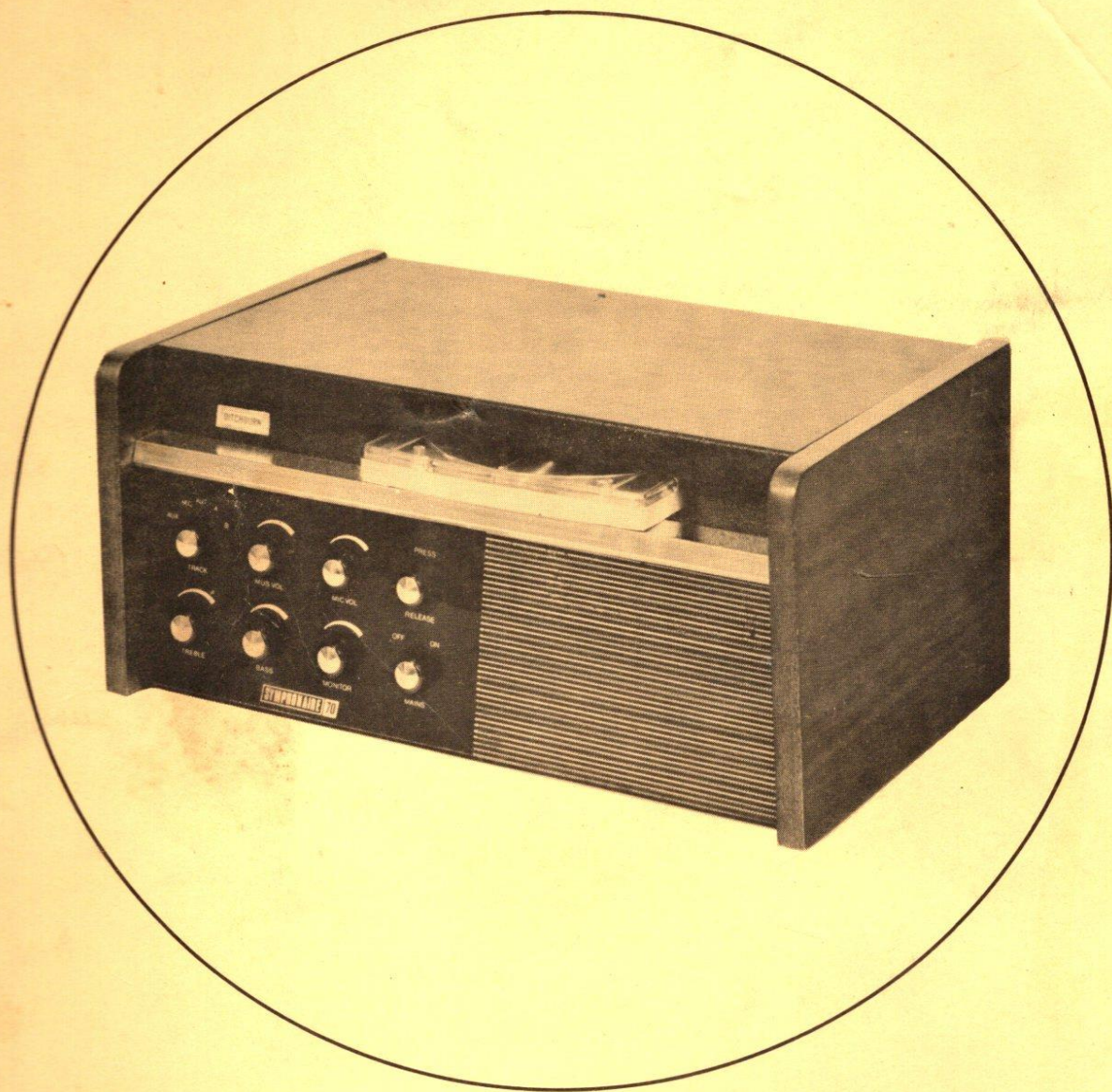


Symphonaire '70



SERVICE MANUAL

The Ditchburn Organisation Ltd.
LYTHAM LANCASHIRE FY8 5AN ENGLAND
TEL: 039 16 3141. TELEX 67401
CABLE Ditchburn Lytham

SYMPHONAIRE 70

CONTENTS

Notes for the user	Pages 1 & 2
Underside view	Figure 1
Top view, less cover	Figure 2
Routine Service Items	Page 3
Installation Notes	Page 4
Ancillary Connections & Fuses	Pages 5, 6, 7 & 8
Alternative Mains Supplies	Page 8
Mechanical Adjustments	Pages 9, 10 & 11
Typical Voltage Readings & Notes	Pages 12 & 13
Circuit Diagram	Drawing No. 910172
Amplifier Layout	Drawing No. 910289
Amplifier Parts List	Pages 14, 15, 16 & 17
Tapedeck Assembly Drawing	Drawing No. 910291
Tapedeck Parts List	Pages 18 & 19
Cabinet Assembly Drawing	Drawing No. 910290
Cabinet Parts List	Page 20

SPARE PARTS

All of the items shown in the parts list are obtainable from the Ditchburn Organisation Ltd.

It is essential when ordering parts to quote the part numbers, as shown in the parts list, in addition to a brief description of the items required.

NOTES FOR THE USER

Once it has been installed and adjusted by our Installation Engineer, the Symphonair 70 requires very little attention beyond switching on and off, inserting tape cartridges, and possibly occasional adjustment of the front panel controls to suit prevailing circumstances. All of the controls are clearly labelled and their functions are largely self-explanatory. The Installation Engineer will show you how to adjust them for the best results.

In general, maintenance work and repairs will be carried out, on request, by our Service Engineer but there are one or two simple checks which you can carry out yourself. To help you to obtain the best results at all times, and avoid possible loss of use whilst awaiting the attendance of the Engineer, the following are recommended:

IMPORTANT:

Always disconnect the machine from the electricity supply by pulling out the mains plug before removing any of the cover panels. Replace and secure all panels before reconnecting the machine to the electricity supply.

1. Symptom: Machine completely inoperative, pilot lamp not lit, cartridge will not lock in, motor cannot be heard running.

Cause: Machine not switched on. Mains plug not in socket. Supply to socket defective - check by plugging in another appliance. Fuse in plug top blown (if fitted). A.C. fuse on underside of machine (See Fig.1) blown. IMPORTANT - if the A.C. fuse on the machine has blown it must be replaced by one of the correct type and rating, i.e. 250 mA, time delay, 20mm x 5 mm. If the replacement also blows, seek the help of our Service Engineer. NEVER fit a fuse of higher rating, and NEVER try to repair the defective fuse.

2. Symptom: Pilot lamp lights, motor can be heard running. Cartridge locks in, but no sound from monitor nor from extension speakers.
- Cause: Track switch incorrectly set. Volume turned down (check 'music volume' and 'monitor' controls). D.C. fuse on machine (see Fig. 1) blown. **IMPORTANT** - if the D.C. fuse on the machine has blown it must be replaced by one of the correct type and rating, i.e. 500 mA, time delay, 20mm x 5mm. If the replacement also blows, seek the help of our Service Engineer. **NEVER** fit a fuse of higher rating, and **NEVER** try to repair the defective fuse.
3. Symptom: Sound from monitor loudspeakers but no sound from extension speakers.
- Cause: Loudspeaker plug pulled out (see Fig.1) Extension speaker volume controls or individual loudspeaker switches, if installed, incorrectly set. Loudspeaker wiring defective.
4. Symptom: Music slows down, drags, wavers, wows, stops and starts fitfully.
- Cause: Defective cartridge - try another one. Excessive deposit of graphite or oil on pinch wheel (see Fig.2). After disconnecting the mains, remove the top cover of the machine by removing three screws from its rear edge. Lift up the pinch wheel by pressing backwards on the cartridge operated arm. Clean the rubber surface of the pinch wheel with a piece of clean, lint-free cloth, moistened (not wet) with Methylated Spirit. Also, wipe the capstan. Replace the top cover and then re-insert the mains plug.

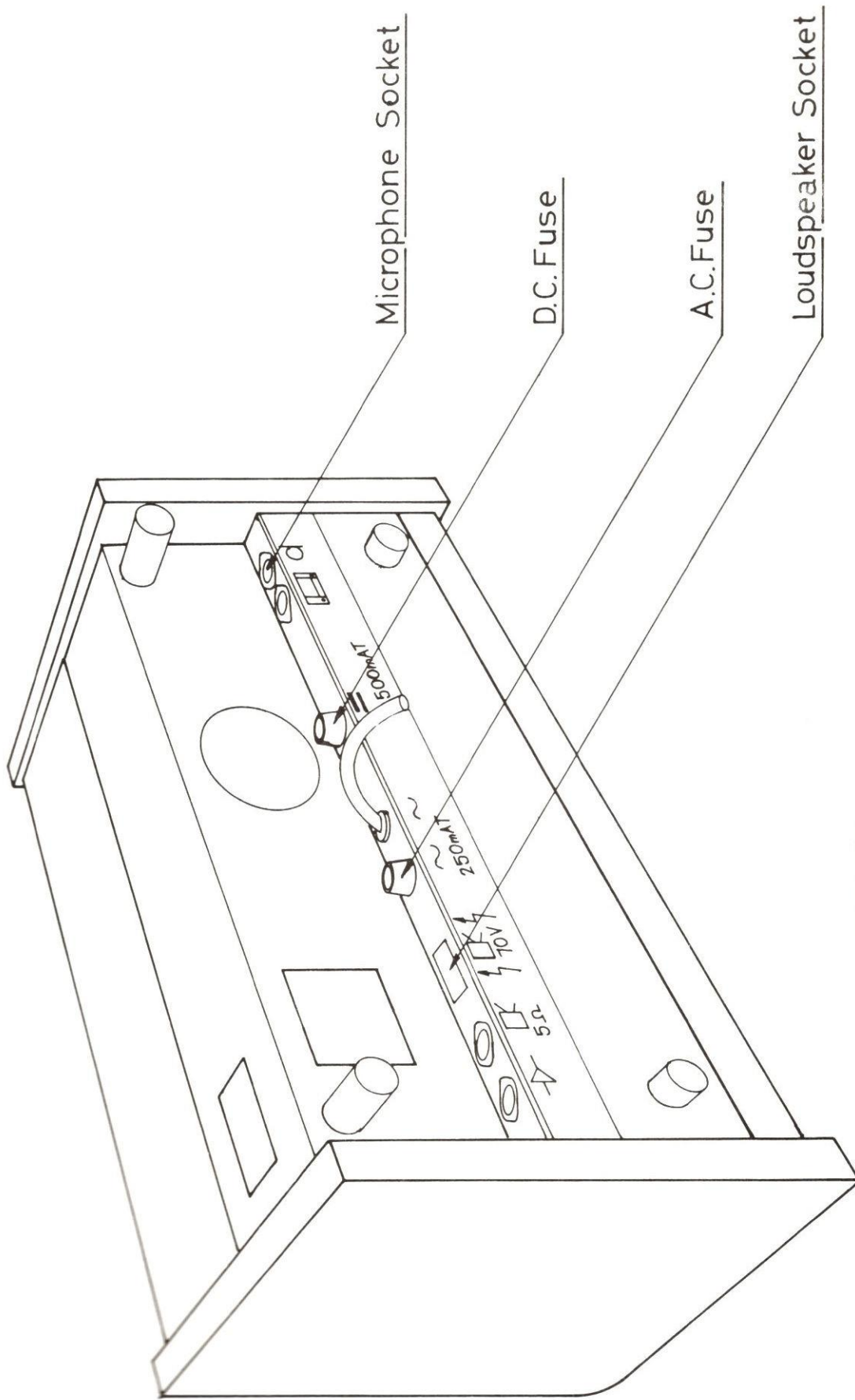


FIGURE 1
UNDERSIDE VIEW

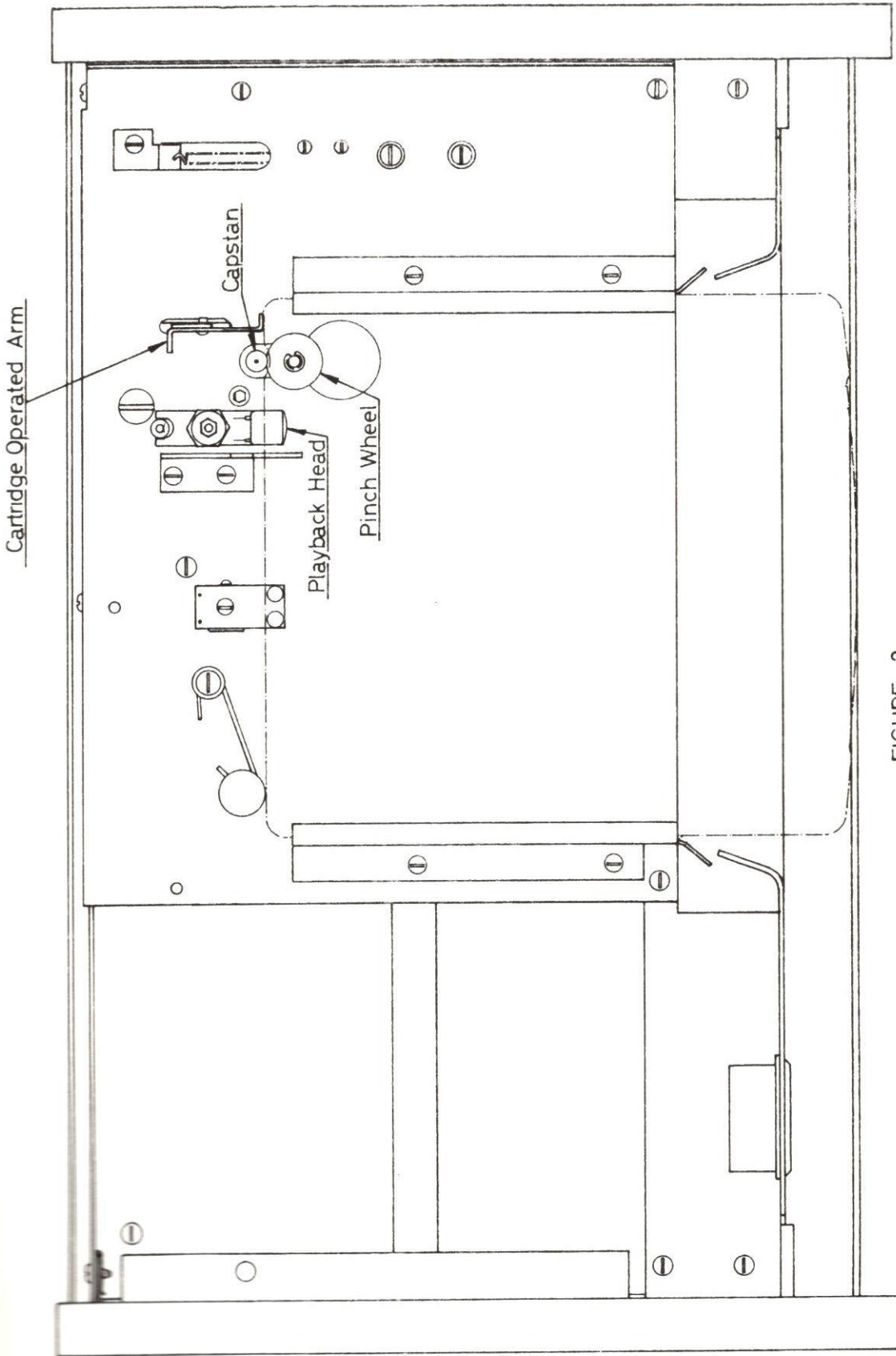


FIGURE 2
TOP VIEW OF MACHINE WITH COVER REMOVED

DRG. No 910296

5. Symptom: Music lacks volume and is of poor quality.

Cause: Defective cartridge - try another.
Playback head dirty (see Fig.2)
After disconnecting the mains plug, remove the top cover of the machine by removing three screws from its rear edge. Carefully wipe the front face of the playback head with a clean, soft, lint-free cloth moistened with Methylated Spirit. Do not try to adjust or tighten up the head mounting. Replace the top cover and reconnect the mains plug.

ROUTINE SERVICE ITEMS

The usual practice is to provide service on demand, rather than on a routine basis. However, when an Engineer visits a site to deal with a complaint, he may often forestall an early repeat visit if, in addition to dealing with the cause of the immediate complaint, he also checks the following items:

1. Check that the fan grill is clean and unobstructed, also that the fan is firmly attached to the motor spindle.
2. Check the bearings of the motor, flywheel, and pinchwheel for dryness or tackiness.
3. Clean and examine the pinchwheel; replace it if necessary.
4. Clean the playback head and tape contacts.
5. Check that all of the drive belts are in position and in good condition; clean the motor pulley if necessary.
6. Check that the pinchwheel lifting mechanism operates freely and positively.
7. Check that all of the external plug connections are sound.
8. Check the operation of all controls and functions.
9. Check that the quality of reproduction is good.
10. Check and explain any further areas of complaint or doubt raised by the user.

INSTALLATION NOTES

1. Check that the mains voltage and frequency ratings shown on the serial number plate of the machine are appropriate to the available supply.
2. Remove the top cover and ensure that the interior of the machine is free from stray packing material or other debris. Also check that the pinchwheel lift mechanism works freely, that its spring is intact and that the pinchwheel, capstan, and head face are clean. Replace the top cover.
3. The mains connection must be made by means of a suitable 3 pin plug, to provide a proper earth connection. If the plug is of the type which includes a cartridge fuse, this may have any rating between 2 amp and 6 amp. Correct polarity of the live and neutral connections must be observed.
4. In all normal installations, the loudspeakers will be of the type incorporating a tapped transformer for use on a 70 volt, constant voltage line. The taps should be adjusted to provide the required balance of volume between the various speakers, but the total loading must not exceed 6 watts (i.e. a load of not less than 800 ohms impedance).
5. Always site the machine in a cool, dry, clean location; do not place it in the immediate vicinity of a heating appliance, and avoid especially the hot, steamy atmosphere of kitchens or similar places.
6. The machine must stand in its upright position on a reasonably level surface. It will not operate reliably in any other position.

ANCILLARY CONNECTIONS AND FUSES

1. Microphone

The microphone may have any impedance between 200 ohm and 2000 ohm, and is connected by means of a 5 pin, 180°, D.I.N. plug. This facility is primarily intended for paging and general announcement purposes, with the microphone placed adjacent to the machine. Operation at greater distances is possible but special wiring arrangements or a line-isolating transformer might be needed, depending on the particular site conditions.

If required, a single-pole, changeover switch can also be connected to the microphone plug to provide both microphone switching and music muting. This is achieved by short-circuiting the power supply of the unwanted preamplifier to earth; if no switch is connected, both preamplifiers remain operative under the control of their individual volume controls.

Where additional site wiring is required for remote microphone operation, a screened twin cable should be used for the microphone connections and an additional unscreened 3 core cable for the muting circuits, if required.

Connections to the microphone plug are:

Pin 1	microphone (live)
Pin 2	microphone (earth)
Pin 3	blank
Pin 4	microphone muting contact
Pin 5	music muting contact
Shell	screen and muting switch common contact

Note: where a microphone is installed close to the machine, the user should be instructed to turn the monitor control down before using the microphone, in order to avoid acoustic feedback or howl.

2. Auxiliary Input

Suitable radio tuners, record players etc. can be fed into the system by way of the auxiliary input facility. This connection is made by a 5 pin, 180° D.I.N. plug and is selected by turning the track selector switch to the auxiliary position. The music volume, bass and treble controls remain effective in this mode of operation, as also does the above mentioned music muting circuit.

An input of approximately 50 mV, into an impedance of about 100K-ohm is required for full output. If the available signal is greater than about 500 mV, a simple attenuator pad should be included in the input connection, to avoid overloading the preamplifier.

Connections to the auxiliary input plug are:

Pin 3	live input
Pin 2	earthy input
Others	blank

IMPORTANT NOTE:

It is imperative that auxiliary equipment should not be of the type having any direct connection between the mains supply and its output connections. A decision as to the suitability of any particular piece of equipment must always be made by a competent engineer. Failure to observe these precautions can lead to serious danger of personal injury, fire and damage to the equipment.

3. Auxiliary Output

Additional amplifiers may be fed from this circuit, which provides an earth-free output of approximately 1 volt from a source impedance of about 660 ohm. All of the relevant controls and facilities are operative with respect to this output circuit, which is connected via a 5 pin, 180° D.I.N. plug.

Connections to the auxiliary output plug are:

Pin 4	output
Pin 5	output
Others	blank

4. Loudspeaker Circuits

As mentioned in the installation notes, the preferred arrangement for all normal installations is to use loudspeakers which are fitted with tapped transformers for use with a 70 volt line. Such systems are connected by means of a special 2 pin plug to the 70 volt output socket.

This output is balanced about an earthed centre point to reduce the risk of interference with adjacent telephone circuits etc. The tapplings on the individual loudspeakers are adjusted to provide the required balance of volume levels, but care must be taken to ensure that the total loading does not exceed 6 watts.

If, for some special reason, it is desired to use a low-impedance loudspeaker circuit, this can be connected to the 5 ohm output socket by means of a standard 2 pin, D.I.N. loudspeaker plug. This output circuit is unbalanced and the total load must have an impedance of not less than 5 ohms.

In the event of both of the above mentioned loudspeaker circuits being used simultaneously, the total loading of the two together must not exceed 6 watts. For the purpose of calculating the power in the low impedance circuit, its voltage can be taken as 5.5 volts. The power in a given loudspeaker is then found by dividing its impedance into the square of 5.5.

5. Fuses

Two externally accessible cartridge fuses are fitted. One in the mains input circuit, referred to as the AC fuse, and the other in the DC power supply circuit of the amplifier, referred to as the DC fuse. Both of these are standard European cartridge fuses measuring 20mm x 5 mm and both are of the time delay or slow blow type.

The AC fuse has a rating of 250 mA (this is increased to 500 mA in machines which have been set up for operation on 117 volt mains)

The rating of the DC fuse is always 500 mA. One of the functions of the DC fuse is to provide some measure of protection for the amplifier in the event of grossly incorrect, or short circuit, loudspeaker circuits being connected. Any persistent blowing of this fuse should therefore be taken to indicate the need to check the loading of the loudspeaker system.

Where the loudspeaker system loading is close to the maximum permitted it is also possible for this fuse to blow if the microphone circuit is persistently allowed to 'feed back' or 'howl' since this also constitutes a fairly severe overload condition. To avoid this the users of microphones should be instructed in the correct use of the microphone volume control and of the monitor control.

Alternative Mains Supplies

Before leaving the factory, machines are set up for mains supply voltages and frequencies appropriate to the country of destination; the details are shown on the serial number plate of each machine. The variations involved are as follows:

<u>Voltage</u>	<u>Frequency</u>	<u>Transformer Tap</u>	<u>AC Fuse</u>	<u>Motor Pulley</u>
240V	50Hz	245	250mAT	7012
220V	50Hz	225	250mAT	7012
117V	50Hz	117	500mAT	7012
240V	60Hz	245	250mAT	7227
220V	60Hz	225	250mAT	7227
117V	60Hz	117	500mAT	7227

In the case of 117V machines, the socket strip label is also changed to show the different AC fuse rating.

The machine is designed to operate over a range of $\pm 10\%$ with respect to the nominal voltage ratings.

The motor and neon indicator lamp are always supplied from the 225V tap of the mains transformer primary winding.

2. The quiescent current of Q8, Q9 is set to approximately 15 mA by means of R39.
3. The motor and the neon indicator lamp are always supplied from the 225V tap of the primary winding of the mains transformer.
4. SKT1, located on the input switch assembly, is for use in conjunction with the de luxe and auto-ad models. In the standard model, a shorting link must be in position between pin 1 and pin 4.
5. The numbering of the contacts of the D.I.N. plugs in this manual corresponds with the numbers moulded into the plugs themselves.

5 pin: Viewed from the outside face
of the socket and counting
clockwise, the order is:

1, 4, 2, 5, 3

6 pin: Viewed from the outside face
of the socket and counting
clockwise, the order is:

1, 2, 3, 4, 5, with 6
in the centre

MECHANICAL ADJUSTMENTS

Adjustment of the items described below will not normally be necessary unless the factory settings have been disturbed, possibly in the course of servicing or fitting new parts.

1. Cartridge Guides

The cartridge guides have slotted fixing holes to enable their positioning on the deck to be adjusted by slightly slackening their fixing screws. The settings must be such that the cartridge slides in and out squarely and without any trace of binding. A small clearance should always be present between the cartridge and the guides to allow for slight variations between cartridges. The positioning and spacing of the guides must, however, be such as to ensure that the cartridge openings always line up with the pinch wheel spindle, the playback head and the tape guide, no matter how awkwardly the user inserts the cartridges!

2. Tape Contact Assembly

Both the position and the angle of this assembly can be slightly altered by slackening its fixing screw. The setting must be such that the contacts deflect the tape from its natural path by the minimum amount that is consistent with reliable contact between the contact pillars and the tape foil. This deflection is normally about 1/16". It is necessary to ensure also that the contact assembly is approximately central in the cut-out of the cartridge.

3. Pinchwheel Adjustments

It is essential to the correct operation of the machine that the pinchwheel spindle, when locked up in the operating position, be perpendicular to the deck plate. At the same time, there must be sufficient interference between the pinchwheel and the capstan shaft to ensure reliable tape drive. To enable both of these conditions to be met, two separate adjustments are provided.

A. Pinchwheel erection:

Lift the pinchwheel by hand, without inserting a cartridge, until it locks on to the electromagnet. Observe whether or not the pinchwheel spindle is then perpendicular to the deck plate. If it is not, it must be adjusted as follows:

Move the capstan shaft right back, clear of the pinchwheel (see "Pressure Adjustment" below).

Slightly slacken the electromagnet fixing screws (two 2 - BA slotted screws to the right of the right hand cartridge guide)

Slide the electromagnet backward or forward until the pinchwheel shaft is perpendicular to the deck plate

Re-tighten the electromagnet fixing screws and check that the pinchwheel spindle is still perpendicular to the deck plate

Next, re-set the pinchwheel pressure, as described in the next paragraph

B. Pinchwheel Pressure:

This is adjusted by moving the capstan shaft backward or forward to obtain the required degree of interference between the pinchwheel and the capstan shaft. Before adjusting pinchwheel pressure, please check that the pinchwheel spindle is perpendicular to the deck plate as described in the previous paragraph.

Slightly slacken the socket head, 2 - BA locking screw located immediately to the right of the head assembly.

Turn the large slotted screw, located just behind the head assembly, to move the capstan shaft to provide the required pressure.

Tighten the socket head screw to lock the capstan shaft in position and re-check the setting.

The correct setting is achieved when the capstan shaft compresses the pinchwheel by an amount between $3/64$ " and $1/16$ ". *

C. Pinchwheel Rest Position:

When the pinchwheel is disengaged, it must rest below deck level without any tendency to 'float' upwards. To ensure this, a piece of magnetic rubber is fitted to the buffer block, item 50 on the tapedeck drawing. It is important to ensure that this item is in position, and that the armature, or 'swivel plate' locks onto it when the pinchwheel is released.

4. HEAD ADJUSTMENTS

There are two adjusting nuts towards the rear of the head assembly. The upper one (a 4-BA nylox nut) sets the height of the head and is adjusted to centre the working faces of the head about the slot in the tape guide. The lower, large brass nut is then used to adjust the azimuth of the head for maximum high frequency response. The latter adjustment is best carried out by choosing a music tape with good high frequency content (violins, or drums played with wire brushes) setting the treble control to maximum, and then rocking the adjustment for the brightest, clearest reproduction. This adjustment should be sealed with a blob of varnish or suitable adhesive.

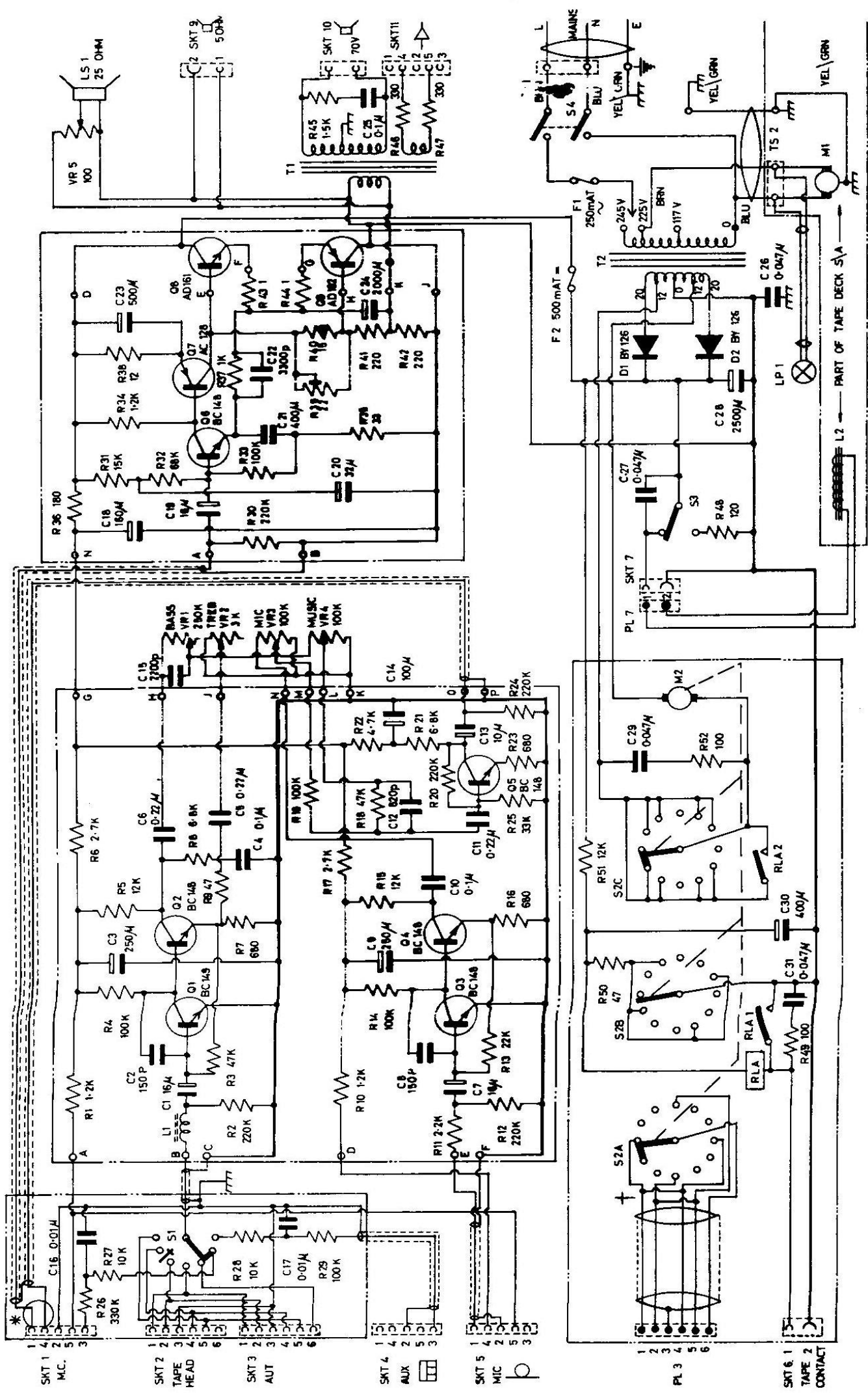
TYPICAL VOLTAGE READINGS

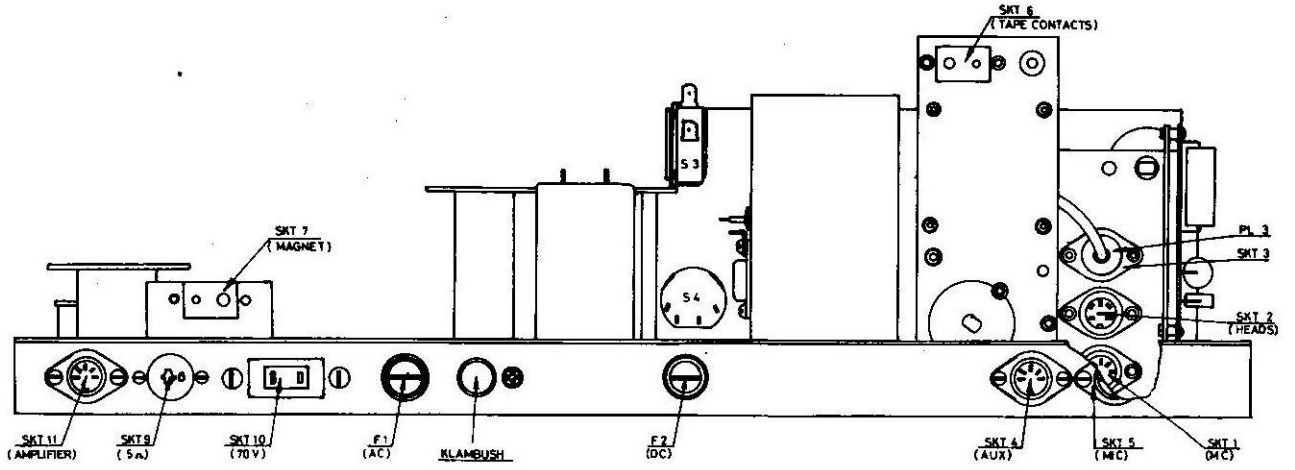
Measured with respect to chassis, using Avometer Model 8.
Mains Supply: 245V, into 245V tap. Motor and deck magnet connected, no audio input.

<u>Test Point</u>	<u>Meter Range</u>	<u>Reading</u>
Across C28	25	23.5
Across C18	25	22.5
Across C3	25	20
Across C9	25	20
Across C20	25	21
Q1 collector	10	1.3
Q2 collector	10	8.4
Q2 emitter	10	0.6
Q3 collector	10	1.3
Q4 collector	10	8.4
Q4 emitter	10	0.6
Q5 collector	25	11
Q5 emitter	10	0.6
Q6 collector	25	22.5
Q6 emitter	25	12
Q7 collector	25	11.5
Junction R43, R44 etc.	25	11.5

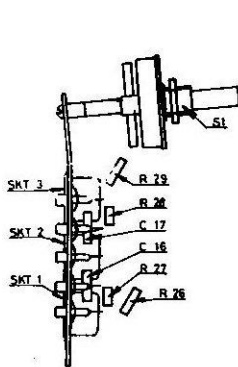
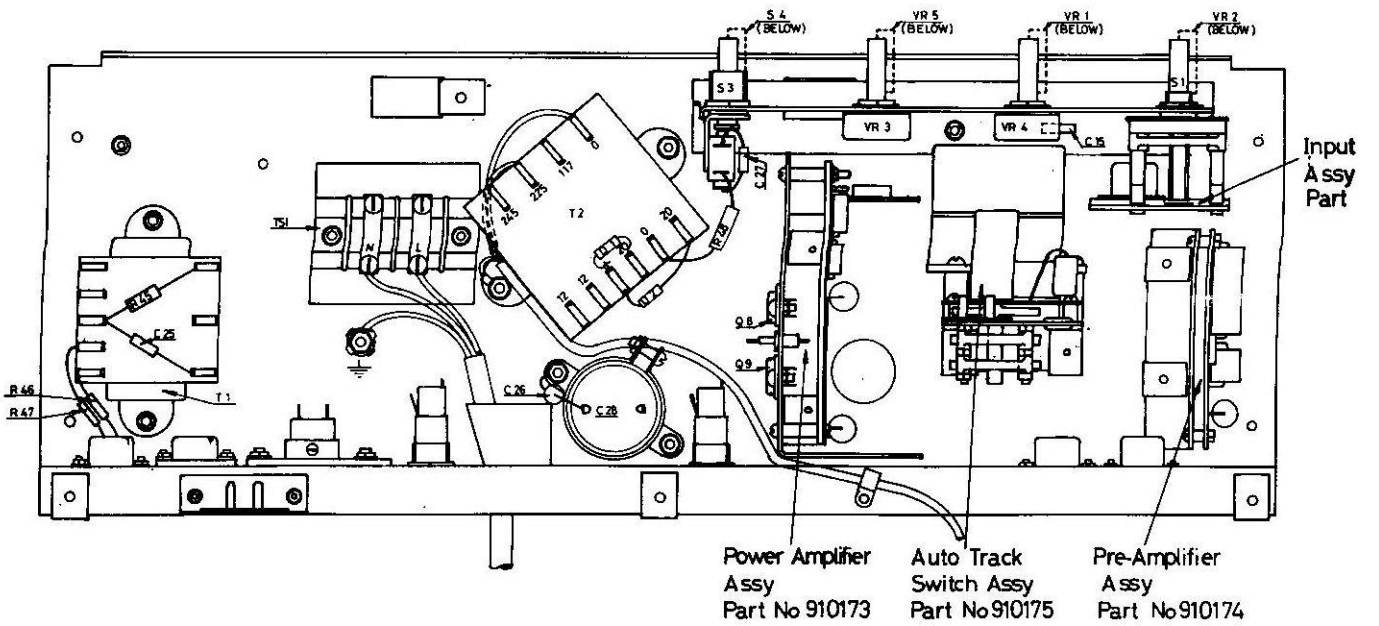
NOTES:

1. The amplifier should not be operated without the deck magnet or an equivalent load, connected. If desired, use may be made of R48 for this purpose by connecting a clip lead across the appropriate terminals of S3.

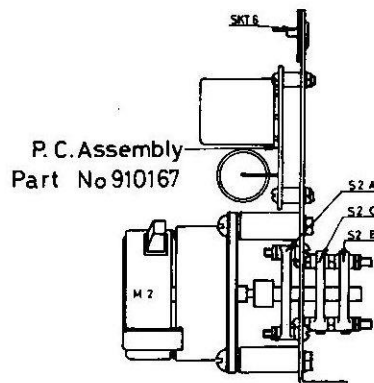




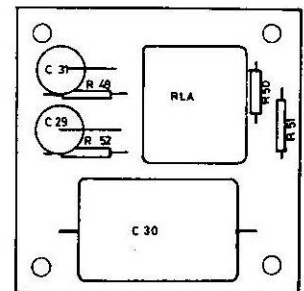
AMPLIFIER ASSEMBLY COMPLETE
Part No 910161



INPUT SWITCH ASSEMBLY
Part No 910164



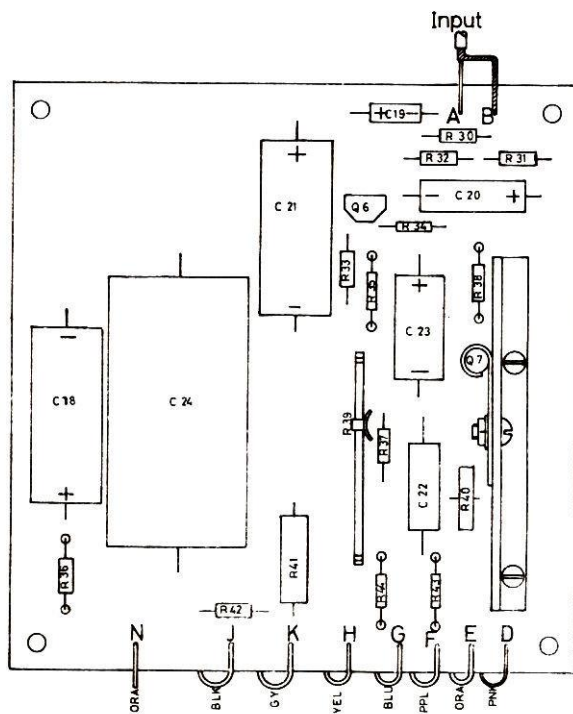
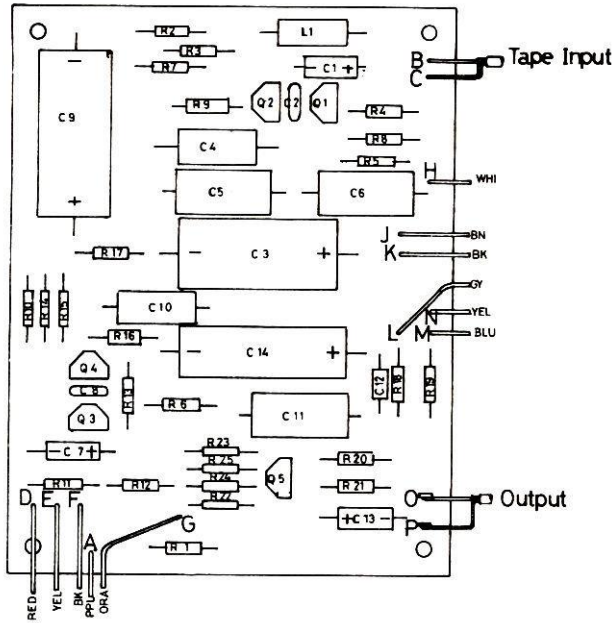
AUTOMATIC TRACK SWITCH ASSEMBLY
Part No 910175



AUTOMATIC TRACK SWITCH P.C. ASSEMBLY
Part No 910167
AMPLIFIER LAYOUT

PRE-AMPLIFIER P.C.ASSEMBLY

Part No 910165



POWER AMPLIFIER P.C. ASSEMBLY

Part No 910166

PARTS LIST (AMPLIFIER)

Please refer to drawing No. 910172 (circuit)
and drawing No. 910289 (layout)

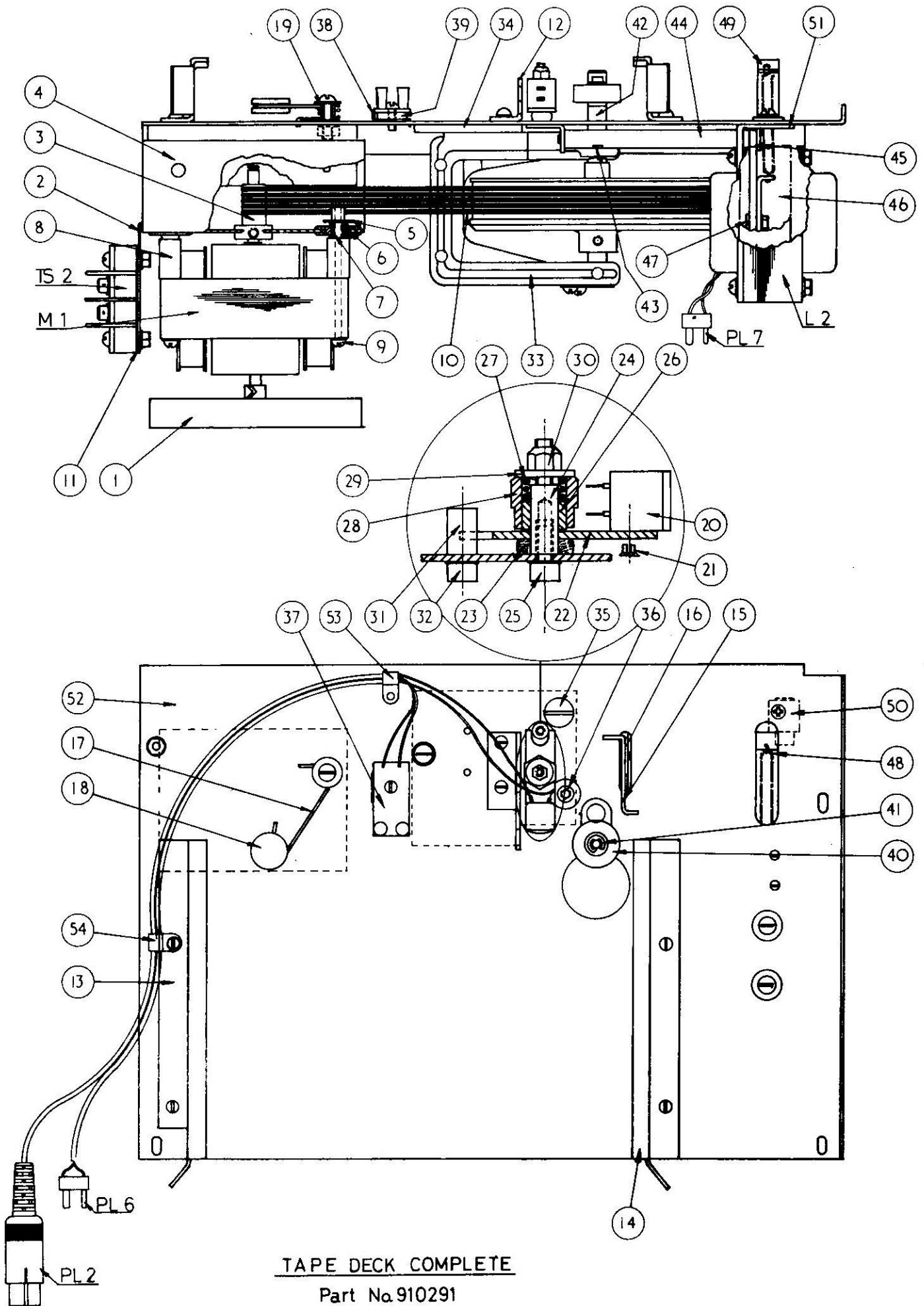
<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
-	Amplifier, complete as shown	910161
-	Preamplifier, complete assembly	910174
-	Preamplifier, P.C. assembly	910165
-	Power amplifier, complete assembly	910173
-	Power amplifier, P.C. assembly	910166
-	Auto track switch, complete assembly	910175
-	Auto track switch, P.C. assembly	910167
-	Input switch assembly, as shown	910164

C1	16UF 10V	7151
C2	150pF ceramic	910301
C3	250UF 25V	910302
C4	0.1 UF 250V	910303
C5	0.22UF 250V	7154
C6	0.22UF 250V	7154
C7	16UF 10V	7151
C8	150pF ceramic	910301
C9	250UF 25V	910302
C10	0.1 UF 250V	910303
C11	0.22 UF 250V	7154
C12	820pF polystyrene	910304
C13	10UF 16V	910318
C14	100UF 40V	7153
C15	2200pF polyester	910305
C16	0.01 UF polyester	7156
C17	0.01 UF polyester	7156
C18	160UF 40V	910306
C19	16UF 10V	7151
C20	32UF 40V	910307
C21	400UF 16V	910308

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
C22	3300pF polyester	910309
C23	500UF 2.5V	910310
C24	2000UF 16V	910311
C25	0.1 UF 400V	910312
C26	0.047UF 400V	910313
C27	0.047UF 400V	910313
C28	2500 UF 40V	910314
C29	0.047 UF 400V	910313
C30	400 UF 40V	910315
C31	0.047 UF 400V	910313
D1	BY126 silicon diode	7158
D2	By126 silicon diode	7158
F1	250mA, delay, 20mm x 5mm	7319
F2	500mA, delay, 20mm x 5mm	910316
F1, F2	Fuseholder, Schurter	910541
Klambush	Cable clamp, KB2	850667
L1	R.F. choke	910317
L2	See drawing No. 910291 - tapedeck	-
LP1	See drawing No. 910290 - cabinet	-
M1	See drawing No. 910291 - tapedeck	-
M2	geared motor, 6 r.p.m.	910294
-	shaft extension for M2	910269
PI 1	5 pin 180 ⁰ DIN	910287
PL2	6 pin 240 ⁰ DIN	910256
PL3	6 pin 240 ⁰ DIN	910256
PL4	5 pin 180 ⁰ DIN	910287
PL5	5 pin 180 ⁰ DIN	910287
PL6	2 pin Ariel RA1054	910255
PL7	2 pin Ariel RA1054	910255
PL8	not included	-
PL9	2 pin LS7Z DIN	910319
PL10	2 pin special	910270
PL11	5 pin 180 ⁰ DIN	910287
Q1	BC149	910320
Q2	BC148	910321
Q3	BC148	910321
Q4	BC148	910321
Q5	BC148	910321
Q6	BC148	910321
Q7	AC128	910322
Q8	AD161	910323
Q9	AD162	910324

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
-	mica washer for Q8 or Q9	910325
-	insulation bush for Q8 or Q9	910326
R1	1.2 kohm $\frac{1}{2}$ W	910327
R2	220 kohm $\frac{1}{2}$ W	910328
R3	47 kohm $\frac{1}{2}$ W	910329
R4	100 kohm $\frac{1}{2}$ W	910330
R5	12 kohm $\frac{1}{2}$ W	910331
R6	2.7 kohm $\frac{1}{2}$ W	910332
R7	680 ohm $\frac{1}{2}$ W	910333
R8	6.8 kohm $\frac{1}{2}$ W	910334
R9	47 ohm $\frac{1}{2}$ W	910335
R10	1.2 kohm $\frac{1}{2}$ W	910327
R11	2.2kohm $\frac{1}{2}$ W	910338
R12	220 kohm $\frac{1}{2}$ W	910328
R13	22 kohm $\frac{1}{2}$ W	910339
R14	100 kohm $\frac{1}{2}$ W	910330
R15	12 kohm $\frac{1}{2}$ W	910331
R16	680 ohm $\frac{1}{2}$ W	910333
R17	2.7 kohm $\frac{1}{2}$ W	910332
R18	47 kohm	910329
R19	100 kohm $\frac{1}{2}$ W	910330
R20	220 kohm $\frac{1}{2}$ W	910328
R21	6.8 kohm $\frac{1}{2}$ W	910334
R22	4.7 kohm	910340
R23	680 ohm $\frac{1}{2}$ W	910333
R24	220 kohm $\frac{1}{2}$ W	910328
R25	33 kohm $\frac{1}{2}$ W	910341
R26	330 kohm $\frac{1}{2}$ W	910342
R27	10 kohm $\frac{1}{2}$ W	910343
R28	10 kohm $\frac{1}{2}$ W	910343
R29	100 kohm $\frac{1}{2}$ W	910330
R30	220 kohm $\frac{1}{2}$ W	910328
R31	15 kohm $\frac{1}{2}$ W	910344
R32	68 kohm $\frac{1}{2}$ W	910345
R33	100 kohm $\frac{1}{2}$ W	910330
R34	1.2 kohm $\frac{1}{2}$ W	910327
R35	33 ohm $\frac{1}{2}$ W	910346
R36	180 ohm $\frac{1}{2}$ W	910347
R37	1 kohm $\frac{1}{2}$ W	910348
R38	12 ohm $\frac{1}{2}$ W	910349
R39	22 ohm w.w. preset	910350
R40	Thermistor VAl100 (15 ohm nominal)	910351
R41	220 ohm 1W	910352
R42	220 ohm $\frac{1}{2}$ W	910353
R43	1 ohm $\frac{1}{2}$ W	910354
R44	1 ohm $\frac{1}{2}$ W	910354
R45	1.5 kohm 1W	910355
R46	330 ohm $\frac{1}{2}$ W	910356
R47	330 ohm $\frac{1}{2}$ W	910356
R48	120 ohm 6W	910357
R49	100 ohm $\frac{1}{2}$ W	910358
R50	47 ohm $\frac{1}{2}$ W	910335
R51	12 kohm $\frac{1}{2}$ W	910331
R52	100 ohm $\frac{1}{2}$ W	910358

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
RLA	Relay 2p c/o	910359
S1	Input selector switch 1p 1lws	910360
S2A	wafter 1p 12w s	910361
S2B	wafer 1p 12w ns	910362
S2C	wafer 1p 12 w s	910361
S3	microswitch assy.	810210
	extension shaft for S3	910234
S4	mains switch	910363
SKT1	5 pin 180° DIN	910364
SKT2	6 pin 240° DIN	910365
SKT3	6 pin 240° DIN	910365
SKT4	5 pin 180° DIN	910364
SKT5	5 pin 180° DIN	910364
SKT6	2 pin ARIEL RA1387	910366
SKT7	2 pin ARIEL RA1387	910366
SKT8	not included	-
SKT9	2 pin DIN LB2	7308
SKT10	2 pin special (70V output)	910295
SKT11	5 pin 180° DIN	910364
T1	Output transformer	910371
T2	mains transformer	910372
TS1	terminal strip (mains)	850682
TS2	see drawing No. 910291 - tapedeck	-
VR1	250K R/LG	910367
VR2	3K R/LG	910368
VR3	100K LG	910369
VR4	100K LG	910369
VR5	100 ohm LIN ww	910370

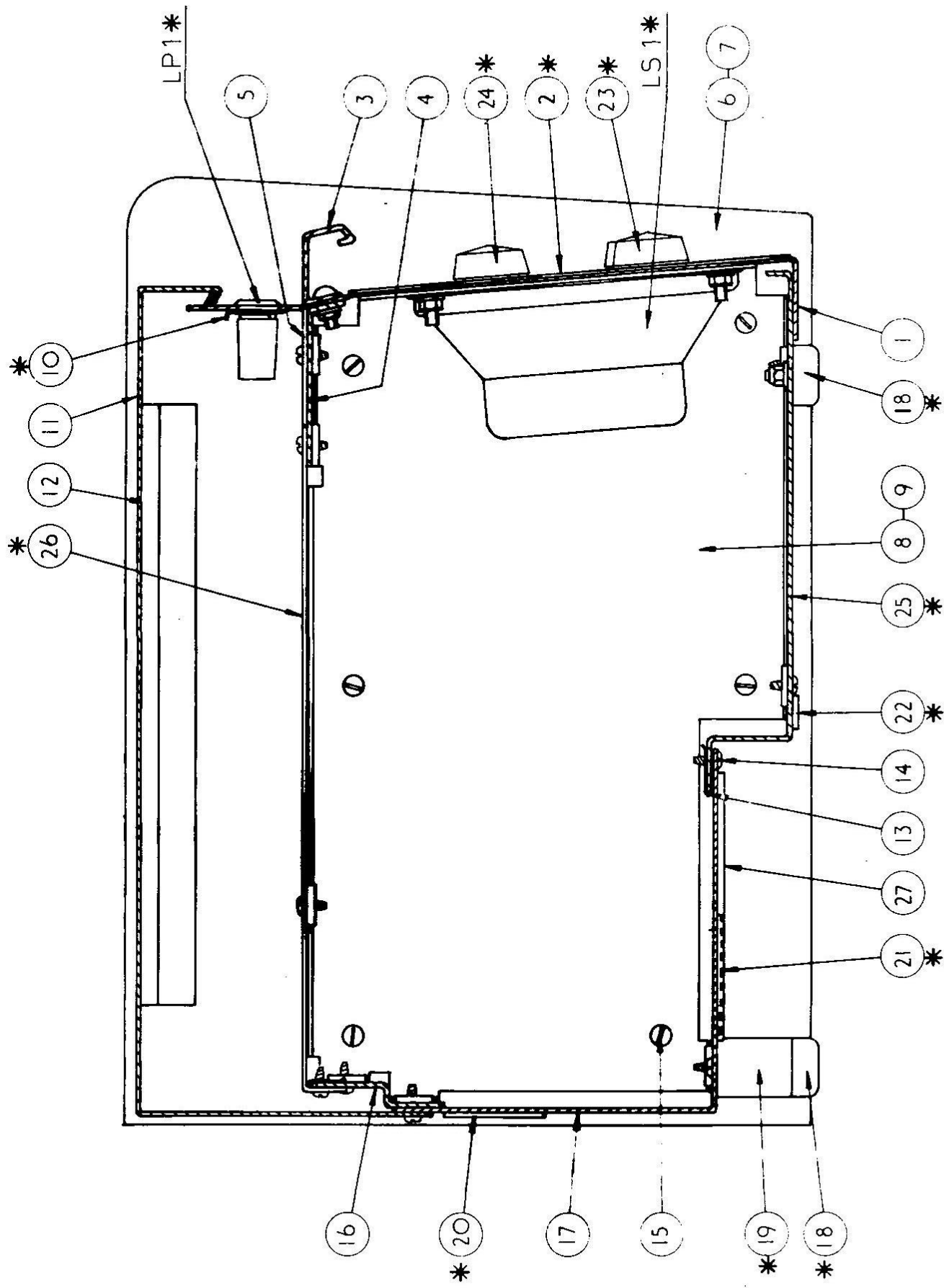


PARTS LIST (TAPE DECK)

Please refer to Drawing No. 910291 - Tape Deck

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
	Tapedeck complete, as drawn	910291
1	Fan, plastic	7362
2	Screening plate	910208
3	Pulley (50HZ)	7012
	" (60HZ)	7227
4	Motor mounting bracket	7031/A
5	Mounting strap	910209
6	Motor mounting grommet	7011
7	Spacer for grommet	910232
8	Motor spacer	910251
9	Motor mounting screw, 4BA x 2 $\frac{1}{4}$ "	7100
10	Drive belt	7013/1
11	Insulating sheet for TS2	910266
12	Tape guide	910225
13	Cartridge guide, left hand	910198
14	Cartridge guide, right hand	910197
15	Cartridge operated arm	910284
16	Shoulder washer	7001/V
17	Cartridge ejector spring	910212
18	Cartridge ejector buffer	910233
19	Cartridge ejector spacer	910231
20	Playback head	910254
21	Screw I.S.O. 1.6mm x 2.5mm c's'k	4702
22	Head-mounting plate	910215
23	Rubber sleeve	910224
24	Pillar	910217
25	Screw, cap head 4BA x $\frac{1}{4}$ "	4696
26	Bush	910221
27	Spring	910213
28	Cam	910222
29	Washer	910223
30	Nut 4BA nylock	4212
31	Pillar	910219
32	Screw, cap head 4BA x $\frac{1}{4}$ "	4696
33	Flywheel assembly	910238
34	Flywheel mounting plate	910206
35	Eccentric screw	910207
36	Screw, cap head 2BA x $\frac{5}{8}$ "	4695
37	Tape contact assy.	910168
38	Tab washer	910227
39	Insulating washer	910228

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
40	Pinch wheel	7014/1
41	Circlip	7050
42	Pinch wheel spindle	7007
43	Screw, pan head 4BA x 3/16"	7101
44	Pivot bar assy.	910202
45	Pivot bar bracket	910200
46	Swivel plate (armature) assy.	910204
47	Shoulder screw	910265
48	Spring	910211
49	Bracket for spring	910210
50	Magnet stop assy.	910250
51	Bracket (for electromagnet)	910201
52	Deck plate with welded items	910196
53	'P' clip	910281
54	'P' clip	910281
L2	Electromagnet	910253
M1	Motor, AB x LIOG	7009/1
PL2	6 pin DIN plug	910256
PL6	2 pin Ariel RA 1054	910255
PL7	2 pin Ariel RA 1054	910255
TS2	Terminal strip	910257



*** NOTE**

Items marked thus * are shown for identification only. They are not supplied as part of the cabinet.

COMPLETE CABINET, except items marked *, PART No. 910290

PARTS LIST (CABINET)

Please refer to Drawing No. 910290

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
	Complete cabinet, less items marked *	910290
1	Front panel	910180
2	Front panel printed label	910181
3	Front trim strip - aluminium	910182
4	Deck support bracket	910183
5	Deck trim strip - black stelvete	910184
6	Right hand wood panel	910176
7	Left hand wood panel	910177
8	Right hand end support plate - steel	910178
9	Left hand end support plate - steel	910179
10	Retaining clip for pilot lamp assy.	910241
11	Top cover	910193
12	Foam rubber strip	910279
13	Spire nut No. 6	910259
14	Screw No. 6 x $\frac{1}{2}$ " long, flat tip	7105
15	Screw No. 6 x $\frac{1}{2}$ " long, pointed	4356
16	Rear strut	910194
17	Rear panel	910192
18	Rubber foot	910245
19	Spacer for rear feet	910230
20	'Warning' label	910244
21	Serial No. plate	910243
22	Connections label	910242
23	Knob, with pointer	910247
24	Knob, without pointer	910248
25	Amplifier, complete	910161
26	Tapedeck, complete	910291
27	Fan grill	910229
LP1	Pilot lamp assembly (complete)	910240
LS1	Monitor loudspeaker	910246

