

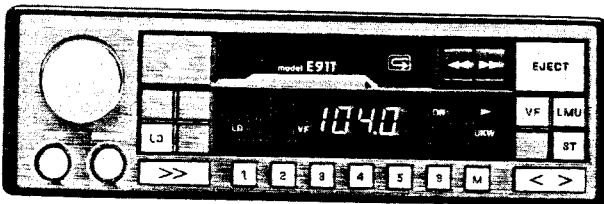
Service Manual

Closer Relations through
"Clarion Service Manual"

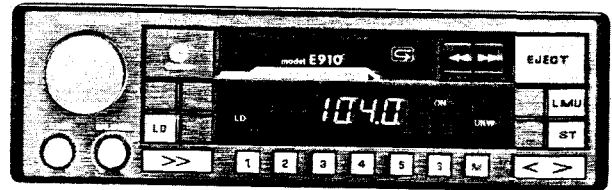
Overseas Sales Branch Offices

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Model E911 (PE-9010A) E910 (PE-9011A)



E911



E910

SPECIFICATIONS:

Radio section

Circuit system: Superheterodyne
 Tuning system: Electronic tuning
 Receiving frequency: LW 155kHz to 281kHz
 MW 531kHz to 1,602kHz
 UKW(FM) 87.5MHz to 108MHz
 Intermediate frequency: LW, MW 459kHz
 UKW(FM) 10.7MHz

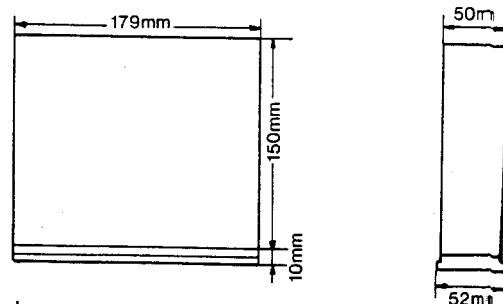
Composite

Speaker impedance: $4\Omega \times 2$
 Power output: $4.5W \times 2$
 (at 10% distortion TYP.)
 More than $8.0W \times 1$
 (at max. output TYP)
 Power supply voltage: DC 14.4V(10.8V to 15.6V)
 Negative ground
 Power consumption: Less than 3A
 (at max. output)
 Semiconductors: 1 LSI, 15 ICs, 36 Transistors
 and 36 Diodes (E911)
 (Not included Tuner pack)
 1 LSI, 13 ICs, 26 Transistors
 and 29 Diodes (E910)

Tape section

Reproduction system: Auto replay
 4 track, 2 channel, 2 program stereo cassette tape playback
 (Monaural also capable)
 Tape speed: 4.76cm/sec. ($1\frac{7}{8}$ ips)

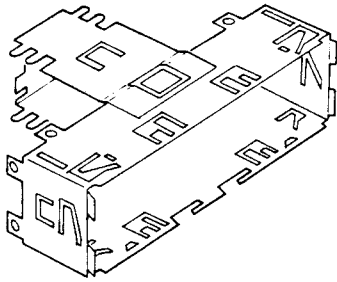
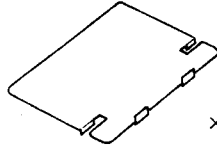
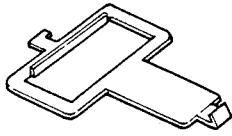
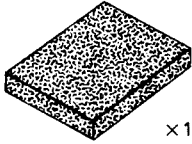





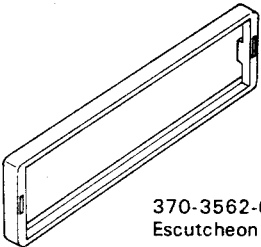

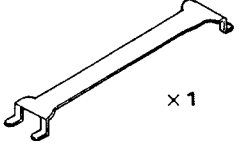
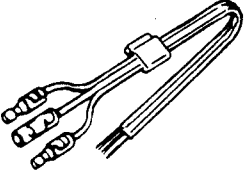
Dimensions:



Weight: 1.5kg

COMPONENT VIEW:

- E911 (PE-9010A)
- E910 (PE-9011A)

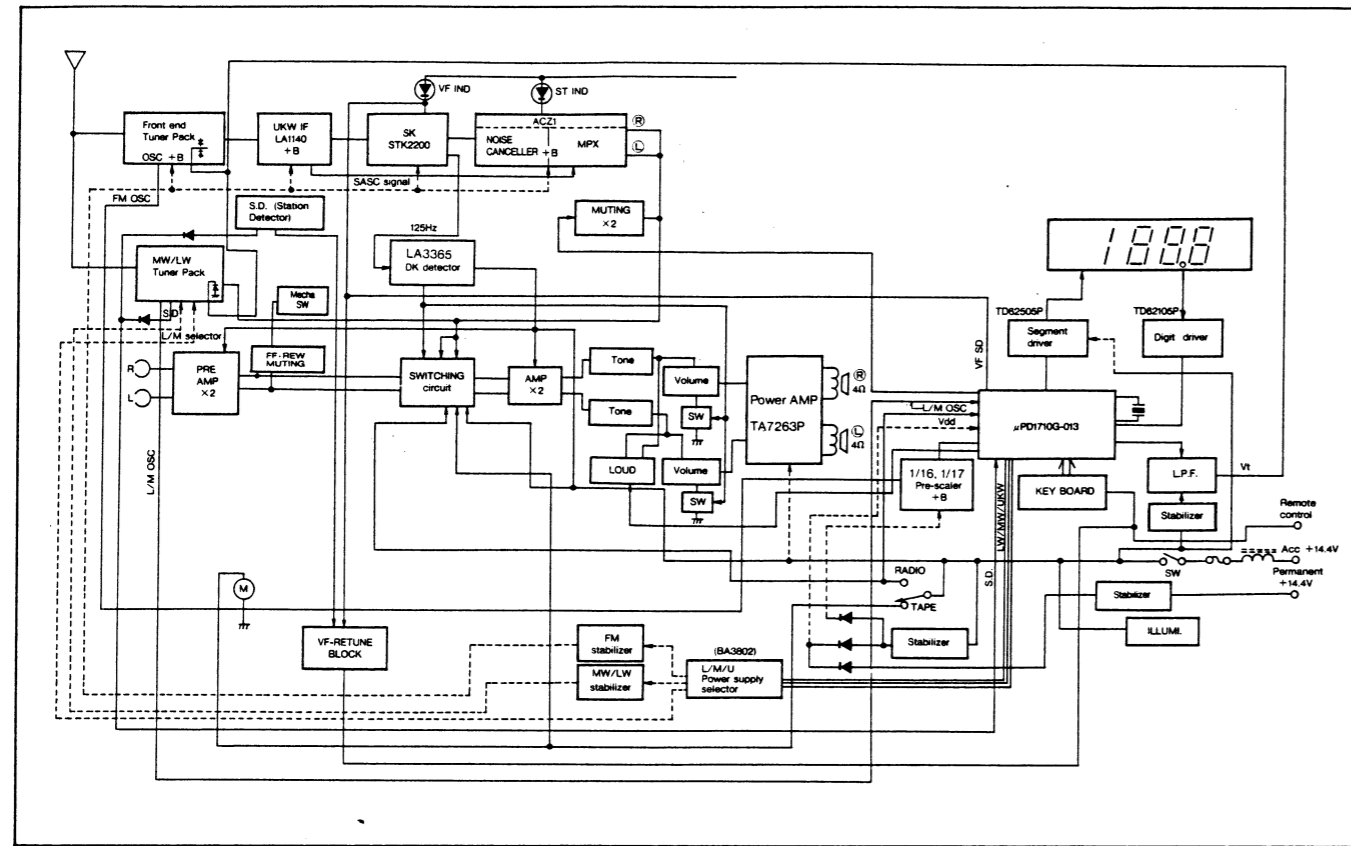
Main unit	1	Parts bag	921-7554-00	1
Mounting bracket	300-6692-00	1		
		 x1 330-7672-00 Lock plate		
 x2 330-7673-00 Hook plate				
Mounting bracket	300-4976-00	1		
 x1 345-2934-00 Cushion		 x1 345-3653-01 Spacer		
 x1 820-0050-04 Vinyl tube		 x1 725-0181-00 Plate nut		
 x1 700-5016-10 Tap screw		 x1 740-5000-10 Flat washer		
Parts bag	922-1247-00	1		
 x1 370-3562-00 Escutcheon		 x1 722-0314-00 Nut		
 x1 330-7759-00 Hold plate				
Extension lead	852-4649-00	1		
				

FEATURES:

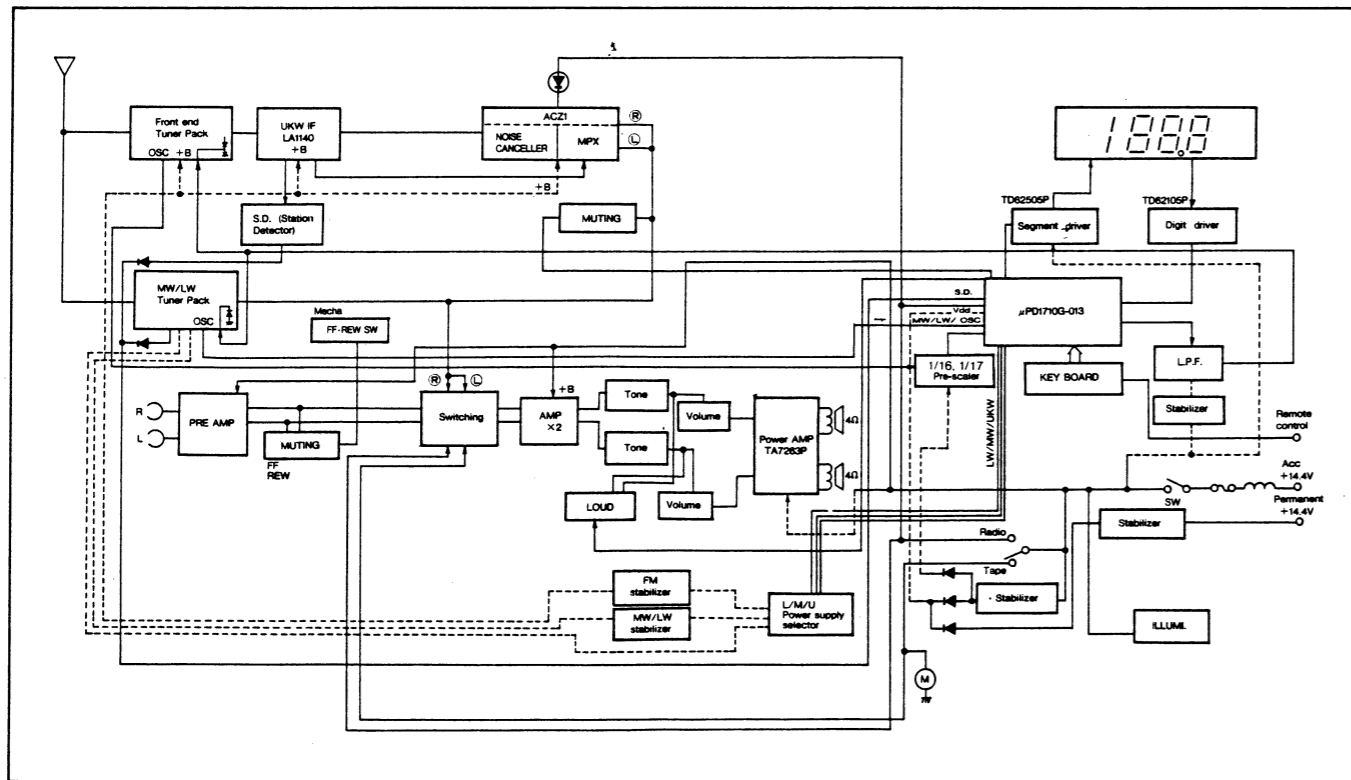
- MW/LW/UKW(FM)-MPX electronic tuning radio with auto replay & key off eject stereo cassette player (F.F., REW. lock).
- Provided radio traffic information (VF) system. (E911)
- LD (Loudness).
- SC mechanism.

BLOCK DIAGRAM:

©E911 (PE-9010A)

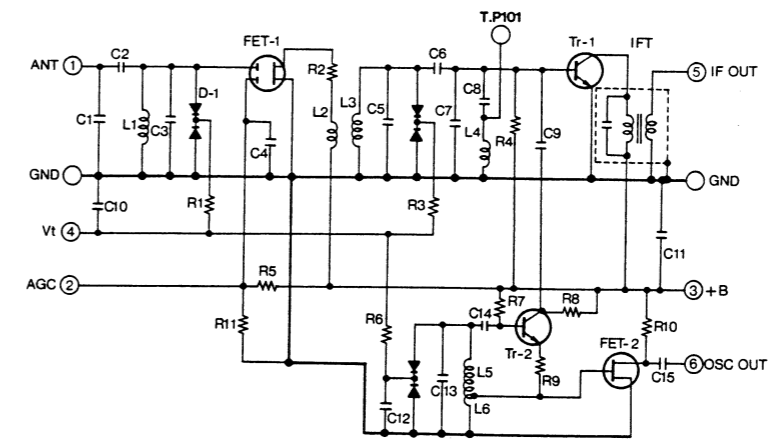


©E910 (PE-9011A)

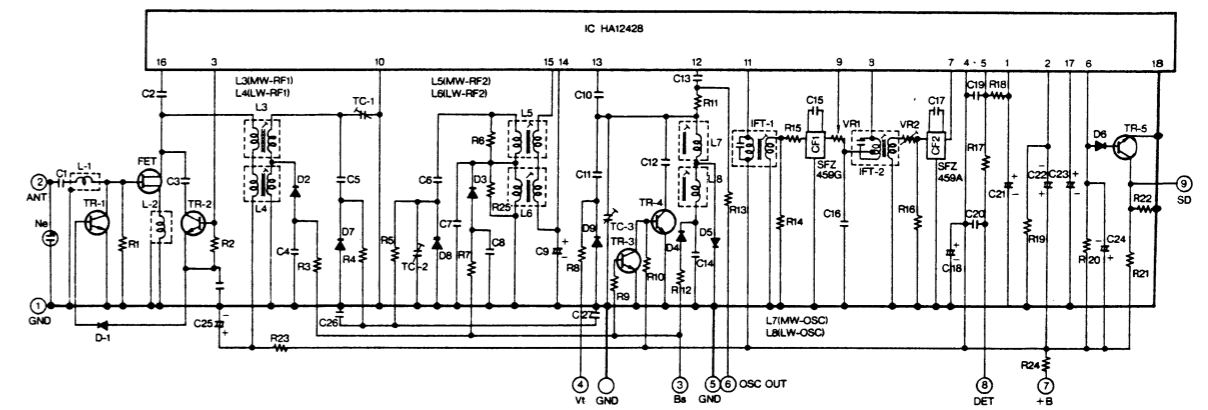


TUNER PACK CIRCUIT:


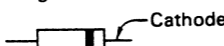
©UKW(FM) circuit



©MW/LW circuit



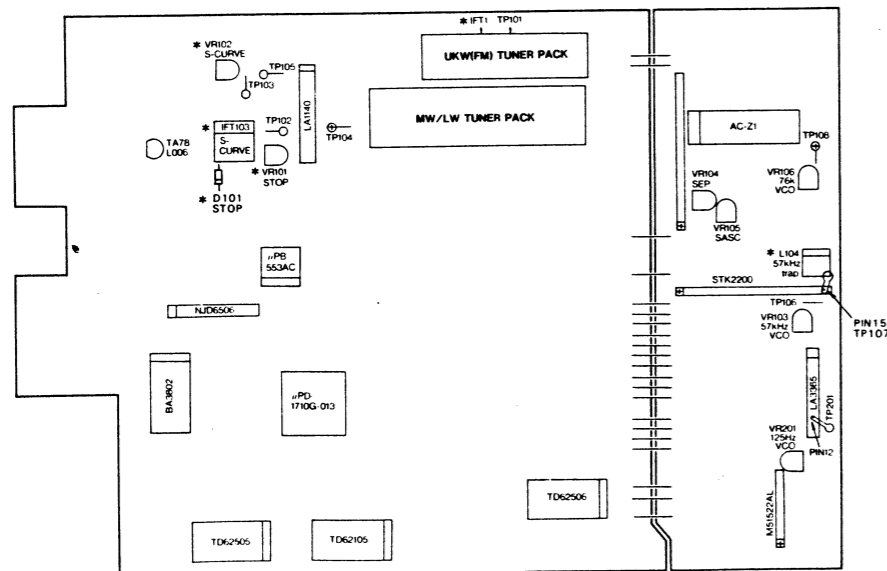
ADJUSTMENT:

Adjustment item	Adjustment point	Procedure	
S curve	IFT1 and IFT103	<ol style="list-style-type: none"> 1. Connect the output of an IF sweep generator to TP101 and the input of the vertical hold of an oscilloscope to TP104. 2. Ground TP105. 3. Adjust the S curve by means of IFT1 and IFT103. 	
S curve fine adjustment	VR102	<ol style="list-style-type: none"> 1. Tune at 87.5MHz (87.500Hz) and input a 28dB non-modulated SSG signal. 2. Connect a digital volt meter between TP102 and TP103. 3. Adjust VR102 so that the voltage between TP102 and TP103 is 0V. 4. May adjust 0V by receiving weak broadcasting signal. 	
Stop seek sensitivity	VR101	<ol style="list-style-type: none"> 1. Tune at 87.5MHz (87.500Hz), input a 28dB non-modulated SSG signal. 2. Adjust VR101 so that the voltage of the cathode of D101 is in the range 1 to 4V. 	
SASC	VR105	<ol style="list-style-type: none"> 1. Tune at 87.5MHz (87.500Hz), input an 55dB, 7kHz modulation frequency, 30% modulation degree SSG signal, and then turn on ST. SW. 2. Adjust the output level of the volume controller to 0dBm (0.775V). 3. Set the SSG output to 38dB and adjust VR105 so that the output level is -3dBm. 	
MPX	1. VCO	VR106	<ol style="list-style-type: none"> 1. Tune at 87.5MHz (87.500Hz), input a 55dB non-modulated SSG signal, and then turn on ST. SW. 2. Connect a frequency counter to TP108 through a 100kΩ resistor and adjust VR106 so that the counter indicates 76kHz.
	2. Separation	VR104	<ol style="list-style-type: none"> 1. Tune at 87.5MHz (87.500Hz), 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 VR104 so that the maximum separation is obtained.
SK	1. VCO	VR103	<ol style="list-style-type: none"> 1. Tune at 87.5MHz (87.500Hz), input a 55dB non-modulated SSG signal. 2. Connect the frequency counter to TP106 and adjust VR103 so that the counter indicates 57kHz.
	2. 57kHz trap (E911)	L104	<ol style="list-style-type: none"> 1. Tune at 87.5MHz (87.500Hz), connect the output of the stereo modulator to the external modulation terminal, and then input a 55dB SSG signal. 2. Turn on SK. SW. of stereo modulator. 3. Adjust L104 so that the wave-form of pin 15 (TP107) of STK2200 is maximized.
DK VCO (E911)	VR201	<ol style="list-style-type: none"> 1. Tune at 87.5MHz (87.500Hz), input a 55dB non-modulated SSG signal, and turn on VF. SW. 2. Connect the frequency counter to TP201 through a 22kΩ resistor and adjust VR201 so that the counter indicates 125Hz. In the case, 25sec later, seeking occurs. 	

[NOTE] After the adjustment of frequency range, be sure that:
 (1) Band edge frequency of LW shall be 148.5kHz -20kHz
 (2) Band edge frequency of UKW shall be 87.5MHz +100kHz -160kHz at low end. And shall be lower than 108.16MHz at upper end.

- SPECIFICATION -LIMIT- Quieting sensitivity: MW Less than 33dB(at 20dB S/N)
 LW Less than 39dB(at 20dB S/N)
 UKW Less than 12dB(at 30dB S/N)
 Stereo separation: UKW More than 20dB

ADJUSTMENT POINT



(NOTE) The part marked "*" should be adjusted from parts side, and the other adjustment should be done from P.W.B. pattern side.

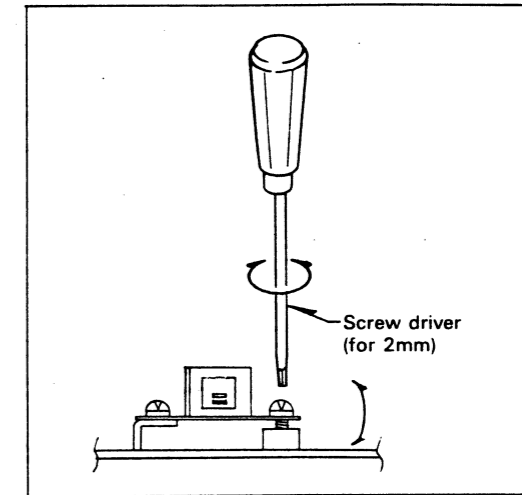
TAPE MECHANISM

HEAD AZIMUTH ADJUSTMENT:

Play the test tape 6.3kHz, -10VU and adjust by turning the head azimuth adjusting screw so that the output level becomes close to maximum.

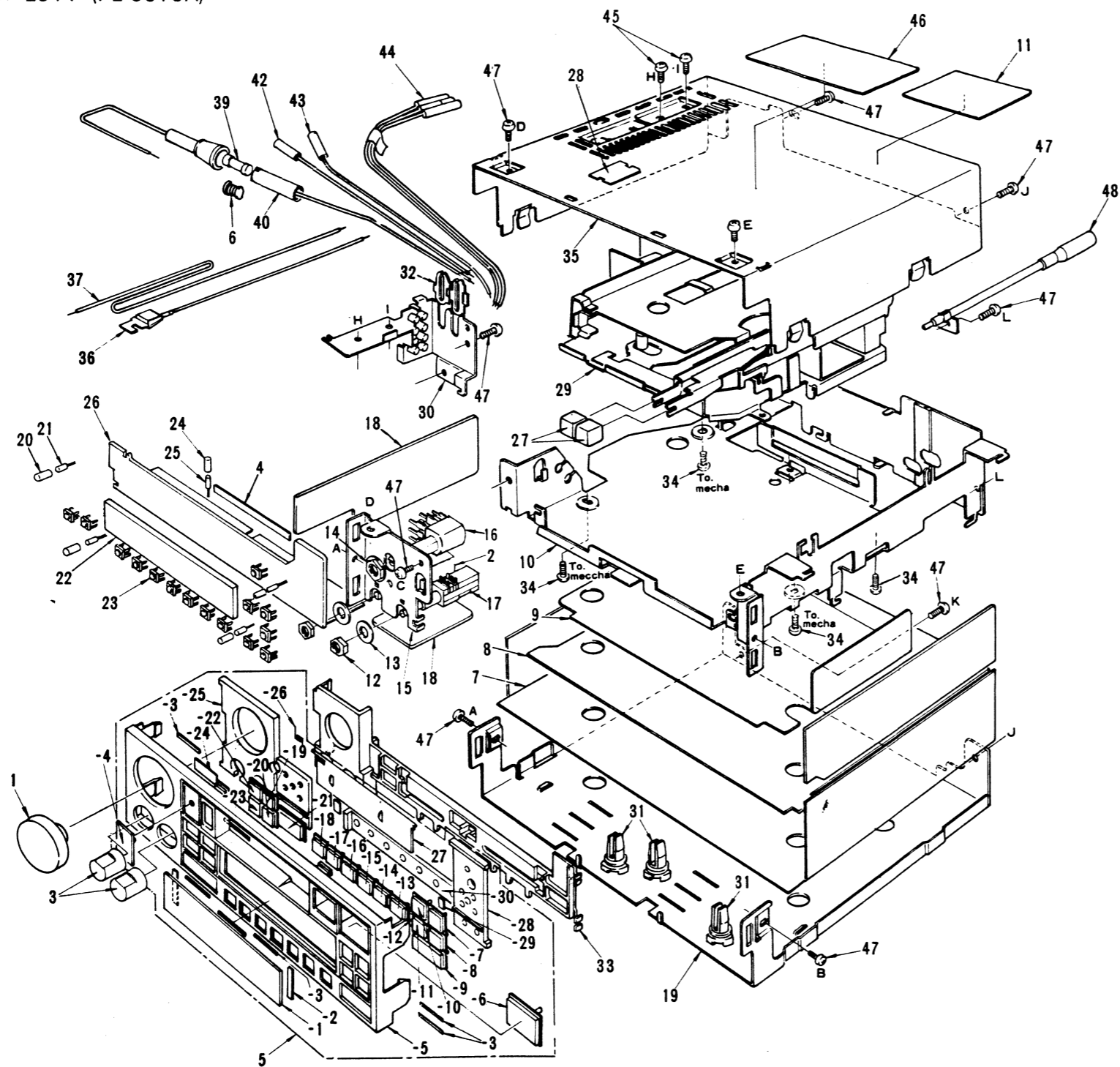
SPECIFICATION -LIMIT-

Wow and flutter : Less than 0.2% (W.R.M.S.)



EXPLODED VIEW • PARTS LIST:

©Main section E911 (PE-9010A)



REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
1	380-4293-01	Knob (VOL)	1
2	012-4071-00	Variable resistor (TON)	1
3	380-4294-01	Knob (TON, BAL)	2
4	347-0607-00	Insulator	1
5	940-2690-02	Escutcheon ass'y	1
5-1	373-0364-05	Dial cover	1
5-2	347-0645-00	Adhesive paper	2
5-3	347-0815-00	Adhesive paper	6
5-4	378-0089-00	Badge	1
5-5	370-3561-05	Escutcheon	1
5-6	382-0508-01	Button (EJECT)	1

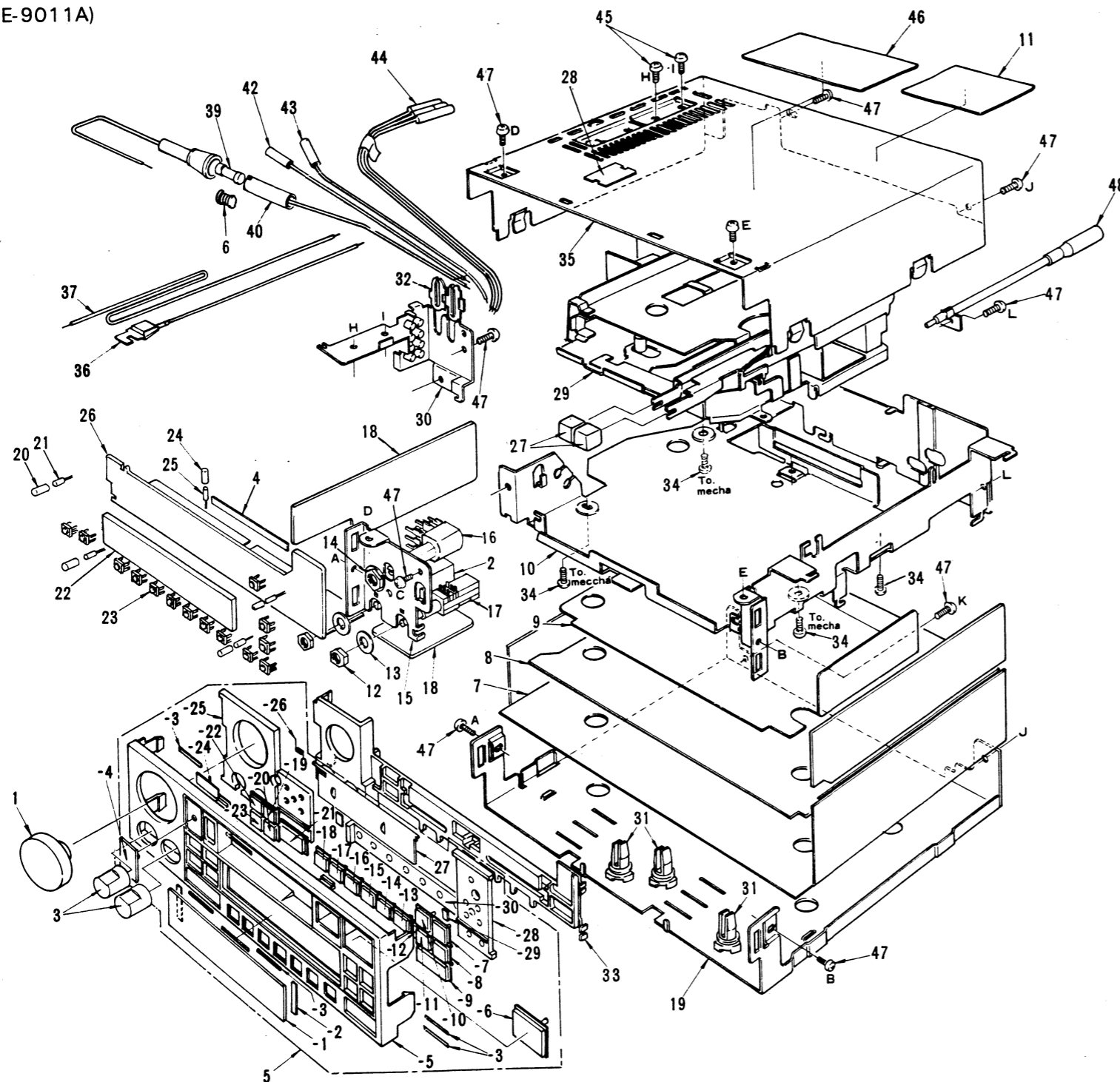
REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
5-7	382-0509-03	Button (L/M/U)	1
5-8	382-0509-00	Button (ST)	1
5-9	382-0511-00	Button (< >)	1
5-10	382-0509-01	Button (VF)	1
5-11	382-0507-00	Dummy button	1
5-12	382-0510-00	Button (M)	1
5-13	382-0510-06	Button (6)	1
5-14	382-0510-05	Button (5)	1
5-15	382-0510-04	Button (4)	1
5-16	382-0510-03	Button (3)	1
5-17	382-0510-02	Button (2)	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
5-18	382-0510-01	Button (1)	1
5-19	382-0507-00	Dummy button	1
5-20	382-0507-00	Dummy button	1
5-21	382-0511-01	Button (> >)	1
5-22	382-0507-00	Dummy button	1
5-23	382-0509-02	Button (LD)	1
5-24	347-0872-00	Adhesive paper	1
5-25	371-3078-01	Trim plate	1
5-26	750-2309-01	Spring	1
5-27	320-0326-19	Dustproof cover	1
5-28	371-3077-01	Trim plate	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
5-29	347-0772-00	Adhesive paper	2
5-30	371-3079-01	Trim plate	1
6	010-1610-00	Coil	1
7	347-1216-00	Insulator	1
8	099-6810-00	P.W.B	1
9	347-1217-01	Insulator	1
10	312-0231-01	Chassis	1
11	286-5064-00	Set plate	1
12	722-0332-00	Hex-nut	2
13	745-0560-00	Flat washer	2
14	722-0417-00	Nut	1
15	330-7674-01	VR bracket	1
16	012-4069-00	Variable resistor (VOL)	1
17	012-4072-00	Variable resistor (BAL)	1
18	099-6813-00	P.W.B	1
19	304-0357-01	Lower cover	1
20	345-3619-00	P.L cap	4
21	017-0338-06	Pilot lamp	4
22	379-0051-06	Indicator	1
23	013-3694-00	Switch	15
24	345-2830-07	P.L cap	1
25	017-0345-14	Pilot lamp	1
26	099-6814-00	P.W.B	1
27	382-0506-01	Button (◀)	2
28	347-1029-00	Indicator	1
29	347-0505-02	Tape mechanism	1
30	944-0651-04	Filter ass'y	1
31	335-1603-00	Bush	3
32	335-0580-00	Lead holder	2
33	374-0833-01	Back plate	1
34	714-3006-81	Machine screw (M3x6)	4
35	310-1125-01	Upper case	1
36	840-0386-00	Bonding wire	1
37	850-2110-01	A-lead	1
38	850-1844-01	A-lead	1
39	120-0030-03	Fuse (3A)	1
40	850-1822-00	A-lead	1
41	347-0811-00	Adhesive paper	1
42	852-5322-02	Extension lead	1
43	852-6652-01	Extension lead	1
44	851-2057-05	Speaker lead	1
45	714-3008-81	Machine screw (M3x8)	2
46	285-0915-00	Guide label	1
47	731-3006-80	Tap tight (M3x6)	10
48	092-0522-06	Antenna receptacle	1

EXPLODED VIEW • PARTS LIST:

©Main section E910(PE-9011A)



REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
1	380-4293-01	Knob (VOL)	1
2	012-4071-00	Variable resistor (TON)	1
3	380-4294-01	Knob (TON, BAL)	2
4	347-0607-00	Insulator	1
5	940-2690-03	Escutcheon ass'y	1
5-1	373-0364-05	Dial cover	1
5-2	347-0645-00	Adhesive paper	2
5-3	347-0815-00	Adhesive paper	6
5-4	378-0089-00	Badge	1
5-5	370-3561-05	Escutcheon	1
5-6	382-0508-01	Button (EJECT)	1

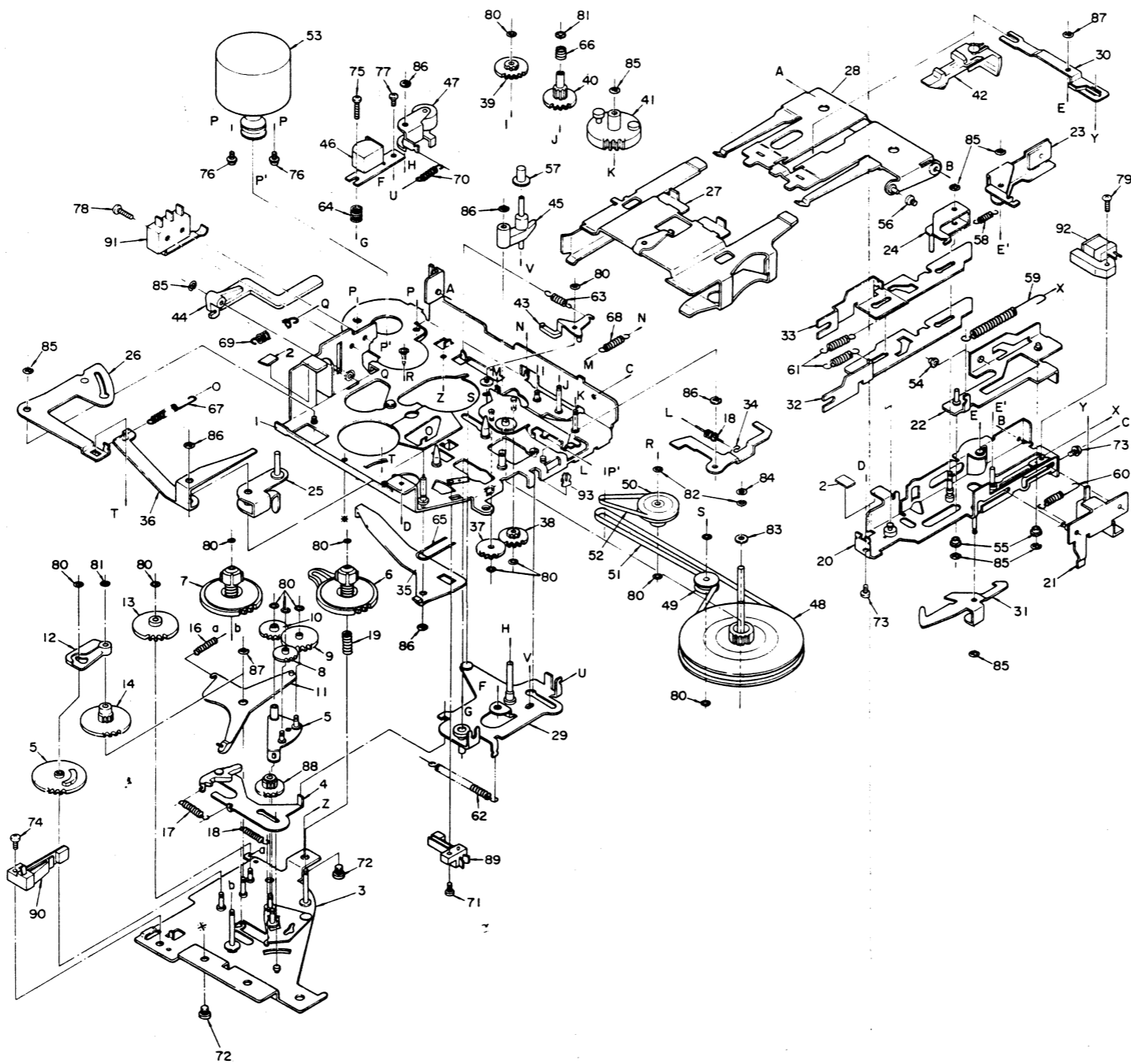
REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
5-7	382-0509-03	Button (L/M/U)	1
5-8	382-0509-00	Button (ST)	1
5-9	382-0511-00	Button (< >)	1
5-10	382-0507-00	Dummy button	1
5-11	382-0507-00	Dummy button	1
5-12	382-0510-00	Button (M)	1
5-13	382-0510-06	Button (6)	1
5-14	382-0510-05	Button (5)	1
5-15	382-0510-04	Button (4)	1
5-16	382-0510-03	Button (3)	1
5-17	382-0510-02	Button (2)	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
5-18	382-0510-01	Button (1)	1
5-19	382-0507-00	Dummy button	1
5-20	382-0507-00	Dummy button	1
5-21	382-0511-01	Button (> >)	1
5-22	382-0507-00	Dummy button	1
5-23	382-0509-02	Button (LD)	1
5-24	347-0872-00	Adhesive paper	1
5-25	371-3078-01	Trim plate	1
5-26	750-2309-01	Spring	1
5-27	320-0326-20	Dustproof cover	1
5-28	371-3077-01	Trim plate	1

REF. NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
5-29	347-0772-00	Adhesive paper	2
5-30	371-3079-01	Trim plate	1
6	010-1610-00	Coil	1
7	347-1216-00	Insulator	1
8	099-6810-00	P.W.B	1
9	347-1217-01	Insulator	1
10	312-0231-01	Chassis	1
11	286-5065-00	Set plate	1
12	722-0332-00	Hex-nut	2
13	745-0560-00	Flat washer	2
14	722-0417-00	Nut	1
15	330-7674-01	VR bracket	1
16	012-4069-00	Variable resistor (VOL)	1
17	012-4072-00	Variable resistor (BAL)	1
18	099-6813-00	P.W.B	1
19	304-0357-01	Lower cover	1
20	345-3619-00	P.L cap	4
21	017-0338-06	Pilot lamp	4
22	379-0051-06	Indicator	1
23	013-3694-00	Switch	14
24	345-2830-07	P.L cap	1
25	017-0345-14	Pilot lamp	1
26	099-6814-00	P.W.B	1
27	382-0506-01	Button (◀)	2
28	347-1029-00	Insulator	1
29	930-0505-02	Tape mechanism	1
30	944-0651-04	Filter ass'y	1
31	335-1603-00	Bush	3
32	335-0580-00	Lead holder	2
33	374-0833-01	Back plate	1
34	714-3006-81	Machine screw (M3x6)	4
35	310-1125-01	Upper case	1
36	840-0386-00	Bonding wire	1
37	850-2110-01	A-lead	1
38	850-1844-01	A-lead	1
39	120-0030-03	Fuse (3A)	1
40	850-1822-00	A-lead	1
41	347-0811-00	Adhesive paper	1
42	852-5322-02	Extension lead	1
43	852-6652-01	Extension lead	1
44	851-2057-05	Speaker lead (Gray)	1
45	714-3008-81	Machine screw (M3x8)	2
46	285-0915-00	Guide label	1
47	731-3006-80	Tap tight(M3x6)	10
48	092-0522-06	Antenna receptacle	1

EXPLODED VIEW • PARTS LIST:

©Tape mechanism section



REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
1	960-3423-03	Deck plate ass'y	1
2	340-0398-00	Spacer	2
3	960-3435-02	Bottom plate ass'y	1
4	960-3434-01	Switch plate ass'y	1
5	960-3433-02	FF gear ass'y	1
6	960-3421-00	Reel base ass'y	1
7	960-3422-00	Reel base ass'y	1
8	613-0028-00	REW gear	1
9	613-0027-00	FF gear	1
10	613-0026-01	FF base gear	1
11	631-0396-01	Sensing link	1
12	631-0397-01	Replay sensing	1
13	613-0022-01	Gear A	1
14	613-0023-00	Gear B	1

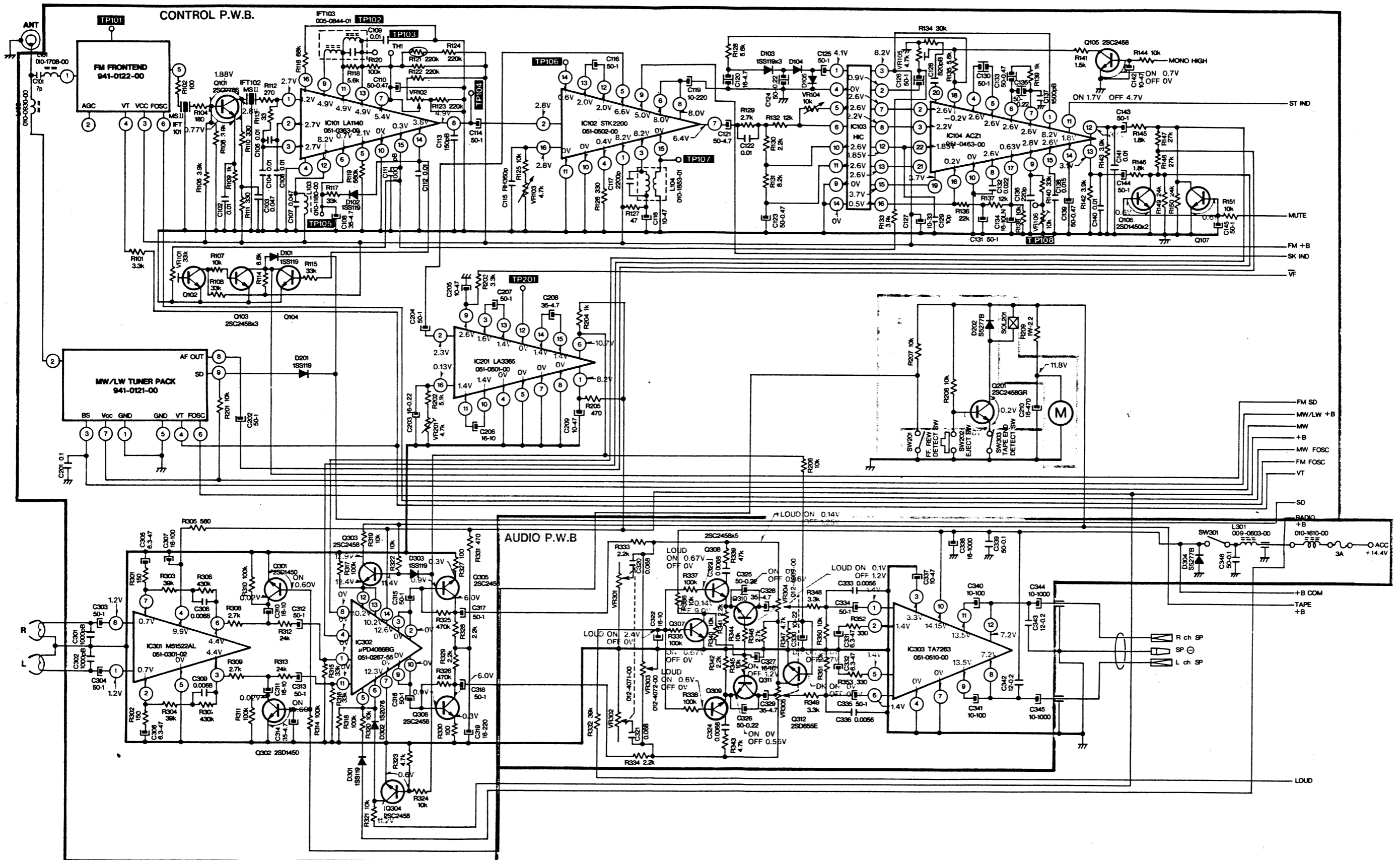
REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
15	613-0024-01	Cam gear	1
16	750-2217-00	Spring	1
17	750-2218-00	Spring	1
18	750-2219-00	Spring	2
19	750-2155-00	Spring	1
20	960-3424-05	Frame ass'y	1
21	960-3425-02	Loading plate ass'y	1
22	960-3426-05	Eject plate ass'y	1
23	960-3427-02	Core plate ass'y	1
24	960-3429-01	Lock plate ass'y	1
25	960-3430-01	FF link A ass'y	1
26	960-3431-01	Replay L-A ass'y	1
27	960-3438-01	Pack guide ass'y	1
28	960-3439-00	Guide arm ass'y	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
29	960-3440-00	Head plate ass'y	1
30	630-1511-03	Loading link	1
31	630-1513-01	Lock link	1
32	630-1514-05	FF lever	1
33	630-1515-05	REW lever	1
34	630-1518-00	Lock arm	1
35	630-1521-01	FF link B	1
36	630-1526-00	Replay link B	1
37	613-0029-00	Loading gear A	1
38	613-0030-00	Loading gear B	1
39	613-0031-00	Loading gear C	1
40	613-0032-00	Loading gear D	1
41	613-0033-00	Power gear	1
42	631-0392-01	Pack stopper	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
43	631-0394-00	Cancel link	1
44	631-0395-01	SW link	1
45	631-0398-00	Eject link	1
46	011-0284-00	Head	1
47	960-3437-01	P roller ass'y	1
48	611-0065-00	Fly wheel	1
49	631-0370-00	Tension pulley	1
50	613-0021-01	Pulley gear	1
51	602-0074-00	Belt A	1
52	602-0075-00	Belt B	1
53	960-3528-00	Motor ass'y	1
54	610-0225-01	Guide roller	1
55	610-0225-00	Guide roller	2
56	610-0226-00	Guide arm roller	1
57	610-0227-00	Eject roller	1
58	750-2233-01	Spring	1
59	750-2220-01	Spring	1
60	750-2221-01	Spring	1
61	750-2222-00	Spring	2
62	750-2224-00	Spring	1
63	750-2225-00	Spring	1
64	750-2226-00	Spring	1
65	750-2227-00	Spring	1
66	750-2228-00	Spring	1
67	750-2229-00	Spring	1
68	750-2230-00	Spring	1
69	750-2231-00	Spring	1
70	750-2232-00	Spring	1
71	714-2604-11	Machine screw (M2.6x4)	1
72	714-2604-81	Machine screw (M2.6x4)	2
73	714-2603-81	Machine screw (M2.6x3)	2
74	714-2306-81	Machine screw (M2.3x6)	1
75	716-0482-00	Screw	1
76	716-0347-00	Screw	2
77	714-2003-81	Machine screw (M2x3)	1
78	714-2308-81	Machine screw (M2.3x8)	1
79	714-2606-11	Machine screw (M2.6x6)	1
80	745-0628-01	Washer	14
81	745-0647-00	Washer	2
82	745-0645-00	Washer	3
83	745-0646-00	Washer	1
84	744-0022-00	E-ring	1
85	743-1500-10	E-ring	8
86	743-2000-10	E-ring	5
87	744-0006-01	E-ring	2
88	613-0025-00	Idler gear	1
89	013-3470-05	Switch	1
90	013-3558-02	Switch	1
91	013-2690-03	Switch	1
92	015-0232-00	Plunger	1
93	631-0419-00	Clamp	1

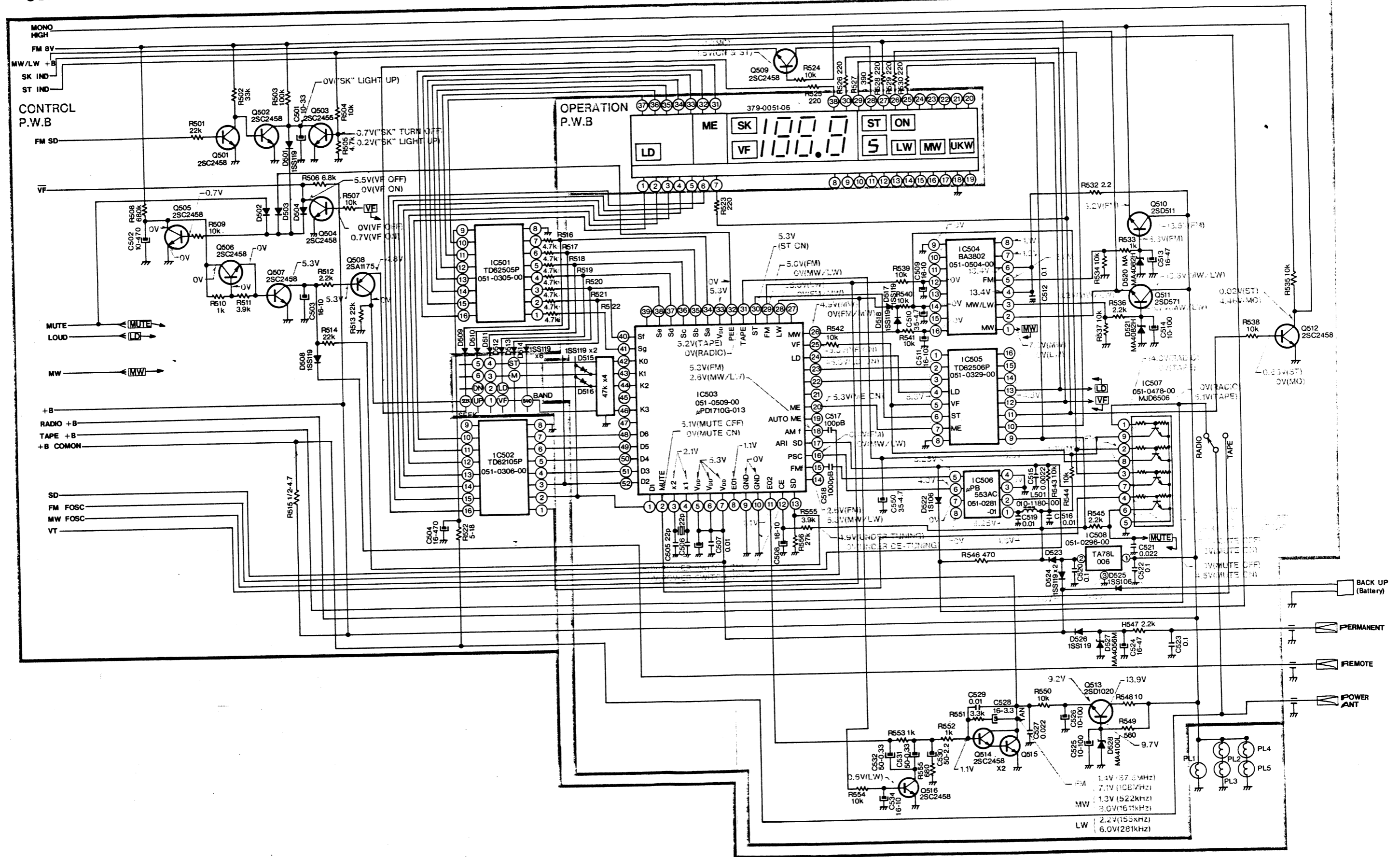
CIRCUIT DIAGRAM:

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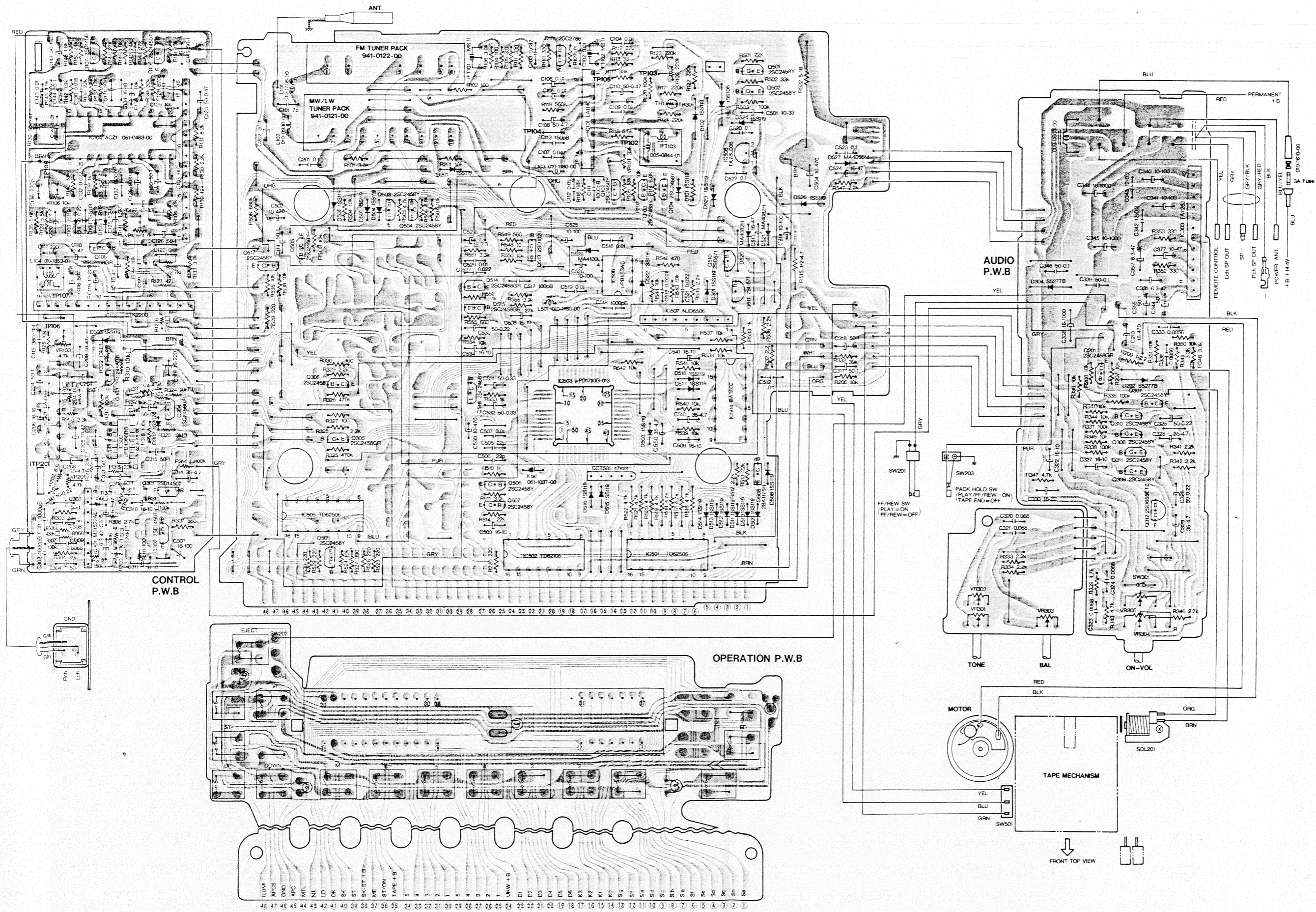
CIRCUIT DIAGRAM:

©E911



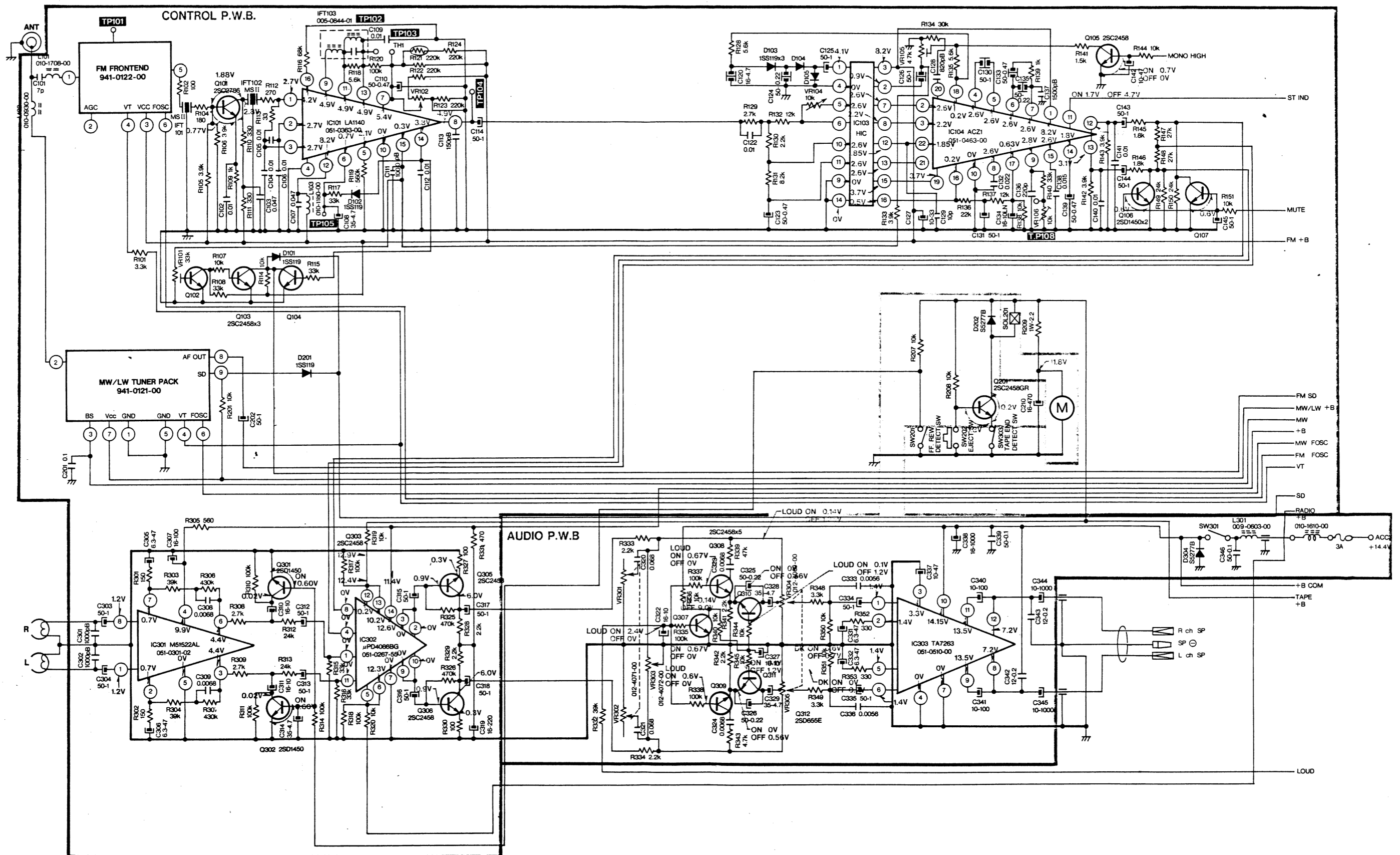
PRINTED WIRING BOARD:

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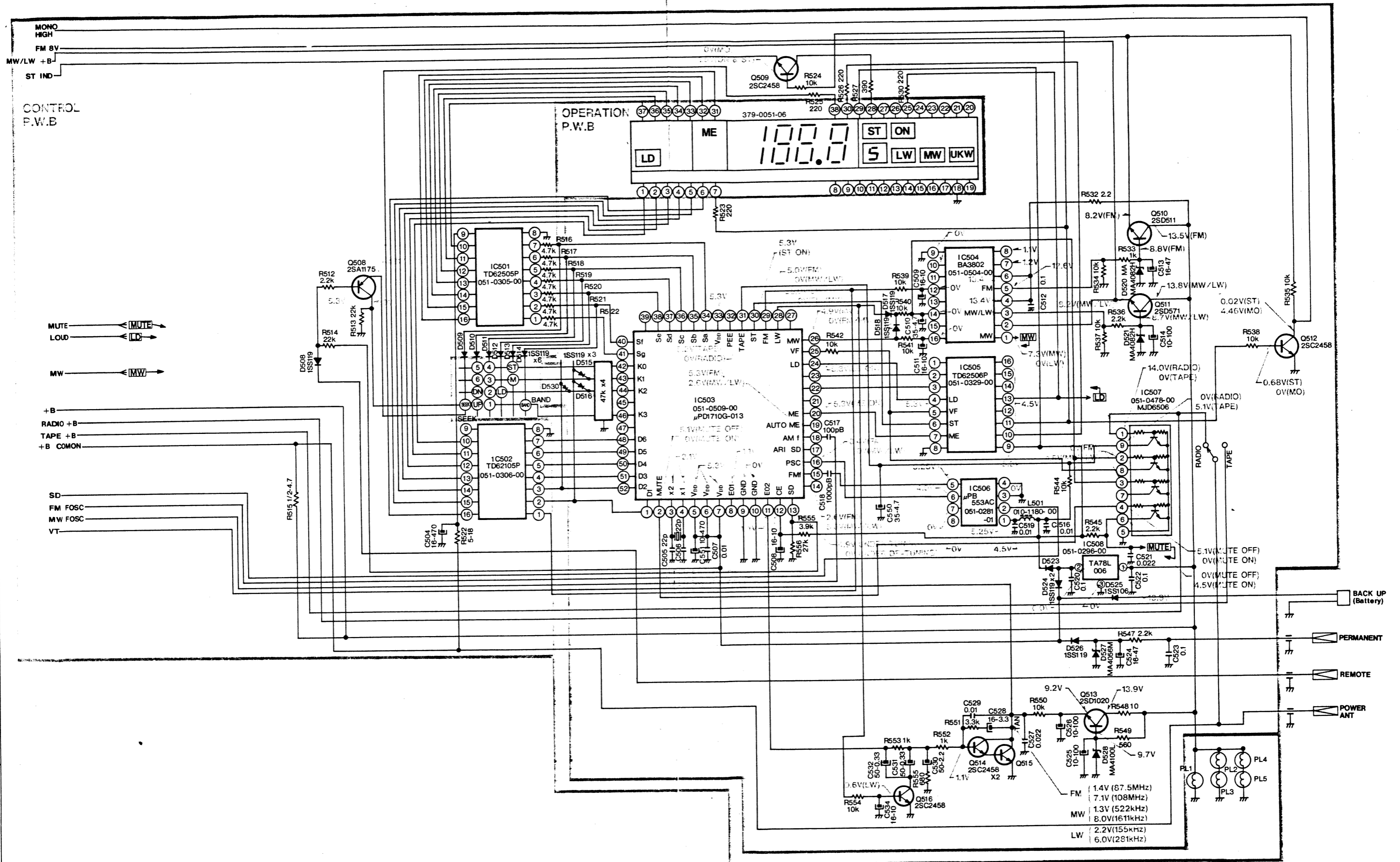
CIRCUIT DIAGRAM:

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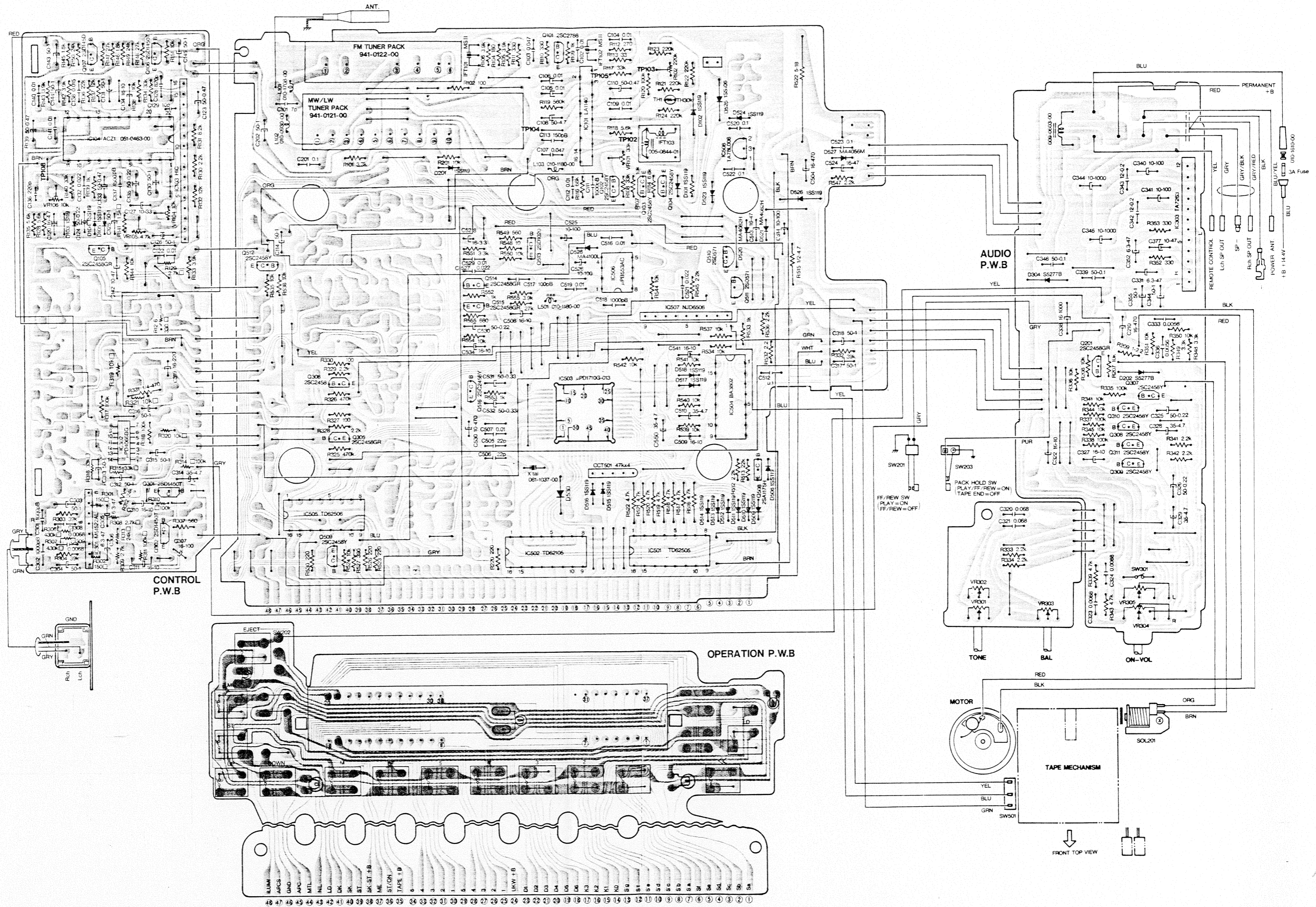
CIRCUIT DIAGRAM:

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PRINTED WIRING BOARD:

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FRONT TOP VIEW

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
D _{202,304}	001-0276-00	Diode (S5277B)	2
L ₃₀₁	009-0603-00	Choke coil	1
C _{344,345}	042-0301-00	Electrolytic capacitor (10V1000 μ F)	2
C _{342,343}	043-0020-02	Ceramic capacitor (12V0.2 μ F)	2
IC ₃₀₃	051-0510-00	IC (TA7263)	1
Q _{307,308,309,310,311}	102-2458-25	Transistor (2SC2458Y)	5
Q ₂₀₁	102-2458-28	Transistor (2SC2458GR)	1
Q ₃₁₂	103-0655-05	Transistor (2SD655E)	1
R ₃₃₆	111-1031-21	Film resistor ($\frac{1}{4}$ W \pm 10k Ω)	1
R _{207,208,341,344,345,351}	111-1031-91	Film resistor ($\frac{1}{4}$ W \pm 10k Ω)	6
R _{335,337,338}	111-1041-91	Film resistor ($\frac{1}{4}$ W \pm 100k Ω)	3
R _{341,342}	111-2221-22	Film resistor ($\frac{1}{4}$ W \pm 2.2k Ω)	2
R _{333,334}	111-2221-91	Film resistor ($\frac{1}{4}$ W \pm 2.2k Ω)	2
R ₃₄₆	111-2721-91	Film resistor ($\frac{1}{4}$ W \pm 2.7k Ω)	1
R _{352,353}	111-3311-91	Film resistor ($\frac{1}{4}$ W \pm 330 Ω)	2
R _{348,349}	111-3321-91	Film resistor ($\frac{1}{4}$ W \pm 3.3k Ω)	2

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
R _{339,343,347}	111-4721-91	Film resistor ($\frac{1}{4}$ W \pm 4.7k Ω)	3
R ₂₀₉	114-2291-52	Film resistor (1W2.2 Ω)	1
C _{333,336}	141-5622-10	Polyester capacitor (0.0056 μ F)	2
C _{324,325}	171-6823-06	Ceramic capacitor (0.0068 μ F)	2
C _{320,321}	171-6833-06	Ceramic capacitor (0.068 μ F)	2
C _{339,346}	173-1042-10	Ceramic capacitor (50V0.1 μ F)	2
C _{340,341}	179-1073-22	Electrolytic capacitor (10V100 μ F)	2
C ₃₃₈	179-1083-32	Electrolytic capacitor (16V1000 μ F)	1
C ₃₃₀	179-2263-32	Electrolytic capacitor (16V22 μ F)	1
C ₃₇₇	179-4763-22	Electrolytic capacitor (10V47 μ F)	1
C ₂₁₀	179-4773-33	Electrolytic capacitor (16V470 μ F)	1
C _{344,355}	182-1053-62	Electrolytic capacitor (50V1 μ F)	2
C _{322,327}	182-1063-32	Electrolytic capacitor (16V10 μ F)	2
C _{325,326}	182-2243-62	Electrolytic capacitor (50V0.22 μ F)	2
C _{328,329}	182-4753-52	Electrolytic capacitor (35V4.7 μ F)	2
C _{331,352}	182-4763-12	Electrolytic capacitor (6.3V47 μ F)	2

■CHIP PARTS:

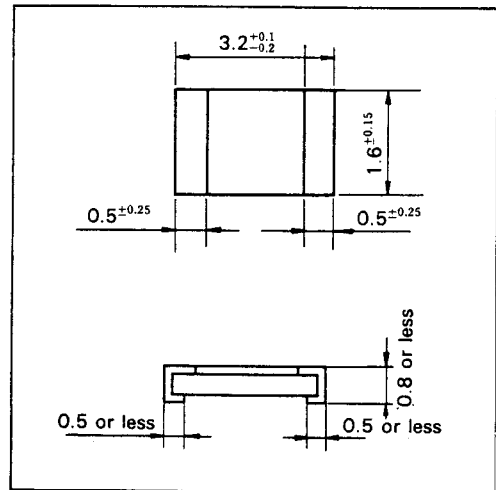
This set partially uses chip parts. The chip parts is directly soldered to a P.W.B pattern face instead of conventional lead type resistors. Normally, data such as capacitance is not indicated on the body of chip parts; however, such data is printed on the pattern face for reference.

When replacing chip parts, equivalent parts can be also used instead of chip parts.

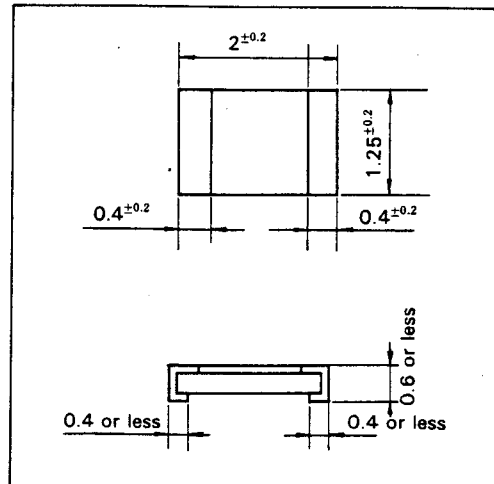
When soldering chip parts, use a 40W or less solder iron whose edge is small.

When soldering equivalent parts, be sure that they do not contact the case, mechanism, or so. Moreover, if the pattern is pressed remarkably by back side soldered parts, there is a possibility that the pattern is broken. Therefore, adhere the parts with proper bonding agent.

◎Resistor and jumper (116-)



◎Resistor and jumper (117-)



WAVE-FORM OF CONTROLLER

