Car Stereo cassette player 02AC280A

Service
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Service Manual

12 V

SPECIFICATIONS

NUMBER OF TRACKS	–	4 Track – 2 channels
TAPE CARTRIDGE	–	Stereo/Monaural compact cassette
TAPE SPEED	–	4.75 cm/sec
MUTE SWITCH	–	Reduces volume by 14 dB
D.S.S. SWITCH	–	Loudness control
POWER OUTPUT	–	3.0 watts per channel
SPEAKER IMPEDANCE	–	4 ohms per channel
POWER SUPPLY	–	12 Vdc. Negative to earth
CURRENT	–	0.6 amp. (at 0.5 watt output)
SEMI CONDUCTORS	–	3 I.C's 1 Diode

Subject to modification

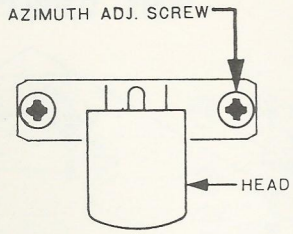
4802 725 17032

PHILIPS

PLAYBACK HEAD ADJUSTMENT (Azimuth)

Normally, the adjustment is precisely set at the factory and further adjustment should not be required unless the playback head or its mounting components are replaced.

Incorrect adjustment will cause a reduction in performance.



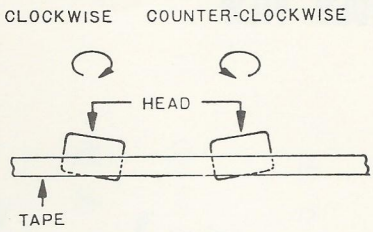


Fig. 1

If the azimuth is moved, then carefully adjust the azimuth screw as shown in Fig. 1.

Using a Test Tape for Azimuth Adjustment

Insert a test tape and set the control knobs as follows:

VOL. CONTROL KNOB (VOL)	Normal Volume
BALANCE CONTROL KNOB (BAL)	Central
TONE CONTROL KNOB	Fully Clockwise

Carefully adjust the azimuth adjustment screw for maximum volume and treble tones. It is recommended that a VTVM or Circuit Tester is connected to the speaker terminals for obtaining the maximum value because the test tape for azimuth adjustment is recorded in high treble tones.

If a test tape is not available, use a stereo music tape with some high treble tones (piano or violin music) and follow the same procedure as above.

CLEANING

After extended use, a layer of iron-oxide from the tape can build-up on the tape playback head and the drive capstan. The oxide layer prevents the tape from making full contact with the playback head, resulting in a gradual loss of high frequency response and an increased noise level. In the case of the capstan, the oxide deposit can cause slippage (wow) which might be mistaken for a more serious mechanical problem. To clean the head, a swab moistened with alcohol should be used.

WARNING – Do not use a solvent such as lighter fluid or thinners as these may cause damage to plastic parts or instrument finish.

First, using the end of a pencil, press the rod in the cassette door back until it clicks into position and then thoroughly clean the playback head, capstan and pinchroller.

After cleaning, press the eject button to return the rod to its original position.

DEMAGNETISATION

The playback head may become magnetised over a period of time. A magnetised head will record noise on a tape, even when it is being used for playback, so it is important that the head be periodically demagnetised. This can be done with a commercial demagnetiser (or degausser).

ADJUSTMENT FOR TAKE-UP TORQUE

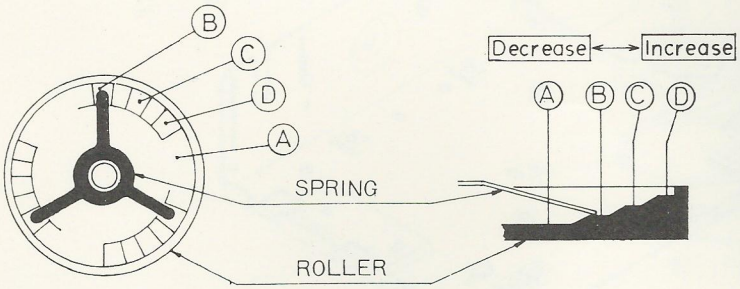
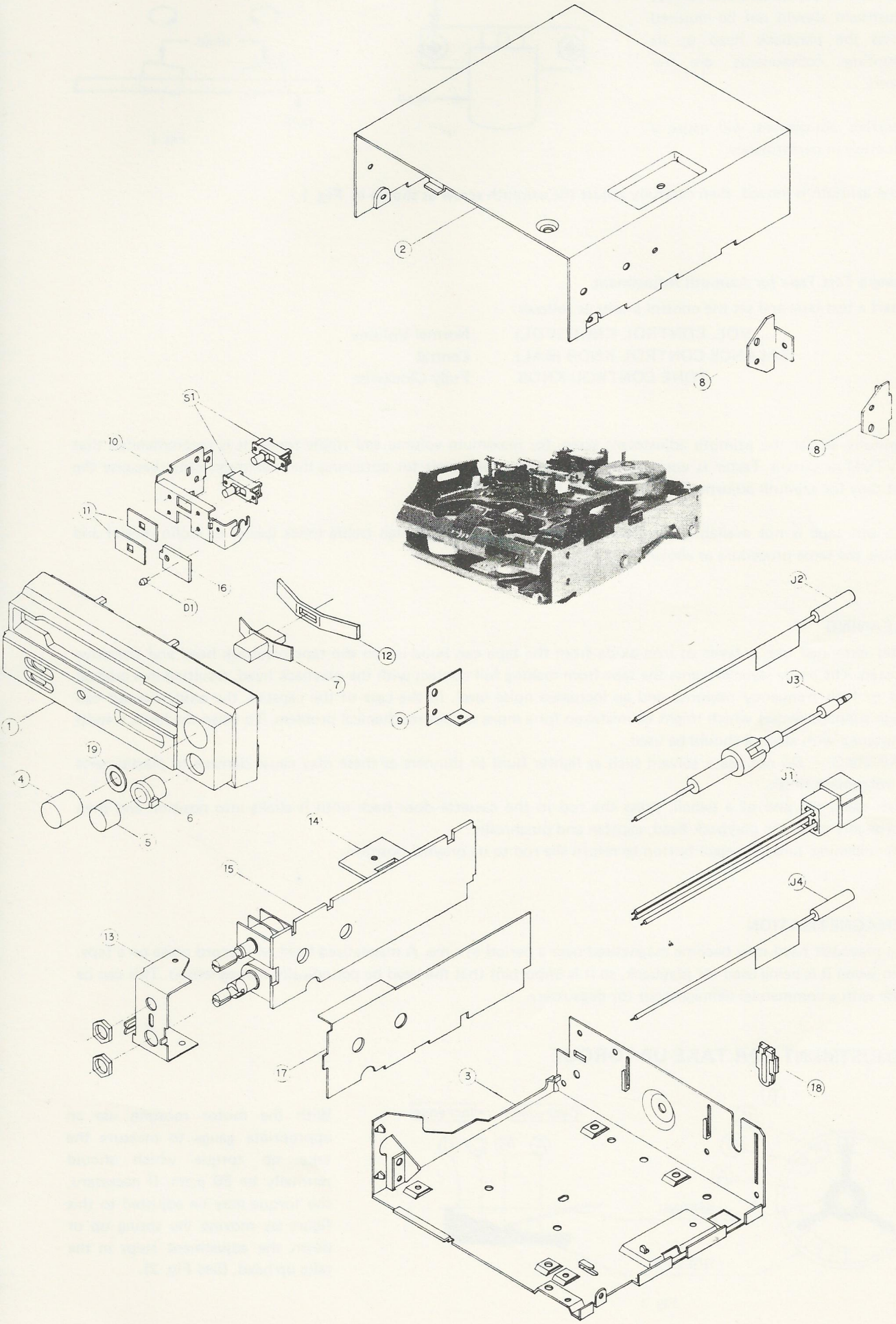


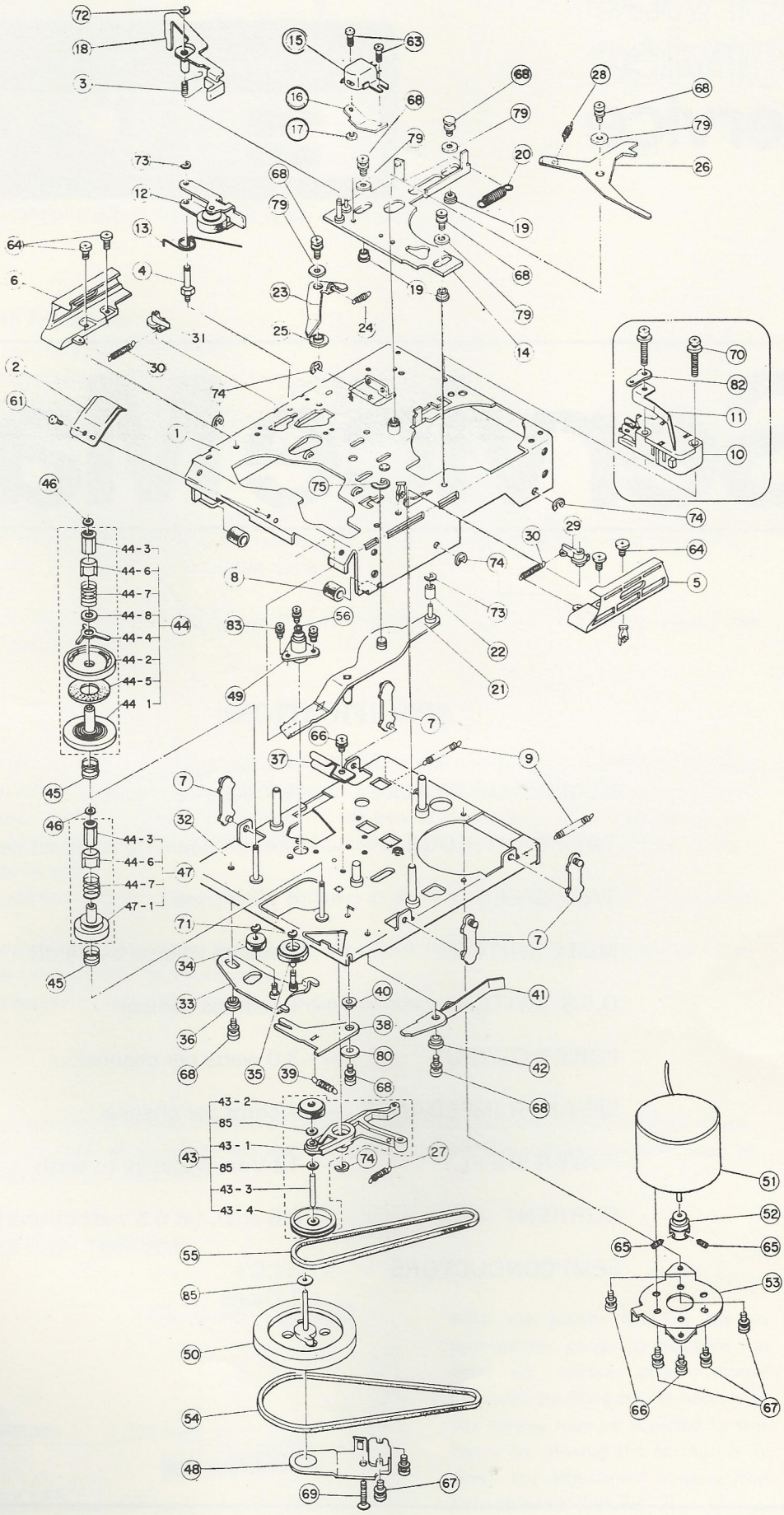
Fig. 2

With the motor rotating use an appropriate gauge to measure the take up torque which should normally be 50 g.cm. If necessary, the torque may be adjusted to this figure by moving the spring up or down the adjustment steps in the take up head. (See Fig. 2).

EXPLODED VIEW



CASSETTE DECK EXPLODED VIEW



CAPACITORS

REF. NO.	DESCRIPTION			SERVICE CODE
C.12	330pF	50V	Ceramic	4822 122 30055
C3.4.11.12	10μF	16V	Electro	4802 124 47044
C5.6.22.23	4.7μF	25V	Electro	4802 124 47034
C7.8	.015μF	50V	Mylar	4802 121 47161
C9.10	200pF	50V	Ceramic	4802 122 47077
C13.14	47μF	10V	Electro	4802 124 47016
C15	220μF	16V	Electro	4802 124 47018
C16.17	.1μF	12V	Ceramic	4802 122 47055
C18.19	.2μF	12V	Ceramic	4802 122 47109
C20.21	.0022μF	50V	Ceramic	4822 122 30114
C24.25	220μF	10V	Electro	4802 124 47006
C16.27	.022μF	50V	Mylar	4802 121 47163
C28.29	200pF	50V	Ceramic	4822 122 30094
C30.31	40pF	50V	Ceramic	4822 122 31069
C32.33.34.35	47μF	10V	Electro	4802 124 47016
C36.37	.15μF	50V	Mylar	4802 121 47173
C38.39	1000μF	10V	Electro	4802 124 47003
C40	1000μF	16V	Electro	4802 124 47051
C41.42.43	.0022μF	50V		4822 122 30114

RESISTORS AND CONTROLS

NOTE: All Resistors are standard values and tolerances unless specified otherwise

RV1.2.3	Balance	20K ohm	4802 102 57006
	Tone	10K ohm	
RV4.5	Volume	10K ohm	4802 100 37016

IC's AND DIODE

IC1	Pre AMP Linear — Monolithic	4802 209 87032
IC2.3	Power AMP Linear — Monolithic	4802 209 87062
D1	L.E.D.	4802 130 37095

COILS

L1	Filter	4802 152 27028
L2	Choke (Noise Suppression)	4802 158 17077

CASSETTE DECK

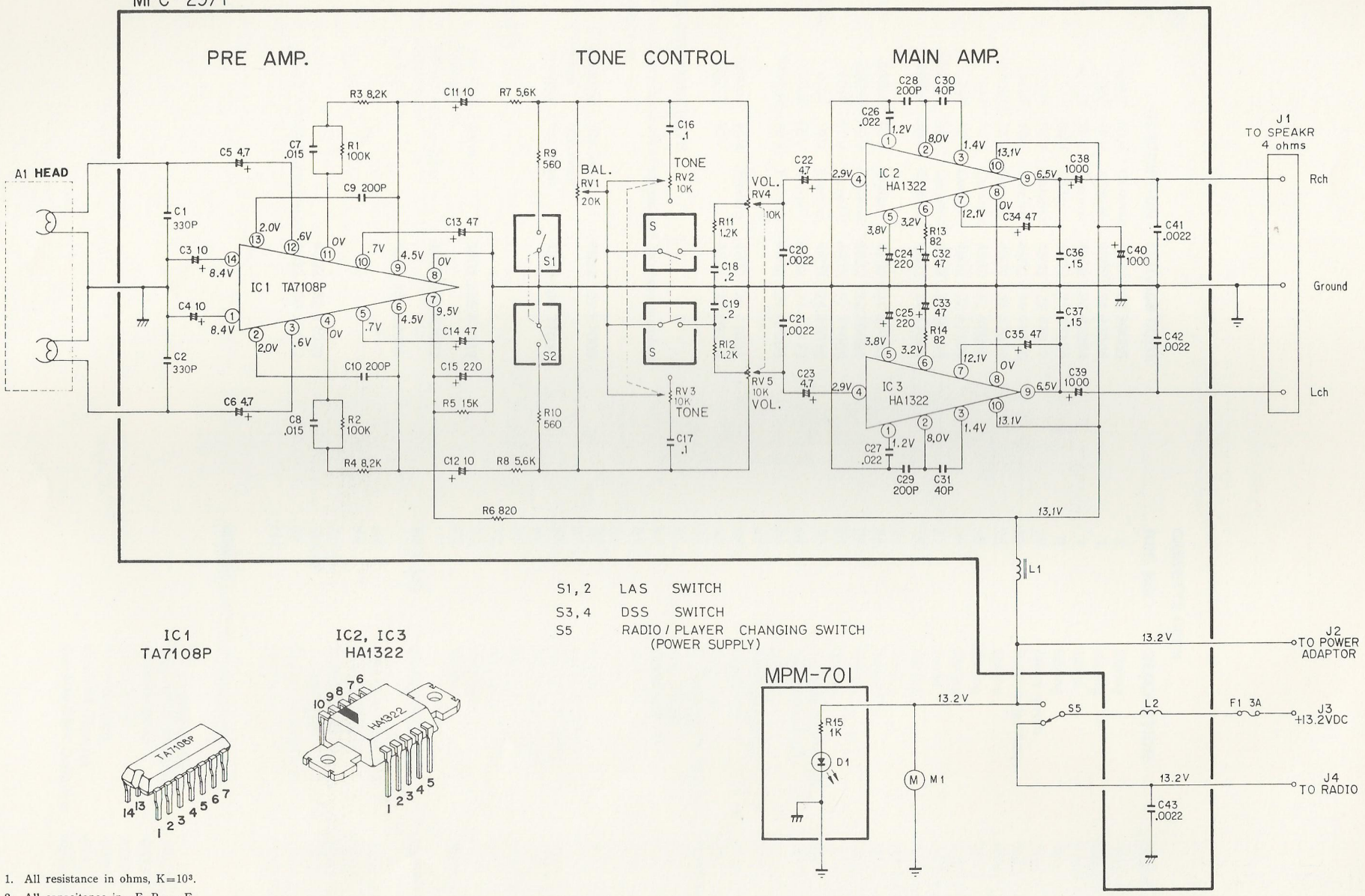
REF. NO.	DESCRIPTION	SERVICE CODE
2	Spring	4802 492 67208
3	Spring	4802 492 47017
7	Lever	4802 403 27049
9	Spring	4802 492 37198
10	Microswitch	4802 271 37003
12	Pinchroller Assy.	4802 403 47016
13	Spring	4802 492 47018
16	Spring	4802 492 67209
20	Spring	4802 492 37199
21	Lever	4802 403 27055
24	Spring	4802 492 37201
27	Spring	4802 492 37202
34	Roller	4802 403 27044
35	Roller	4802 403 27045
39	Spring	4802 492 37203
43	Lever & Pulley Assy.	4802 528 27039
44	Slip Mechanism	4802 528 27032
45	Spring	4802 492 57032
47	Slip Mechanism	4802 528 27033
48	Supporter	4802 403 27054
49	Housing	4802 520 17032
50	Flywheel with Capstan	4802 528 67026
51	D.C. Motor	4802 361 27038
52	Pulley (Roller)	4802 528 87093
54	Belt	4802 358 37044
55	Belt	4802 358 37045
56	Washer	4802 532 57102
61	Screw 2 x 3mm	4802 535 17005
66	Screw 2.6 x 4mm	4822 502 11084
68	Screw 2.6 x 6mm	4822 502 10034
71	Washer	4822 530 70119
72	Washer	4822 530 70121
73	Washer	4822 530 70122
75	Washer	4822 530 70123

REF. NO.	DESCRIPTION	SERVICE CODE
A1	Playback Head	4802 249 37007
F1	Fuse 3 AMP	4802 253 47006
S(1.2)	Switch LA5	4802 277 27038
S(3.4)	Switch DS8	4802 277 27038
S5	Switch Radio/Player	4802 271 37003
M1	Motor	4802 361 27038

MISCELLANEOUS MECHANICAL

Escutcheon (includes Door Shaft & Spring)	4802 459 57046
Knob Volume	4802 413 37156
Knob Tone	4802 413 37157
Knob Balance	4802 413 97145
Knob FF-Rewind	4802 411 57039
Cassette Deck Complete	4802 691 27026

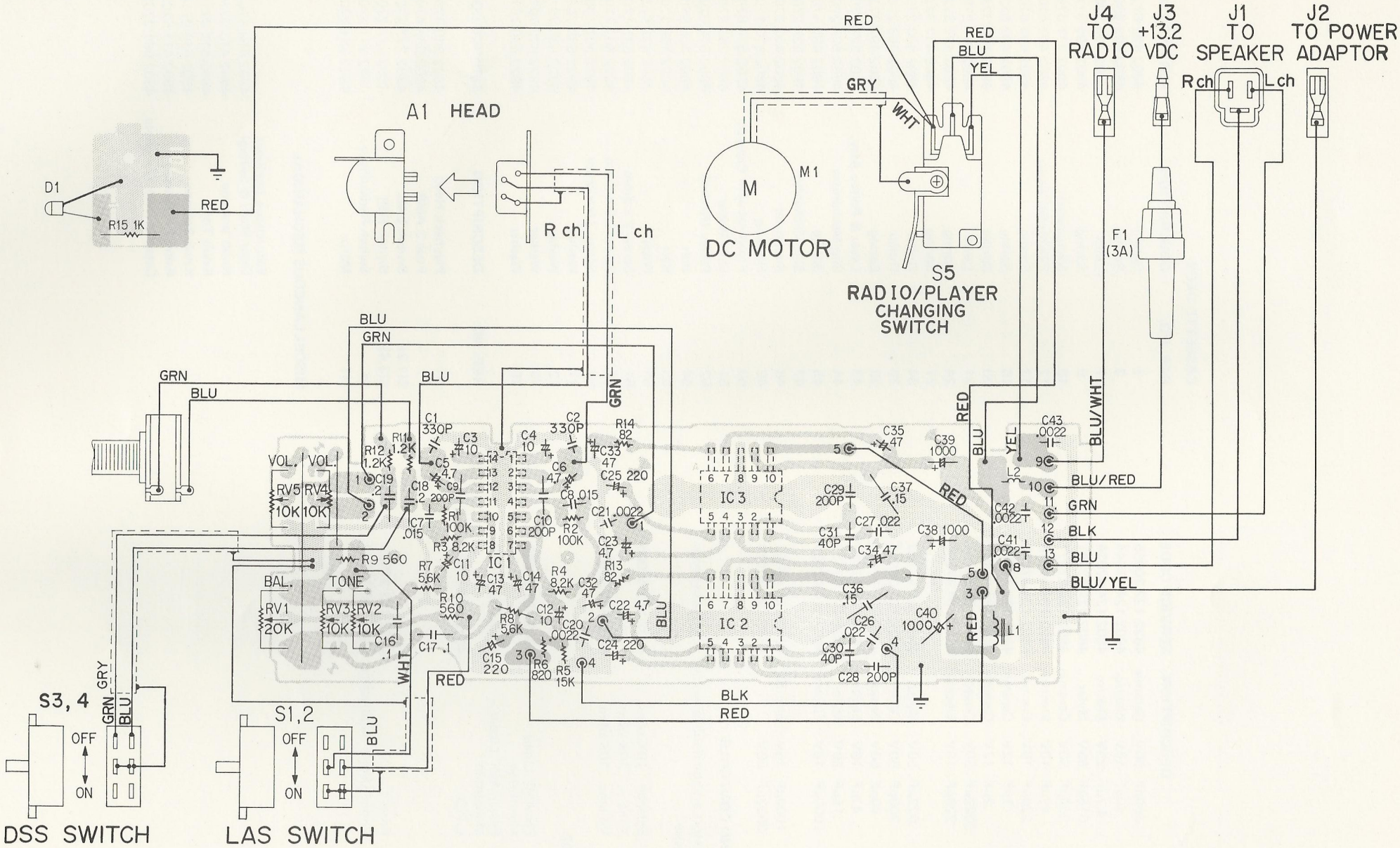
MPC-29/1



NOTES: 1. All resistance in ohms, K=10^3.

2. All capacitance in μF, P=$\mu\mu$F.

3. DC voltages against the chassis measured with 100,000 ohm per volt meter, power supply set at +13.2 VDC, no signal input.



IC \ Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC 1	8.4V	2.0V	0.6V	0V	0.7V	4.5V	9.5V	8.0V	4.5V	0.7V	0V	0.6V	2.0V	8.4V
IC 2, 3	1.2V	8.0V	1.4V	2.9V	3.8V	3.2V	12.1V	0V	6.5V	13.1V				

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