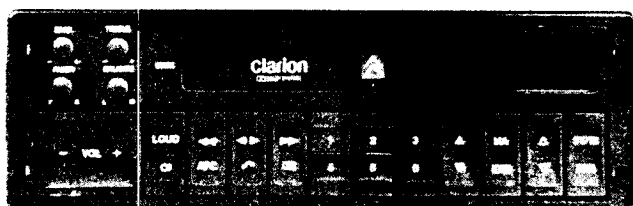


clarion

Service Manual

Published by Service Administration Section

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel: 01844-351694 Fax: 01844-352554
Email: enquiries@mauriton.co.uk



CITROEN
UKW•MPX/MW/LW RADIO
CASSETTE COMBINATION
Model **PU-9358A-A**

■ SPECIFICATIONS:

Radio section

Circuit system: Superheterodyne
Tuning system: Electronic tuning
Receiving frequency: MW 531 to 1602kHz
LW 153 to 281kHz
UKW 87.5 to 108MHz
Intermediate frequency: MW, LW 459kHz
UKW 10.7MHz
Quieting sensitivity: MW Less than 33dB
(at 20dB S/N)
LW Less than 40dB
(at 20dB S/N)
UKW Less than 12dB
(at 30dB S/N)
Separation: UKW More than 20dB
Auto. stop sensitivity: MW DX 20 to 40dB
LO 40 to 60dB
LW DX 27 to 47dB
LO 47 to 69dB
UKW DX 17 to 33dB
LO 35 to 55dB

Tape section

Reproduction system: Auto reversing 4 track,
2 channel stereo
cassette tape playback
(Monaural also capable)
Tape speed: 4.76cm/sec. (1-7/8 ips)
Crosstalk: More than 40dB
Separation: More than 30dB

S/N ratio: Normal More than 45dB/53dB
(Dolby-on)
Metal More than 47dB/55dB
(Dolby-on)
Wow & flutter: Less than 0.15%
(W.R.M.S)
FF/REW time: Less than 100sec.
(C-60)
Composite
Load impedance: 4Ω×4
Power output: 8W×4 (at 10% dist.)
More than 12W×4
(at max. output)
Power supply voltage: DC. 14.0V
Negative ground
Power consumption: Less than 7A
(at max. output)
Less than 3mA
(at BACK UP)
Dimensions: Width 178mm
Height 50mm
Depth 160mm

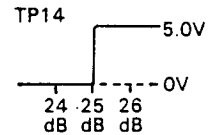
• Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
• "Dolby" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

■ COMPONENTS:

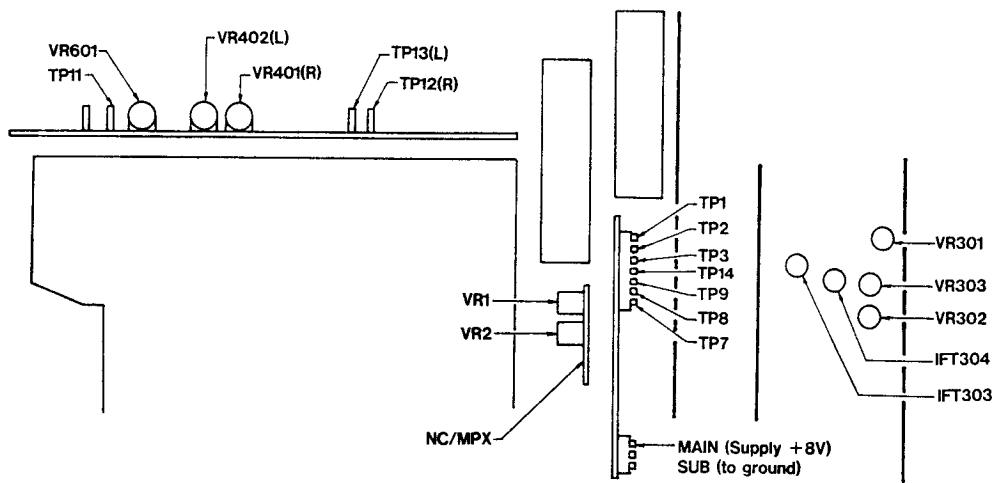
Main unit		1
Mounting bracket	300-7516-00	1
Removable tool	341-1387-00	2

■ADJUSTMENT:

Adjustment item	Adjustment point	Procedure
Gain (MAIN)	VR301	1. Connect the digital voltmeter to TP3. 2. Input the 98.1MHz frequency at 15dB (MOD./f=22.5kHz) and adjust the level to $1.6^{+0.1}_{-0.3}$ V by VR301.
OV (MAIN)	IFT303	1. Connect the digital voltmeter to TP1 and TP2. 2. Input the 98.1MHz/25dB signal (MOD./f=22.5kHz) and adjust the reading of digital voltmeter to $0.000V \pm 30mV$ by IFT303.
SD	VR303	1. Input the 98.1MHz/25dB signal. 2. Adjust VR303 so that the voltage of TP14 is in the range 0V to 5V.
Gain (SUB)	VR302	1. Connect the digital voltmeter to TP9. 2. Adjust the level by VR302 similar to MAIN.
OV (SUB)	IFT304	1. Connect the digital voltmeter to TP7 and TP8. 2. Follow the same adjustment steps as MAIN above. (IFT304)
SASC	VR304	1. Input the 98.1MHz/65dB, 7kHz modulation frequency, 30% modulation degree SSG signal. 2. Adjust the output level of the volume controller to 0dBm (0.775V) 3. Set the SSG output to 35dB and adjust VR304 so that the output level is -2dB.
Separation	VR1 (NC/MPX)	1. Input the 98.1MHz, connect the output of a stereo modulator to the external modulation terminal, and input a 65dB SSG signal. 2. Set the stereo modulator to the L or R ch and adjust VR1 so that the maximum separation is obtained.
Pilot canceller	VR2 (NC/MPX)	1. Input the 98.1MHz/65dB, modulation (PL 10%). 2. Adjust VR2 so that output of the set is minimum.
DK VCO	VR601	1. Input the 98.1MHz/65dB non-modulated SSG signal, and turn on VF. SW. 2. Connect the frequency counter to TP11 through a 22k Ω resistor and adjust VR601 so that the counter indicates 125Hz. In the case, 25sec. later, seeking occurs.
Dolby NR	VR401 and VR402	Insert a Dolby level test tape (400Hz-200nWb/m), connect the milli-volt meter to TP12 and TP13, and adjust VR401 and VR402 to obtain an output of $300mV \pm 1dB$. (Dolby SW : OFF)



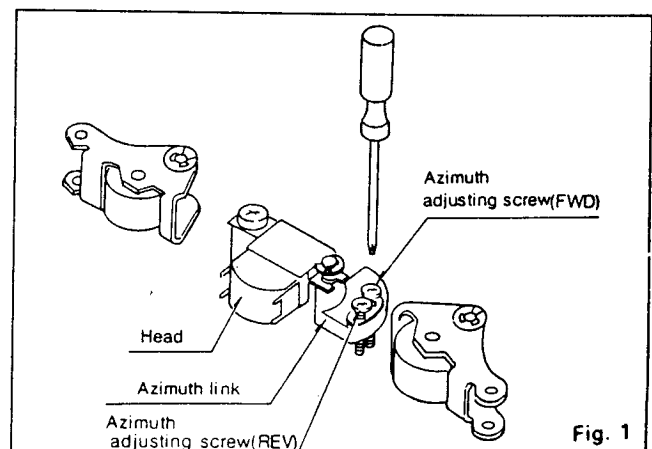
●ADJUSTMENT POINT



<TAPE MECHANISM>

1. Head-azimuth Adjustment

Make playback for the azimuth-tape (8kHz, -10VU), and turn each azimuth-adjusting screw to make each FWD & REV maximum. After adjustment, make adhesion with bond.



2. Adjustment of Adsorption Plunger B

Under FF-operation, when adsorption plunger is released, mount the plunger to make the adsorption-surface of adsorption plunger B in parallel to the bent surface of plunger link B, and make adhesion of the rear side of the screw with bond.

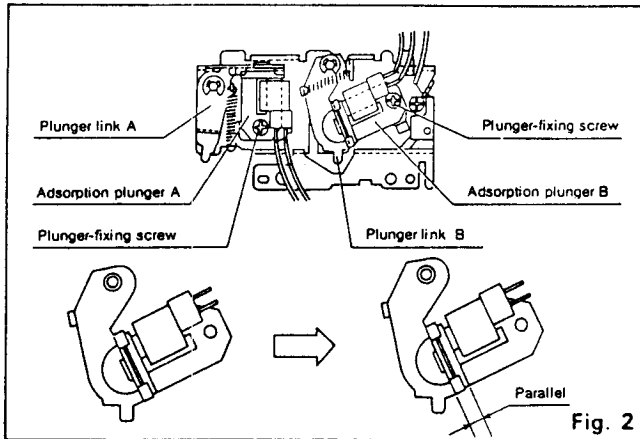


Fig. 2

3. Adjustment of Adsorption Plunger A

Under REW-operation, when adsorption plunger is released, mount the plunger to make the adsorption-surface of adsorption plunger A in parallel to the bent surface of plunger link A, and make adhesion of the rear side of the screw with bond.

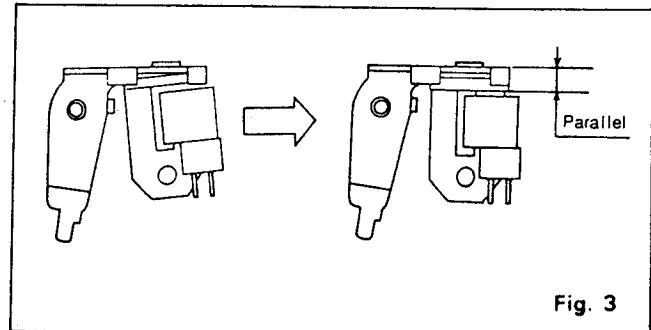


Fig. 3

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EXPLANATION OF IC's:

Refer to description in IC service manual vol 1.

TC4066BP	051-0267-00	Quad Bilateral Switch	P39
μ PD4066BG	051-0267-55	Quad Bilateral Switch	P39
LA3365	051-0501-00	FM MPX Demodulator	P15

Refer to description in IC service manual vol 2.

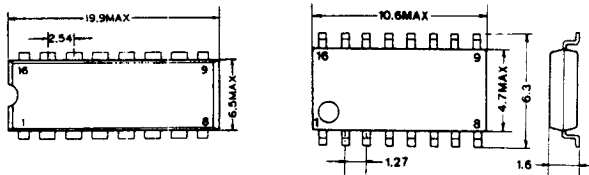
NJM4558M	051-0350-55	Dual OP Amp	P39
AN6263N	051-0561-01	Music Interval Detection IC	P42
TMP42C70N8005	051-0740-01	Cassette Mechanism Controller	P83
TA7411AP	051-0798-21	FM IF System	P8

TD62104P 051-0390-00
TD62104F 051-0390-05 Transistor Array

Outward Form

051-0390-00

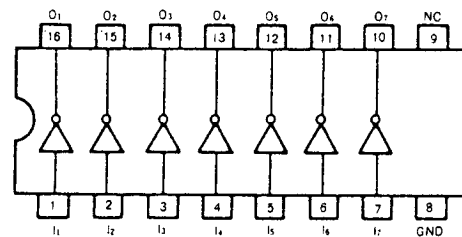
051-0390-05



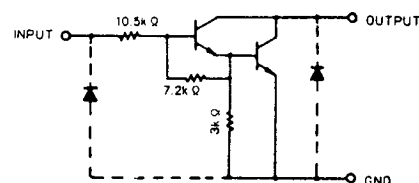
Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Output voltage	V_{CE}	-0.5~50	V
C-E Sustaining voltage	$V_{CE(SUS)}$	25	V
Collector current	I_C	0390-00 0390-05 500 350	mA
Input voltage	V_{IN}	-0.5~30	V
GND terminal current	I_{GND}	2.3	A
Power dissipation	P_D	0390-00 0390-05 1.0 0.6	W

Terminal Connection (TOP VIEW)

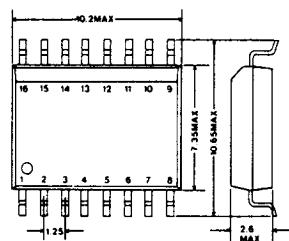


Equivalent Circuit (Unit)



μ PC1266G 051-0541-00 Diver Control SW.

Outward Form



Absolute Maximum Ratings

Item	Symbol	Condition	Rating	Unit
Supply voltage	V_{CC}		16	V
LED drive voltage	V_{LED}	10pin, 11pin Terminal voltage	16	V
LED drive current	I_{LED}		40	mA
Power dissipation	P_D		250	mW

Pin	Function
1	Vcc
2	MAIN LED Drive
3	SUB LED Drive
4	Sens 1
5	Sens 2
6	S meter DC Input (S-1)
7	S meter AC Input (S-1)
8	GND
9	Post Amp Output
10	Post Amp Output
11	CH. 2
12	CH. 1 SEL SW
13	SASC SEL SW
14	S meter DC Input (S-2)
15	S meter AC Input (S-2)
16	S meter AC Input (S-2)

[illegible]

■ TC9174F 051-0828-05 I/O Port Extension Interface IC's
TC9174P 051-0828-00

P type

F type

- TC9173P is for I/O extension, and TC9174F.P is for output only extension.
- Both types have 10 port terminals. TC9173P enables I/O setting bit by bit.
- TC9174F.P can take in output data from an SO terminal to the controller.
- The ports are all controlled by 4 serial path lines on the controller side.

Item	Symbol	Rating	Unit
Supply voltage	V _{DD}	- 0.3 ~ 7.0	V
Input voltage	V _{IN}	- 0.3 ~ V _{DD} + 0.3	V
Power dissipation	P _D	F type : 300	mA
		P type : 600	
Output voltage	V _{OUT}	20 (※)	V

The image shows two pin diagrams for integrated circuits. The left diagram is for the TC9173P, an 8-pin DIP package. The right diagram is for the TC9174F and TC9174P, 16-pin DIP packages.

TC9173P Pin Diagram:

Pin	Signal
1	GND
2	I/O-1
3	I/O-2
4	I/O-3
5	I/O-4
6	I/O-5
7	I/O-6
8	I/O-7

TC9174F/TC9174P Pin Diagram:

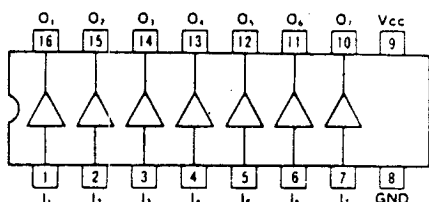
Pin	Signal
1	GND
2	OP-1
3	OP-2
4	OP-3
5	OP-4
6	OP-5
7	OP-6
8	OP-7
9	I/O-8
10	I/O-9
11	I/O-10
12	SO
13	SI
14	CK
15	STB
16	V _{DD}

Pin No.	Symbol	Terminal name	Function/Operation	Remarks
2	I/O-1 OP-1	TC9173P: General purpose I/O ports No. 1 ~ 10	TC9173P: General Purpose I/O Ports I/O setting on a bit-by-bit basis is enabled by a program. - CMOS input upon input - Nch open drain output upon output (large current drive, sink current 10 mA MIN.)	
3	I/O-2 OP-2			
4	I/O-3 OP-3			
5	I/O-4 OP-4			
6	I/O-5 OP-5			
7	I/O-6 OP-6			
8	I/O-7 OP-7			
9	I/O-8 OP-8			
10	I/O-9 OP-9			
11	I/O-10 OP-10			
12	SO	Serial output	Data output ports for serial I/O ports, and Pch open drain output.	
13	SI	Serial input	Data input ports for serial I/O ports, and schmitt input.	
14	CK	Clock signal input	Clock signal input ports for serial I/O ports, schmitt input.	
15	STB	Strobe signal input	Strobe signal input ports for serial I/O ports, and schmitt input.	
16	VDD	Power supply	5 V ± 10% is applied.	
1	GND			

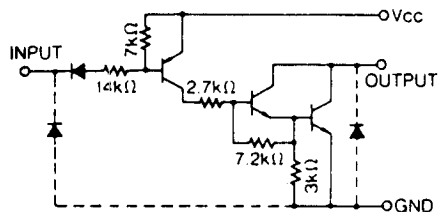
Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Power voltage	V _{CC}	7.0	V
C-E Sustaining voltage	V	35	V
Output current	I _{OUT}	350	mA
Input voltage	V _{IN}	7.0	V
Input current	I _{IN}	~ 10	mA
GND terminal current	I _{GND}	2.3	A
Power dissipation	P _D	0.625	W

Block Diagram



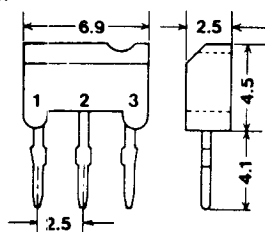
Circuit Diagram



MN1280-G	051-0840-06
MN1280-L	051-0840-10
MN1280-M	051-0840-11
MN1280-N	051-0840-12
MN1280-P	051-0840-13
MN1280-Q	051-0840-14
MN1280-R	051-0840-15
MN1280-S	051-0840-16
MN1280-T	051-0840-17
MN1280-U	051-0840-18

IC for voltage detection

Outward Form



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General

MN1280 is an element which is provided with functions to generate reset signals for initialization at turning on of power supply of microcomputers and other LSI systems and for prevention of system over-run at variations in power supply.

Features

- At power turning-on, generates reset signals until the voltage reaches to a set voltage.
- At power shut-off, generates reset signals when voltage drops below a set voltage.
- Generates the reset signals at supply voltage drop and release reset signals when the supply voltage returns to the normal level.
- Capable to detect life of cells.
- The detected voltage values are provided with hysteresis characteristics. (ΔV_D).
 $V_{DH} - V_{DL} = 100 \sim 300mV$
 $(V_{DH}: \text{Detected voltage at high voltage, } V_{DL}: \text{Detected voltage at low voltage})$

Absolute Maximum Ratings (V_{SS}=0V, T_a=25°C)

Power voltage	V _{DD}	7.0V
Output voltage	V _O	-0.3 ~ V _{DD} + 0.3V

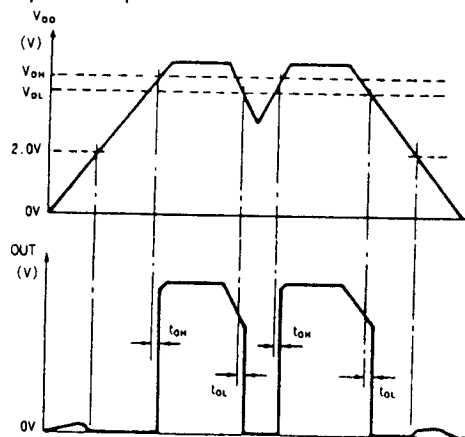
Terminal Connection

Terminal No.	Symbol	Terminal Name
1	OUT	Reset signal output terminal. (Generates low level at reset and high level at reset release.)
2	V _{DD}	Supply voltage terminal
3	V _{SS}	Grounding terminal

Detected Voltage

Rank	Item	Detected voltage when supply voltage is low VDL		Unit
		min	max	
	MN1280-G	2.4	2.6	V
	MN1280-L	3.0	3.3	V
	MN1280-M	3.2	3.5	V
	MN1280-N	3.4	3.7	V
	MN1280-P	3.6	3.9	V
	MN1280-Q	3.8	4.1	V
	MN1280-R	4.0	4.3	V
	MN1280-S	4.2	4.5	V
	MN1280-T	4.4	4.7	V
	MN1280-U	4.6	4.9	V

Description of Operation



Note 1) As operation is not guaranteed at supply voltage of 2V or less, no output can be defined.

2) V_{DL}: Detected voltage when supply voltage is low.

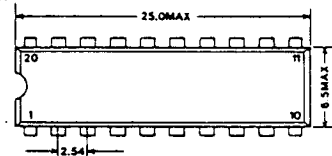
V_{DH}: Detected voltage when supply voltage is high.

t_{DH}: Time from rise of supply voltage to V_{DH} until the output reaches High level.

t_{DL}: Time from drop of supply voltage to V_{DL} until the output reaches Low level.

■TA7764P 051-0888-00 Dual Channel Volume/Tone Control

Outward Form



Description

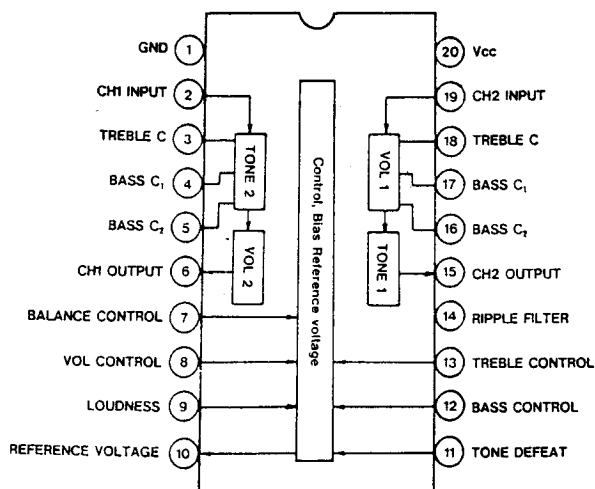
This IC is an electronic volume system to make one touch operation for switch and volume necessary for digital control of volume, balance, bass, treble, and loudness.

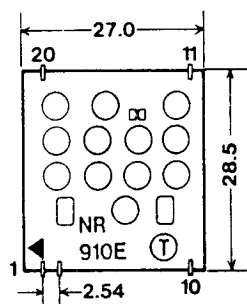
Features

The selection and control of each volume can be optionally performed by the input of the specified serial data from the outside.

- Volume 0 ~ -80dB
- Tone Bass ($\pm 15dB$ f=50Hz ~ 1kHz)
- Treble ($\pm 15dB$ f=1 ~ 15kHz)

Block Diagram





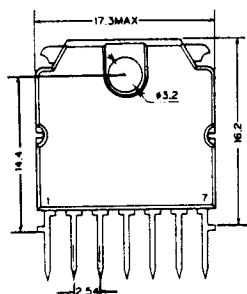
TOP VIEW

Maximum Rating

Maximum supply voltage	Vcc max	16V
Power dissipation	Pd max	800mW

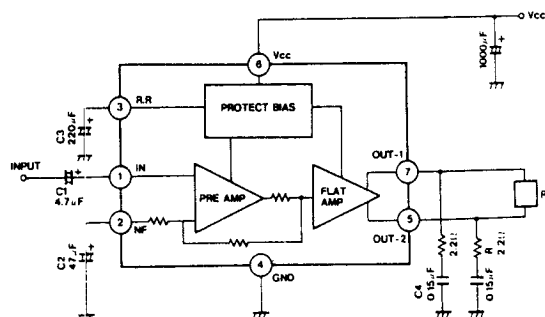
Terminal Connections

CHI {	NR IN	1	20	M/N
	EQ OUT	2	19	NC
COMMON		3	18	NR REF
	CHI {	4	17	GND
	R	4		
	F	5	16	CHI {
			15	CH2 } NR OUT
	CH2 {	6		
	F	6		
	R	7	14	NC
	GND	8	13	Vcc
CH2 {	EQ OUT	9	12	NR ON/OFF (H : OFF, L : ON)
	NR IN	10	11	FWD/REV (H : FWD, L : REV)

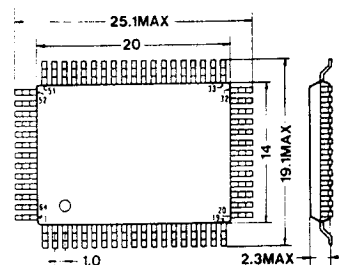
**Maximum Ratings (Ta=25°C)**

Item	Symbol	Rating	Unit
Peak Supply Voltage (0.2sec)	$V_{CC \text{ surge}}$	50	V
DC Supply Voltage	$V_{CC \text{ DC}}$	25	V
Operating Supply Voltage	$V_{CC \text{ op}}$	18	V
Output Current (peak)	$I_{O \text{ peak}}$	4.5	A
Power Dissipation	P_D	15	W

Block Diagram and Test Circuit



PU-9358A-A

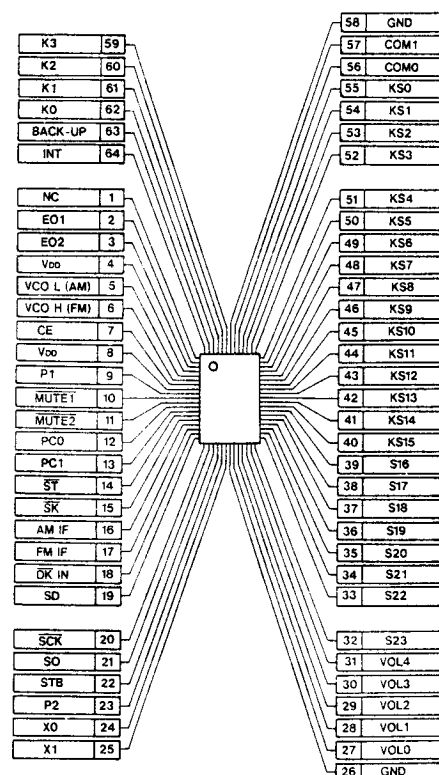


II Outline

µPD1719G-584-12 is a 4-bit CMOS microprocessor for digital tuning, developed for UKW/MW/LW car radio used in Europe. It incorporates a prescaler operable up to 200MHz, a PLL frequency synthesizer and an LCD driver (1/2 duty, 1/2 bias) into one chip.

- EUROPE BAND or USA BAND is selectable.
- Electronic Volume Control Function (A pulse switch and a seesaw switch can be commonly used). (The initial value of the volume can be changed by ± 3 steps.)
- VF Function.

III Terminal Connection



IV Terminal Description

No.	Symbol	Terminal Name	Function
1	N.C	————	Not in use.
2 3	EO1 EO2	Error Out	Error output terminals for PLL. If the local oscillation frequency (VCO output) is divided and the resulting value is higher than the reference frequency, H is output from these terminals. If the two frequencies are the same, the floating condition occurs. Because the same waveform is output from EO1 and EO2, you can select which terminal to use.
4 8	V _{DD}	Power Input	Power input terminal. Provides an operation voltage of 5V±10%. Power can be provided either to pin 4 and pin 8.
5	VCOL (AM)	AM VCO Input	Input terminal from AM station.
6	VCOH (FM)	FM VCO Input	Input terminal from FM station.
7	CE	Chip Enable	Input terminal for mode select signal. When the CE terminal is switched to Low level, the backup mode is switched on, and backup at low power consumption is available (max. 10μA).
9	P1	Power ON 1	When the POWER ON Key is pressed, High level is output from this port.

No.	Symbol	Terminal Name	Function																																																																																
10	MUTE1	Mute signal Output	During tuning operation in RADIO mode, a muting signal is output. (Active Low)																																																																																
11	MUTE2	Volume mute	Low is output only when all the outputs of VOL0 to VOL4 become High. (Active Low)																																																																																
12	PC0	Pulse SW	Key input in pulse switching.																																																																																
13	PC1	Key Input	Pull down when not in use.																																																																																
14	ST	ST signal Input	ST station detecting port. Pull up by connecting to MPX IC ST indicator terminal. (Active Low) This is valid only at UKW. (The indicator goes off when outputting MUTE.) ST is displayed on LCD on detecting ST signal.																																																																																
15	SK	SK signal Input	SK station detecting port. Pull up by connecting to SK terminal. (Active Low) This is valid at UKW and SK is displayed on LCD on detecting SK=Low. (The indicator goes off when outputting MUTE signal.)																																																																																
16	AM IF	AM IF Input	AM IF input terminal (459kHz). This is valid only at AM.																																																																																
17	FM IF	FM IF Input	FM IF input terminal (10.7MHz). This is valid only at FM.																																																																																
18	DK IN	DK signal Input	DK signal input port. Pull up by connecting to DK terminal on SDK circuit. (Active Low) This is valid except for LW and MW.																																																																																
19	SD	SD signal Input	Station detecting port in execution of AUTO TUNING and execution stops with SD=IF COUNT=1. In VF mode, it stops with SD=IF COUNT=SK=1. Pull up by connecting to each SD terminal of UKW and MW/LW. (Active High)																																																																																
20	SCK	Clock signal Output	Clock signal output terminal.																																																																																
21	SO	Serial data signal Output	Serial data signal output terminal.																																																																																
22	STB	Strobe signal Output	Strobe signal output terminal.																																																																																
23	P2	Power ON (II)	When the POWER ON Key is pressed, High with 0.5 sec. delay than POWER ON (I) is output and MUTE signal is turned OFF after 1.5 sec.																																																																																
24	XO	X'tal	Connection terminals for the quartz oscillator. Connect 4.5MHz quartz.																																																																																
25	XI																																																																																		
26	GND	Ground	Ground.																																																																																
27	VOL0	VR control signal Output	Electronic volume control signal output terminals. The signal consists of 5 bits; VOL0 to VOL4, and 32-position volume step is formed. When VOL becomes MIN state, (AF MUTE) PB3 also becomes Low level. <table><tr><th>STEP</th><th>VOL OUT</th><th>VOL 0</th><th>VOL 1</th><th>VOL 2</th><th>VOL 3</th><th>VOL 4</th><th></th></tr><tr><td>31</td><td></td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>MIN</td></tr><tr><td>30</td><td></td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td></td></tr><tr><td>29</td><td></td><td>1</td><td>1</td><td>1</td><td>0</td><td>1</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>20</td><td></td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td><td>Initial value</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td></td></tr><tr><td>1</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td></td></tr><tr><td>0</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>MAX</td></tr></table>	STEP	VOL OUT	VOL 0	VOL 1	VOL 2	VOL 3	VOL 4		31		1	1	1	1	1	MIN	30		1	1	1	1	0		29		1	1	1	0	1										20		1	0	1	0	0	Initial value									2		0	0	0	1	0		1		0	0	0	0	1		0		0	0	0	0	0	MAX
STEP	VOL OUT			VOL 0	VOL 1	VOL 2	VOL 3	VOL 4																																																																											
31				1	1	1	1	1	MIN																																																																										
30				1	1	1	1	0																																																																											
29				1	1	1	0	1																																																																											
20		1	0	1	0	0	Initial value																																																																												
2		0	0	0	1	0																																																																													
1		0	0	0	0	1																																																																													
0		0	0	0	0	0	MAX																																																																												
31	VOL4																																																																																		
32	S23	Segment signal Output of LCD	Segment signal output terminals to LCD. The display uses the matrix of COM0 and COM1 (Pins #56 and #57). The terminals S10/KS10 through S1/KS1 are also used as a key return signal source of key matrix. The display data and the key source signal are output by time-sharing method.																																																																																
39	S16																																																																																		
40	S/KS15																																																																																		
55	S/KS0																																																																																		
56	COM0	Common signal Output of LCD	Common signal output terminals to LCD panel. The display uses the matrix with S0 to S23.																																																																																
57	COM1																																																																																		
59	K3	Key return signal source	4-bit key matrix input terminals. LCD segment terminals (S10/KS10~S0/KS0) are used as key return signal source.																																																																																
62	K0																																																																																		
63	BACK-UP	Back up confirmation input	When the voltage on this terminal becomes 3.5V or less, the operation of internal clock generator and CPU is stopped and becomes memory back-up state with low power consumption.																																																																																
64	INT		Interrupt request signal input terminal. The interrupt request is output at the rising edge of the signal applied to this terminal. When Volume Key is connected to this terminal and the volume key is input to this, interrupt request is output. This is to process volume key corresponding to pulse switching in real-time basis.																																																																																

V Key Matrix

§ 1. Key Matrix Connection Table

Output \ Input	K3 (Pin 59)	K2 (Pin 60)	K1 (Pin 61)	K0 (Pin 62)
KS0 (Pin 55)	LOUD	M3	M2	M1
KS1 (Pin 54)	APC	M6	M5	M4
KS2 (Pin 53)	POWER ON/OFF	VOL UP	VOL DOWN	
KS3 (Pin 52)	SEEK UP	MA (SAM)	M UP	VF/ST-ON
KS4 (Pin 51)	SEEK DOWN	EXM (PSS)	M DOWN	BAND
KS8 (Pin 47)	MTL	REV	FOR	R/T
KS9 (Pin 46)		VF/ST-ON SEL		
KS10 (Pin 45)		BAND		

	Momentary SW
	Diode SW
	Transistor SW

§ 2. Diode SW

Symbol	Function						
VF/ST-ON SEL	A switch to determine whether VF is enabled or switching of ST/MONO can be done by SW. <table border="1"> <thead> <tr> <th></th><th>VF/ST-ON SEL</th></tr> </thead> <tbody> <tr> <td>VF</td><td>0</td></tr> <tr> <td>ST-ON</td><td>1</td></tr> </tbody> </table>		VF/ST-ON SEL	VF	0	ST-ON	1
	VF/ST-ON SEL						
VF	0						
ST-ON	1						
BAND	A switch to determine the area to be used. <table border="1"> <thead> <tr> <th></th><th>BAND</th></tr> </thead> <tbody> <tr> <td>Europe</td><td>0</td></tr> <tr> <td>U.S.A</td><td>1</td></tr> </tbody> </table>		BAND	Europe	0	U.S.A	1
	BAND						
Europe	0						
U.S.A	1						

§ 3. Transistor SW

Symbol	Function						
MTL	A switch valid only at TAPE. "MTL" is displayed on LCD by shortcircuiting the switch.						
REV	A switch valid only at TAPE. REV "◁" is displayed on LCD by shortcircuiting the switch.						
FOR	A switch valid only at TAPE. FOR "▷" is displayed on LCD by shortcircuiting the switch.						
R/T	A switch to determine display switching of RADIO and TAPE, status of each I/O port and enabling of momentary switch. - When BAND (diode switch) is EUROPE. - In RADIO All the I/O ports are in normal operation status, the transistor switches (MTL, FOR, REV) on the key matrix are disabled and no display is on LCD. - In TAPE All the functions in RADIO operate normally but MUTE signal will not be output (even if RADIO KEY is operated). In addition, the transistor switches (MTL, FOR, REV) on the key matrix and switches associated with TAPE are enabled and display is on LCD. When DK signal is input in TAPE, the mode will be forcibly switched to RADIO and displays associated with TAPE will disappear. - When BAND (diode switch) is USA. - In RADIO The following I/O ports are effective at this time: IC pins #2 to 14, 19 to 35, 37 to 38, 40 to 57 and 58 to 64. The keys VF/ST-ON SEL and VF/ST-ON are disabled on the key matrix. - In TAPE The effective I/O ports are: IC pins #9 to 13, 20 to 26, 35 and 53 to 64. The following keys are effective on the key matrix: POWER ON, VOL-UP, DOWN, LOUD, R/T, MTL, FOR, REV, APC and ◻. In TAPE, displays on LCD are Running, LOUD, APC, ◻ and MTL. <table border="1"> <thead> <tr> <th></th><th>R/T</th></tr> </thead> <tbody> <tr> <td>RADIO</td><td>1</td></tr> <tr> <td>TAPE</td><td>0</td></tr> </tbody> </table>		R/T	RADIO	1	TAPE	0
	R/T						
RADIO	1						
TAPE	0						

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§ 4. Momentary SW

Symbol	Function									
LOUD	A key for switching loudness ON/OFF. Loudness ON/OFF is switched on each press of this key. The initial status is OFF. In loudness ON, "LOUD" is displayed on LCD. This key is enabled both in RADIO and in TAPE. <table><tr><th>Key status</th><th>Output port</th><th>Display</th></tr><tr><td>ON</td><td>HIGH</td><td>ON</td></tr><tr><td>OFF</td><td>LOW</td><td>OFF</td></tr></table>	Key status	Output port	Display	ON	HIGH	ON	OFF	LOW	OFF
Key status	Output port	Display								
ON	HIGH	ON								
OFF	LOW	OFF								
M1 M6	Keys for preset tuning and writing to preset. UKW/MW/LW can be independently stored for one key and UKW 6CH/SAM 6CH/MW 6CH/LW 6CH, total of 24 stations can be stored in EUROPE BAND. In USA BAND, they are: FM1 6CH/FM2 6CH/MW 6CH, total of 18 stations. When the keys M1 to M6 is pressed, Low level is output from MUTE (Pin =20) and the preset memory standby status in on. When the key is released within 1.5 seconds, the preset tuning is on and the stored frequency corresponding to the key pressed is called. When this is pressed for 1.5 seconds or longer, the current frequency is stored to the preset memory corresponding to the key pressed and MUTE is released. During preset tuning or after memory write, the channel number preset is displayed on LCD. During MUTE output, ST and SK displays disappear.									
□□	A switch valid only at TAPE. "□□" is displayed on LCD by shortcircuiting the switch.									
APC	A switch valid only at TAPE. "APC" is displayed on LCD by shortcircuiting the switch.									
POWER ON/OFF	A key to turn ON/OFF the power of the set.									
VOL UP VOL DOWN	Keys to turn UP/DOWN the electronic volume. When the see-saw pulse is also used, the pulse correspondence is enabled and when the pulse volume is used, the see-saw is disabled. I) In pulse correspondence Input of one pulse to VOL-UP causes one step-up operation of the volume control of the output ports VOL0 to VOL4 to the MAX direction. Input of one pulse to VOL-DOWN causes one step-down operation of the volume control to the MIN direction. These keys are enabled when the power is on (normal operation) but they are disabled during auto-tuning. II) In see-saw switch correspondence In case of see-saw switch, when the VOL-UP/DOWN key is ON for 0.5 second or less, the step goes up/down by one and when the key is ON for 0.5 second or longer, the step goes up/down rapidly at the rate of 250ms/step. As in the case of pulse switch, the see-saw switch is enabled when the power is on (normal operation) but it is disabled during auto-tuning. In addition, when both the pulse and the see-saw switches are used, the pulse switch has a priority.									
SEEK UP SEEK DOWN	Keys for auto-tuning and the stations are sought to the UP/DOWN direction. When the station is found, the frequency is retained. Each step up or down (UKW [50kHz], MW [9kHz], LW [1kHz]) causes SD and IF count detection. When this key is pressed, search is made to the UP or DOWN direction in LOCAL mode for the first cycle, then in DX mode for the second cycle. When no station is found after the second cycle, it is searched for two more cycles and completes SEEK operation. (The operation ends by calling the first frequency.) In addition, when the same key is pressed again during search in LOCAL mode, the frequency returns to the first one and search starts in DX. At this time, the SEEK ends after one cycle from the point of changing to DX and if no station is received, the first frequency is called. At this time, as the frequency changes greatly, like the case in the upper-limit frequency → the lower-limit frequency, WAIT of 250ms ~ 375 ms is established after outputting N-value (division ratio) and before detecting SD. During DX, "DX" is displayed on LCD. On the contrary, in the search mode for traffic information station, when "1" is input to both SD and SK signals, the search stops at the frequency of that station. In normal search, only SD signal input "1" stops the search. When the search stops during DX search, "DX" display disappears and in reception mode, including the case of stopping during LOCAL search, the mode becomes DX forcibly.									

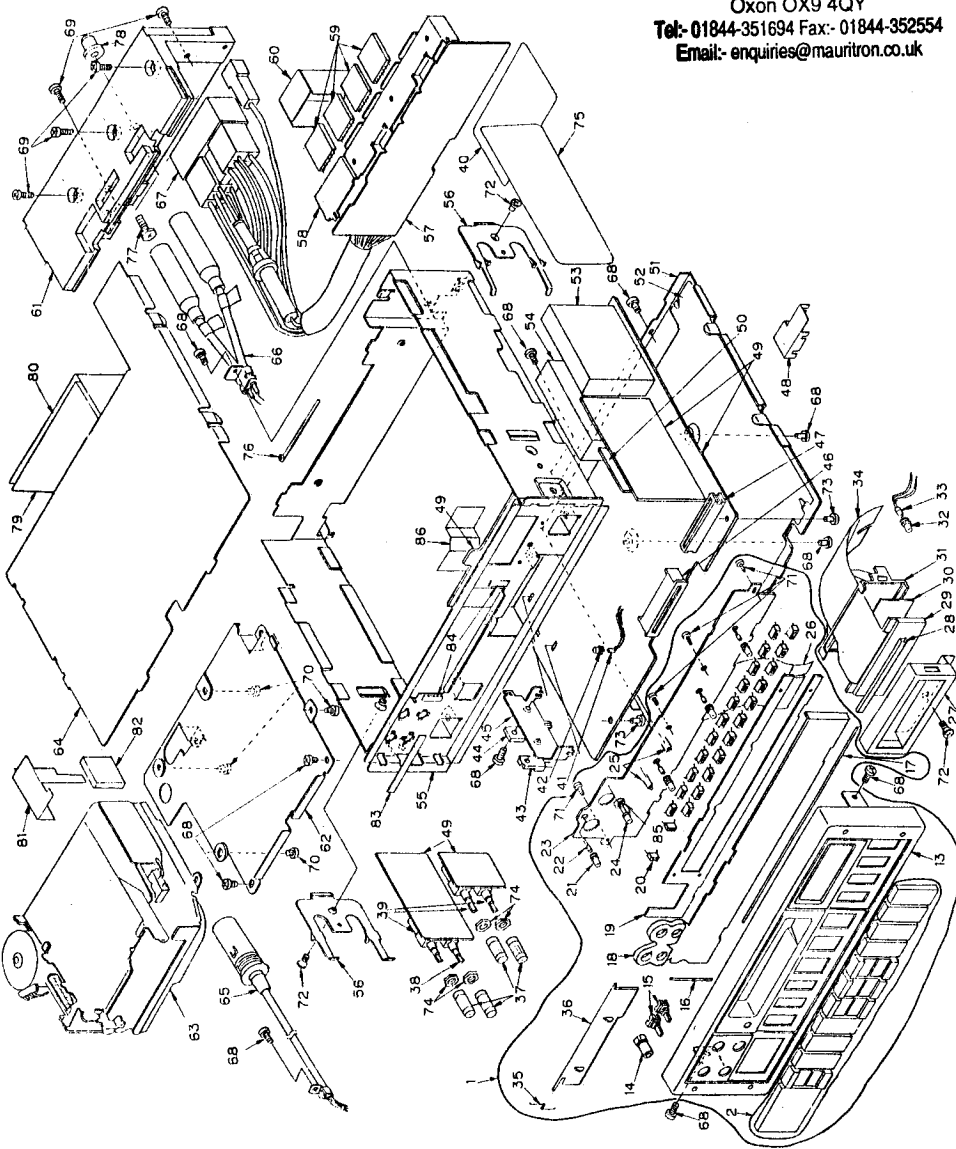
Symbol	Function																								
MA (SAM)	When the key is pressed for 2 seconds or longer, the stations are sought automatically and they are stored in M1 to M6. (FM1, FM2 and AM are enabled in USA.) In EUROPE, it is enabled only in UKW and when it is pressed for 2 seconds or longer, the frequencies are stored in M1 to M6 of S.M. (secondary memory) of UKW and when the key is released within 2 seconds, S.M. of UKW is called. (1) Calling When the SAM key is released within 2 seconds, the Secondary Memory (hereinafter called S.M.) is called and "SAM" is displayed on LCD. When the preset key is pressed at that time, the stations stored in S.M. can be called and when the SAM key is pressed and released again within 2 seconds, the frequency returns to the one in the primary memory immediately before pressing the SAM key. The last channel in S.M. is kept. (2) Writing Regardless of SAM mode, when the SAM key is pressed for 2 seconds or longer, "SAM" is displayed on LCD and seek-up operation is started (as in SEEK UP, the first cycle is in LOCAL and the second in DX). When the stations are found, they are stored sequentially from CH1 to CH6 automatically. Auto memory function is turned off after completion of the second cycle. When storing up to CH6 is completed within two cycles, CH1 is called and operation is stopped. When the SAM key is pressed again within two cycles, CH1 is called if even one station is stored until then and the starting frequency is called if no station is stored. When no station is stored after two cycles, the starting frequency is called and operation is stopped. In DX seek (the second cycle), the frequencies stored in LOCAL seek (the first cycle) are skipped. When USA BAND is selected by diode key, the signal becomes AS and it is enabled in FM1, FM2 and AM. The difference between this and SAM is that instead of automatic storage in S.M., the primary memory is over-written. No display is on LCD and the key is disabled even if the key is pressed and released within 2 seconds.																								
M UP M DOWN	A key for UP/DOWN of frequency on each band. Each press causes one step-up or step-down operation of frequency. When the key is pressed for 0.5 second or longer, the fast forward operation is performed with the following time interval until the key is released. <table><tr><td>o U.S.A.</td><td>o EUROPE</td></tr><tr><td>In FM Approx. 20ms</td><td>In UKW Approx. 20ms</td></tr><tr><td>In AM Approx. 70ms</td><td>In MW Approx. 70ms</td></tr><tr><td></td><td>In LW Approx. 70ms</td></tr></table> When the M UP Key is pressed at the upper-limit frequency, the frequency jumps to the lower limit and when the M DOWN Key is pressed at the lower-limit frequency, it jumps to the upper-limit.	o U.S.A.	o EUROPE	In FM Approx. 20ms	In UKW Approx. 20ms	In AM Approx. 70ms	In MW Approx. 70ms		In LW Approx. 70ms																
o U.S.A.	o EUROPE																								
In FM Approx. 20ms	In UKW Approx. 20ms																								
In AM Approx. 70ms	In MW Approx. 70ms																								
	In LW Approx. 70ms																								
VF/ST-ON	When VF is selected by initial diode, this becomes VF key and the traffic information station is searched and received. When no such station is found, SEEK UP operation always continues. When ST-ON is selected, this becomes ST/MONO switching key and ON → OFF is switched in toggling manner.																								
EXM (P.S.S)	When this key is pressed, the stations stored in M1 to M6 are scanned and if any of these stations broadcasts, the scan stops for 5 seconds and starts again after 5 seconds. In EUROPE, 6 stations in UKW, S.M., MW or LW are scanned. In USA, 12 stations in FM1 or FM2, or 6 stations in AM are scanned.																								
BAND	A key to change receiving band. Each press of this key changes a band to be received in the following order. UKW → MW → LW cyclically changed In addition, every time the band is changed, the band change signal changes in the following way. <table><tr><td></td><td>BAND 1</td><td>BAND 2</td></tr><tr><td>UKW</td><td>1</td><td>1</td></tr><tr><td>MW</td><td>0</td><td>1</td></tr><tr><td>LW</td><td>0</td><td>0</td></tr></table> In U.S.A BAND. <table><tr><td></td><td>BAND 1</td><td>BAND 2</td></tr><tr><td>FM1</td><td>0</td><td>1</td></tr><tr><td>FM2</td><td>0</td><td>1</td></tr><tr><td>AM</td><td>0</td><td>0</td></tr></table>		BAND 1	BAND 2	UKW	1	1	MW	0	1	LW	0	0		BAND 1	BAND 2	FM1	0	1	FM2	0	1	AM	0	0
	BAND 1	BAND 2																							
UKW	1	1																							
MW	0	1																							
LW	0	0																							
	BAND 1	BAND 2																							
FM1	0	1																							
FM2	0	1																							
AM	0	0																							

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■EXPLODED VIEW • PARTS LIST:

©Main section

REF NO.	PART NO.	DESCRIPTION	QTY
38	012-4794-00	Variable resistor	1
39	012-4793-00	Variable resistor	3
40	286-7131-02	Set plate	1
41	017-0345-00	Pilot lamp	1
42	345-3887-10	Lamp rubber	1
43	100-1307-00	Transistor (2SA1307)	1
44	102-1846-00	Transistor (2SC1846)	1
45	330-9025-01	TR support	1
46	074-0731-22	Outlet socket (22P)	1
47	074-0847-28	Outlet socket (28P)	1
48	347-2791-00	P.W.B holder	1
49	099-8455-01	P.W.B (MAIN)	1
50	880-0304A	NC/MPX block	1
51	304-0410-01	Lower cover	1
52	347-2792-01	Insulator	1
53	880-1408A	FM tuner pack	1
54	941-0159-02	AM tuner pack	1
55	312-0313-00	Chassis	1
56	750-2849-00	Spring	2
57	099-8457-00	P.W.B (AUDIO)	1
58	330-9021-00	IC holder	1
59	051-0735-10	IC (TA8201AK)	4
60	330-9024-00	Shield case	1
61	313-1354-00	Heat sink	1
62	330-9022-01	Mechanism holder	1
63	930-0530-20	Tape mechanism	1
64	303-0364-00	Upper cover	1
65	854-0836-00	Extension lead	1
66	092-0631-00	Antenna receptacle	1
67	854-0813-03	Extension lead	1
68	714-3005-81	Machine screw (M3x5)	11
69	714-3010-81	Machine screw (M3x10)	5
70	714-3003-81	Machine screw (M3x3)	4
71	716-0778-00	Wave screw	4
72	731-3006-40	Tap tight (M3x6)	3
73	731-3006-80	Tap tight (M3x6)	2
74	722-0332-00	Nut	4
75	347-1597-00	Label	1
76	335-0833-01	Lead clamp	1
77	710-5014-31	Hexagon bolt	1
78	345-3653-01	Cap	1
79	330-9069-00	Shield plate	1
80	347-2842-00	Insulator	1
81	347-2843-00	Insulator	1
82	345-4138-00	Spacer	1
83	345-4981-00	Cushion rubber	1
84	345-4982-00	Cushion rubber	2
85	345-4983-00	Cushion rubber	1
86	347-2910-00	Insulator	1



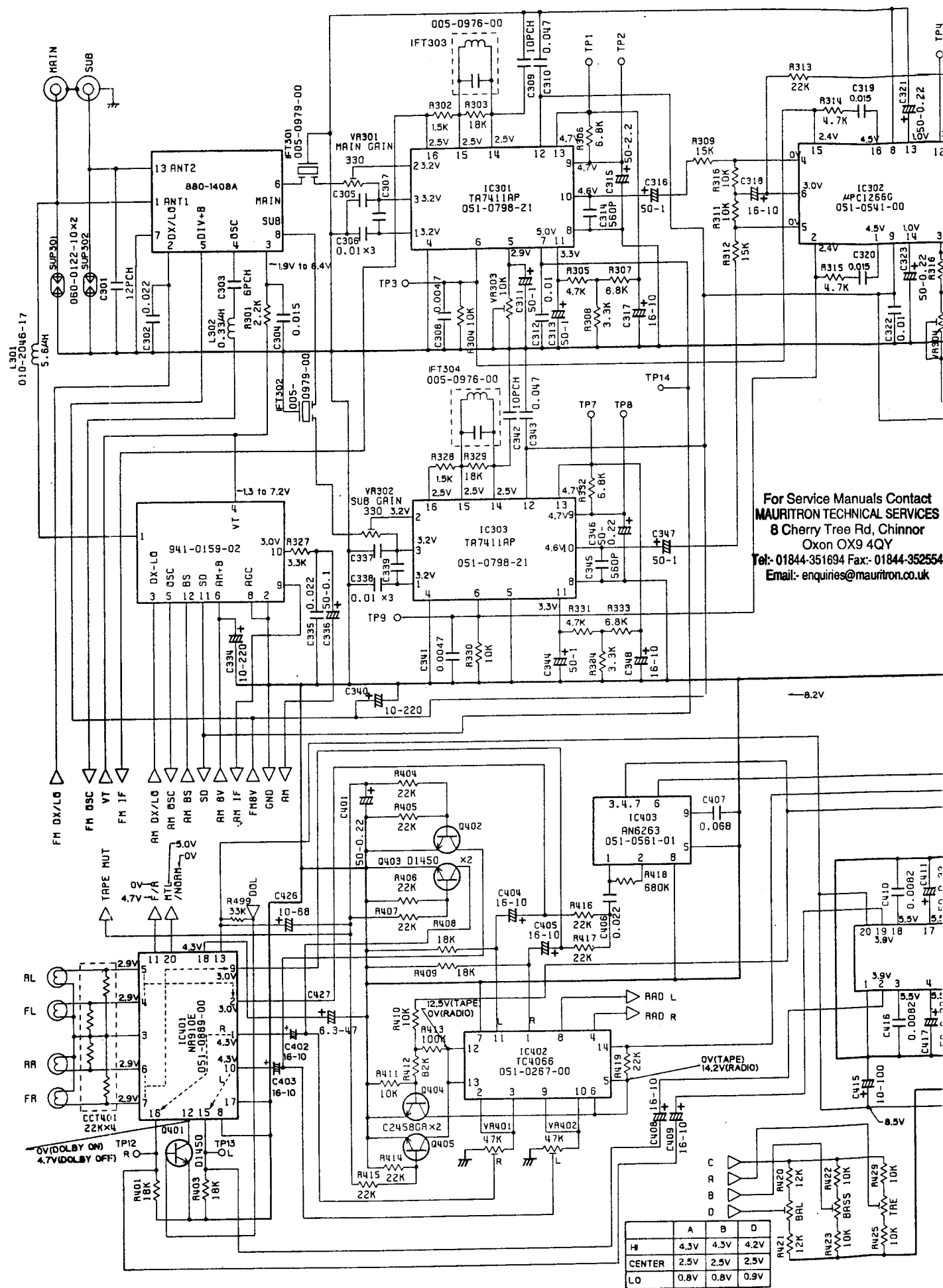
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REF NO.	PART NO.	DESCRIPTION	QTY
29	379-0230-01	Indicator	1
30	335-2977-00	Color filter	1
31	335-2978-01	Reflector	1
32	345-4157-32	Lamp rubber	1
33	017-0346-10	Pilot lamp	1
34	816-1997-00	Heat seal	1
35	750-2308-01	Spring	1
36	320-0391-08	Dustproof cover	1
37	380-5037-03	Knob	4

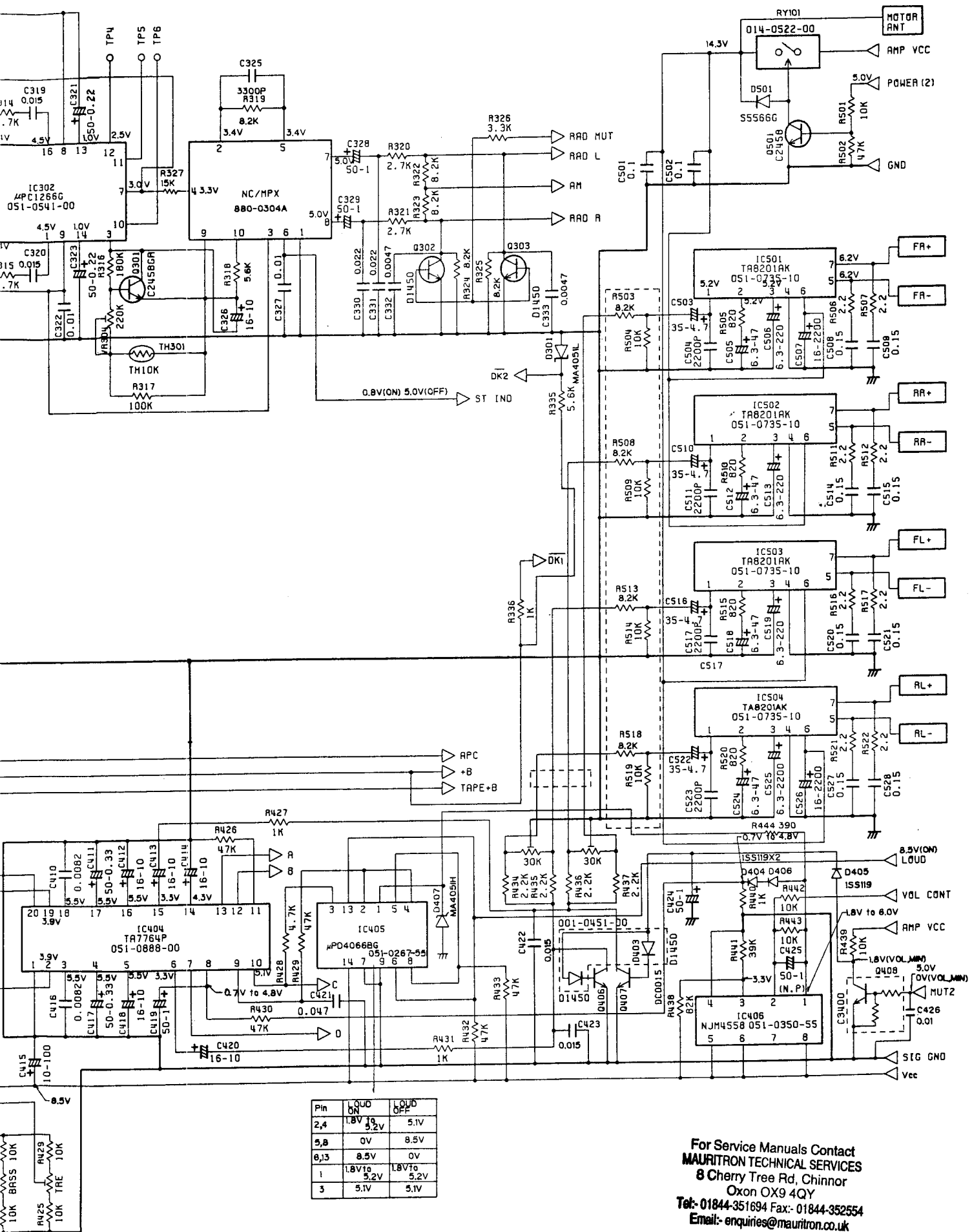
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20	013-3812-01	Switch	24
21	345-3814-19	Lamp rubber	4
22	017-0345-09	Pilot lamp	4
23	099-8456-00	P.W.B (SW)	1
24	001-0369-00	Diode	1
25	001-0486-01	Diode	2
26	099-8458-01	FLEXIBLE P.W.B	1
27	330-9023-00	LCD holder	1
28	321-0961-00	Clamp	1

REF NO.	PART NO.	DESCRIPTION	QTY
1	940-1075A	Escutcheon ass y	1
2	947-0185-01	Button ass y	1
13	370-5088-03	Escutcheon	1
14	335-2974-00	LED accessory	1
15	335-2973-00	LED accessory	2
16	612-0171-00	Shaft	1
17	612-0170-00	Shaft	1
18	335-2975-01	Illumination plate	1
19	345-4865-00	Cushion rubber	1

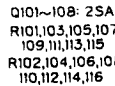
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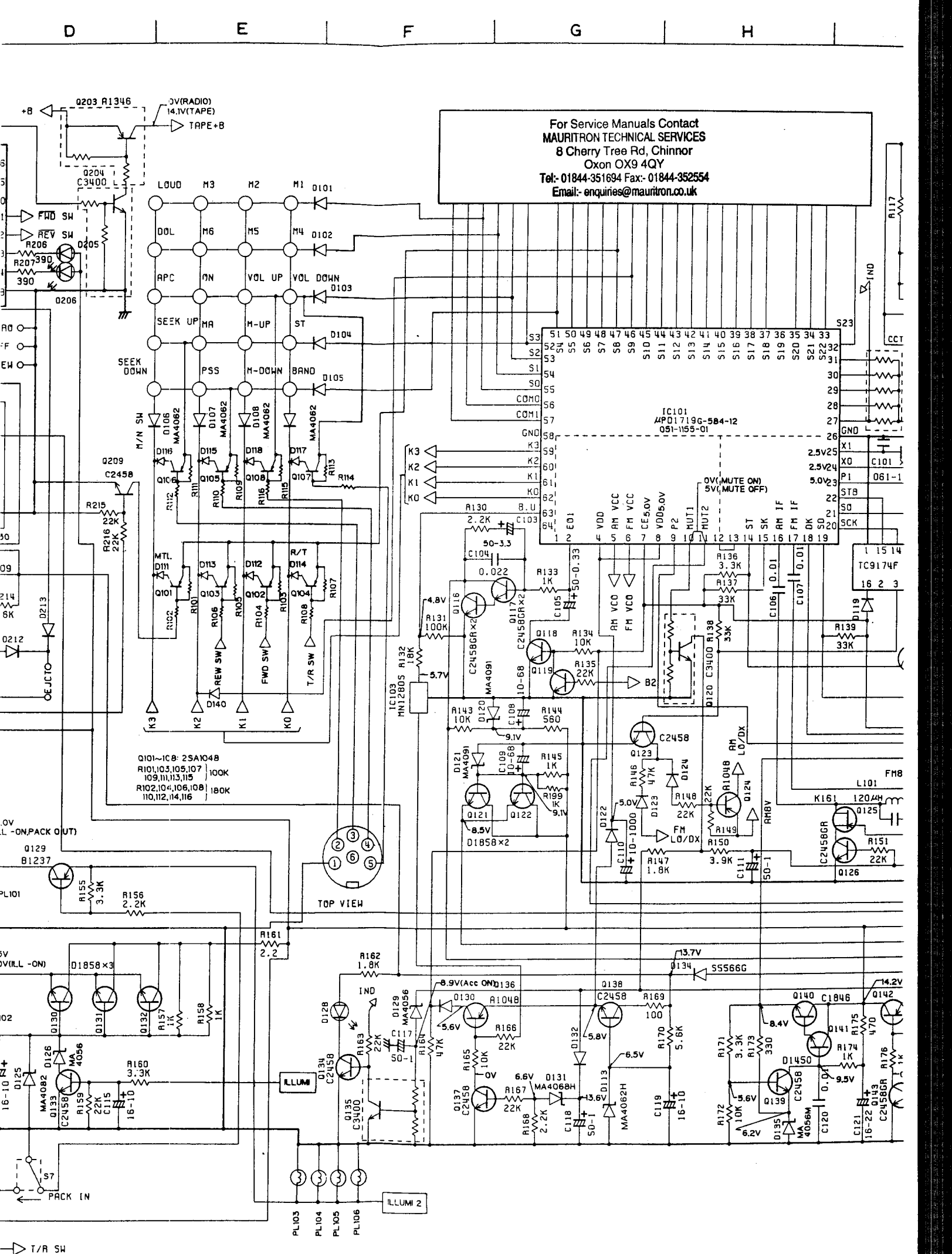




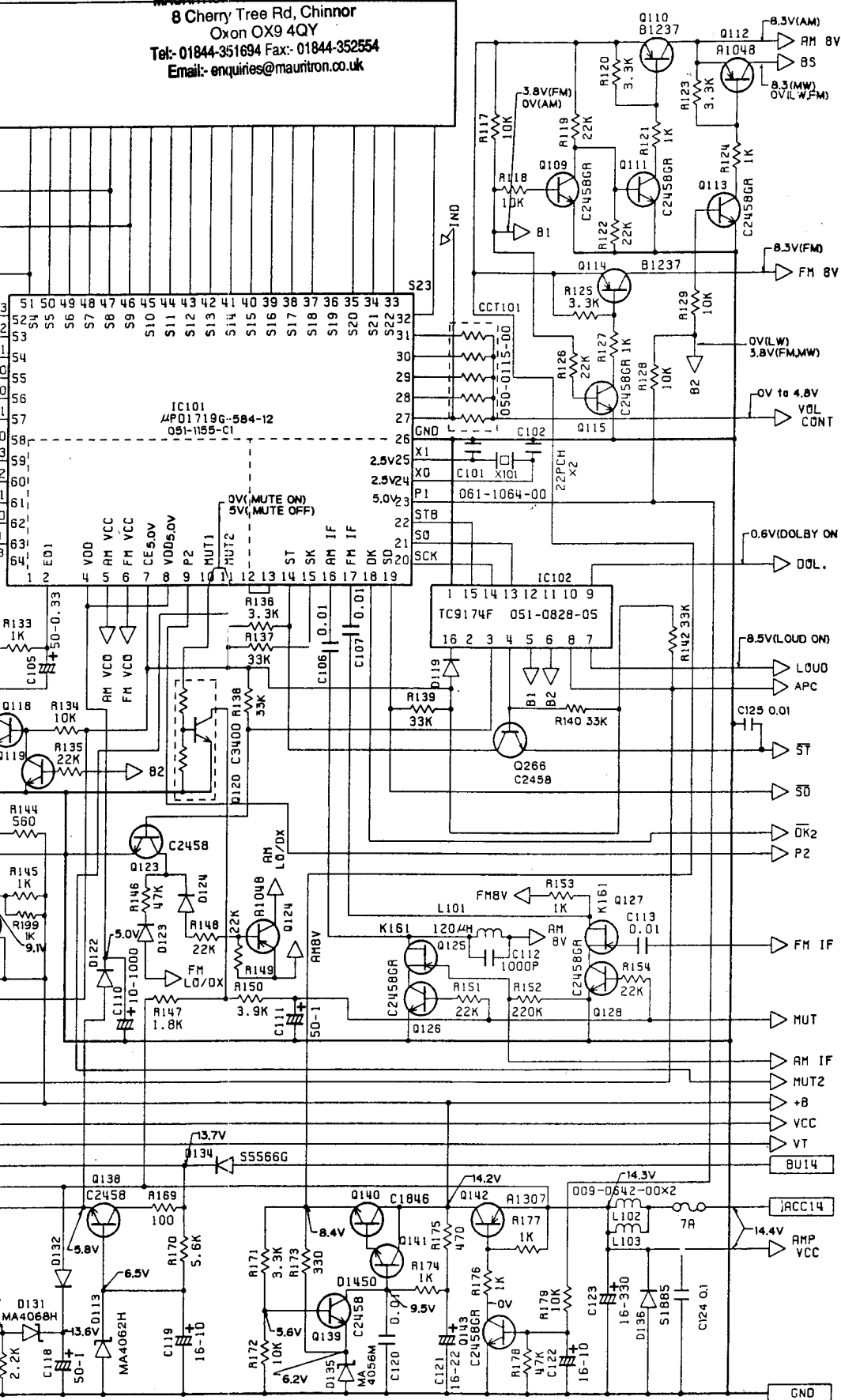


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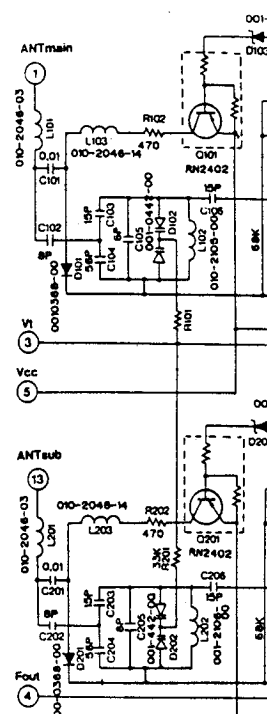


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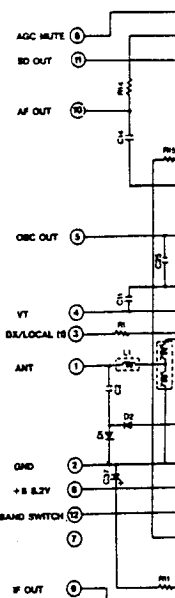


■ BLOCK CIRCUIT

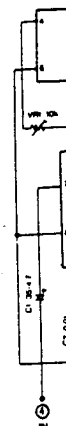
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©MW/LW TUNER PACK:

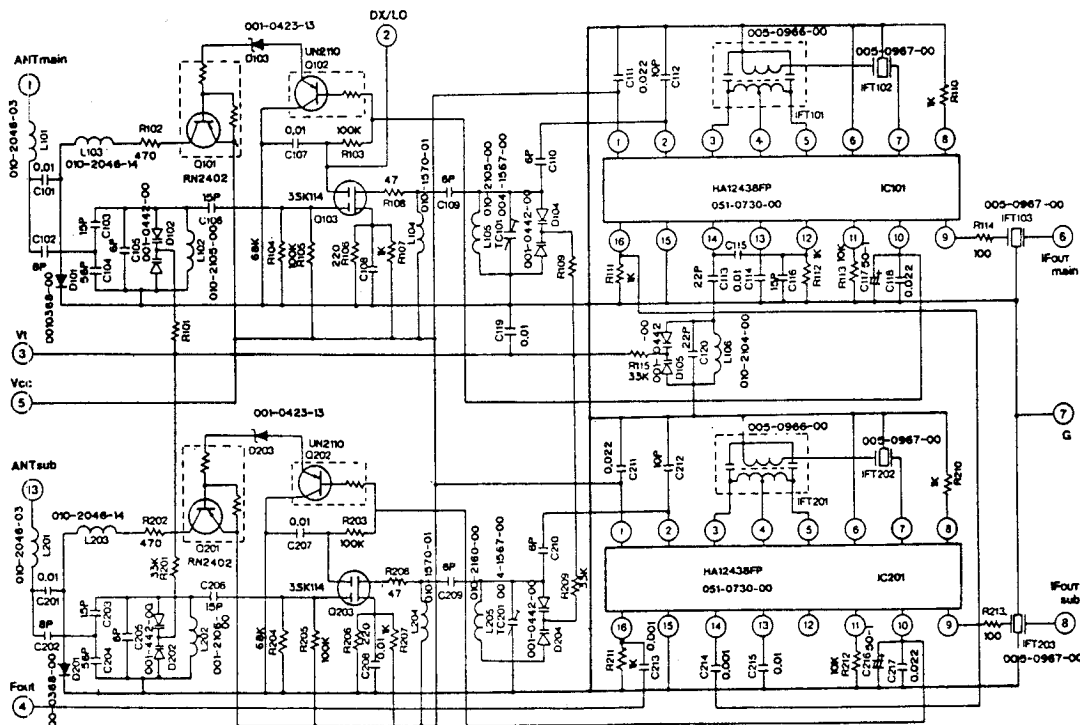


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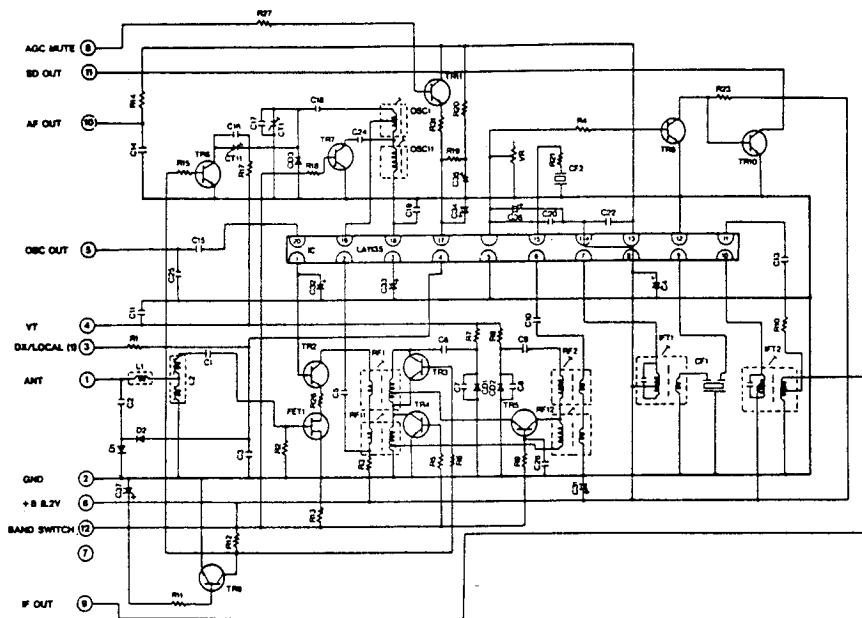


■ BLOCK CIRCUIT DIAGRAM:

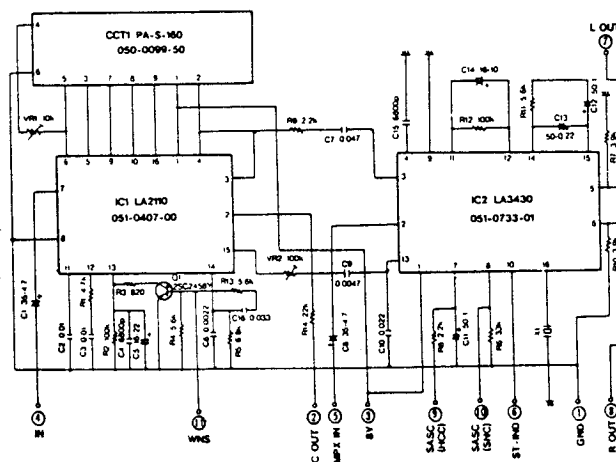
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©MW/LW TUNER PACK: 941-0159-02

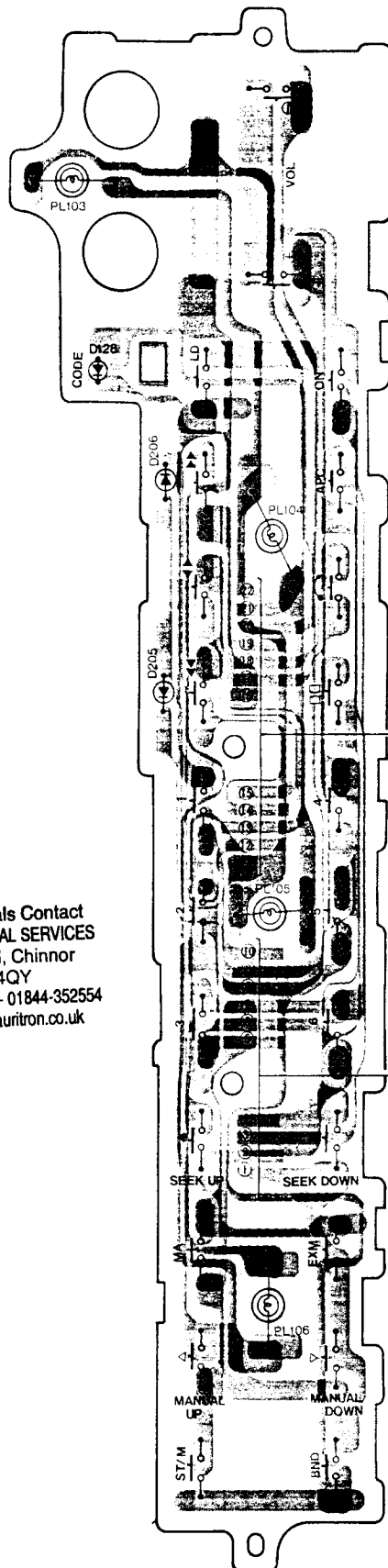


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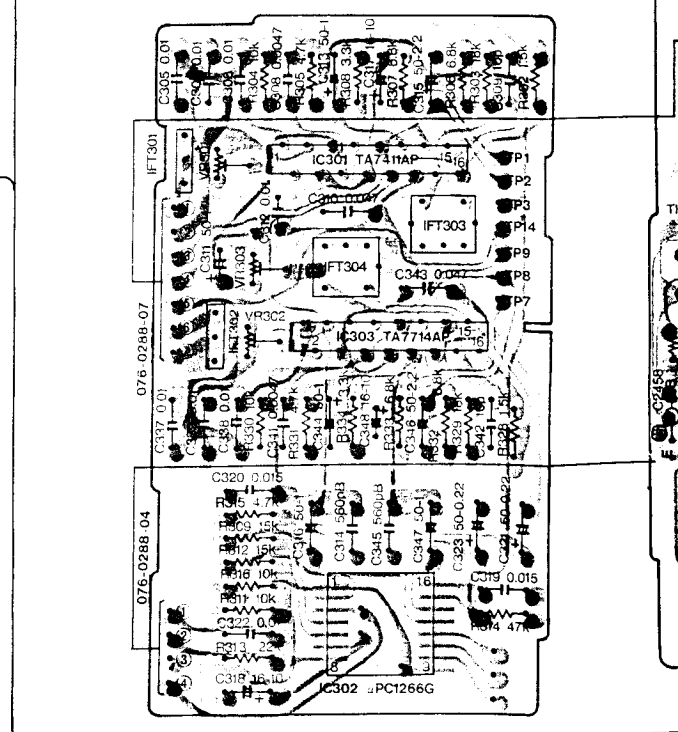
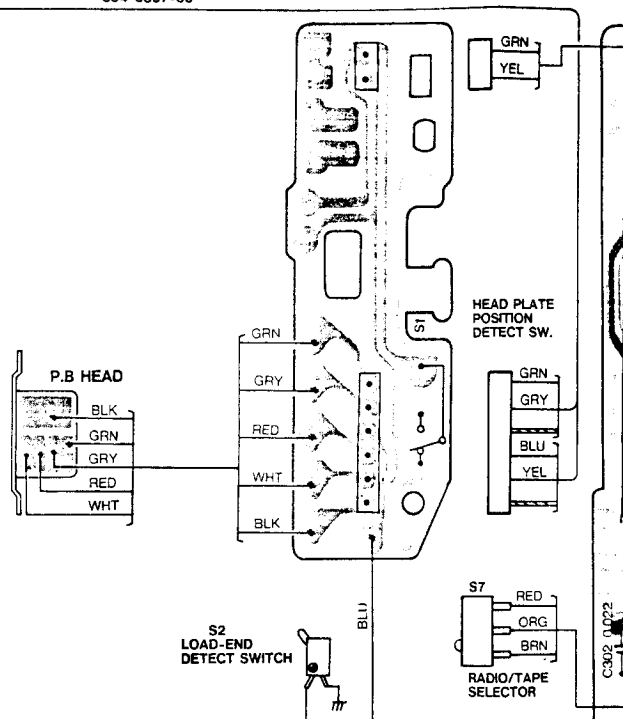
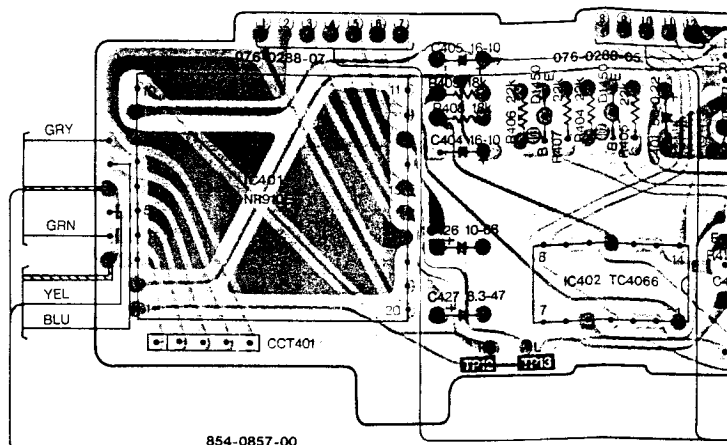


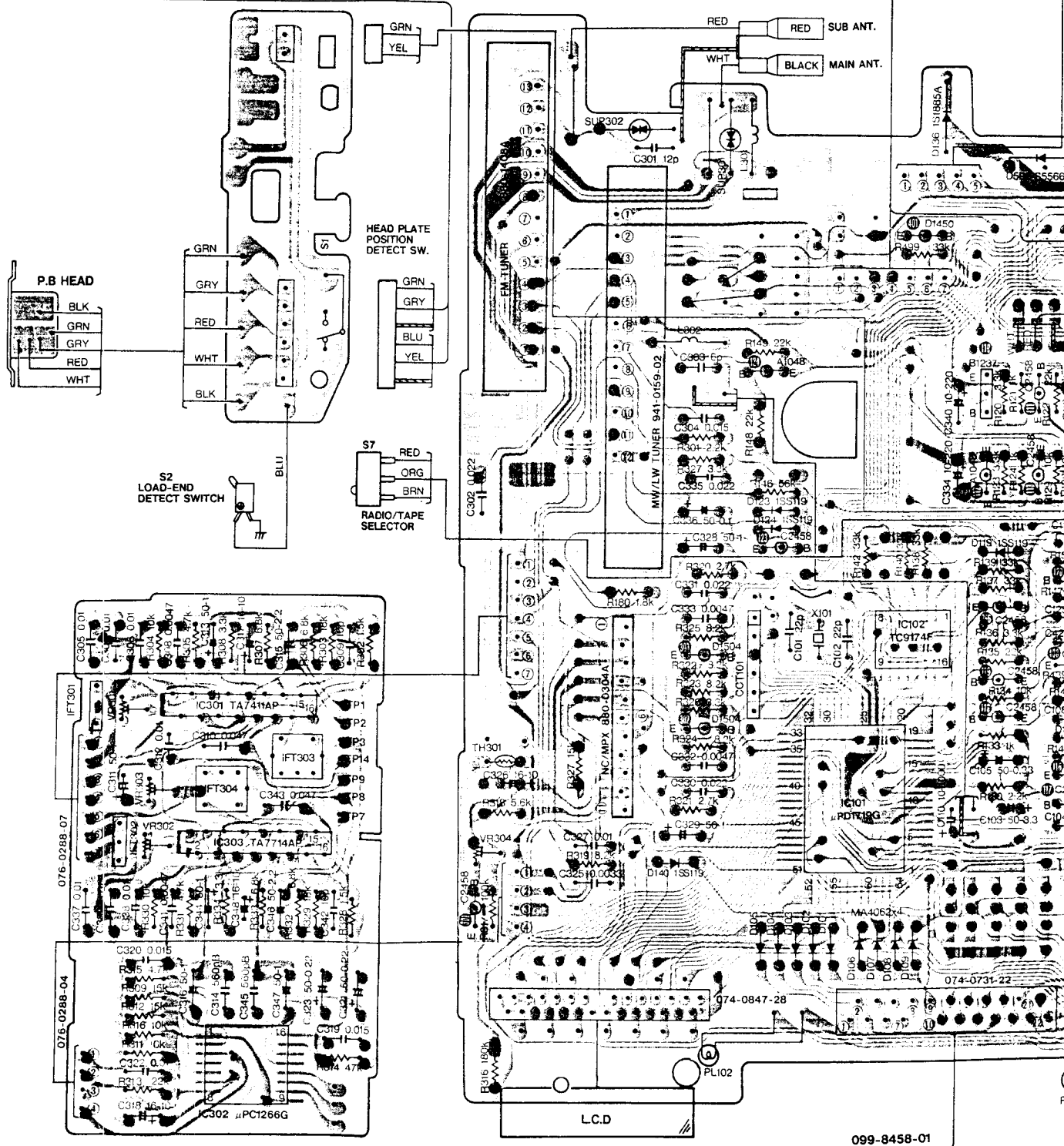
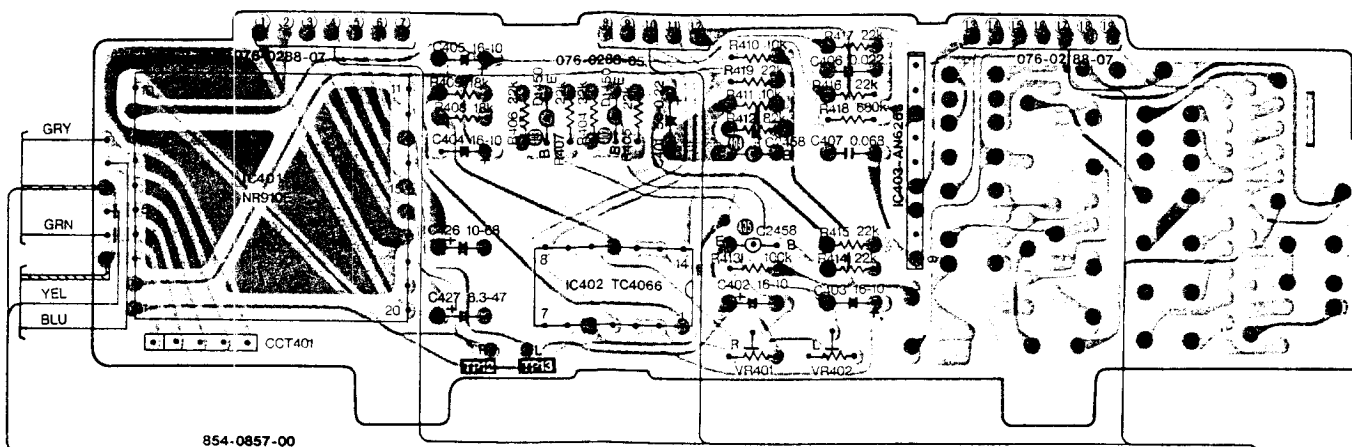
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■ PRINTED WIRING BOARD:

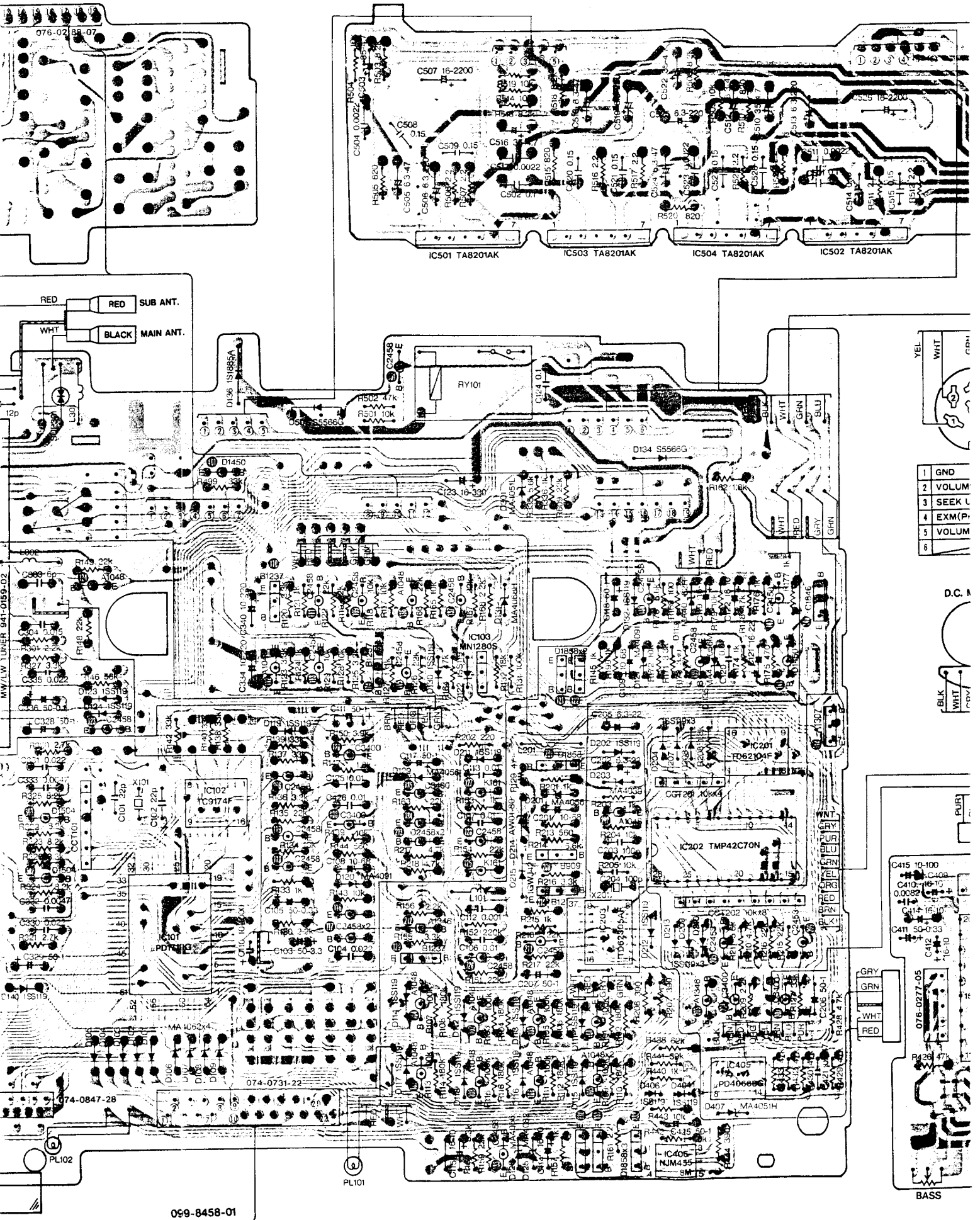


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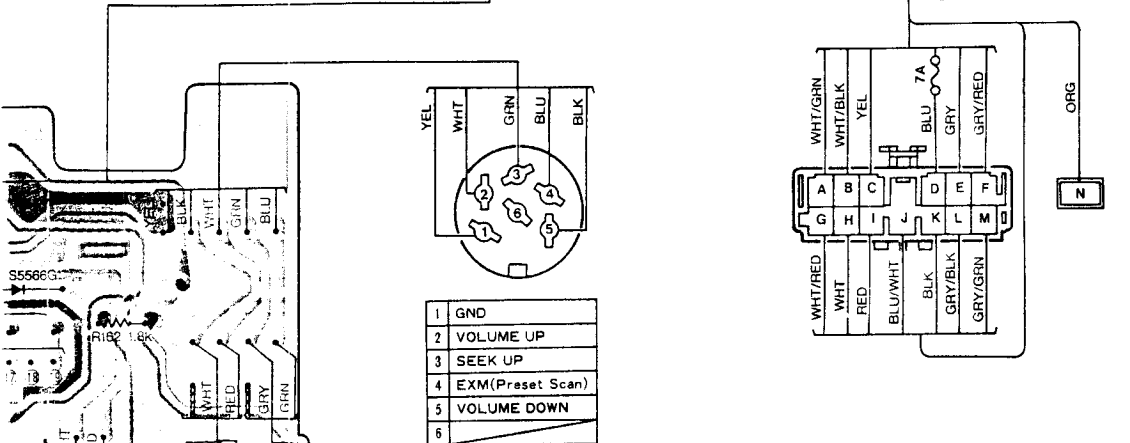
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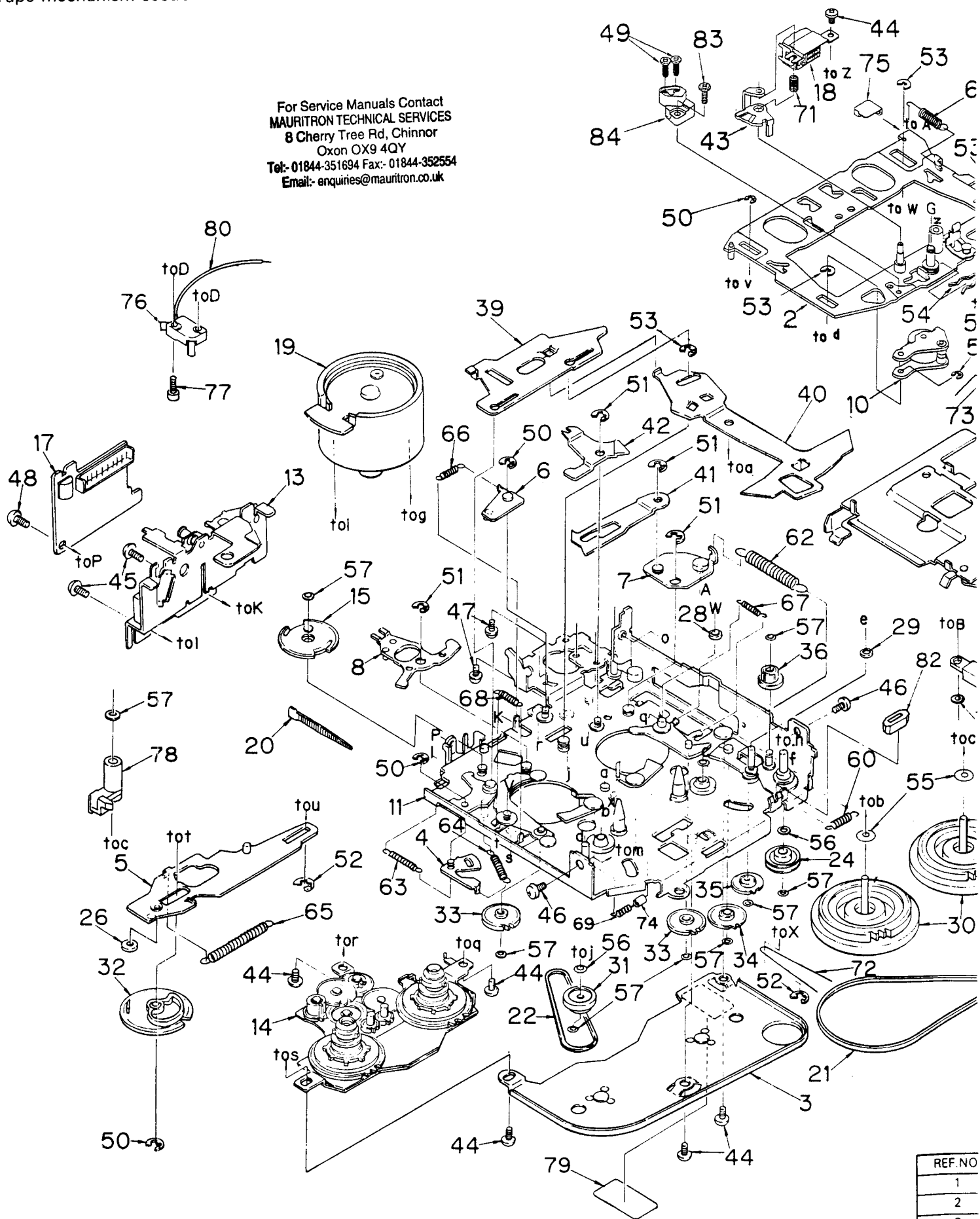
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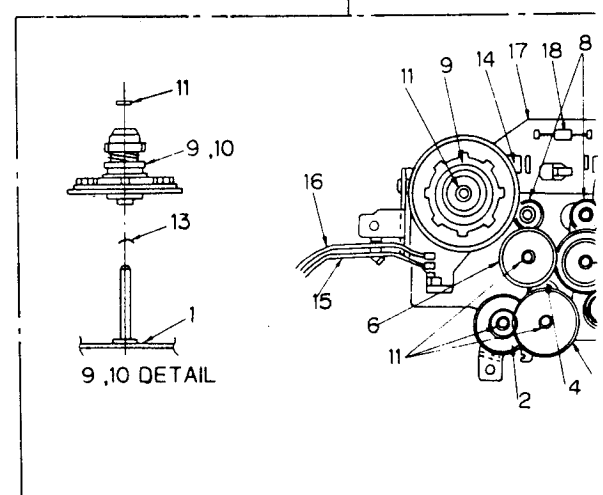
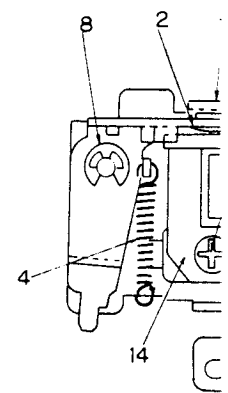
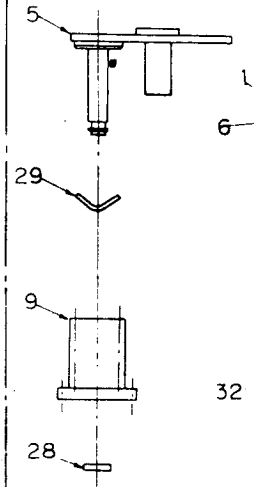
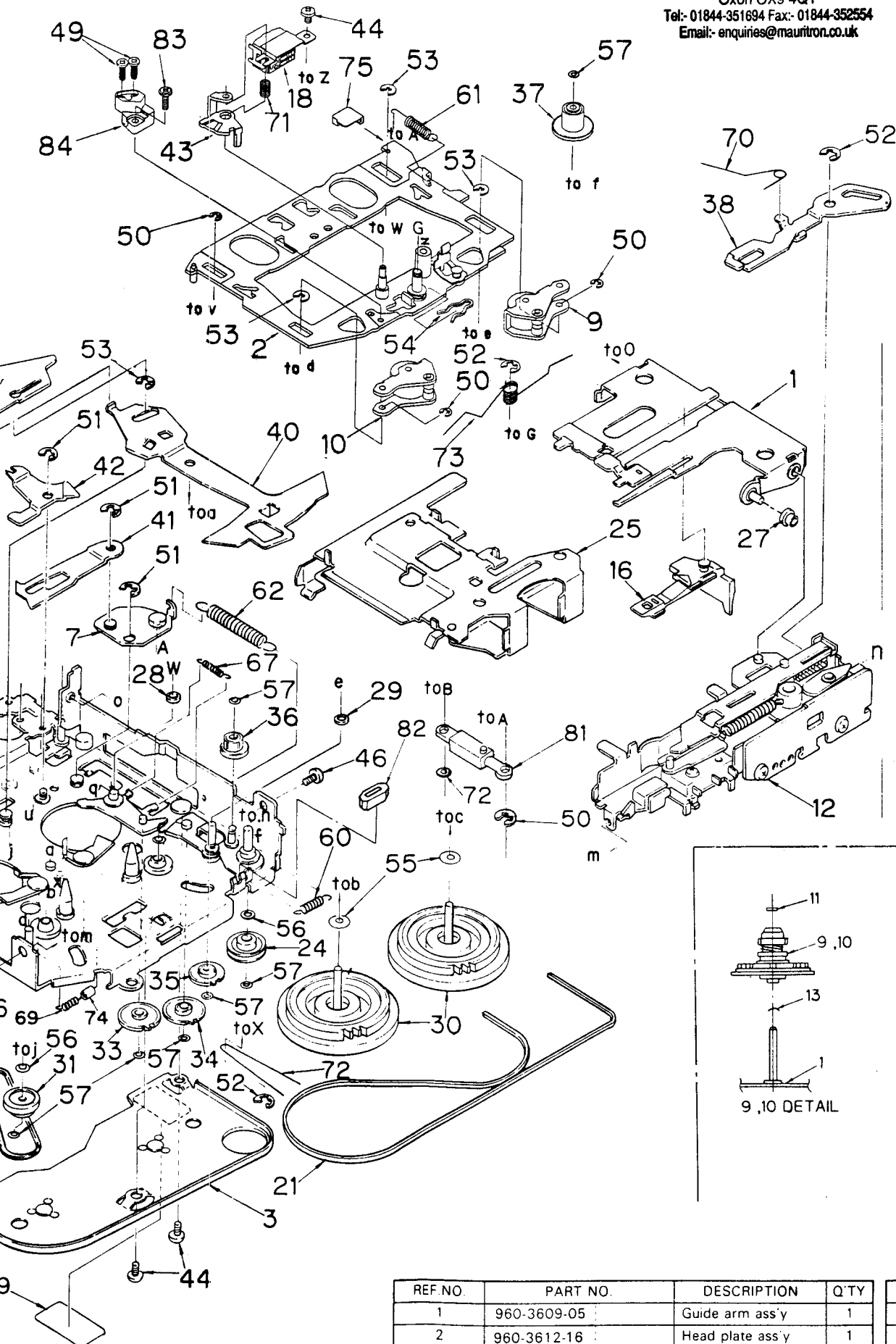
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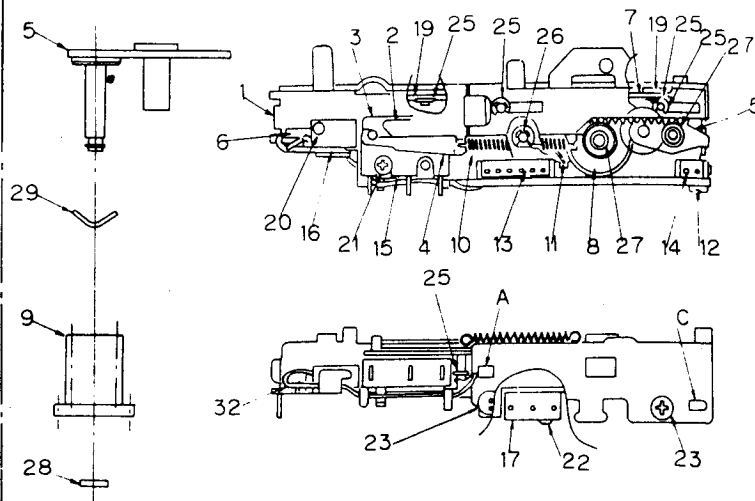
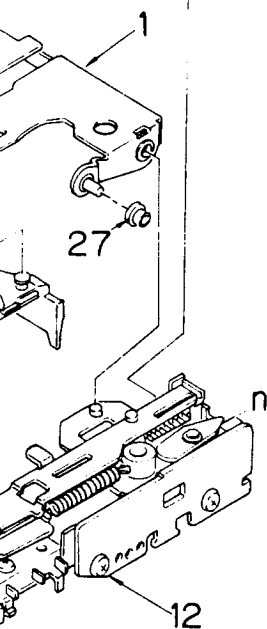
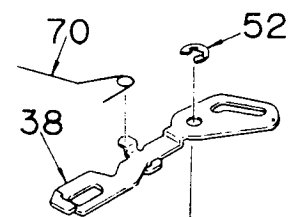
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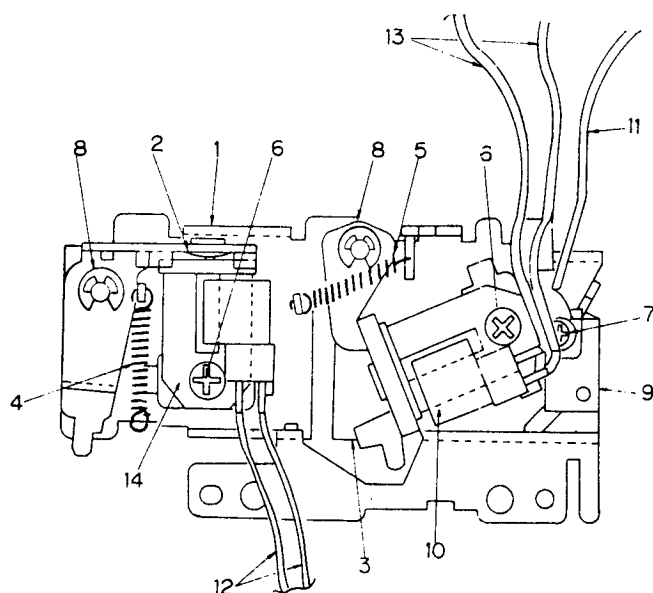
REF NO.	PART NO.	DESCRIPTION	Q'TY
1	960-3609-05	Guide arm ass'y	1
2	960-3612-16	Head plate ass'y	1
3	960-3617-01	Flywheel-P ass'y	1
4	960-3626-02	Timing-P ass'y	1
5	960-3627-04	Power-P ass'y	1
6	960-3628-01	P-lock-P ass'y	1

REF NO.	PART NO.
7	960-3631-06
8	960-3632-02
9	960-3738-02
10	960-3739-02
11	960-3638-17
12	960-3639-14



⑫960-3639-14 Frame-sub ass'y

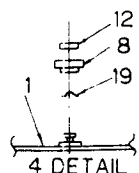
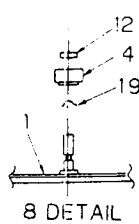
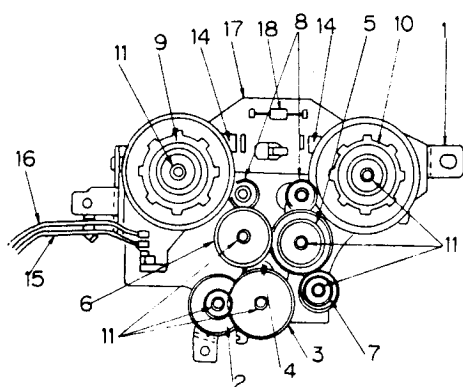
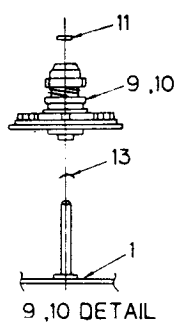
NO	PART NO	DESCRIPTION	QTY
1	960-3611-10	FRAME ASSY	1
2	960-3619-06	EJ ARM P ASSY	1
3	630-1758-06	EJ RACK PLATE	1
4	960-3621-02	SW-LINK ASSY	1
5	960-3620-06	SWING P ASSY	1
6	820-3005-02	VINYL TUBE	1
7	960-3618-03	EJECT P ASSY	1
8	613-0076-02	EJECT GEAR	1
9	613-0075-02	SWING GEAR	1
10	750-2404-00	EJ RACK SPRING	1
11	750-2419-01	EJ GEAR SPRING	1
12	099-7435-03	P W B	1
13	076-0277-06	PLUG	1
14	076-0277-02	PLUG	1
15	013-2690-05	SWITCH	1
16	013-3757-00	SWITCH	1
17	013-3780-00	SWITCH	1
18	806-0607-60	VINYL COAT WIRE	1
19	610-0268-00	EJECT ROLLER	2
20	716-0670-00	SCREW	1
21	714-2308-11	MACHINE SCREW (M2.3x8)	1
22	716-0656-00	SCREW	1
23	716-0777-01	SCREW	2
25	743-1500-10	E-RING	6
26	743-2000-10	E-RING	1
27	746-0761-00	WASHER	2
28	746-0762-00	WASHER	1
29	745-0737-03	WASHER	1



⑬960-3640-09 Side-P-sub ass'y

NO	PART NO	DESCRIPTION	QTY
1	960-3610-06	SIDE PANEL ASSY	1
2	960-3623-05	PL-LINK-A ASSY	1
3	960-3624-06	PL-LINK-B ASSY	1
4	750-2408-00	PL-SPRING-A	1
5	750-2409-02	PL-SPRING-B	1
6	714-2606-11	MACHINE SCREW (M2.5x6)	2
7	716-0670-00	SCREW	1
8	743-1500-10	E-RING	2
9	013-3757-00	SWITCH	1
10	015-0232-02	PLUNGER	1
11	803-0608-60	VINYL COAT WIRE	1
12	804-0606-60	VINYL COAT WIRE	2
13	805-0609-60	VINYL COAT WIRE	2
14	015-0238-00	PLUNGER	1

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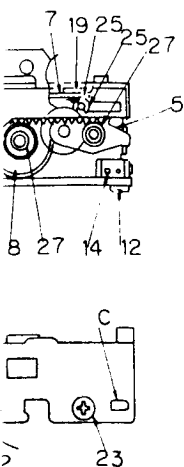
⑭960-3641-07 Reel-B-sub ass'y

NO	PART NO	DESCRIPTION	QTY
1	960-3613-05	REELBASE-P ASSY	1
2	613-0061-01	POWER GEAR A	1
3	613-0062-00	POWER GEAR B	1
4	613-0066-02	P-IDLER GEAR	1
5	613-0063-00	POWER GEAR C	1
6	613-0064-01	POWER GEAR D	1
7	613-0065-00	POWER GEAR E	1
8	613-0069-00	IDLER GEAR	2
9	960-3634-02	REELBASE-F ASSY	1
10	960-3635-02	REELBASE-R ASSY	1
11	746-0761-00	WASHER	7
12	746-0762-00	WASHER	3
13	746-0712-01	WASHER	2
14	013-3707-00	SWITCH	2
15	802-0615-60	VINYL COAT WIRE	1
16	801-0615-60	VINYL COAT WIRE	1
17	099-7216-02	P W B	1
18	111-1021-91	FILM RESISTOR (1/4W 5% 10K)	1
19	745-0678-01	WASHER	3

DESCRIPTION	QTY
Guide arm ass'y	1
Head plate ass'y	1
Lywheel-P ass'y	1
Timing-P ass'y	1
Power-P ass'y	1
Lock-P ass'y	1

REF. NO.	PART NO	DESCRIPTION	QTY
7	960-3631-06	Power link ass'y	1
8	960-3632-02	REW-link ass'y	1
9	960-3738-02	Roller-F ass'y	1
10	960-3739-02	Roller-R ass'y	1
11	960-3638-17	Deck plate ass'y	1
12	960-3639-14	Frame-sub ass'y 12	1

REF. NO.	PART NO	DESCRIPTION
13	960-3640-09	Side-P-sub ass'y 13
14	960-3641-07	Reel-B-sub ass'y 14
15	960-3642-03	CH-gear ass'y
16	960-3643-03	Pack-ST ass'y
17	099-7670-03	P W B
18	011-0308-00	Head



⑫ 960-3639-14 Frame-sub ass'y

NO	PART NO	DESCRIPTION	QTY
1	960-3611-10	FRAME ASS'Y	1
2	960-3619-08	EJ ARM P ASS'Y	1
3	630-1758-06	EJ RACK PLATE	1
4	960-3621-02	SW-LINK ASS'Y	1
5	960-3620-06	SWING P ASS'Y	1
6	820-3605-02	VINYL TUBE	1
7	960-3618-03	EJECT P ASS'Y	1
8	613-0076-02	EJECT GEAR	1
9	613-0075-02	SWING GEAR	1
10	750-2404-00	EJ RACK SPRING	1
11	750-2419-01	EJ GEAR SPRING	1
12	099-7435-03	P W B	1
13	076-0277-06	PLUG	1
14	076-0277-02	PLUG	1
15	013-2690-05	SWITCH	1
16	013-3757-00	SWITCH	1
17	013-3180-00	SWITCH	1
18	806-0607-60	VINYL COAT WIRE	1
19	610-0258-00	EJECT ROLLER	2
20	716-0670-00	SCREW	1
21	714-2708-11	MACHINE SCREW M2.3x8	1
22	716-0656-00	SCREW	1
23	716-0777-01	SCREW	2
24	743-1500-10	E-RING	5
25	743-2000-10	E-RING	1
26	746-0761-00	WASHER	2
27	746-0762-00	WASHER	1
28	746-0762-00	WASHER	1
29	745-0737-00	WASHER	1



⑬ 960-3640-09 Side-P-sub ass'y

NO	PART NO	DESCRIPTION	QTY
1	960-3610-06	SIDE PANEL ASS'Y	1
2	960-3623-05	PL-LINK-A ASS'Y	1
3	960-3624-06	PL-LINK-B ASS'Y	1
4	750-2408-00	PL-SPRING-A	1
5	750-2409-02	PL-SPRING-B	1
6	714-2506-11	MACHINE SCREW M2.6x6	2
7	716-0670-00	SCREW	1
8	743-1500-10	E-RING	2
9	013-3757-00	SWITCH	1
10	015-0232-02	PLUNGER	1
11	803-0608-60	VINYL COAT WIRE	1
12	804-0606-60	VINYL COAT WIRE	2
13	805-0609-60	VINYL COAT WIRE	2
14	015-0218-00	PLUNGER	1

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⑭ 960-3641-07 Reel-B-sub ass'y

NO	PART NO	DESCRIPTION	QTY
1	960-3613-05	REELBASE P ASS'Y	1
2	613-0061-01	POWER GEAR A	1
3	613-0062-00	POWER GEAR B	1
4	613-0065-02	P-ROLLER GEAR	1
5	613-0063-00	POWER GEAR C	1
6	613-0064-01	POWER GEAR D	1
7	613-0065-00	POWER GEAR E	1
8	613-0069-00	IDLER GEAR	2
9	960-3634-02	REELBASE P ASS'Y	1
10	960-3635-02	REELBASE P ASS'Y	1
11	746-0761-00	WASHER	3
12	746-0762-00	WASHER	2
13	746-0712-01	WASHER	2
14	013-3707-00	SWITCH	1
15	802-0615-60	VINYL COAT WIRE	1
16	801-0615-60	VINYL COAT WIRE	1
17	099-7216-02	P W B	1
18	111-1021-91	FILM RESISTOR 1/4W 5% 1KΩ	1
19	745-0678-01	WASHER	3

REF NO	PART NO	DESCRIPTION	QTY
19	SMA-105-100	Motor ass'y	1
20	335-0833-01	Clamp	1
21	602-0097-01	Belt-A	1
22	602-0098-02	Belt-B	1
23	750-2421-00	Change-A spring	1
24	604-0033-00	Tension pulley	1
25	606-0079-07	Pack guide	1
26	610-0266-00	Cam roller	1
27	610-0267-00	Guide roller	1
28	610-0281-00	Head-P-roller	1
29	610-0282-00	H-P-roller B	1
30	611-0072-02	Flywheel	2
31	613-0060-02	Pulley gear	1
32	613-0067-05	Cam gear	1
33	613-0070-00	FF-gear	2
34	613-0071-00	Loading gear-A	1
35	613-0072-00	Loading gear-B	1
36	613-0073-00	Loading gear-C	1
37	613-0074-01	Loading gear-D	1
38	630-1759-03	Eject arm	1
39	630-1760-02	Change plate	1
40	630-1761-01	Change arm	1
41	630-1762-03	Head lock plate	1
42	630-1763-01	FF-link	1
43	630-2350-02	Azimuth link	1
44	714-2003-81	Machine screw (M2x3)	6
45	714-2603-81	Machine screw (M2.6x3)	2
46	714-2604-81	Machine screw (M2.6x4)	2
47	716-0347-00	Screw (MOTOR)	2
48	716-0777-00	Screw (P.W.B)	1
49	716-0833-01	Screw (AZIMUTH)	2
50	743-1500-10	E-ring (M1.5)	7
51	743-2000-10	E-ring (M2)	4
52	743-2500-10	E-ring (M2.5)	4
53	744-0031-10	E-ring	4
54	744-0028-00	Snap retainer	1
55	745-0646-00	Washer (FLYWHEEL)	2
56	746-0624-00	Washer	2
57	746-0761-00	Washer	10
60	750-2405-02	Loading spring	1
61	750-2406-03	Head-P-spring	1
62	750-2407-03	P-link spring	1
63	750-2410-00	G-lock spring	1
64	750-2411-00	Timing spring	1
65	750-2412-00	Power-P-spring	1
66	750-2413-00	P-lock spring	1
67	750-2414-02	FF-spring	1
68	750-2415-01	REW-spring	1
69	750-2416-01	Brake spring	1
70	750-2418-02	EJ-arm spring-B	1
71	750-2721-01	Azimuth spring	1
72	746-0762-00	Washer	1
73	750-2422-03	Roller spring	1
74	820-4006-02	Vinyl tube	1
75	631-0540-00	Stopper B	1
76	013-3757-00	Switch	1
77	716-0670-00	Screw	1
78	631-0528-01	Sensor link	1
79	290-4065-01	Care label	1
80	804-0608-60	Vinyl coat	1
81	960-3824-00	Dumper ass'y	1
82	631-0539-01	Stopper A	1
83	738-2040-17	Precision screw	1
84	631-0620-01	Azimuth base	1

REF NO	PART NO	DESCRIPTION	QTY
13	960-3640-09	Side-P-sub ass'y 13	1
14	960-3641-07	Reel-B-sub ass'y 14	1
15	960-3642-03	CH-gear ass'y	1
16	960-3643-03	Pack-ST ass'y	1
17	099-7670-03	P W B	1
18	011-0308-00	Head	1

■ PARTS LIST:

©Electrical section
©MAIN P.W.B

REF. NO.	PART NO.	DESCRIPTION	QTY
D214	001-0182-00	Diode AW01-30	1
D136	001-0188-01	Diode 1S1885A	1
D101-105	001-0330-00	Diode 1S5119	32
D122-124			
D130-132			
D133-135			
D136-138			
D139-141			
D142-144			
D147	001-0377-30	Diode MA4051H	1
D301	001-0377-28	Diode MA4051L	1
D135	001-0377-32	Diode MA4056M	1
D113	001-0377-36	Diode MA4062H	1
D131	001-0377-39	Diode MA4068H	1
D134-501	001-0379-00	Diode S5566G	2
D203	001-0423-15	Diode MA4039	1
D126-129-201	001-0423-19	Diode MA4056	3
D106-109	001-0423-20	Diode MA4062	4
D125	001-0423-23	Diode MA4082	1
D120-121	001-0423-24	Diode MA4091	2
D403	001-0451-00	Diode DCD015	1
D215	001-0484-00	Diode 1GWJ42	1
TH301	002-0200-00	Thermistor 10kΩ	1
IFT303.304	005-0976-00	IF-transformer	2
IFT301.302	005-0979-00	IF-transformer	2
L302	010-3046-02	Coil 5.8μH	1
L301	010-3046-17	Coil 5.8μH	1
L101.201	010-3046-33	Coil 120μH	2
VR301.302	012-3808-00	Variable resistor 330Ω	2
VR303	012-3808-06	Variable resistor 10kΩ	1
VR304	012-3808-11	Variable resistor 220kΩ	1
VR401.402	012-4318-09	Variable resistor 47kΩ	2
RY101	014-0522-00	Relay	1
C110	042-0358-00	Electrolytic capacitor 10V1000μF	1
CCT201	050-0077-02	Component circuit 10kΩx4	1
CCT401	050-0077-05	Component circuit	1
CCT202	050-0086-00	Component circuit 10kΩx8	1
CCT101	050-0115-00	Component circuit	1
IC402	051-0287-00	IC TC4066BP	1
IC405	051-0287-55	IC μPD4066BG	1
IC406	051-0350-55	IC NJM4558	1
IC201	051-0390-05	IC TD62104F	1
IC302	051-0541-00	IC μPC1266G	1
IC403	051-0561-01	IC AN6263	1
IC202	051-0740-01	IC TMP42C70N	1
IC301.303	051-0798-21	IC TA7411AP	2
IC102	051-0828-05	IC TC9174F	1
IC203	051-0829-04	IC TD62305AF	1
IC103	051-0840-16	IC MN1280S	1
IC404	051-0888-00	IC TA764P	1

REF. NO.	PART NO.	DESCRIPTION	QTY
C336	183-1043-62	Electrolytic capacitor 50V0.1μF USS	1
C206.207.311	183-2263-12	Electrolytic capacitor 50V2.2μF USS	2
C316.328.329	183-2263-32	Electrolytic capacitor 16V0.1μF USS	1
C347.419.424	183-3343-62	Electrolytic capacitor 50V0.33μF USS	3
C109.411.417	183-3353-62	Electrolytic capacitor 50V3.3μF USS	1
C427	183-4783-12	Electrolytic capacitor 10V88μF USS	1
C428	183-6863-22	Electrolytic capacitor 10V88μF USS	4

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REF. NO.	PART NO.	DESCRIPTION	QTY
L102.103	009-0842-00	Choke	2
C503.510.515	042-0334-15	Electrolytic capacitor 35V4.7μF	4
C525	042-0334-30	Electrolytic capacitor 6.3V47μF	4
C501.502	173-1042-10	Electrolytic capacitor 0.1μF S	2
C508.509.514	173-1542-10	Polyester capacitor 0.15μF S	8
C515.520.521			
C517.528			

©TAPE MECHANISM ELECTRICAL PARTS

REF. NO.	PART NO.	DESCRIPTION	QTY
D1-4	001-0330-00	Diode 1SS119	4
Q1	100-1048-00	Transistor 2SA1048	1
Q2.3	100-1297-00	Transistor 2SA1297	2

NOTE: OM (Oxidized Metal) SS (Super Small)
S (Small) TC (Temperature-Compensating)
HD (Higher Dielectric) LL (Low Leak)
SC (Semi-Conductor) USS (Ultra Super Small)

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