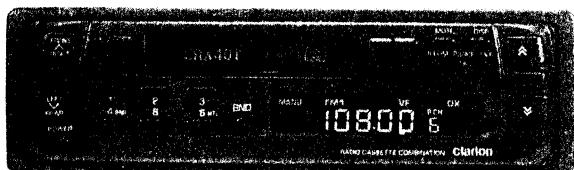


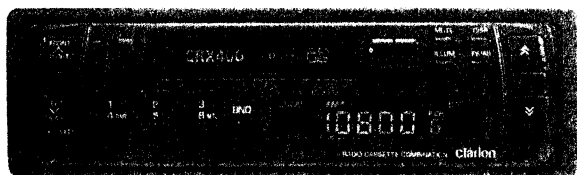
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Service Manual

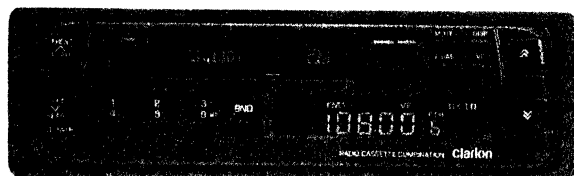
Published by Service Administration Section



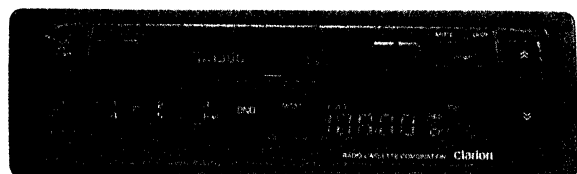
Model **CRX401** (PE-9863A-A)



Model **CRX400** (PE-9862A-A)



Model **CRH301** (PE-9865A-C)



Model **CRH300** (PE-9864A-C)



Model **CRH300(G)** (PE-9864B-C)

■ SPECIFICATIONS:

RADIO SECTION

Tuning System: PLL synthesizer tuner
 Receiving Frequencies: FM; 87.5 to 108 MHz
 MW; 531 to 1602 MHz
 LW; 153 to 279 kHz

TAPE DECK SECTION

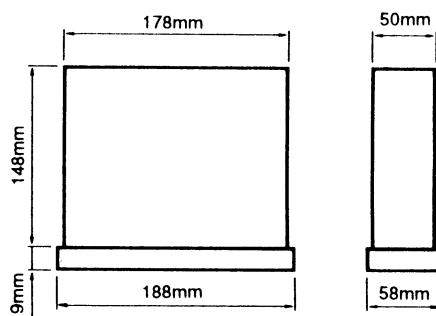
Playback System: Auto reversing, 4-track, 2-channel stereo cassette tape playback

GENERAL

Power Supply Voltage: DC 14.4 V (10.8 V to 15.6 V allowable)
 Power Consumption: Less than 10 A
 Speaker Impedance: 4 ohms (4 to 8 ohms allowable)

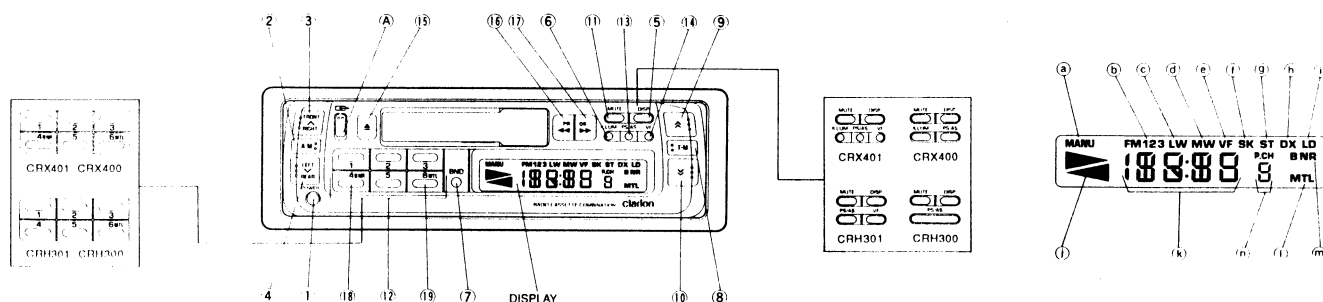
Weight: 1.8 kg (63.5 oz)

Dimensions:



* Specifications and design are subject to change without notice for further improvement.

■ OPERATION:



- (A) DCP Release Button
- (1) POWER Button (POWER)
- (2) Audio Mode Button (A-M)/Loudness Selector Button
- (3) Up Button (▲)
- (4) Down Button (▼)
- (5) Display Mode Selector Button (DISP)
- (6) Illumination Selector Button [CRX401/CRX400]
- (7) Band Selector Button (BND)
- (8) Tuning Mode Selector Button (T-M)/DX/LOCAL Button
- (9) Up Tuning Button/Search Control Up Button (▲)
- (10) Down Tuning Button/Search Control Down Button (▼)
- (11) Audio Muting Button (MUTE)
- (12) Preset Buttons
- (13) Preset Scan and Auto Store Button (PS/AS)
- (14) Traffic Information Button (VF) [CRX401/CRH301]
- (15) Eject Button (▲)
- (16) , (17) Fast Forward and Rewind (⏮ ⏭) / Programme Button (PROG)
- (18) Dolby B NR Button (B NR) [CRX401/CRX400]
- (19) Metal Tape Selector Button (MTL)

■ DISPLAY

- (a) Seek and Manual Tuning Indicator (MANU)
- (b) FM Band Indicator (FM 1, 2, 3)
- (c) LW Band Indicator (LW)
- (d) MW Band Indicator (MW)

- (e) VF Indicator (VF)
- (f) SK Indicator (SK)
- (g) Stereo Reception Indicator (ST)
- (h) DX Indicator (DX)
- (i) Loudness Indicator (LD)
- (j) Tape Programme Indicator (▶)
- (k) Digital Frequency Display
- (l) Metal Tape Indicator (MTL)
- (m) Dolby B NR Indicator (B NR)
- (n) Preset Channel Indicator

CAUTION!

Turning the ignition on or turning the POWER button on with the volume control at the maximum position can damage your ears.

* POWER Button (1)

* Audio Mode (A-M)/Loudness Selector Button (2)

Press the A-M button (2), to select the adjustment mode. The adjustment mode changes in the following order:

Volume → Bass → Treble → Balance → Fader → Volume

● Loudness ON/OFF

When you press the A-M button (2) for more than 2 seconds, loudness is turned on, and the "LD" indicator (i) lights up. To turn loudness off, press the button again for more than 2 seconds.

* Audio Control Up Button (3)

* Audio Control Down Button (4)

■ Audio Mode Indications and Description of Operation

Audio Control Up/Down Buttons		Center Position		Description of Operation
Audio Mode				
 volume adjustment		 Note 3 (initial setting)		The volume decreases as the numbers decrease, and increases as the numbers increase.
 bass adjustment	 (negative indication)			The bass sound is attenuated as the numbers decrease from the center position, and emphasized as the numbers increase. (The range is from -7 to +7.)
 treble adjustment	 (negative indication)			The treble sound is attenuated as the numbers decrease from the center position, and emphasized as the numbers increase. (The range is from -7 to +7.)
 left/right balance adjustment	 (Balance Left)		 (Balance Right)	The sound of the left speaker(s) is emphasized when the display switches from "B0" (Balance) to "BL" (Balance Left), and the sound of the right speaker(s) is emphasized when the display switches from "B0" (Balance) to "BR" (Balance Right).
 front/rear balance adjustment	 (Fader Rear)		 (Fader Front)	The sound of the rear speaker(s) is emphasized when the display switches from "F0" (Fader) to "FR" (Fader Rear), and the sound of the front speaker(s) is emphasized when the display switches from "F0" (Fader) to "FF" (Fader Front).

Note 1: In the balance and fader adjustment modes, the actual steps and the steps indicated on the display do not match due to the large number of steps.

Note 2: The original display reappears approximately 5 seconds after the adjustments in the various audio modes.

Note 3: The various modes are set to the following values when the power is first turned on after the set is installed in the car: VO 13, BA 0, TR 0, B 0 and F 0.

* Display mode Selector Button (5)

● Setting the Time

1. Press button (5) to turn on the time display.
2. Press button (5) for over 2 seconds. The minutes place begins flashing.
3. Press button (5) again to advance the minutes, one minute at a time. (The minutes advance continuously if the button is held in.)
4. 5 seconds after the minutes place has been set, the hours place begins flashing. Press button (5) to advance the hours, one hour at a time. (The hours advance continuously if the button is held in.)

● Starting the Clock

1. Press button (5) to turn on the time display.
2. Press button (5) for over 4 seconds. The hours and minutes begin flashing.
3. Press button (5) again to reset the seconds to 0 and start the clock.

* Illumination selector Switch [CRX401/CRX400] (6)

For a perfect match with the color of your car's instrument lighting, press this switch to switch the illumination of the unit between amber and green.

* Band Selection Button (7)

When you press button (7), the reception band changes in the following order:

FM1 → FM2 → FM3 → MW → LW → FM1

(FM1, FM2 and FM3 are on the same reception frequency band.)

* Tuning Mode Selector Button (T-M) (8)

Press the T-M button (8) so that "MANU" appears on the display. The manual tuning mode is now set. Tune into a station by pressing button (9) or button (10). Unless you press button (9) or button (10) within 5 seconds of switching to the manual tuning mode, the unit will return to the seek tuning mode.

● Manual Tuning

During FM reception, the frequency changes in steps of 0.05 MHz. On MW, it changes in steps of 9 kHz, and on LW, in steps of 1 kHz.

1. Press the T-M button (8) to set the manual tuning mode.
2. When you press button (9), the frequency increases, and when you press button (10), it decreases. (If you hold either button down, the frequency changes continuously.)

● Seek Tuning (Local/DX)

There are two sensitivity levels for seek tuning: DX seek, which will tune in any broadcasting stations which can be received, and Local seek, where only those stations with a sufficiently strong signal, i.e. local stations, can be tuned in.

<DX Seek>

1. Check that the "DX" indicator (h) is lit. If not, press button (8) for more than 2 seconds.
2. Press button (9) to tune toward higher frequencies and press button (10) to tune toward lower frequencies. Tuning will stop when a broadcast station is received.

<Local Seek>

1. Press button (8) for more than 2 seconds. The "DX" indicator (h) will disappear.
2. Press button (9) to tune toward higher frequencies and press button (10) to tune toward lower frequencies. Tuning will stop when a broadcast station with a strong signal is received.

* MUTE Button (11)

Press button (11) to instantly mute the sound.
Press it once more to release muting.

* Preset Buttons 1, 2, 3, 4, 5 and 6 (12)

By pressing a Preset button you can instantly recall a station which has been stored in memory.

* When calling a broadcasting station, unless you release the Preset button within 2 seconds, the displayed frequency will be stored at the Preset button, so be careful.

★ Storing Stations in the Preset Memory

6 radio stations can be stored in memory for each band.

1. Press button (7) to select the reception band.
2. Press button (13) for more than 2 seconds to store stations automatically in the memory (Auto Store). If less than 6 stations are stored in this process, or if you want to store a broadcasting station with a weak signal, carry out the following steps.
3. Tune in the broadcasting station using Manual Tuning.
4. Press the desired Preset button for more than 2 seconds. The sound will go off when you press the button, and when it comes on again, the station has been stored.

* Preset Scan/Auto Store Memory Button (13)

● Preset Scan

Press button (13). The broadcasting stations stored at Preset buttons 1 to 6 will be received in order for 5 seconds each. When you press button (13) again, or press one of the Preset buttons 1 to 6, this mode will be released. (When the unit is receiving on FM, all the stations stored in FM1, FM2 and FM3 will be received in order.)

* If you press button (13) for more than 2 seconds, the Auto Store memory mode will become operative. All the stations stored in the memory so far will be cleared, and new ones will be stored instead, so be careful.

● Auto Store Memory

6 strong-signal broadcasting stations can be stored automatically for each band. (See "Storing Stations in the Preset Memory".)

* Stations previously stored in the preset memory are cleared when new ones are stored using Auto Store.

★ Stereo Reception Indicator

When a stereo broadcast is received, the "ST" indicator (g) lights up.

*** Traffic Information Button (VF) [CRX401/CRH301]** **(14)**

1. When the "SK" indicator (f) is lit, this signifies that the station tuned in transmits traffic information broadcasts. Using the VF button (14), you can select automatic reception of Traffic Information broadcasts ("VF" indicator (e) lit). This means that if a traffic information broadcast is aired while you listen to a cassette playback will pause and the announcement can be heard. When the announcement is completed, cassette playback continues. Traffic Information announcements are reproduced at a preset volume level and can be heard even if the volume level is set to minimum. "INFO" appears on the display during reception of traffic information broadcasts.
2. If the VF button (14) is pressed while a station not broadcasting traffic information is being received, the unit will search for a station broadcasting such information and tune into it if possible.
3. If the "VF" indicator (e) lights during Seek Tuning or Auto Store, only stations broadcasting Traffic Information will be heard and stored in memory.

• Retuning of Traffic Information Stations

(only valid when VF is on)  **(14)**

When the signal from the station broadcasting traffic information becomes too weak, the unit will search for another station broadcasting such information.

• Adjusting the Volume of Traffic Information

Announcement (3), (4), (14), (e)

The volume level for traffic information announcements has been preset at the factory. It is possible to change this level if required.

1. Tune in the traffic information station broadcasting the strongest signal you can find.
2. Keep the VF button (14) pressed for 2 seconds. "VF10" will be displayed.
3. Use the Up button (3) and Down button (4) to change the volume level of traffic information announcements. The minimum level is 0 and maximum level 33.
4. The unit will return to its original operation 5 seconds after the preset volume level has been set (or after operating any other button during this time).

*** Eject Button** **(13)**

When you press button (13), the cassette tape is ejected. If you eject the tape while it is being played, the tuner mode is set.

*** Fast Forward and Rewind/Programme selector Buttons** **(16)**, **(17)**

• Using Fast Forward/Rewind

1. During top side playback (playback direction is toward the right):
Fast forward: Press button (17)
Rewind: Press button (16)
2. During bottom side playback (playback direction is toward the left):
Fast forward: Press button (17)
Rewind: Press button (16)
3. Release
Press the opposite button-either (16) or (17)

• Changing the Programme (Running Direction)

When you press buttons (16) and (17) simultaneously, the tape playback direction will change.

*** Dolby B NR Button [CRX401/CRX400]** **(18)**

When playing a tape recorded with Dolby Noise Reduction, press button (18) so that the "B NR" indicator (m) lights up. When you press this button again, the setting is released.

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

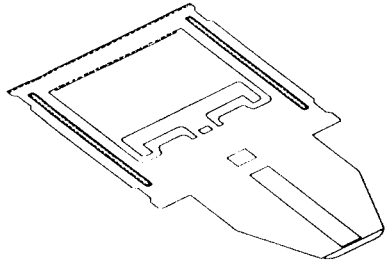
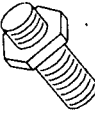
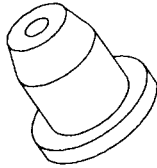
*** Metal Tape Button** **(19)**

Use this button to select the proper equalization for the type of tape being used.

■ FEATURES:

■ MAX. Power Output 20 Wx4 ■ One-touch Memory (18 FM, 6 MW/LW) ■ Preset Station Scan (PS)/Automatic Station Store (AS) ■ CZ1 Noise Canceller ■ Auto Reverse ■ Loudness Contour ■ Night Illumination ■ DIN Chassis with Detachable Control Panel ■ ISO Mounting Capability ■ Automatic Traffic Information Station Tuning (VF) [CRX401/CRH301]

■ COMPONENT VIEW:

main unit		
99461-125-0	Part's bag	1
 Pressed Part 99260-426-0  Special Skew 99309-022-0  Rubber Part 99262-087-0		

■ ADJUSTMENTS:

• AM Circuit

Item	Input	Frequency	Output	Method of adjustment	Instruments required
· IF · Tracking	PRE ADJUSTED TUNER				

• FM Circuit (TUNER PACK)

Item	Input	Frequency	Output	Method of adjustment	Instruments required
OV	Antenna receptacle	98.1MHz, 55dB non-modulation	TP101 TP102	IFT105 Connect a digital voltmeter to TP101 and TP102. adjust IFT to 0V±30mV.	· Digital voltmeter · S.S.G.
STATION DETECT		98.1MHz, 25dB modulation 400Hz 30%	Signal meter (TUNER PACK Pin NO.12)	VR2 Connect a digital Voltmeter to SD.TP.(12Pin) and GND adjust VR2 to 2.5V±1V	· Digital voltmeter · S.S.G.
NOISE ELIMINATE RATIO		98.1MHz, 55dB modulation 400Hz 30%	Meter across the speaker voice coil	VR1 · Set the output level 0dBm (=0.775V) using the volume control · Set the FM SSG output to -19dB and adjust VR1 so that the output level is 25dB down	· Oscilloscope · V.T.V.M.

• FM Circuit (MAIN P. W. B.)

Item	Input	Frequency	Output	Method of adjustment	Instruments required
MPX (V.C.O.)	Antenna receptacle	98.1MHz, 55dB non-modulation	TP.F	VR102 TP.F Connect a frequency counter to TP.F and adjust VR102 to 19K±50Hz · TP.G to GND	· Frequency counter · S.S.G.
S.A.S.C.		98.1MHz, 55dB modulation 7KHz 30%	Meter across the speaker voice coil	VR101 · Set the output level 0dBm (=0.775V) using the volume control · Set the FM SSG output to 33dB and adjust VR so that the output level is 2dB down	· Oscilloscope · V.T.V.M. · Frequency SG
Separation		98.1MHz 55dB Modulation 400Hz 100% (Signal 90% PL 10%)	Meter across the speaker voice coil	VR103 Adjust VR so that left and right separation becomes maximum and the L, R outputs become equal.	· MPX stereo SG · S.S.G. · V.T.V.M.

• VF Circuit

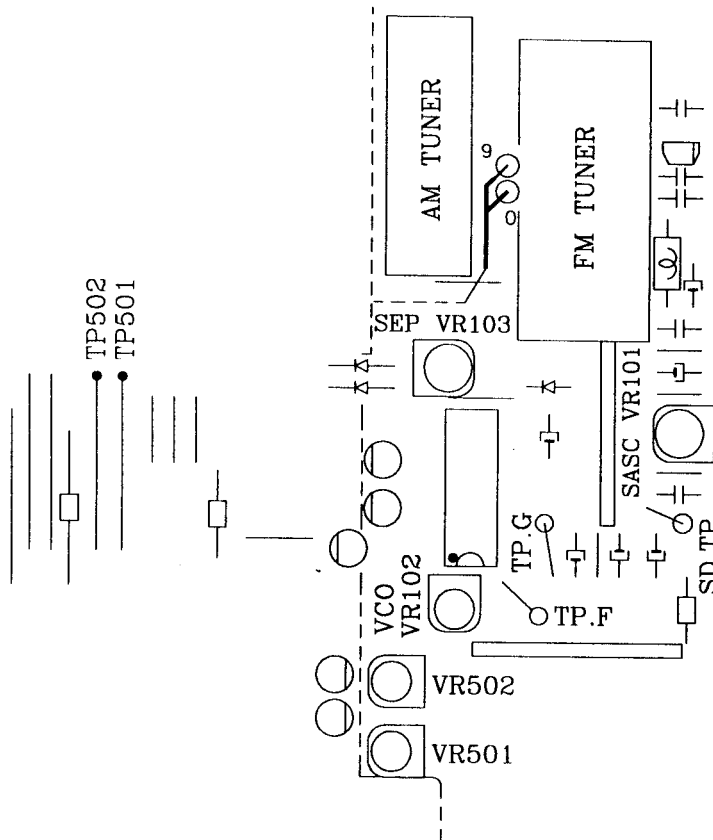
Item	Input	Frequency	Output	Method of adjustment	Instruments required
57kHz B.P.F.	Antenna receptacle	98.1MHz, 55dB non-modulation 400Hz 100%	TP.H	Connect a V.T.V.M to TP.H adjust VR201 to output maximum.	· S.S.G. · V.T.V.M.

• DOLBY Circuit [CRX401/CRX400]

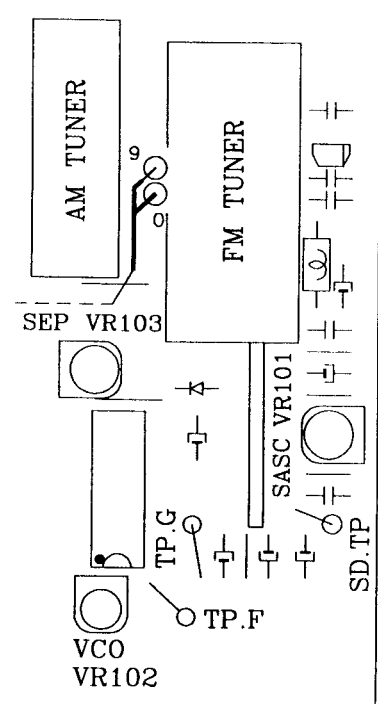
Item	Adjustment point	Adjustment
Dolby NR	VR501, VR502	Insert a Dolby level test tape (400Hz-200nWb/m), connect the millivoltmeter to TP501 and TP502 and adjust VR501 and VR502 to obtain an output of 300mV±1dB.

• ADJUSTMENT POINT

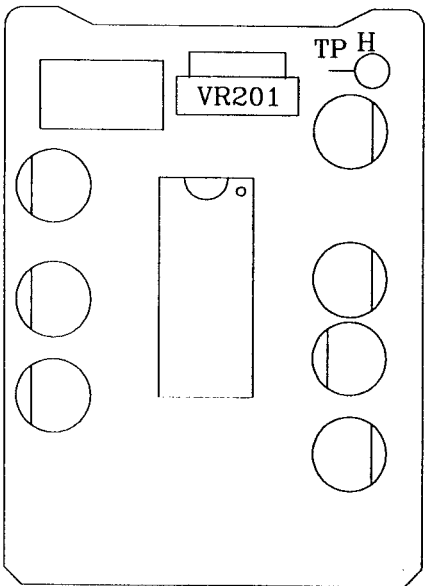
[CRX400/CRX401]



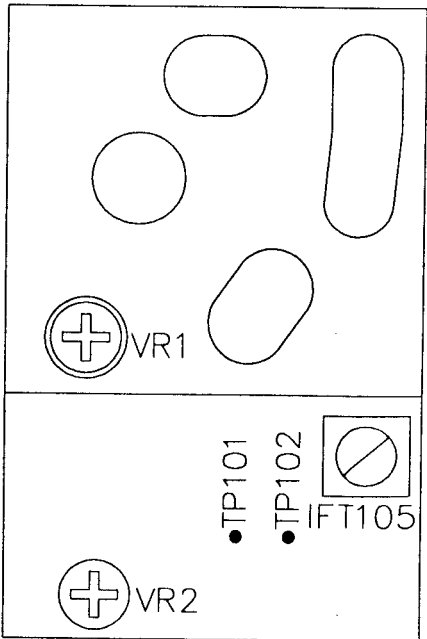
[CRH301/CRH300/CRH300(G)]



[CRH301/CRX401]



FM TUNER PACK



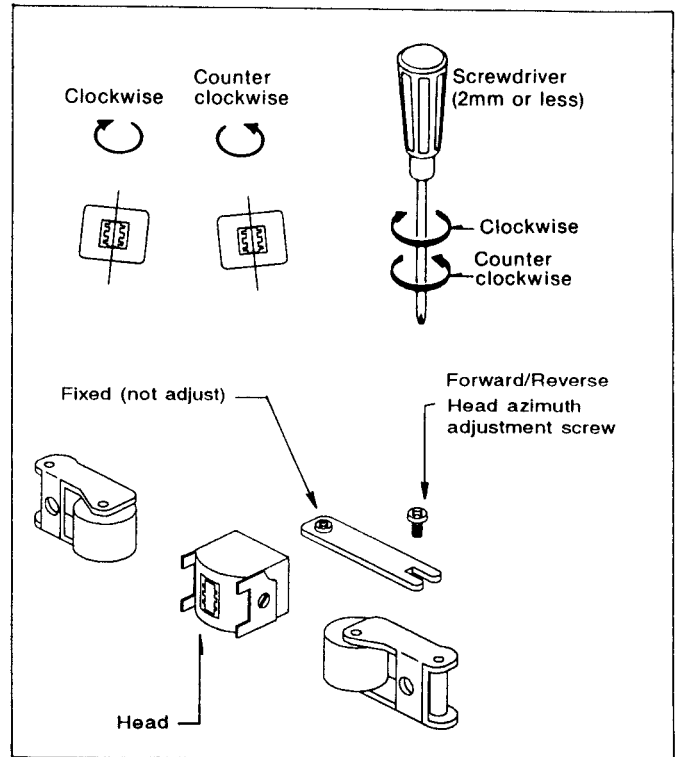
■ ADJUSTMENTS:

(TAPE MECHANISM)

Head Azimuth Adjustment

Improper head azimuth is one of the causes which give rise to poor sound quality, crosstalk, etc at the time of playback. If azimuth of the head is not proper, adjust as follows. However, to perform this adjustment, load the test tape and use the adjustment use screwdriver, inserting it through the hole in the lever mechanism (frame ass'y).

- 1) Play the test tape (315Hz, -10VU) and adjust the amplifier's volume control and balance control so that the output levels (gains of the playback system) of the left and right channels become equal.
- 2) The play the test tape (10kHz, -10VU) and adjust the head azimuth adjusting screw so that the output level in both the forward and reverse directions of play becomes close to the respective peak (maximum output level) point. Then lock the head azimuth adjusting screw.

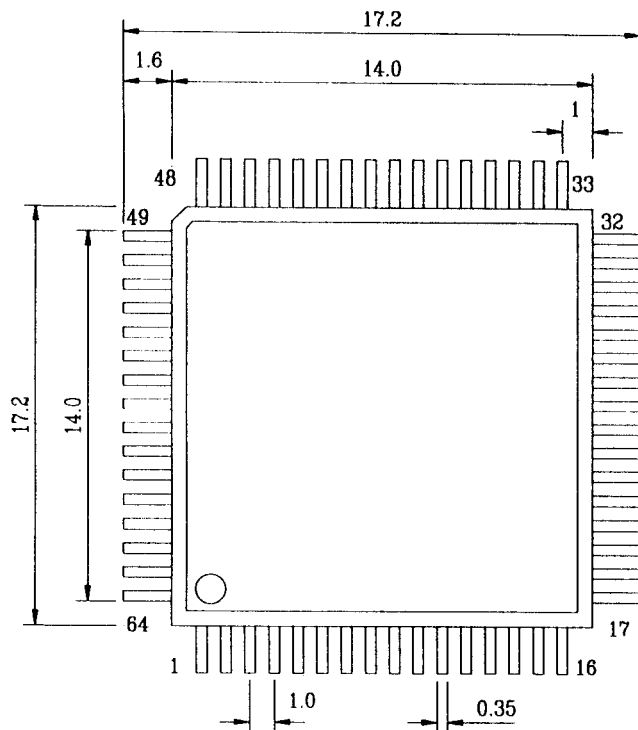


■ EXPLANATION OF IC's:

■ LC7233N-8844 99102-256-0 Microcomputer

■ LC7533N-8849 99102-256-1 Microcomputer

I. Outward Form



II. Terminal Connection

Pin No.	Symbol	Function
1	X IN	System clock oscillating pin.(4.5MHz)
2	TEST 2	Unused (GND).
3	TAPE	Inputs TAPE play detect signal. TAPE play: "L".
4	SD	With input of "H" to this terminal it is judged that the broadcasting station could receiv.
5	DIR	Tape run direction detect input terminal. FWD: "H".
6	N.C	Unused.(GND).
7	N.C	Unused.(GND).
8	A MUTE	Outputs system MUTE signal. MUTE ON: "L" level.
9	CE	To LC7583E LCD drive. CE(chip enable) signal.
10	CL	To LC7583E LCD drive. Serial bus line clock.
11	DI	To LC7583E LCD drive. Serial bus line DATA.
12	DO	From LC7583E LCD drive. Serial bus line DATA.
13	CD IN	Inputs CD play detect signal. CD play: "L" level, CD stop or cd OFF: "H" level.
14	DK IN	Europe VF DK signal inputs, DK IN: L level.
15	SK IN	Europe VF SK signal inputs, SK IN: L level.
16	FF/REW	Input FF/REW detect signal. In TAPE Mode, the signal goes to "L" when the FF or REW button is pressed. And LCD display TAPE direction begin flashing.
17	RES	To LC7583NM chip reset signal.
18 22	T4 T0	Diode scan output.

Pin No.	Symbol	Function
23 26	K3 K0	Diode scan input.
27	T5	Diode scan output.
28	REMOTE 5V	Outputs 5V power ON/OFF signal. ACC ON: "H"
29	ILLUMI	Outputs ILLUMI selector signal. green: L level.
30	LED FLSH	HOLD: L level. outputs LED ON 500ms OFF 500ms.
31	DK OUT	When DK IN: L level, outputs: H level.
32	MUTE	Outputs MUTE key ON/OFF signal, ON: H level.
33	APC	Outputs APC ON/OFF signal, APC ON: H level.
34	MTL	Outputs MTL ON/OFF signal, MTL ON: H level.
35	AMP REMO	Outputs power AMP control signal, ON: H level.
36	NR1	Outputs Dolby B NR ON/OFF signal, ON: H level.
37	CD OUT	When CD IN: L level, CD OUT: H level.
38	POWER	Outputs +B power ON/OFF control signal, hold "H" "H" level outputs.
39	LOC	Europe used DX/LOC control signal, LOC: H level.
40	MO/ST	JAPAN used MONO/ST control signal, stereo: "L".
41	IF CNT	SD REQ seek UP/DOWE mode, Auto store "H" level.
42	LOUD	LCD "LD" lights UP, outputs "H" level.
43	DI	To electronic volume serial bus line DATA.
44	CL	To electronic volume serial bus line clock.
45	CE	To electronic volume CE(chip Enable) signal.
46	N.C	Un used.
47	MODE	Outputs RADIO/TAPE signal, RADIO MODE: H level.
48	BAND 2	Outputs LW control signal, LW: H level.
49	BAND 1	Outputs FM/AM control signal. FM: H level. AM(MW).LW: L level.
50	COM2	Unused (OPEN).
51	COM1	Unused (OPEN).
52	HOLD	ACC power detect input, ACC ON: H level.
53	VSS	System GND.
54	HCTR	Universal AM,FM IF counter input terminal.
55	STEREO	ST station detet input terminal. Judges "L" as the ST station.
56	VDD	Power supply terminal (5V±10%).
57	FM IN	Input terminal to receive FM local OSC output.
58	AM IN	Input terminal to receive AM local OSC output.
59	VSS	Ground.
60	EO	This is the output terminal for phase comparator of PLL.
61	A IN	L.P.F Amplifier input.
62	A OUT	L.P.F Amplifier output.
63	TEST 1	Unused (GND).
64	X OUT	System clock oscillating pin (4.5MHz).

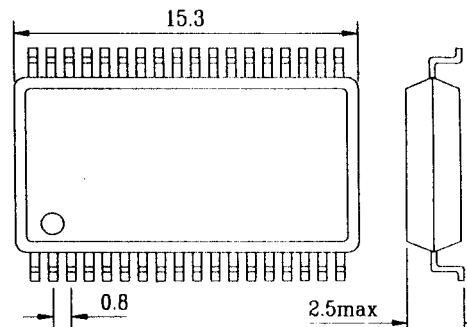
III. Diode Matrix Select

* The following table shows that the diode is SHORT in case of "1" and open in case of "0"

Switch Name	Function																																																						
24HR/12HR	When clock mode used. 0:12HR; USA,JAPAN,Middle East. 1:Europe.																																																						
CLOCK	0:clock mode is not used. 1:clock mode is used.																																																						
B0 B1	Used these switches when setting the destination. <table><tr><td>B0</td><td>B1</td><td>Area</td></tr><tr><td>0</td><td>0</td><td>USA</td></tr><tr><td>1</td><td>0</td><td>Australia,Middle East</td></tr><tr><td>0</td><td>1</td><td>EUROPE</td></tr><tr><td>1</td><td>1</td><td>JAPAN</td></tr></table>	B0	B1	Area	0	0	USA	1	0	Australia,Middle East	0	1	EUROPE	1	1	JAPAN																																							
B0	B1	Area																																																					
0	0	USA																																																					
1	0	Australia,Middle East																																																					
0	1	EUROPE																																																					
1	1	JAPAN																																																					
AM IF	0:UP CONVERSION. (when:B0=1 B1=0) 1:DOWN CONVERSION.																																																						
PRIORIY	0:Clock Time or Frequency select to DISP key. 1:the display priority form Radio Frequency to clock Time while in the radio mode.																																																						
VF.SELECT	0:VF mode not used. 1:VF mode used.																																																						
POWER OFF CLOCK ON	0:ACC OFF clock is not to be displayed. 1:ACC OFF clock is to be displayed.																																																						
E VR ON/OFF	0:Electronic volume mode is vused. 1:Electronic volume mode is not vused.																																																						
FADER	0:Electronic FADER mode is used. 1:Electronic FADER mode is not used.																																																						
AM ST SEL	0:Unvused. 1:JAPAN AM Band DISP+M6 key ST/MONO switchable.																																																						
MTL DOBLEY APC	RADIO mode and TAPE mode DOUBLE FUNCTION key Table. <table><tr><td>DOLBY</td><td>APC</td><td>MTL</td><td>M4</td><td>M5</td><td>M6</td></tr><tr><td>0</td><td>0</td><td>0</td><td>—</td><td>—</td><td>—</td></tr><tr><td>0</td><td>0</td><td>1</td><td>—</td><td>—</td><td>MTL</td></tr><tr><td>0</td><td>1</td><td>0</td><td>—</td><td>APC</td><td>—</td></tr><tr><td>0</td><td>1</td><td>1</td><td>—</td><td>APC</td><td>MTL</td></tr><tr><td>1</td><td>0</td><td>0</td><td>DOLBY</td><td>—</td><td>—</td></tr><tr><td>1</td><td>0</td><td>1</td><td>DOLBY</td><td>—</td><td>MTL</td></tr><tr><td>1</td><td>1</td><td>0</td><td>DOLBY</td><td>APC</td><td>—</td></tr><tr><td>1</td><td>1</td><td>1</td><td>DOLBY</td><td>APC</td><td>MTL</td></tr></table>	DOLBY	APC	MTL	M4	M5	M6	0	0	0	—	—	—	0	0	1	—	—	MTL	0	1	0	—	APC	—	0	1	1	—	APC	MTL	1	0	0	DOLBY	—	—	1	0	1	DOLBY	—	MTL	1	1	0	DOLBY	APC	—	1	1	1	DOLBY	APC	MTL
DOLBY	APC	MTL	M4	M5	M6																																																		
0	0	0	—	—	—																																																		
0	0	1	—	—	MTL																																																		
0	1	0	—	APC	—																																																		
0	1	1	—	APC	MTL																																																		
1	0	0	DOLBY	—	—																																																		
1	0	1	DOLBY	—	MTL																																																		
1	1	0	DOLBY	APC	—																																																		
1	1	1	DOLBY	APC	MTL																																																		
LED FLASH	0:When ACC OFF,LED FLSH terminal is pulse output 1:When ACC OFF,LED FLSH terminal is "L" output																																																						
LCD.T	0:TAPE mode "TAPE" Displayed. 1:TAPE mode "TAPE" Displayed.																																																						
IF COUNT	0:AUTO STOP,"SD" station detect only. 1:AUTO STOP,"SD" and "IF COUNT" double check.																																																						

■ LC7538NM 99102-254-0 Electronic Volume Control System

I. Outward Form

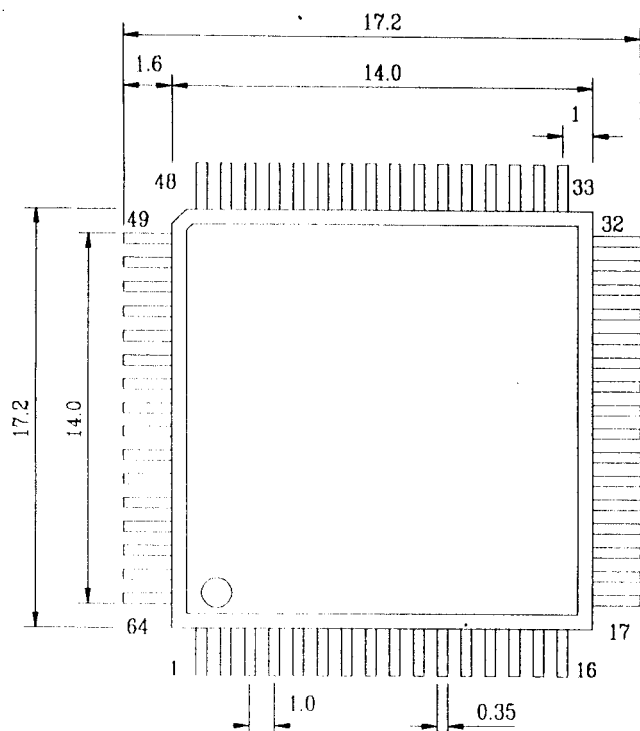


II. Terminal Connection

Pin No.	Symbol	Function
1	LR OUT	life rear channel output.(FADER adjust).
2	LF OUT	life front channel output.(FADER adjust).
3	LF IN	life channel input.(FADER adjust).
4	LV ref	life channel reference voltage.
5	L1dB out	life channel volume 1dB control output.
6	L1dB IN	life channel volume 1dB control input.
7	L5dB OUT	life channel volume 5dB control output.
8	LC T 2	life channel loudness control.
9	LC T 1	life channel loudness Hi frequency control.
10	L5dB IN	life channel volume 5dB control input.
11	LT OUT	life channel Tone control output.
12	LT 3	life channel BASS capacitor (LT3,LT2)
13	LT 2	life channel TREB capacitor (LT1,LT2)
14	LT 1	
15	LT IN	A terminal which life channel signal input.
16	VDD	Power supply terminal.
17	CE	input the receives signal for chip enable.
18	DI	input the serial data receives.
19	CL	input the serial data receives clock.
20	VSS	GND terminal.
21	A,VSS	GND terminal (Audio system).
22	RT IN	A terminal which right channel signal input.
23	RT 1	right channel BASS capacitor (RT3,RT2).
24	RT 2	right channel TREB capacitor (RT1,RT2).
25	RT 3	
26	RT OUT	right channel Tone control output.
27	R5dB IN	right channel volume 5dB control input.
28	RC T 1	right channel loudness Hi frequency control.
29	RC T 2	right channel loudness control.
30	R5dB OUT	right channel volume 5dB control output.
31	R1dB IN	right channel volume 1dB control input.
32	R1dB out	right channel volume 1dB control output.
33	R,V ref	which right channel reference voltage.
34	RF IN	right channel input.(FADER adjust).
35	RF OUT	right front channel output.(FADER adjust).
36	RR OUT	right rear channel output.(FADER adjust).

■ LC75853E 99102-255-0 LCD Driver

I. Outward Form



Pin No.	Symbol	Function
1 ? 40	S1 ? S40	A terminal which segment signal outputs for LCD panel
41 42 43	COM3 COM2 COM1	A terminal which common signal outputs for LCD panel.
44 45 46 ? 49	KS1(S41) KS1(S42) KS3 ? KS6	A terminal which key source signal outputs for key matrix.
50 ? 54	KI1 ? KI5	A terminal which key return signal inputs for key matrix.
55	RES	A terminal which resets the IC. "L" Reset.
56	VDD	Power supply terminal (+5.5V).
57	VDD1	A terminal which LCD segment reference Voltage.
58	VDD2	A terminal which LCD segment reference Voltage.
59	VSS	GND terminal.
60	OSC	Oscillate system clock,38KHz (19~76KHz).
61	DO	A terminal which outputs the serial data transfer.
62	CE	A terminal which inputs the receives signal for chip enable.
63	CL	A terminal which inputs the serial data data receives clock.
64	DI	A terminal which inputs the serial data receives.

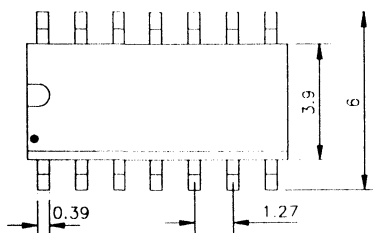
II. Key Maxter Table

IN OUT	KI1	KI2	KI3	KI4	KI5
KS1	M1	M2	M3	M4 B NR	M5 APC
KS2	M6 MTL	BAND	A-MODE/ LOUD	V-UP	V-DOWN
KS3	PS/AS	MUTE	T-MODE DX/LO	UP	DOWN
KS4	DISPLAY	VF	ILL	R-MONI	LOUD

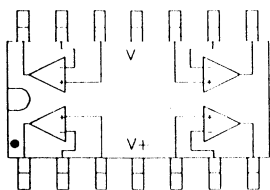
III. Momentary Sw.

Switch Name	Function
M1 ? M6	Preset memort wire/call switch.
PS/AS	Use PS/AS when making a preset scan or an auto store. Either of the two can be selected by the way it is pushed as follws. Continus to push the key more than 2 seconds for "auto store memry." Push and touch off the key less then 2 seconds for "preset scan."
BAND	AM/FM/LW band selector switch. when B0,B1=0,BAND Key andup Key pressed Canbe change to "USA" BAND Key and DOWN Key pressed Canbe change to "australia Middle East" BAND.
UP DOWN	This switch is for manual tuning or SEEK tuning. UP/DOWN
T.MODE	SEEK or MANUselectoy switch.
DISP	Display mode selector button. clock or frquency.
DOL-B (M4)	Dolby-B ON/OFF selector switch.
APC (M5)	APC ON/OFF selector switch.
MTL (M6)	MTL ON/OFF selector switch.
ILLUMI	ILLUMI color selector switch.
A-M/LOUD	Audio mode selector. Volume → Bass → Treble → Balance → Fader ↑ ver 2 secnds, LOUDNESS ON/OFF selector.
UP Button	Audio control UP Button.
DOWN Button	Audio control DOWN Button.
MUTE	Audio mute ON OFF key.
VF	Europe FM Band VF ON OFF key.
Release Button	Detachable control panel release Button.

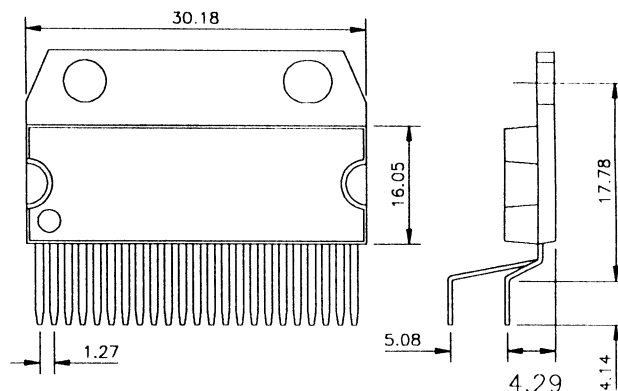
■ NJM2058M 99102-257-0 Op AMP
I. Outward Form



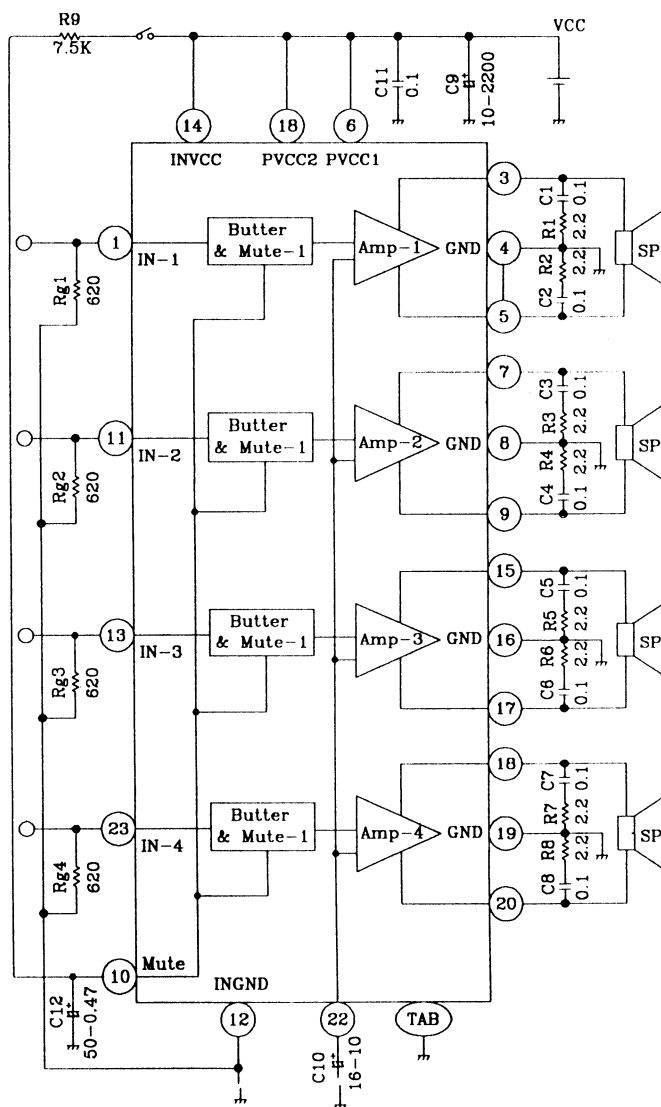
II. Block Diagram



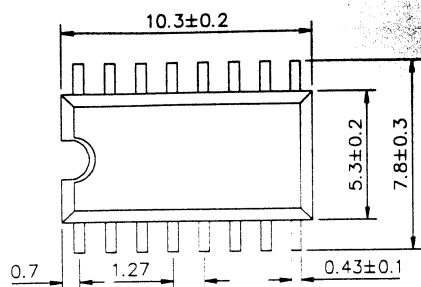
■ HA13151 99102-252-0 Power AMP
I. Outward Form



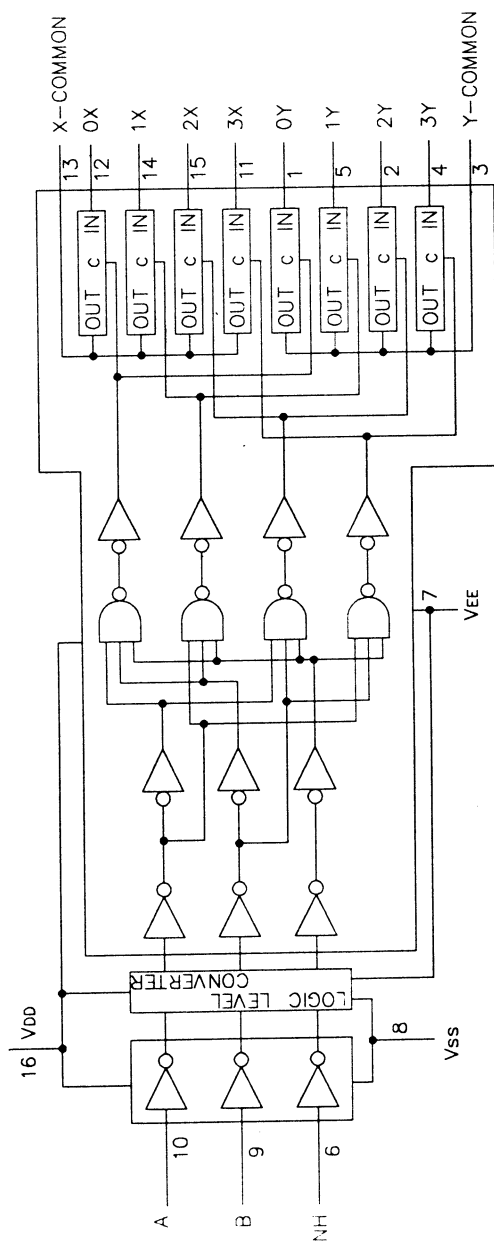
II. Block Diagram



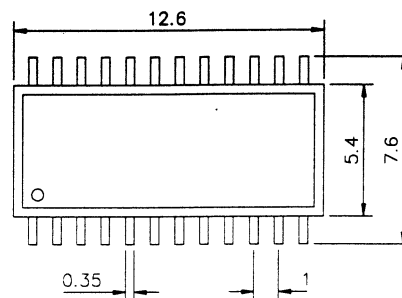
■ TC4052B 99102-258-0
I. Outward Form



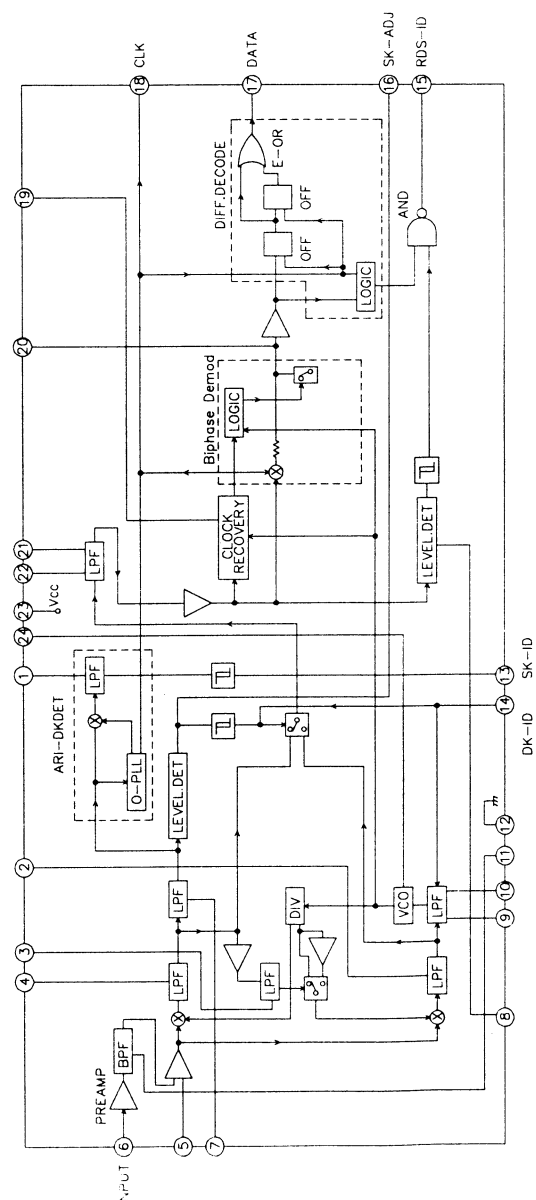
II. Block Diagram



■ LA2232M 99102-253-0
I. Outward Form

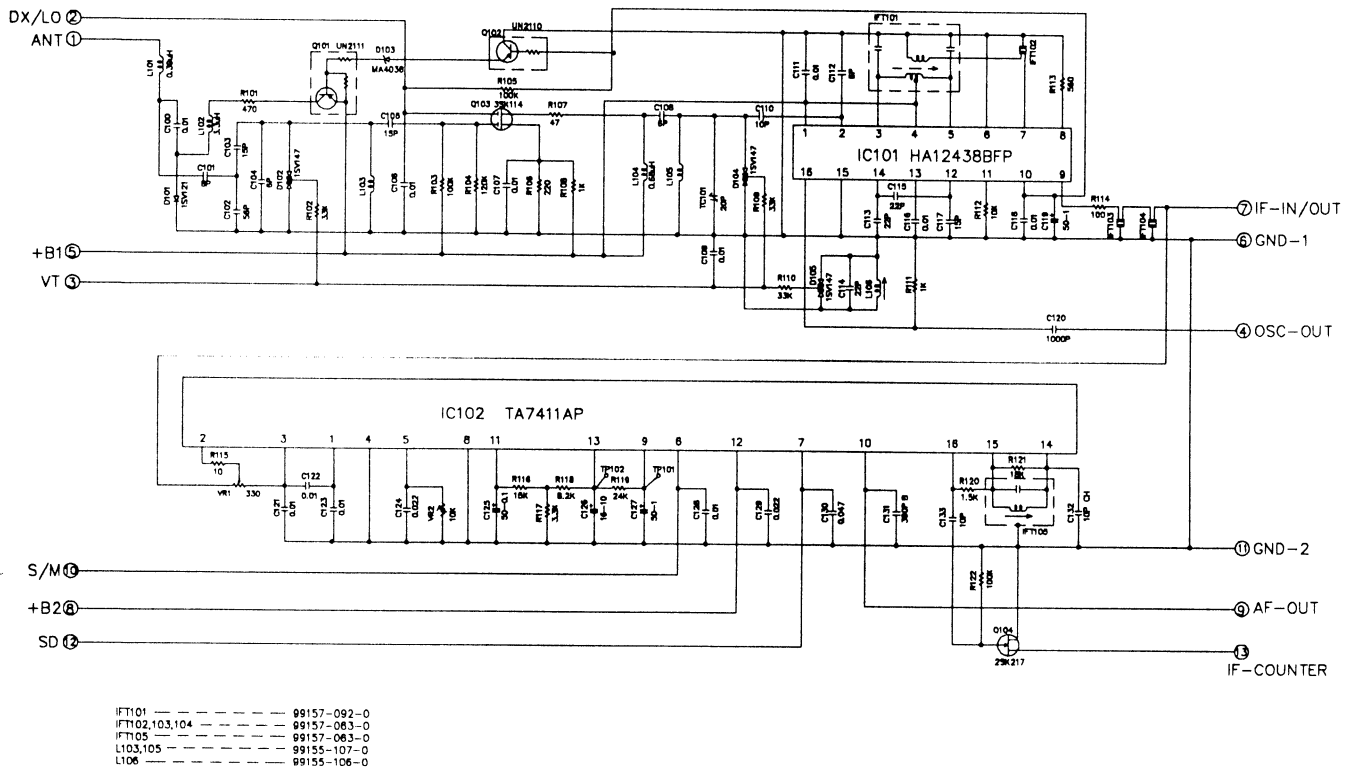


II. Block Diagram

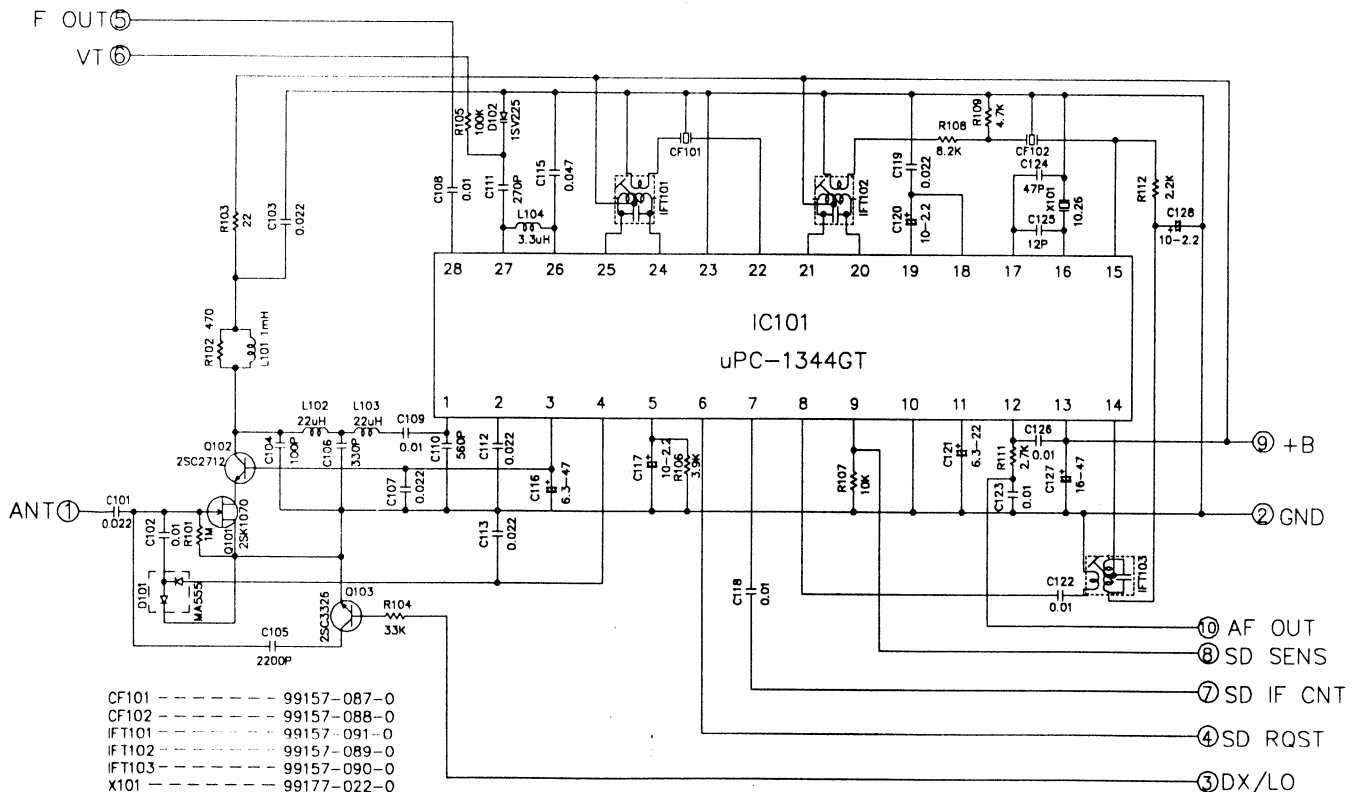


■ CIRCUIT DIAGRAM:

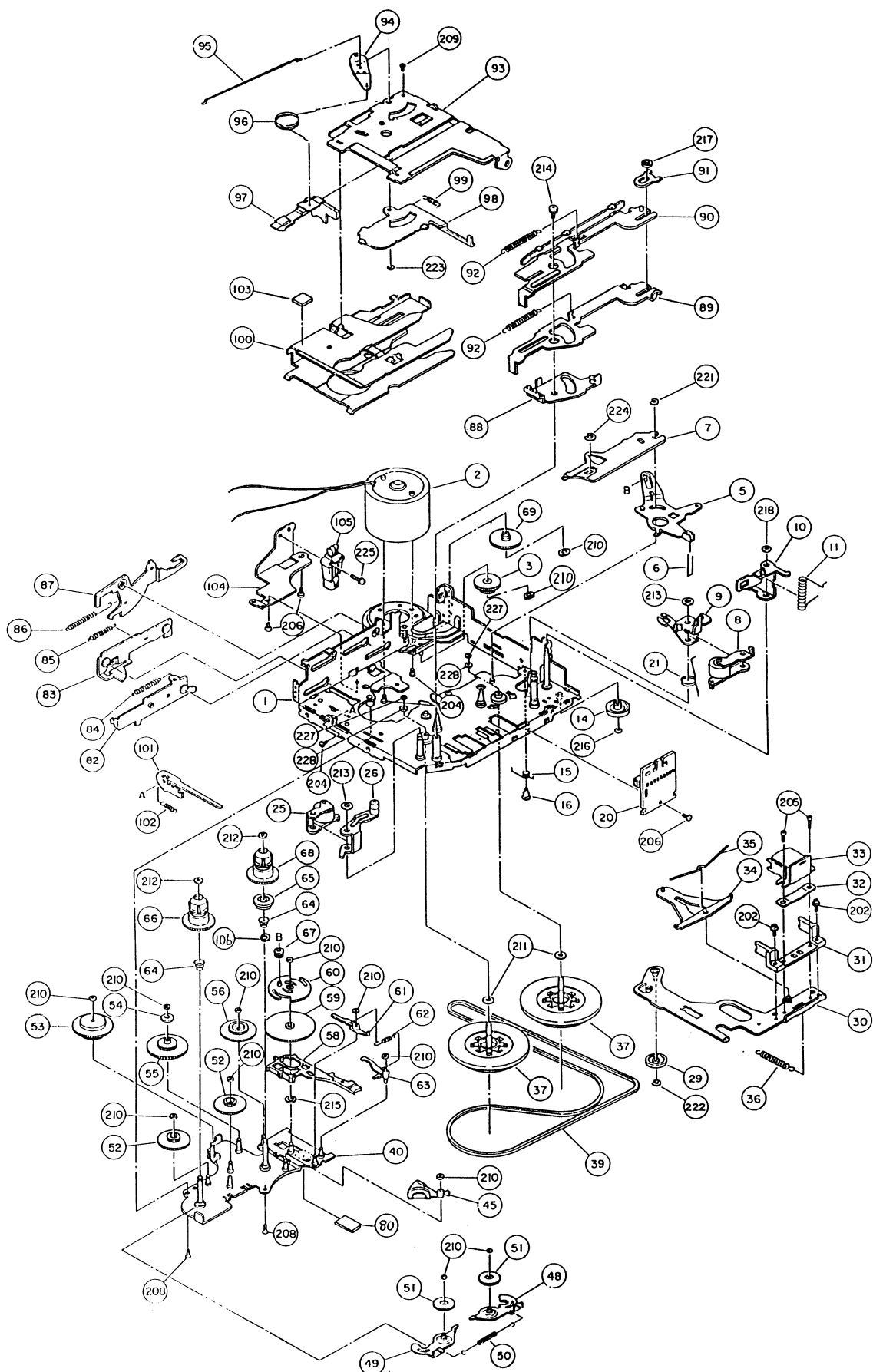
• FM TUNER 1417TF7



• AM TUNER 1602TA7



■ EXPLODED VIEW • PARTS LIST:



•Tape mechanism section
99472-052-0 (TN-717MH-262)

Ref. No	Order No.	Description	Q'ty
01	1840-01-528	Chassis Ass'y	1
02	1840-01-354	Motor Ass'y	1
03	1840-01-102	Main Gear	1
04			
05	1840-01-89	Change Plate D	1
06	1840-01-111	Head Switch Spring	1
07	1840-03-14	Main Plate (Z)	1
08	1840-04-309	Pinch Roller ARM (F) Ass'y	1
09	1840-04-06	Trigger & Stop ARM Actuator	1
10	1840-05-54	F.R (FF. REW) Lock Plate B	1
11	1840-05-52	F.R (FF. REW) Lock Spring	1
12			
13			
14	1840-01-70	Center Pulley C	1
15	1840-01-66	Control Spring (C)	1
16	1840-01-31	Collar Screw	1
17			
18			
19			
20	6402-02-02	Slide Switch (SSS632001)	1
21	1840-04-04	Trigger & Stop ARM Actuator Spring	1
22			
23			
24			
25	1840-04-310	Pinch Roller ARM (R) Ass'y	1
26	1840-04-311	Pull Plate Ass'y	1
27			
28			
29	1840-03-19	Head Plate Roller M	1
30	1840-03-510	Head Panel Ass'y	1
31	1840-03-08	Tape Guide	1
32	1840-03-10	Head Spring Plate	1
33	6201-03-61	Head (P-5044SD-99H) [TN-717MH-263]	1
	6201-07-44	Head (P-5044BD-99H) [TN-717MH-262]	1
34	1840-03-11	Pinch Roller Actuator	1
35	1840-03-58	Pinch Roller Spring (A)	1
36	1840-03-24	Head Panel Spring M2	1
37	1840-04-308	Flywheel Capstan Ass'y	2
38			
39	1840-04-31	Main Belt	1
40	1840-02-515	Main Gear Plate Ass'y	1
41	1840-05-104	Reinorcement Plate A	1
42	9C09-16-303	Camera Scpew 3P 1.6*3	1
43			
44			

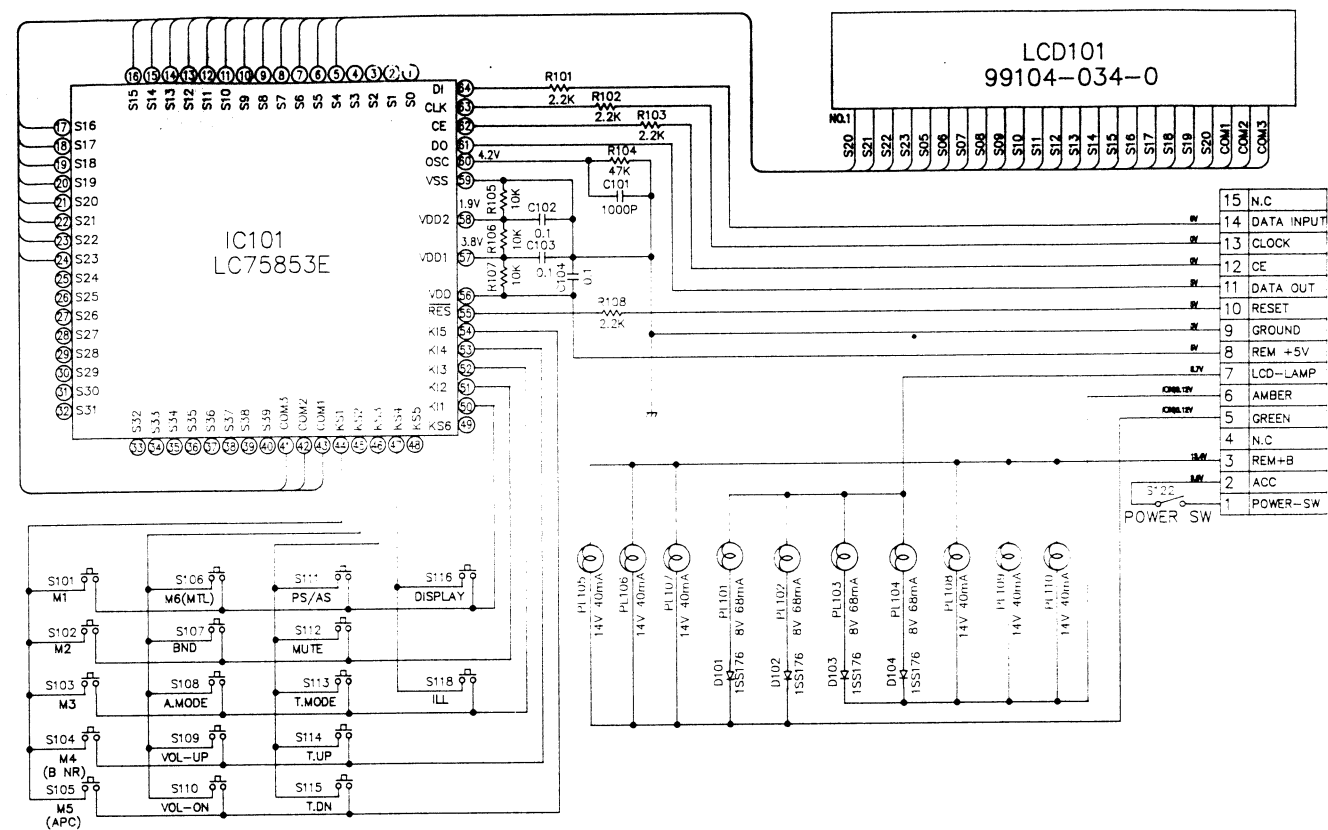
Ref. No	Order No.	Description	Q'ty
45	1840-02-38N	E.D (End Detector) Plate (F)	1
46			
47			
48	1840-02-516	Take Up Gear Plate (F) Ass'y	1
49	1840-02-517	Take Up Gear Plate (R) Ass'y	1
50	1840-02-49	Take Up Gear Plate Spring C	1
51	1840-02-12	FF Gear	2
52	1840-02-96	F.T. (FF & Take Up) Gear	2
53	1840-02-348	F.R. (FF. REW) Clutch Ass'y	1
54	1840-02-28	Device Gear (Upper)	1
55	1840-02-29	Device Gear (Lower)	1
56	1840-02-27	Device & Trigger Stop ARM Gear	1
57			
58	1840-02-81	End Sensing Plate C	1
59	1840-02-72	Trigger & Stop ARM Actuator Gear	1
60	1840-02-20B	Turn Over Gear B	1
61	1840-02-24	Stop ARM	1
62	1840-02-79	Trigger & Stop ARM Spring C	1
63	1840-02-82	Trigger ARM	1
64	1840-02-48	End Detector Spring	2
65	1840-02-50	End Detector Piece	1
66	1840-02-325	Take Up Reel SUB-Ass'y	1
67	1840-01-26	Turn Over Gear Collar	1
68	1840-02-324	Take Up Reel SUB-Ass'y	1
69	1840-01-77	Center Gear A	1
70			
71	6401-01-124	Leaf Switch	1
72	9862-00-00	Camera Screw 1.7*3.5	1
73			
74			
75			
76			
77	1840-08-89	C Stopper	1
78	9828-00-00	Camera Screw 2*2.5	1
79			
80	1840-02-41	Felt	1
81			
82	1840-08-516	Push Lever Ass'y	1
83	1840-08-515	Cassete Case & Head Panel Push Plate Ass'y	1
84	1840-08-07	Push Lever Spring	1
85	1840-08-55	Cassete Case & Head Panel Spring E	1
86	1840-08-10	Lift Up Lever Spring	1
87	1840-08-08	Lift Up Lever B	1

Ref. No	Order No.	Description	Q'ty
88	1840-05-26	F.R (FF. REW) Bracket	1
89	1840-05-110	REW Lever	1
90	1840-05-109	FF Lever	1
91	1840-05-105	Program Change Plate	1
92	1840-05-53	F.R (FF. REW) Lever Spring	2
93	1840-08-12	Case Lifter	1
94	1840-08-517	P.E. (Pack Eject) Plate Ass'y	1
95	1840-08-23	P.E. (Pack Eject) Spring	1
96	1840-08-76	Turn Over Spring C	1
97	1840-08-13G	Pack Slider	1
9	1840-08-18	C.D. (Cassette Detecting) Plate	1
99	1840-08-20	C.D. (Cassette Detecting) Spring	1
100	1840-08-22	Cassette Case	1
101	1840-03-25	Timing Plate	1
102	1710-02-16	Spring	1
103	1840-08-21	Cushion Rubber	1
104	1840-07-34	Souelton Switch Bracket	1
105	6401-06-05	Souelton Seitch (MSW-S201GK)	1
106	9999-00-10	Polyslider Washer (CUT) 3.6*5*0.13	1
107			
108			
109	1840-08-41	Eject Lever	1
201			1
202	9078-00-00	Tams Screw 2.0*5	
203			
204	9566-00-00	Camera Screw (FLAT) 2.0*2.5	
205	9218-00-00	Screw (⊕ ⊖) Special 2.0*4	
206	9800-00-00	Camera Screw (TAPPING)S 2.0*3	
207	9548-00-00	Camera Screw 2.0*2	
208	9809-00-00	Camera Screw (FLAT) 2.0*3.5	
209	9801-00-00	Camera Screw (TAPPING)S 2.0*4	
210	9421-00-00	Polyslider Washer (CUT) 1.2*3.0*0.25	
211	9429-00-00	Polyslider Washer 2.1*5.0*0.13	
212	9793-00-00	Polyslider Washer (CUT) 1.6*3.4*0.3	
213	9744-00-00	Polyslider Washer (CUT) 2.1*5.0*0.4	
214	9999-18-01	Camera Screw (TAMS) 2.6*4.5	

Ref. No	Order No.	Description	Q'ty
215	9794-00-00	Lumilar Washer 3.1*4.8*0.1	
216	9927-00-00	Polyslider Washer (CUT) 0.85*2.8*0.25	
217	9872-00-00	Polyslider Washer (CUT) 3.0*6.0*0.5	
218	9743-00-00	Polyslider Washer	
219			
220			
221	9497-00-00	E Ring (B) Special 1.5	
222	9499-00-00	E Ring 1.2	
223	9500-00-00	E Ring 1.5	
224	9502-00-00	E Ring 2.0	
225	9080-00-00	Tams Screw 2.0*8	
226			
227	9999-70-10	HL Washer (CUT) 1.5*3.2*0.5	
228	9999-00-01	Polyslider Washer 1.8*3.2*0.2	
229	9555-00-00	Camera Screw 2.6*2.5	
230			

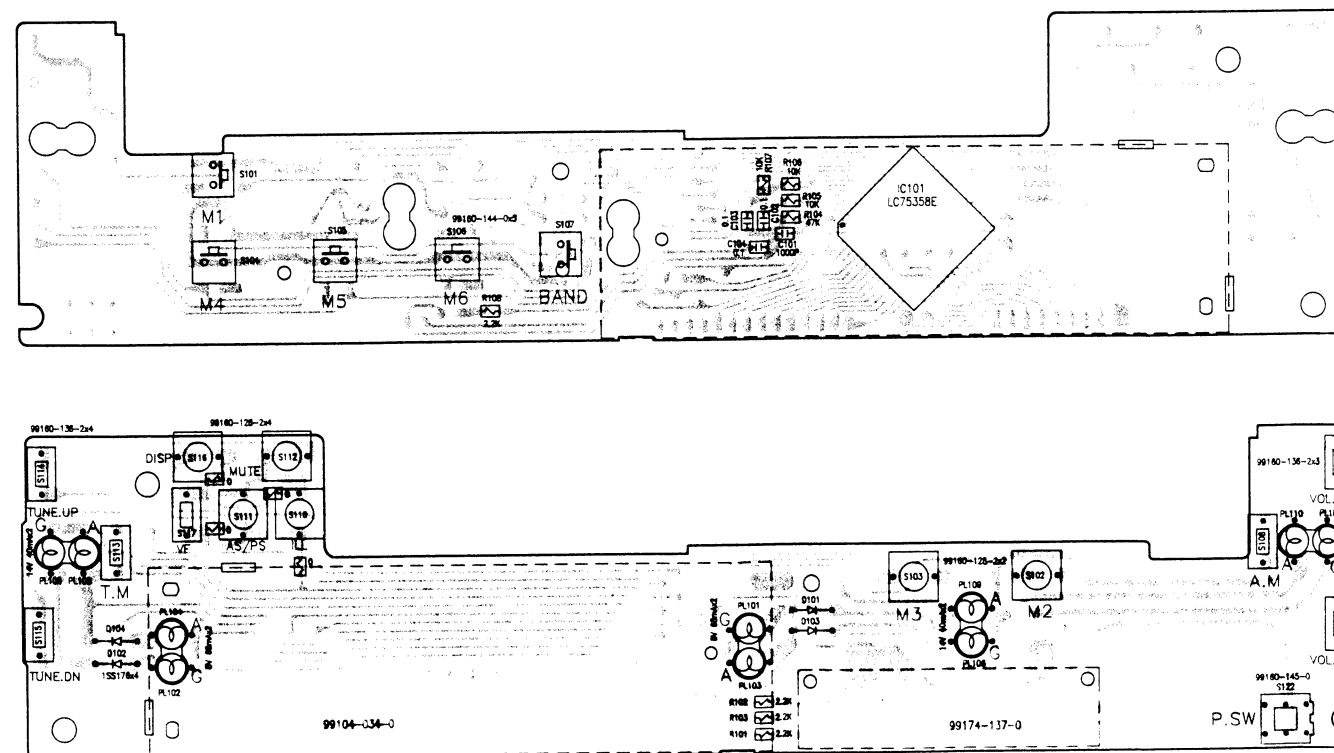
■ **CIRCUIT DIAGRAM:**

- CRH300(G)



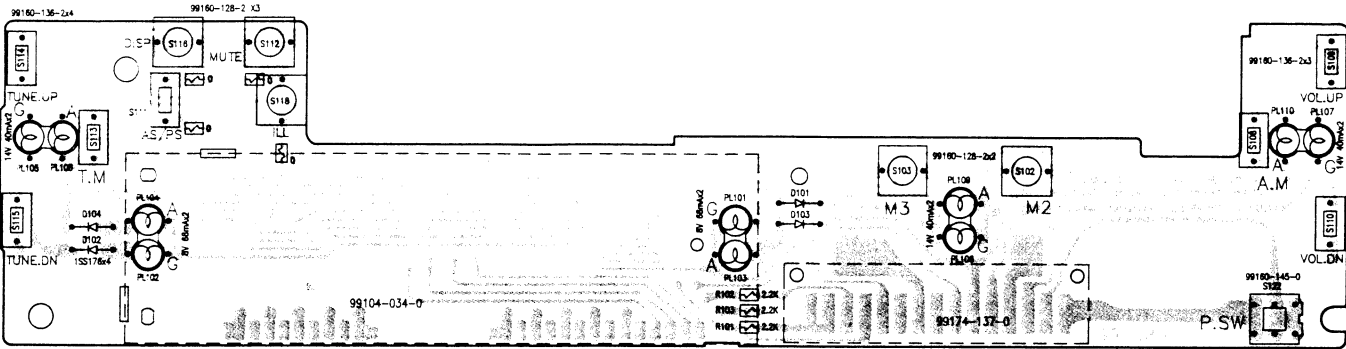
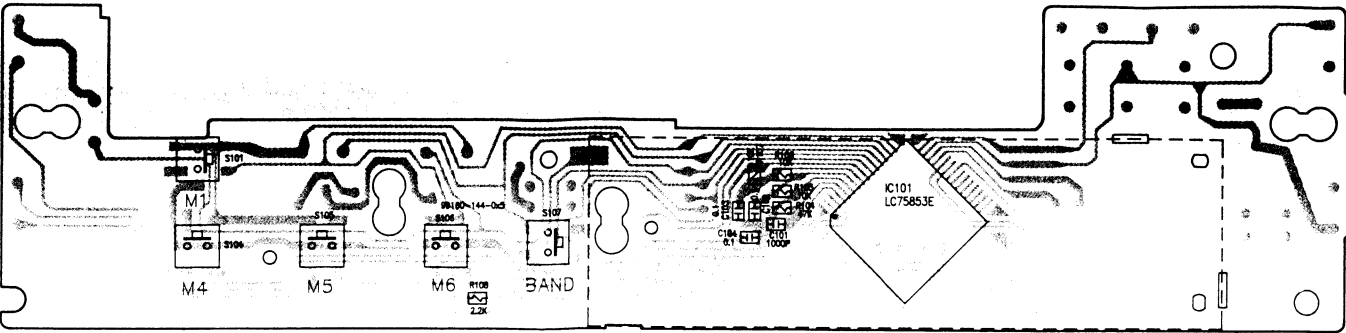
■ PRINTED WIRING BOARD:

- CRH301/CRH300

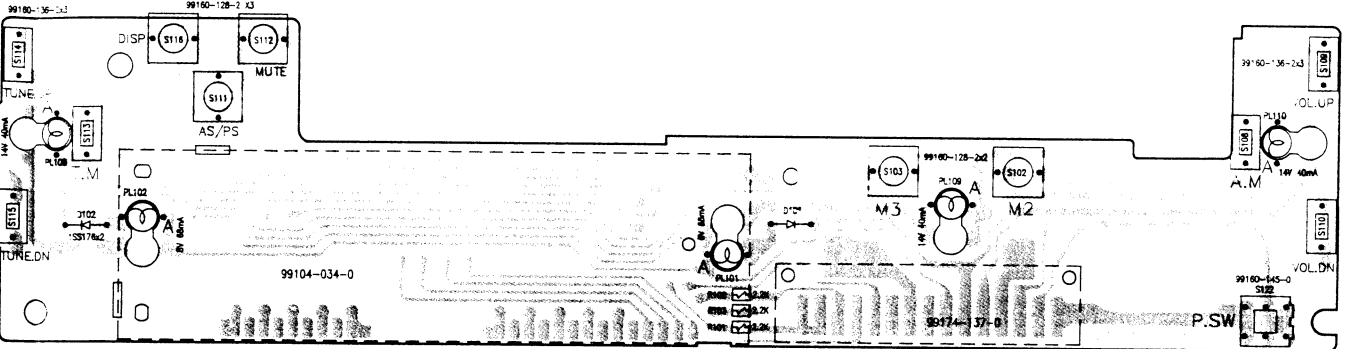
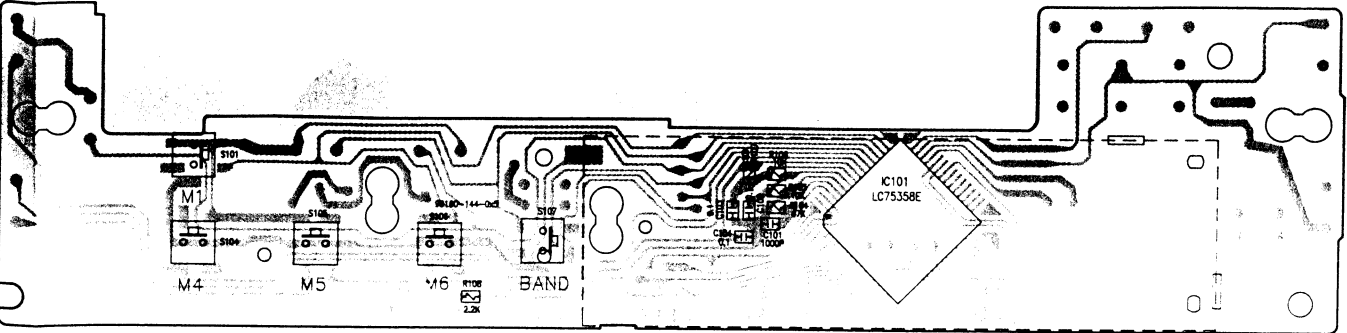


■ PRINTED WIRING BOARD:

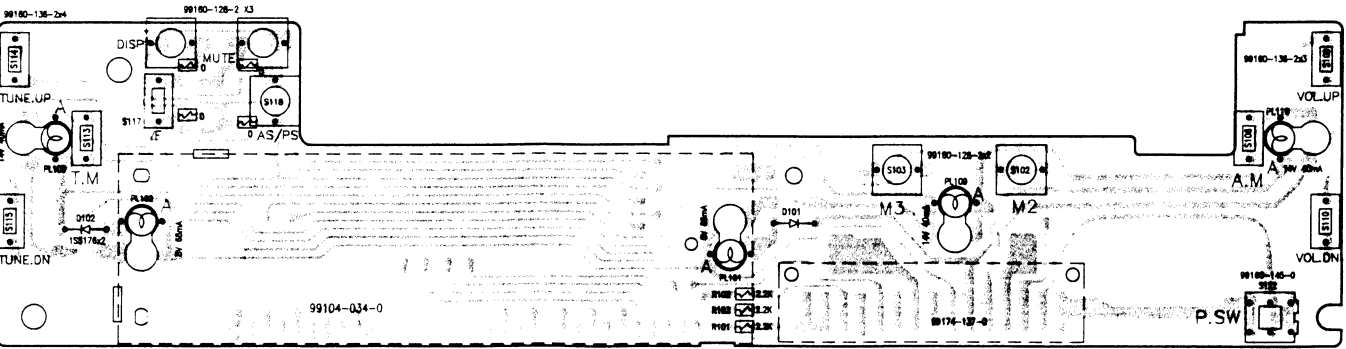
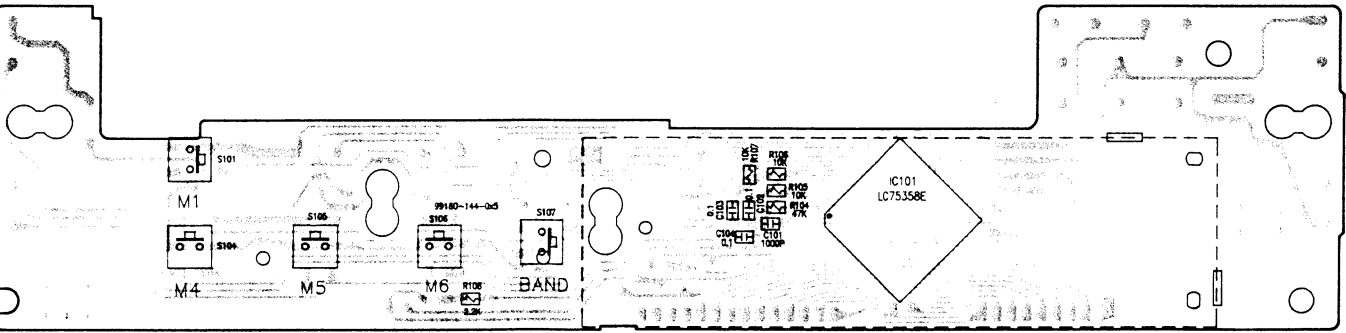
• CRX400



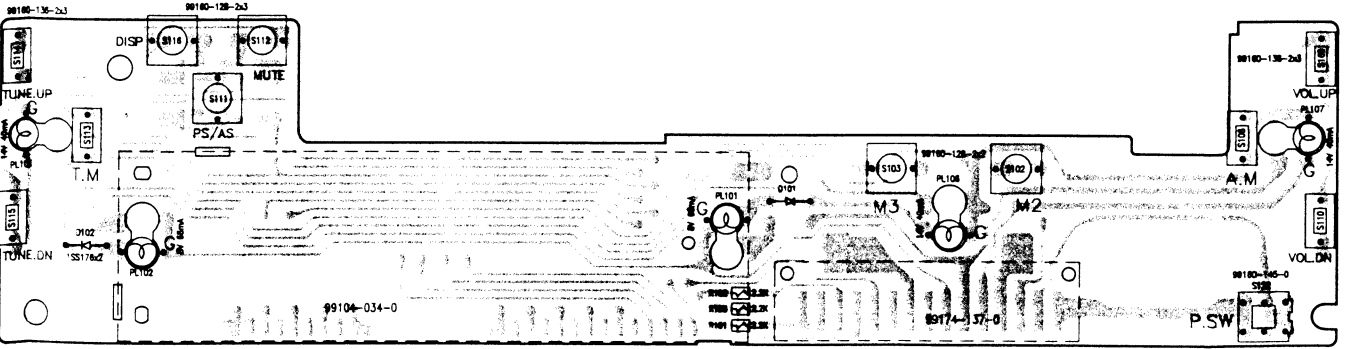
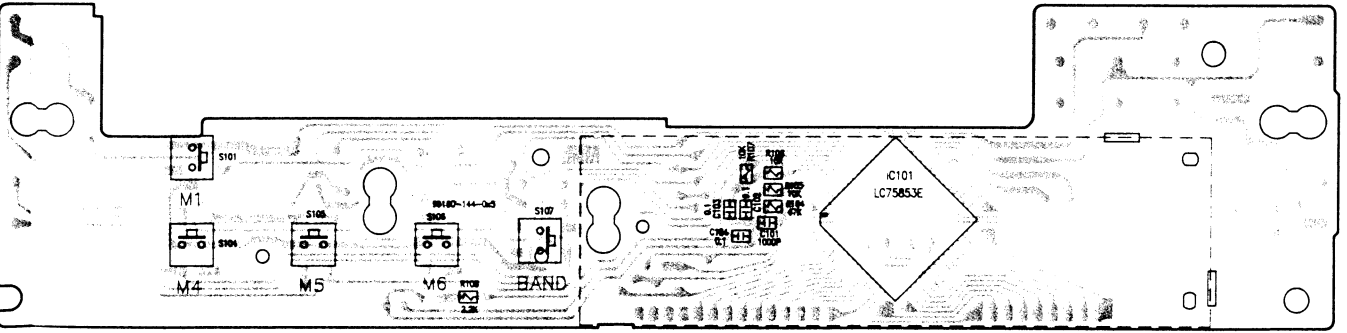
• CRH300



• CRH301

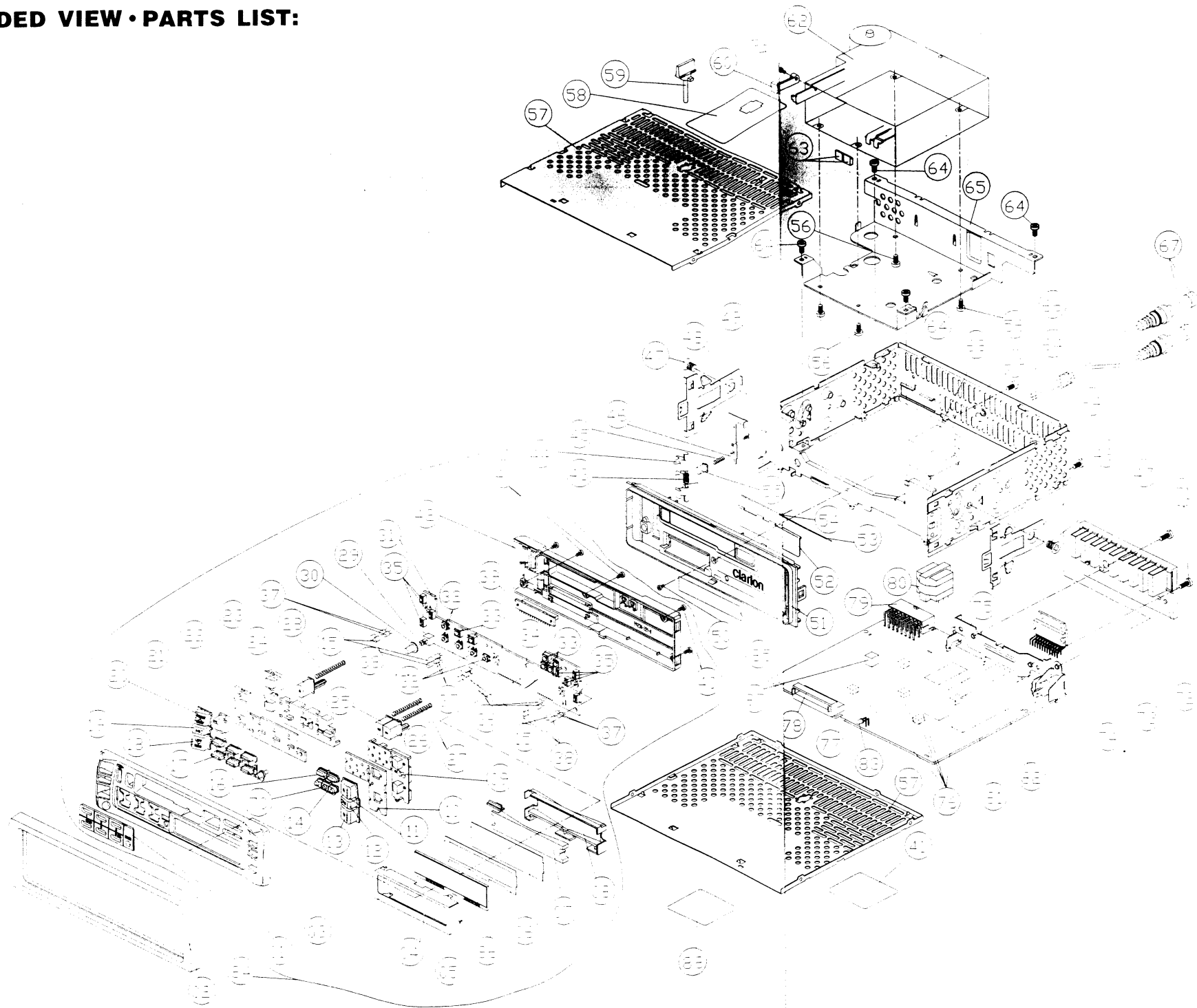


• CRH300(G)



■ EXPLODED VIEW • PARTS LIST:

• CRX401



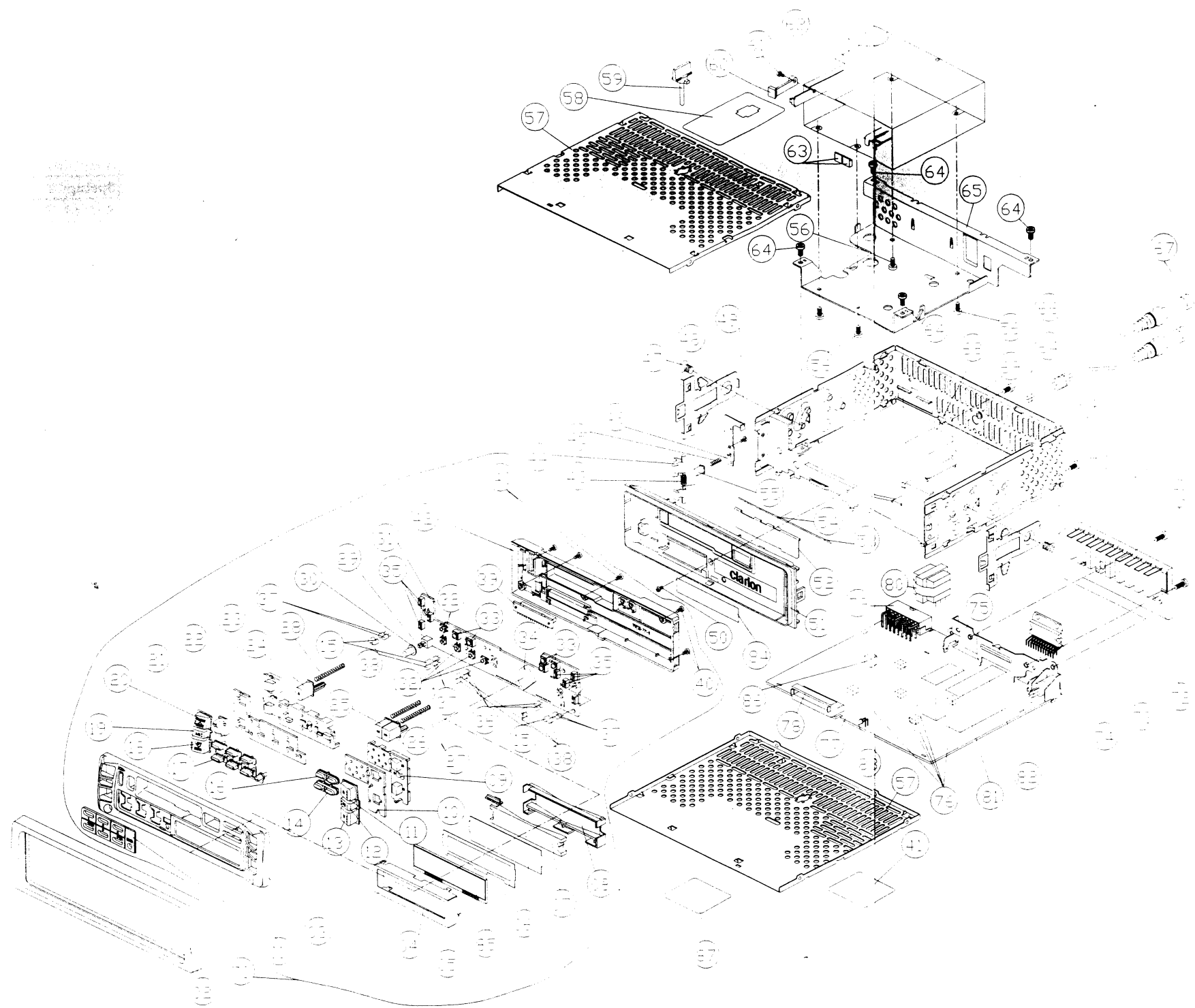
Ref. No	Order No.	Description	Q'ty
01	99238-119B0	Trim plate	1
02	99230-219-0	Trim Escutcheon	1
03	99230-220-0	Escutcheon	1
04	99260-506-0	Lcd Bracket	1
05	99104-034-0	Lcd Display	1
06	99264-236-0	Paper Part	1
07	99263-286-0	Lcd Illumination	1
08	99263-285-0	Lcd Molded	1
09	99263-292-0	Illumination Part	1
10	99263-294-0	Sponge	1
11	99237-311-0	Button	1
12	99237-313-0	Button	1

Ref. No	Order No.	Description	Q'ty
13	99237-312-0	Button	1
14	99237-322-0	Button	1
15	99262-164-0	Lamp Holder	5
16	99237-318-0	Button	1
17	99237-310-0	Button ASS'Y	1
18	99237-307-0	Button	1
19	99237-308-0	Button	1
20	99237-306-0	Button	1
21	99237-314-0	Button	1
22	99263-293-0	Sponge	1
23	99263-291-0	Illumination Part	1
24	99237-315-0	Button	1

Ref. No	Order No.	Description	Q'ty
25	99237-317-0	Button	1
26	99237-316-0	Button	1
27	99257-072-0	Spring	2
28	99257-073-0	Spring	1
29	99160-145-0	Push Sw.	1
30	99237-309-0	Button	1
31	99500-021-0	PWB (SW)	1
32	99160-144-0	TACT SW.	5
33	99160-128-2	TACT SW.	6
34	99102-255-0	Ic	1
35	99160-136-2	TACT SW	7
36	99168-065-0	Pilot Lamp	4

Ref. No	Order No.	Description	Q'ty
37	99168-030-0	Pilot Lamp	6
38	99262-163-0	Lamp Holder	5
39	99174-137-0	Connector	1
40	702-2010-19	Tap Screw	5
41	99220-461-1	Set Plate	1
42	99230-221-0	Rear Cover	1
43	99257-069-0	Spring	1
44	99263-289-0	Molded Part	1
45	99257-071-0	Spring	1
46	99260-517-0	Pressed Part	1
47	714-5008-40	Machine Screw	2
48	99260-425-0	Pressed Part	2
49	702-2005-10	Tap Screw	1
50	714-2006-89	Machine Screw	1
51	99230-222-0	Out Escutcheon	1
52	99234-072U0	Dustproof Cover	1
53	99235-066-0	Door Shaft	1
54	99257-020-0	Spring	1
55	99237-323-0	Button	1
56	714-3004-81	Machine Screw	4
57	99251-143-0	Upper Case	2
58	99221-340-0	Guide card	1
59	99263-154-0	Lock Pin	1
60	99263-288-0	Molded Part	1
61	714-2606-80	Machine Screw	1
62	99472-053-0	Tape Mech.	1
63	99263-287-0	Molded Part	2
64	714-3005-80	Machine Screw	6
65	99260-504-0	Mech. Bracket	1
66	99355-601-0	Rca Jack	1
67	99263-024-4	Sleev	2
68	99260-505-0	Pressed Part	1
69	99468-001-0	Frame ASS'Y	1
70	99237-321-0	Button	1
71	714-3008-80	Machine Screw	2
72	99254-102-0	Heat sink	1
73	99102-252-0	Power Ic	1
74	99171-068-0	Ant Receptacle	1
75	99260-503-0	Ic Bracket	1
76	99262-169-0	Rubber Part	5
77	99108-177-3	Main PWB.	1
78	99174-136-0	Connector	1
79	99174-134-0	Connector	1
80	99154-034-0	Choke	1
81	80-1602TA7	Tuner ASS'Y	1
82	80-1417TF7	Tuner ASS'Y	1
83	99101-197-0	Led	1
84	99490-080-0	DCP ASS'Y	1
85	99221-359-0	Label	1
86	99264-235-0	Paper Part	1
87	99262-177-0	Rubber Part	1
88	99220-500-0	Guide Label	1

• CRX400



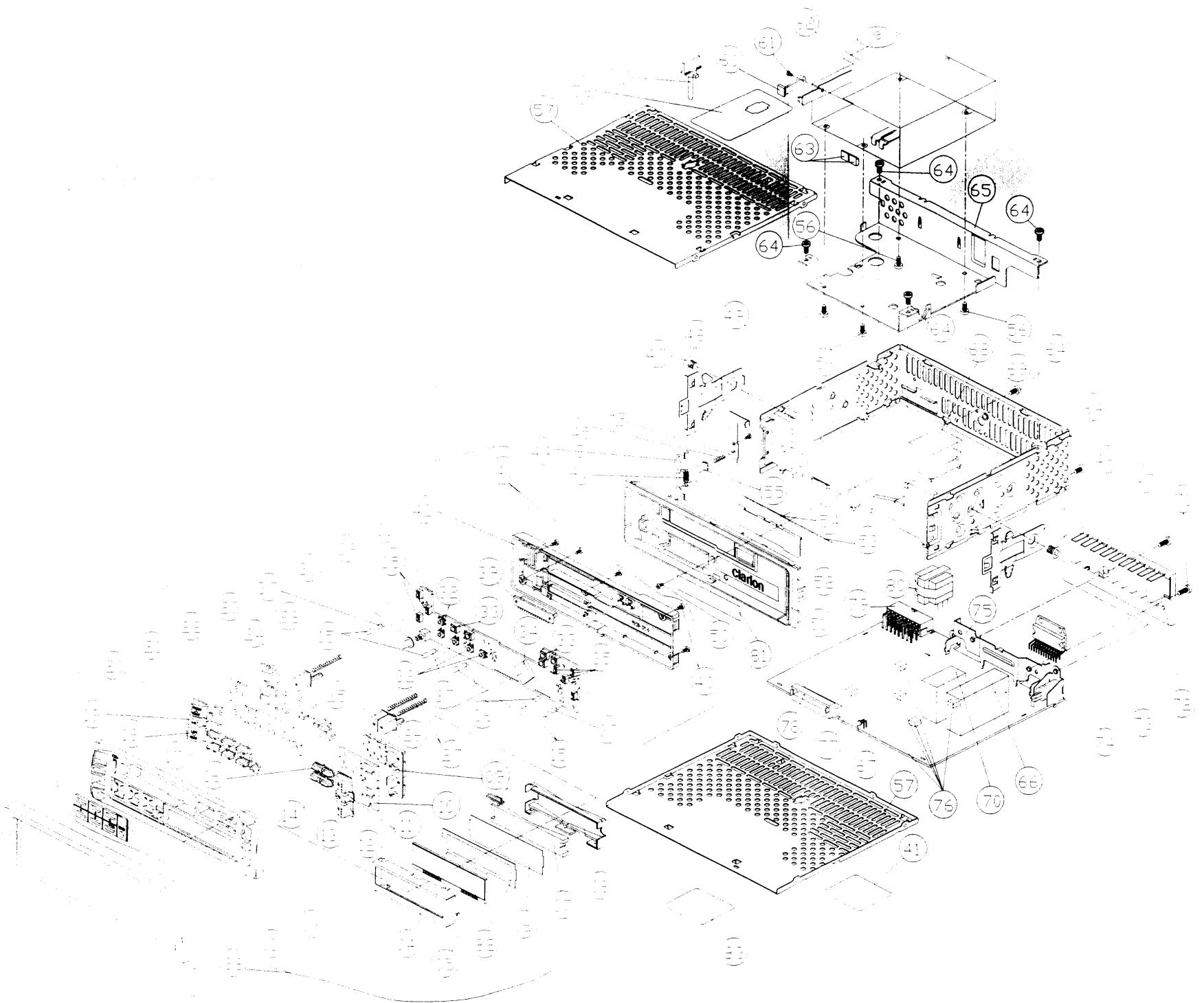
Ref. No	Order No.	Description	Q'ty
01	99238-119B0	Trim plate	1
02	99230-219-0	Trim Escutcheon	1
03	99230-220A0	Escutcheon	1
04	99260-506-0	Lcd Bracket	1
05	99104-034-0	Lcd Display	1
06	99264-236-0	Paper Part	1
07	99263-286-0	Lcd Illumination	1
08	99263-285-0	Lcd Molded	1
09	99263-292-0	Illumination Part	1
10	99263-294-0	Sponge	1
11	99237-311-0	Button	1
12	99237-313-0	Button	1

Ref. No	Order No.	Description	Q'ty
13	99237-312-0	Button	1
14	99237-319-0	Button	1
15	99262-164-0	Lamp Holder	5
16	99237-318-0	Button	1
17	99237-310-0	Button ASS'Y	1
18	99237-307-0	Button	1
19	99237-308-0	Button	1
20	99237-306-0	Button	1
21	99237-314-0	Button	1
22	99263-293-0	Sponge	1
23	99263-291-0	Illumination Part	1
24	99237-315-0	Button	1

Ref. No	Order No.	Description	Q'ty
25	99237-317-0	Button	1
26	99237-316-0	Button	1
27	99257-072-0	Spring	2
28	99257-073-0	Spring	1
29	99160-145-0	Push Sw.	1
30	99237-309-0	Button	1
31	99500-021-0	PWB (SW)	1
32	99160-144-0	TACT SW.	5
33	99160-128-2	TACT SW.	6
34	99102-255-0	Ic	1
35	99160-136-2	TACT SW.	6
36	99168-065-0	Pilot Lamp	4

Ref. No	Order No.	Description	Q'ty
37	99168-030-0	Pilot Lamp	6
38	99262-163-0	Lamp Holder	5
39	99174-137-0	Connector	1
40	702-2010-19	Tap Screw	5
41	99220-462-1	Set Plate	1
42	99230-221-0	Rear Cover	1
43	99257-069-0	Spring	1
44	99263-289-0	Molded Part	1
45	99257-071-0	Spring	1
46	99260-517-0	Pressed Part	1
47	714-5008-40	Machine Screw	2
48	99260-425-0	Pressed Part	2
49	702-2005-10	Tap Screw	1
50	714-2006-89	Machine Screw	1
51	99230-222-0	Out Escutcheon	1
52	99234-072V0	Dustproof Cover	1
53	99235-066-0	Door Shaft	1
54	99257-020-0	Spring	1
55	99237-323-0	Button	1
56	714-3004-81	Machine Screw	4
57	99251-143-0	Upper Case	2
58	99221-340-0	Guide Card	1
59	99263-154-0	Lock Pin	1
60	99263-288-0	Molded Part	1
61	714-2606-80	Machine Screw	1
62	99472-053-0	Tape Mech.	1
63	99263-287-0	Molded Part	2
64	714-3005-80	Machine Screw	6
65	99260-504-0	Mech. Bracket	1
66	99355-601-0	Rca Jack	1
67	99263-024-4	Sleev	2
68	99260-505-0	Pressed Part	1
69	99468-001-0	Frame ASS'Y	1
70	99490-081-0	DCP ASS'Y	1
71	714-3008-80	Machine Screw	2
72	99254-102-0	Heat sink	1
73	99102-252-0	Power Ic	1
74	99171-068-0	Ant Receptacle	1
75	99260-503-0	Ic Bracket	1
76	99262-169-0	Rubber Part	5
77	99108-177-3	Main PWB.	1
78	99174-136-0	Connector	1
79	99174-134-0	Connector	1
80	99154-034-0	Choke	1
81	80-1602TA7	Tuner ASS'Y	1
82	80-1417TF7	Tuner ASS'Y	1
83	99101-197-0	Led	1
84	99221-359-0	Label	1
85	99264-235-0	Paper Part	1
86	99262-177-0	Rubber Part	1
87	99220-500-0	Guide Label	1

• CRH301



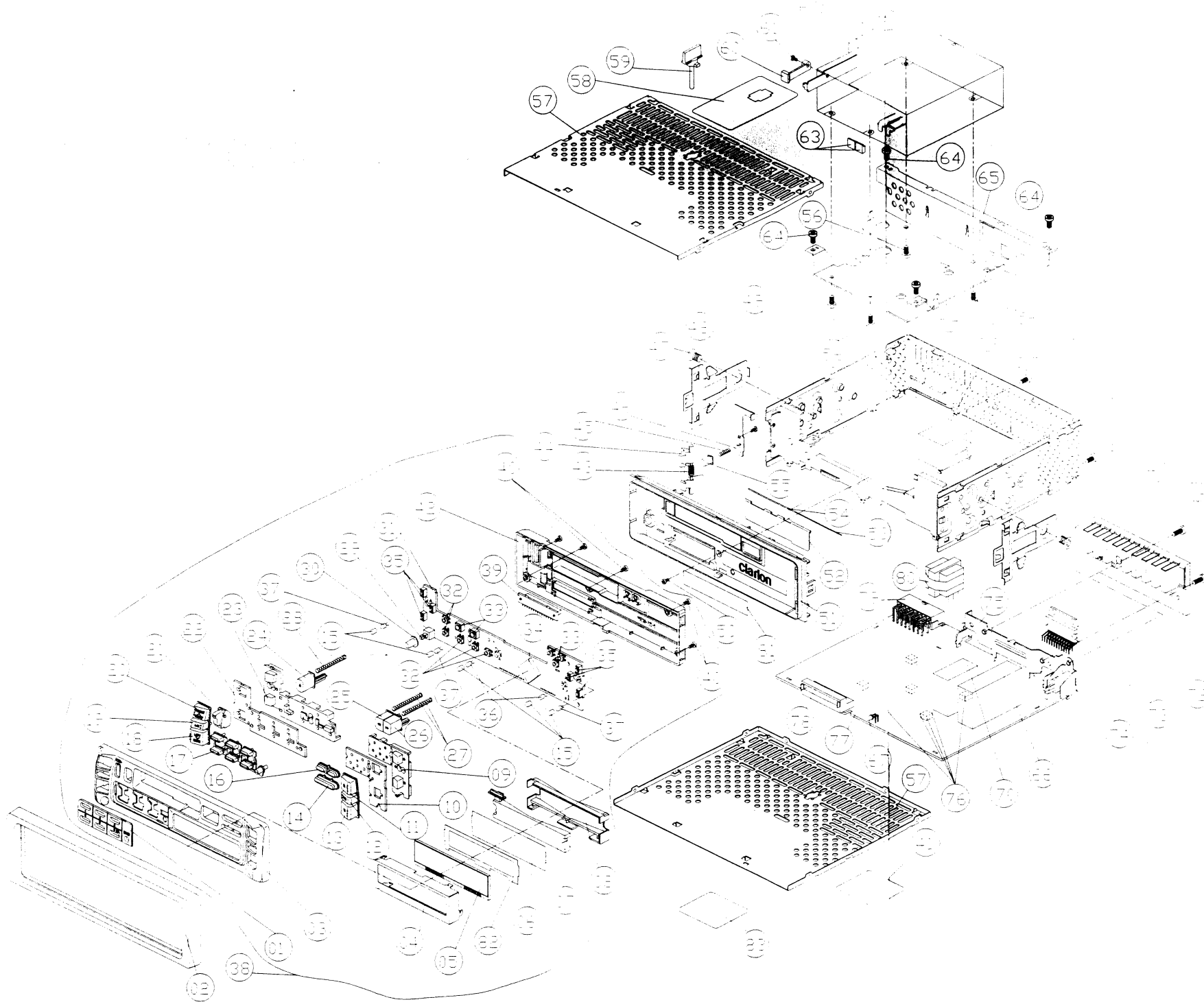
Ref. No	Order No.	Description	Q'ty
01	99238-119C0	Trim plate	1
02	99230-219-0	Trim Escutcheon	1
03	99230-220B0	Escutcheon	1
04	99260-506-0	Lcd Bracket	1
05	99104-034-0	Lcd Display	1
06	99264-236-0	Paper Part	1
07	99263-286-0	Lcd Illumination	1
08	99263-285-0	Lcd Molded	1
09	99263-292-0	Illumination Part	1
10	99263-294-0	Sponge	1
11	99237-311-0	Button	1
12	99237-313-0	Button	1

Ref. No	Order No.	Description	Q'ty
13	99237-312-0	Button	1
14	99237-319-0	Button	1
15	99262-164-0	Lamp Holder	5
16	99237-318-0	Button	1
17	99237-310-0	Button ASS'Y	1
18	99237-307-0	Button	1
19	99237-308-0	Button	1
20	99237-306-0	Button	1
21	99237-314-0	Button	1
22	99263-293-0	Sponge	1
23	99263-291-0	Illumination Part	1
24	99237-315-0	Button	1

Ref. No	Order No.	Description	Q'ty
25	99237-317-0	Button	1
26	99237-316-0	Button	1
27	99257-072-0	Spring	2
28	99257-073-0	Spring	1
29	99160-145-0	Push Sw.	1
30	99237-309-0	Button	1
31	99500-021-0	PWB (SW)	1
32	99160-144-0	TACT SW.	5
33	99160-128-2	TACT SW.	5
34	99102-255-0	Ic	1
35	99160-136-2	TACT SW.	7
36	99168-065-0	Pilot Lamp	2

Ref. No	Order No.	Description	Q'ty
37	99168-030-0	Pilot Lamp	3
38	99490-082-0	DCP ASS'Y	1
39	99174-137-0	Connector	1
40	702-2010-19	Tap Screw	5
41	99220-463-1	Set Plate	1
42	99230-221-0	Rear Cover	1
43	99257-069-0	Spring	1
44	99263-289-0	Molded Part	1
45	99257-071-0	Spring	1
46	99260-517-0	Pressed Part	1
47	714-5008-40	Machine Screw	2
48	99260-425-0	Pressed Part	2
49	702-2005-10	Tap Screw	1
50	714-2006-89	Machine Screw	1
51	99230-222-0	Out Escutcheon	1
52	99234-072W0	Dustproof Cover	1
53	99235-066-0	Door Shaft	1
54	99257-020-0	Spring	1
55	99237-323-0	Button	1
56	714-3004-81	Machine Screw	4
57	99251-143-0	Upper Case	2
58	99221-340-0	Guide card	1
59	99263-154-0	Lock Pin	1
60	99263-288-0	Molded Part	1
61	714-2606-80	Machine Screw	1
62	99472-052-0	Tape Mech.	1
63	99263-287-0	Molded Part	2
64	714-3005-80	Machine Screw	6
65	99260-504-0	Mech. Bracket	1
66	80-1417TF7	Tuner ASS'Y	1
67	99101-197-0	Led	1
68	99260-505-0	Pressed Part	1
69	99468-001-0	Frame ASS'Y	1
70	80-1602TA7	Tuner ASS'Y	1
71	714-3008-80	Machine Screw	2
72	99254-102-0	Heat sink	1
73	99102-252-0	Power Ic	1
74	99171-068-0	Ant Receptacle	1
75	99260-503-0	Ic Bracket	1
76	99262-169-0	Rubber Part	5
77	99108-200-3	Main PWB.	1
78	99174-136-0	Connector	1
79	99174-134-0	Connector	1
80	99154-034-0	Choke	1
81	99221-359-0	Label	1
82	99264-235-0	Paper Part	1
83	99220-500-0	Guide Label	1

• CRH300



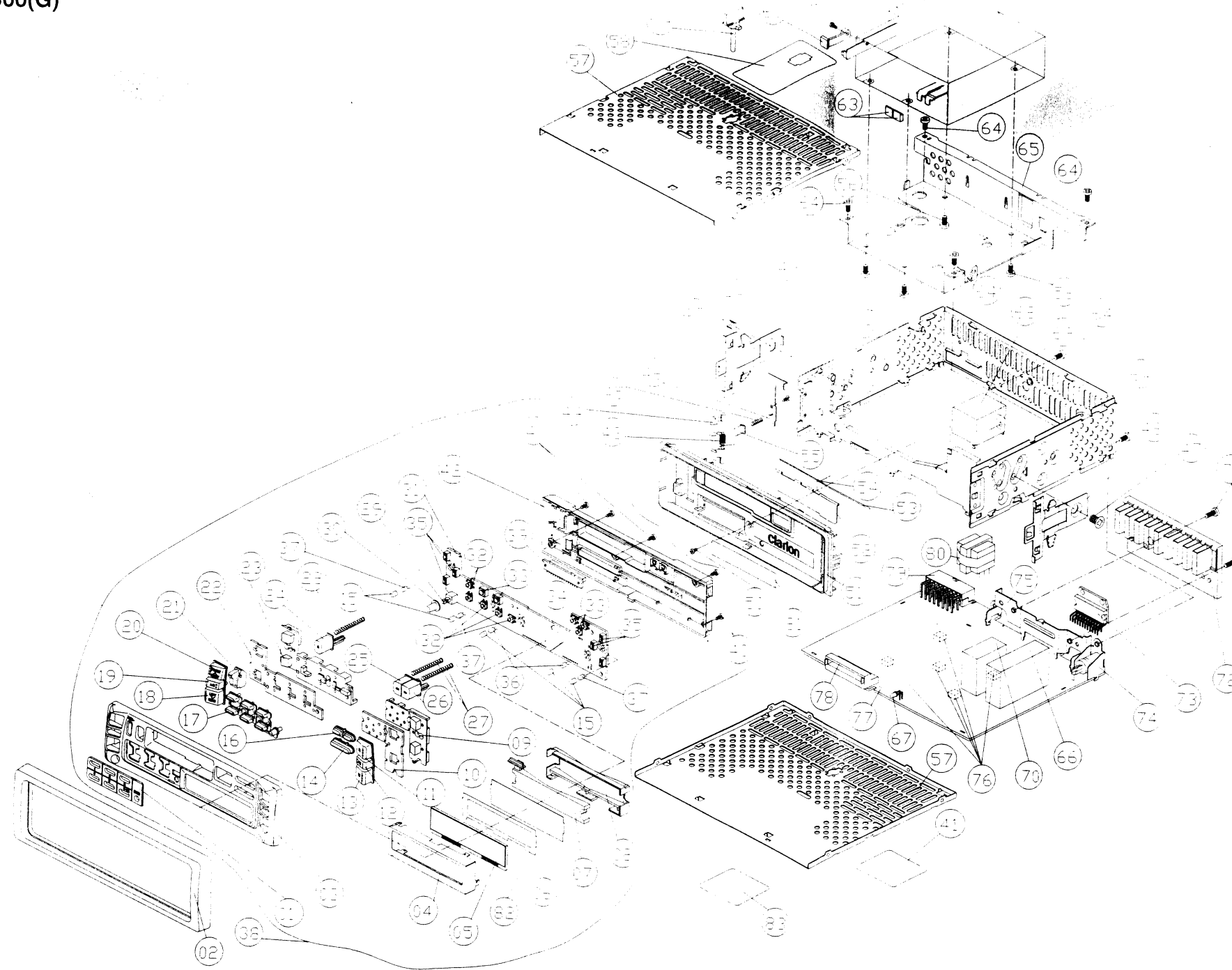
Ref. No	Order No.	Description	Q'ty
01	99238-119C0	Trim plate	1
02	99230-219-0	Trim Escutcheon	1
03	99230-220C0	Escutcheon	1
04	99260-506-0	Lcd Bracket	1
05	99104-034-0	Lcd Display	1
06	99264-236-0	Paper Part	1
07	99263-286-0	Lcd Illumination	1
08	99263-285-0	Lcd Molded	1
09	99263-292-0	Illumination Part	1
10	99263-294-0	Sponge	1
11	99237-311-0	Button	1
12	99237-313-0	Button	1

Ref. No	Order No.	Description	Q'ty
13	99237-312-0	Button	1
14	99237-320-0	Button	1
15	99262-164-0	Lamp Holder	5
16	99237-318-0	Button	1
17	99237-310-0	Button ASS'Y	1
18	99237-307-0	Button	1
19	99237-308-0	Button	1
20	99237-306-0	Button	1
21	99237-314-0	Button	1
22	99263-293-0	Sponge	1
23	99263-291-0	Illumination Part	1
24	99237-315-0	Button	1

Ref. No	Order No.	Description	Q'ty
25	99237-317-0	Button	1
26	99237-316-0	Button	1
27	99257-072-0	Spring	2
28	99257-073-0	Spring	1
29	99160-145-0	Push Sw.	1
30	99237-309-0	Button	1
31	99500-021-0	PWB (SW)	1
32	99160-144-0	TACT SW.	5
33	99160-128-2	TACT SW.	5
34	99102-255-0	Ic	1
35	99160-136-2	TACT SW.	6
36	99168-065-0	Pilot Lamp	2

Ref. No	Order No.	Description	Q'ty
37	99168-030-0	Pilot Lamp	3
38	99490-083-0	DCP ASS'Y	1
39	99174-137-0	Connector	1
40	702-2010-19	Tap Screw	5
41	99220-464-1	Set Plate	1
42	99230-221-0	Rear Cover	1
43	99257-069-0	Spring	1
44	99263-289-0	Molded Part	1
45	99257-071-0	Spring	1
46	99260-517-0	Pressed Part	1
47	714-5008-40	Machine Screw	2
48	99260-425-0	Pressed Part	2
49	702-2005-10	Tap Screw	1
50	714-2006-89	Machine Screw	1
51	99230-222-0	Out Escutcheon	1
52	99234-072X0	Dustproof Cover	1
53	99235-066-0	Door Shaft	1
54	99257-020-0	Spring	1
55	99237-323-0	Button	1
56	714-3004-81	Machine Screw	4
57	99251-143-0	Upper Case	2
58	99221-340-0	Guide card	1
59	99263-154-0	Lock Pin	1
60	99263-288-0	Molded Part	1
61	714-2606-80	Machine Screw	1
62	99472-052-0	Tape Mech.	1
63	99263-287-0	Molded Part	2
64	714-3005-80	Machine Screw	6
65	99260-504-0	Mech. Bracket	1
66	80-1417TF7	Tuner ASS'Y	1
67	99101-197-0	Led	1
68	99260-505-0	Pressed Part	1
69	99468-001-0	Frame ASS'Y	1
70	80-1602TA7	Tuner ASS'Y	1
71	714-3008-80	Machine Screw	2
72	99254-102-0	Heat sink	1
73	99102-252-0	Power Ic	1
74	99171-068-0	Ant Receptacle	1
75	99260-503-0	Ic Bracket	1
76	99262-169-0	Rubber Part	5
77	99108-201-3	Main PWB.	1
78	99174-136-0	Connector	1
79	99174-134-0	Connector	1
80	99154-034-0	Choke	1
81	99221-359-0	Label	1
82	99264-235-0	Paper Part	1
83	99220-500-0	Guide Label	1

• CRH300(G)



Ref. No	Order No.	Description	Q'ty
01	99238-119C0	Trim plate	1
02	99230-219-0	Trim Escutcheon	1
03	99230-220C0	Escutcheon	1
04	99260-506-0	Lcd Bracket	1
05	99104-034-0	Lcd Display	1
06	99264-236-0	Paper Part	1
07	99263-286-0	Lcd Illumination	1
08	99263-285-0	Lcd Molded	1
09	99263-292-0	Illumination Part	1
10	99263-294-0	Sponge	1
11	99237-311-0	Button	1
12	99237-313-0	Button	1

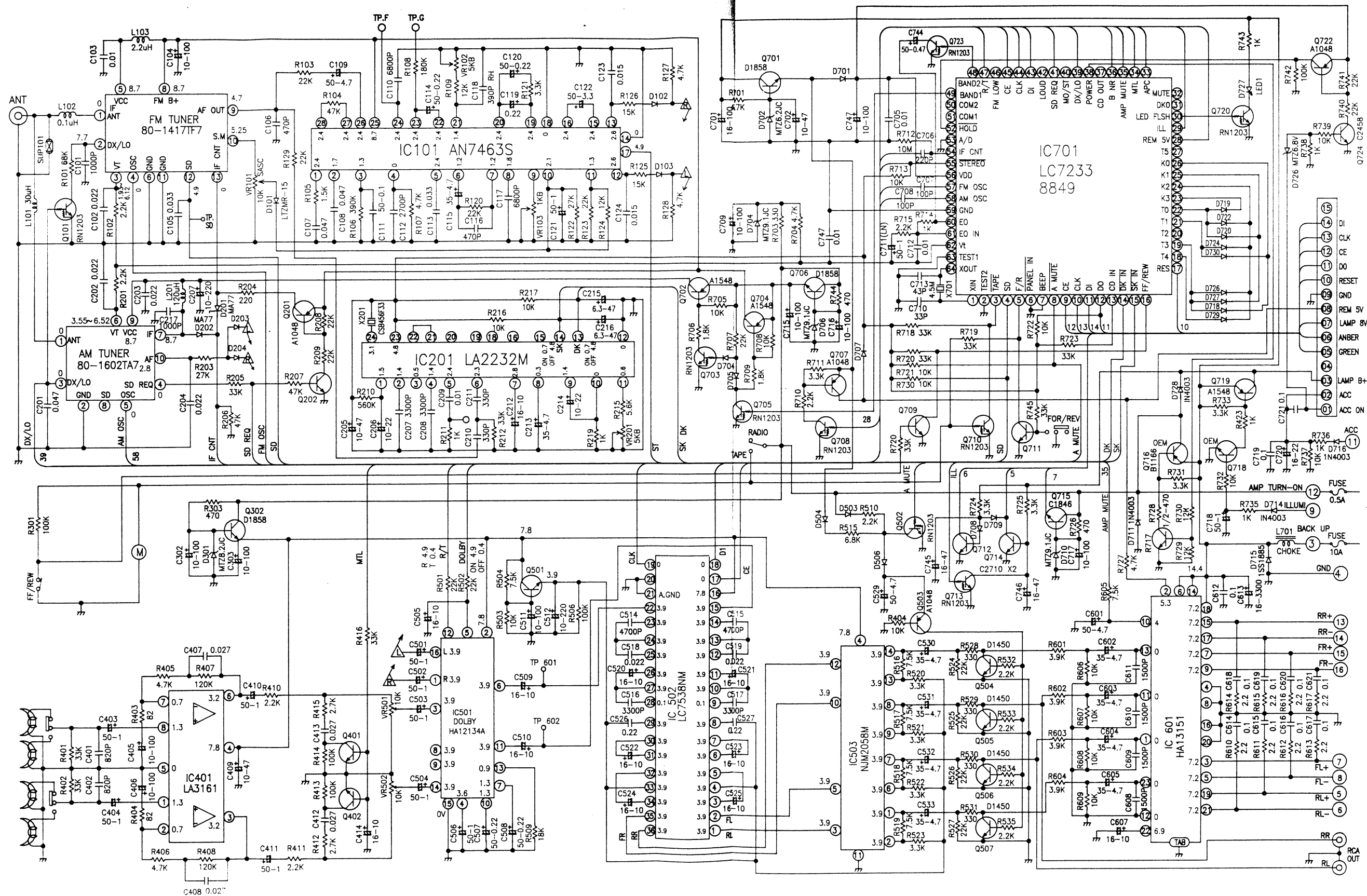
Ref. No	Order No.	Description	Q'ty
13	99237-312-0	Button	1
14	99237-320-0	Button	1
15	99262-163-0	Lamp Holder	5
16	99237-318-0	Button	1
17	99237-310-0	Button ASS'Y	1
18	99237-307-0	Button	1
19	99237-308-0	Button	1
20	99237-306-0	Button	1
21	99237-314-0	Button	1
22	99263-293-0	Sponge	1
23	99263-291-0	Illumination Part	1
24	99237-315-0	Button	1

Ref. No	Order No.	Description	Q'ty
25	99237-317-0	Button	1
26	99237-316-0	Button	1
27	99257-072-0	Spring	2
28	99257-073-0	Spring	1
29	99160-145-0	Push Sw.	1
30	99237-309-0	Button	1
31	99500-021-0	PWB (SW)	1
32	99160-144-0	TACT SW.	5
33	99160-128-2	TACT SW.	5
34	99102-255-0	Ic	1
35	99160-136-2	TACT SW.	6
36	99168-065-0	Pilot Lamp	2

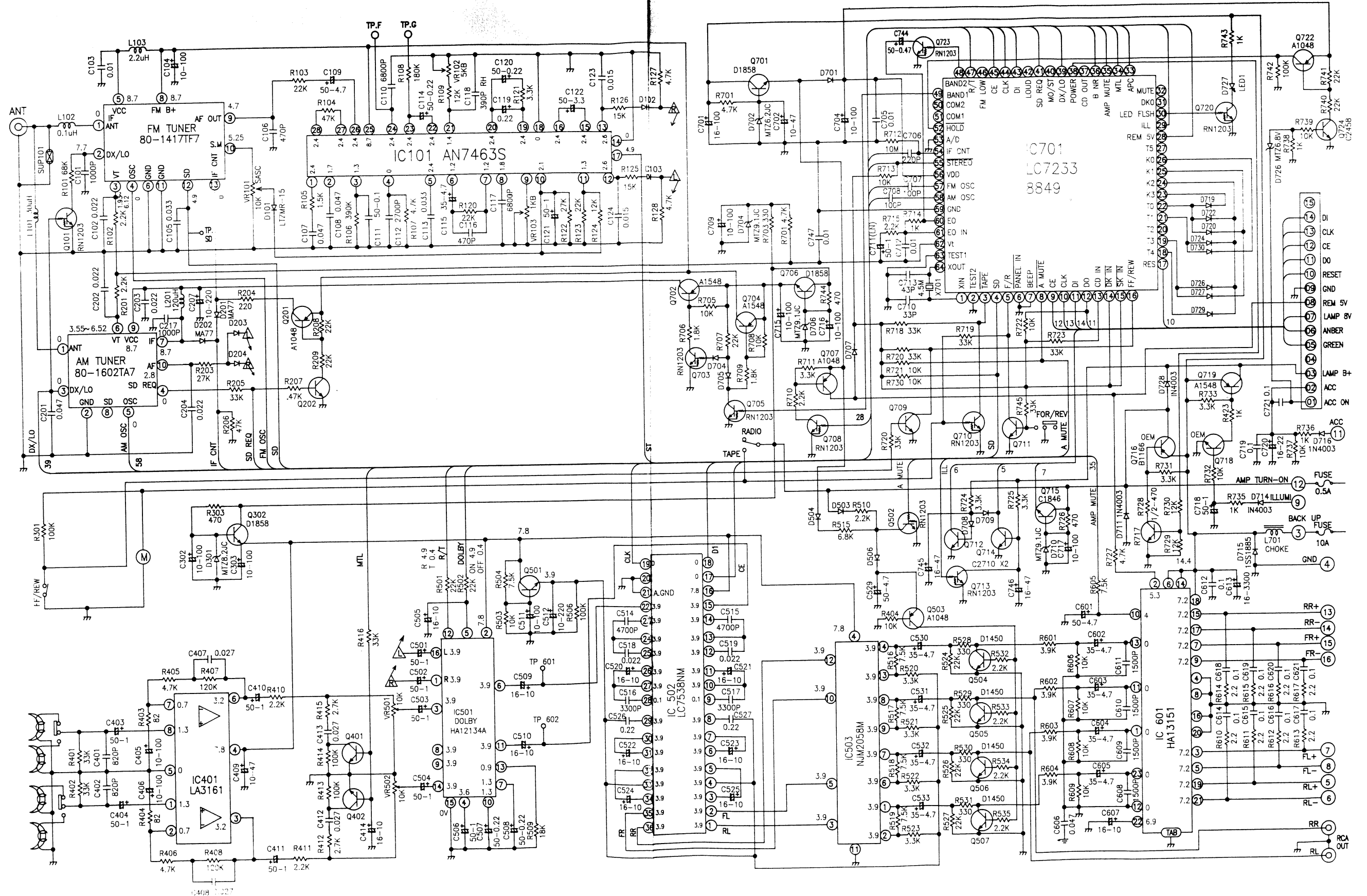
Ref. No	Order No.	Description	Q'ty
37	99168-030-0	Pilot Lamp	3
38	99490-083-0	DCP ASS'Y	1
39	99174-137-0	Connector	1
40	702-2010-19	Tap Screw	5
41	99220-487-1	Set Plate	1
42	99230-221-0	Rear Cover	1
43	99257-069-0	Spring	1
44	99263-289-0	Molded Part	1
45	99257-071-0	Spring	1
46	99260-517-0	Pressed Part	1
47	714-5008-40	Machine Screw	2
48	99260-425-0	Pressed Part	2
49	702-2005-10	Tap Screw	1
50	714-2006-89	Machine Screw	1
51	99230-222-0	Out Escutcheon	1
52	99234-072X0	Dustproof Cover	1
53	99235-066-0	Door Shaft	1
54	99257-020-0	Spring	1
55	99237-323-0	Button	1
56	714-3004-81	Machine Screw	4
57	99251-143-0	Upper Case	2
58	99221-340-0	Guide card	1
59	99263-154-0	Lock Pin	1
60	99263-288-0	Molded Part	1
61	714-2606-80	Machine Screw	1
62	99472-052-0	Tape Mech.	1
63	99263-287-0	Molded Part	2
64	714-3005-80	Machine Screw	6
65	99260-504-0	Mech. Bracket	1
66	80-1417TF7	Tuner ASS'Y	1
67	99101-197-0	Led	1
68	99260-505-0	Pressed Part	1
69	99468-001-0	Frame ASS'Y	1
70	80-1602TA7	Tuner ASS'Y	1
71	714-3008-80	Machine Screw	2
72	99254-102-0	Heat sink	1
73	99102-252-0	Power Ic	1
74	99171-068-0	Ant Receptacle	1
75	99260-503-0	Ic Bracket	1
76	99262-169-0	Rubber Part	5
77	99108-201-3	Main PWB.	1
78	99174-136-0	Connector	1
79	99174-134-0	Connector	1
80	99154-034-0	Choke	1
81	99221-359-0	Label	1
82	99264-235-0	Paper Part	1
83	99220-500-0	Guide Label	1

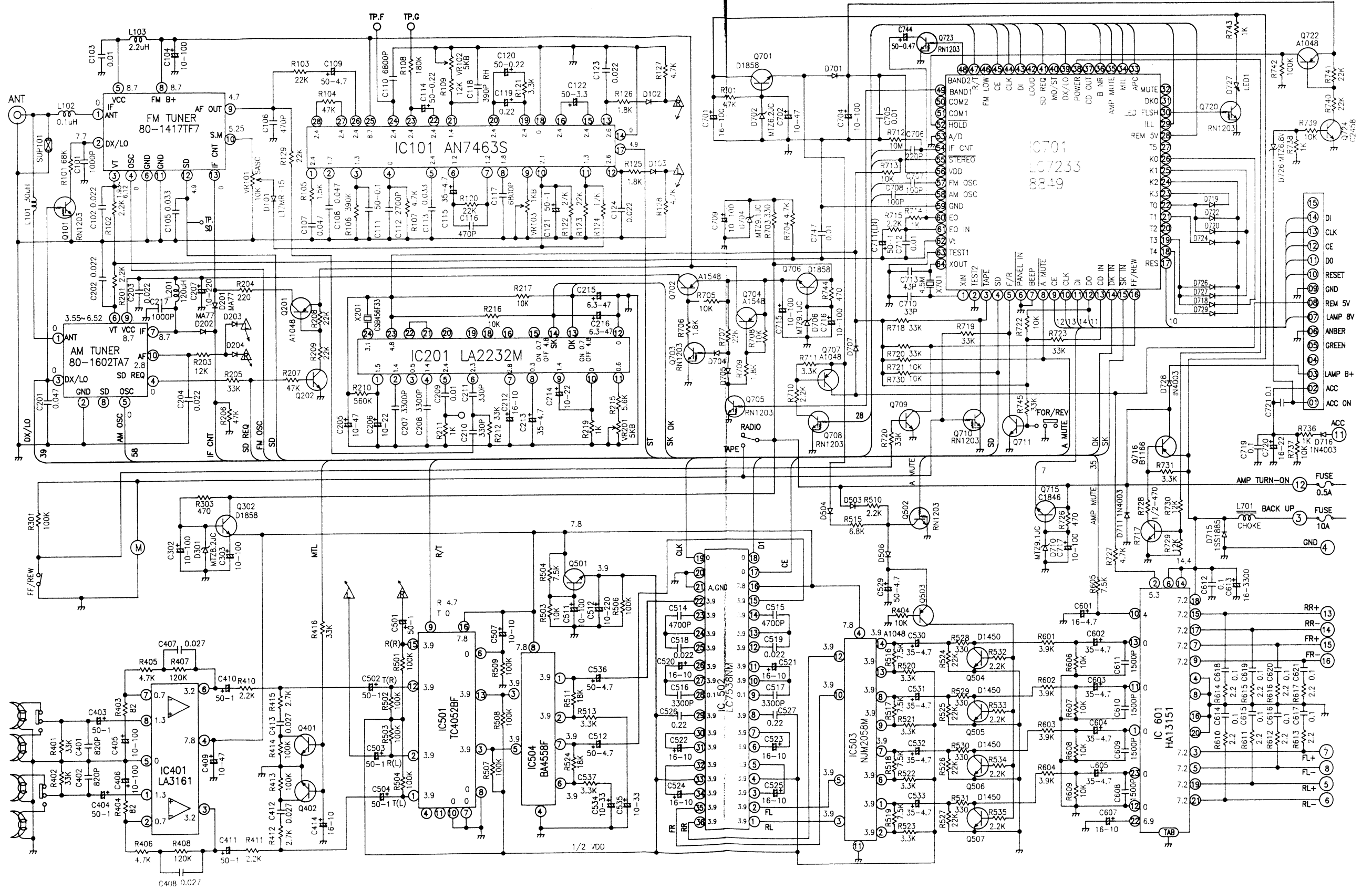
■ CIRCUIT DIAGRAM:

• CRX401

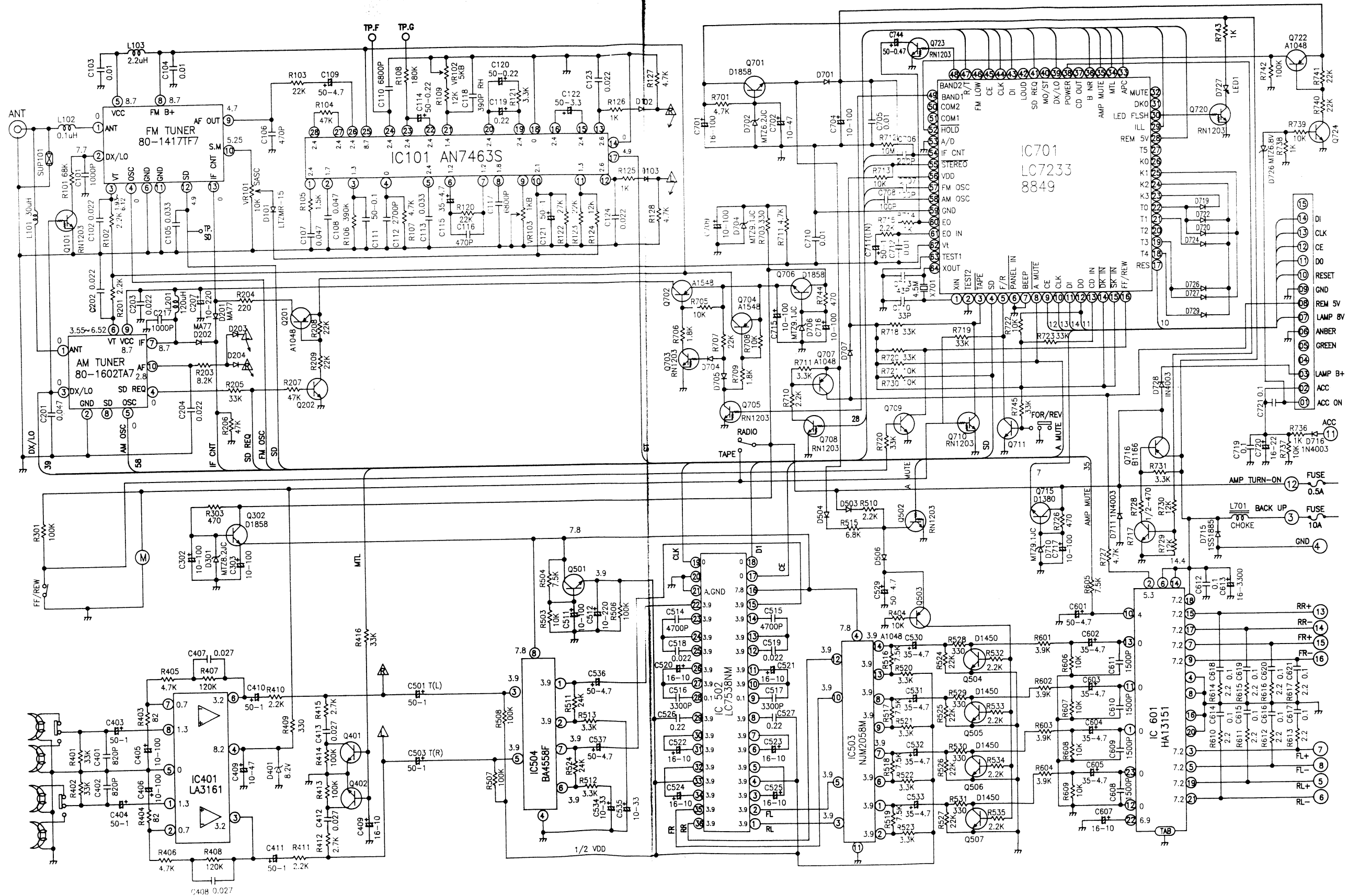


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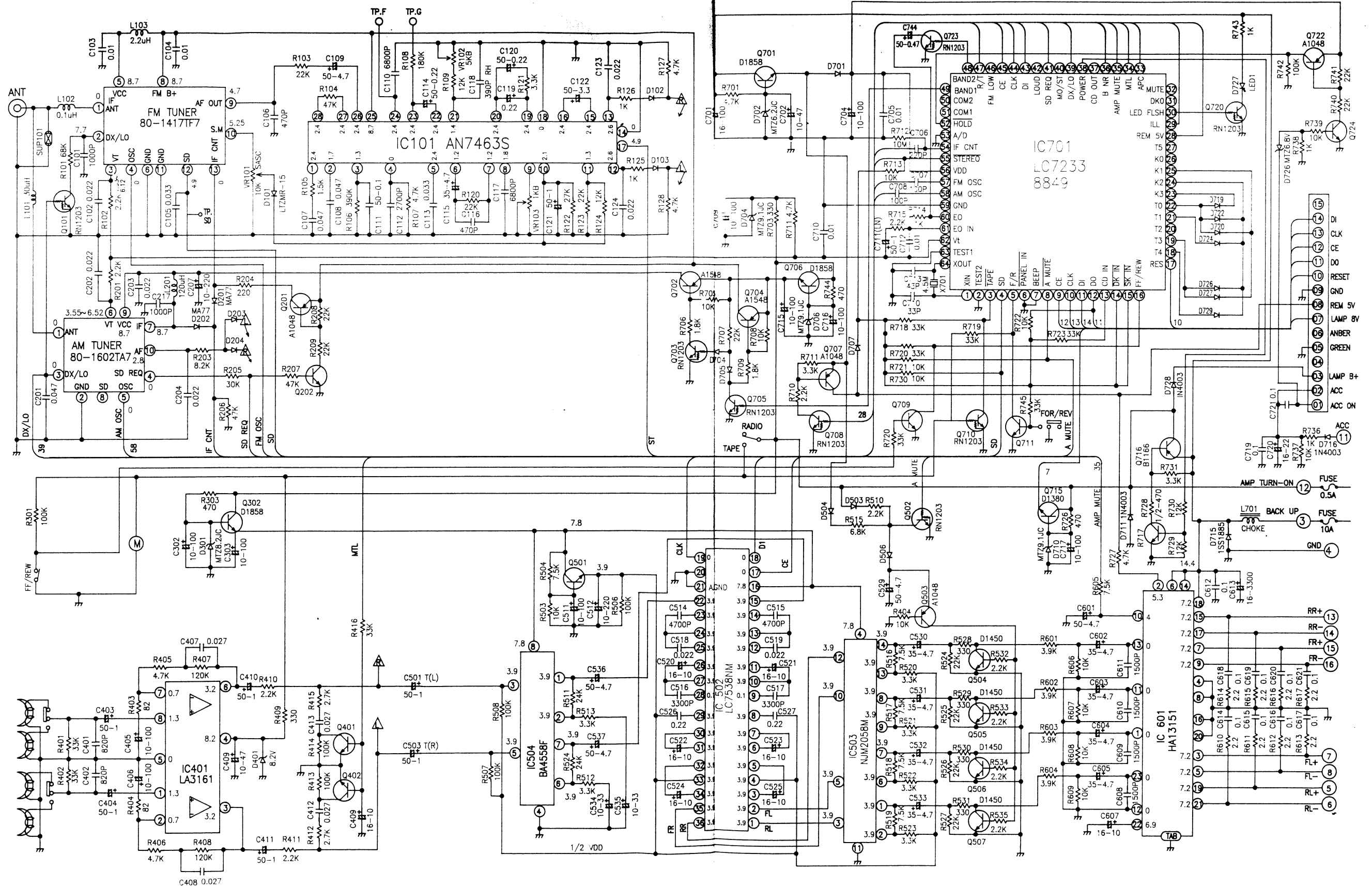




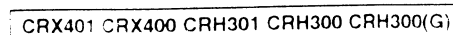
• CRH300



• CRH300(G)



- **CRX401**



■ PART LIST:

• CRX401

MAIN P.W.B.:

Ref. No.	Order No.	Description	Q'ty
IC401	99102-092-0	IC LA3161	1
IC501	99102-237-1	IC HA12134AF	1
IC101	99102-246-0	IC AN7463S	1
IC601	99102-252-0	IC HA13151	1
IC502	99102-254-0	IC LC7538NM	1
IC503	99102-257-0	IC NJM2058M	1
IC701	99102-256-1	IC LC7233N-8849	1
VR101,501,502	99150-280-1	Semi Fixed VR TB067A-0 10KΩ	3
VR103	99150-315-1	Semi Fixed VR TB067A-0 1KΩ	1
VR102	99150-317-1	Semi Fixed VR TB067A-0 5KΩ	1
L701	99154-034-0	CHOKE IMH E1=24	1
L103	99155-095-1	COIL 2R2K	1
L101	99155-108-1	COIL 30μH	1
L102	99155-109-1	COIL R1K	1
L201	99155-121-0	COIL 121K	1
CN102	99174-101-1	Connector 53014-0910 Molex	1
CN103	99174-117-1	Connector 53014-0310 Molex	1
CN104	99174-134-0	Connector 89176-1600 Molex	1
CN101	99174-136-0	Connector CAM-A45(D41-A341)	1
X701	99177-015-0	X-TAL OSC 4.5MHz 20PPM	1
SUP101	99101-141-1	Diode DSP-301N-BS	1
D702	99101-004-3	Zener Diode MTZ 6.2 JC	1
D301	99101-006-3	Zener Diode MTZ 8.2 JC	1
D704,706,710	99101-007-3	Zener Diode MTZ 9.1 JC	3
D101	99101-010-0	LED LTZ MR-15	1
D726	99101-027-2	Zener Diode MTZ 6.8 JB	1
D711,714,716,728	99101-012-0	Diode 1N4003 RL103	4
D715	99101-038-0	Diode 1S1885	1
D201,202	99101-039-0	Pin Diode MA77	2
D102,103,203,204 503,504,506,701 705,707~709 718,719,720,722 724,726,727,729 730,731	99101-025-0	Diode 1SS176,1SS133	22
D727	99101-197-0	LED D3 RED	1
Q201,503,707,722	100-1048-00	Transistor 2SA1048	4
Q702,704,719	100-1548-29	Transistor 2SA1548 Q'R	3
Q716	101-1166-19	Transistor 2SB1166 S'T	1
Q715	102-1846-18	Transistor 2SC1846 R'S	1
Q202,401,402,501 709,711,717,718 721	102-2458-28	Transistor 2SC2458 Q'R	9
Q712,714	102-2710-25	Transistor 2SC2710Y	2
Q504~507	103-1450-00	Transistor 2SD1450 RST	4
Q302,701,706	103-1858-A3	Transistor 2SD1858 Q'R	3
Q101,520,703,705 708,710,713,720 723	19H-1203-00	Transistor RN1203	9
R728	111-4711-81	Carbon Film-R 1/2WS 470Ω JP	1
TP G,TP.F,TP	111-1841-24	Carbon Film-R 1/4WSS 180KΩ JP	3
R610~617	111-2291-91	Carbon Film-R 1/4WSS 2.2Ω JP	8
R703	111-3311-91	Carbon Film-R 1/4WSS 330Ω JP	1

Ref. No.	Order No.	Description	Q'ty
R303,744	111-4711-91	Carbon Film-R 1/4WSS 470Ω JP	2
R735,736,743	111-1021-91	Carbon Film-R 1/4WSS 1KΩ JP	3
R710	111-2221-91	Carbon Film-R 1/4WSS 2.2KΩ JP	1
R520,521,523,731 733	111-3321-91	Carbon Film-R 1/4WSS 3.3KΩ JP	5
R704,727	111-4721-91	Carbon Film-R 1/4WSS 4.7KΩ JP	2
R605	111-7521-91	Carbon Film-R 1/4WSS 7.5KΩ JP	1
R608,713,737	111-1031-91	Carbon Film-R 1/4WSS 10KΩ JP	3
R730	111-1231-91	Carbon Film-R 1/4WSS 12KΩ JP	1
R129,501,502,740	111-2231-91	Carbon Film-R 1/4WSS 22KΩ JP	4
R416	111-3331-91	Carbon Film-R 1/4WSS 33KΩ JP	1
R301	111-1041-91	Carbon Film-R 1/4WSS 100KΩ JP	1
R403,404	116-8201-20	Chip-R 1/4W 82Ω J	2
R204	116-2211-20	Chip-R 1/4W 220Ω J	1
R528,529,531	116-3311-20	Chip-R 1/4W 330Ω J	3
R726	116-4711-20	Chip-R 1/4W 470Ω J	1
R410,411	116-2221-20	Chip-R 1/4W 2.2KΩ J	2
R412,415	116-2721-20	Chip-R 1/4W 2.7KΩ J	2
R121	116-3321-20	Chip-R 1/4W 3.3KΩ J	1
R603	116-3921-20	Chip-R 1/4W 3.9KΩ J	1
R127,128,405,406	116-4721-20	Chip-R 1/4W 4.7KΩ J	4
R607,708,732	116-1031-20	Chip-R 1/4W 10KΩ J	3
R729	116-1231-20	Chip-R 1/4W 12KΩ J	1
R707	116-2231-20	Chip-R 1/4W 22KΩ J	1
R718,719,720	116-3331-20	Chip-R 1/4W 33KΩ J	3
R530	117-3311-20	Chip-R 1/10W 330Ω J	1
R423,714,738	117-1021-20	Chip-R 1/10W 1KΩ J	3
R105	117-1521-20	Chip-R 1/10W 1.5KΩ J	1
R706,709	117-1821-20	Chip-R 1/10W 1.8KΩ J	2
R102,201,510 532~535,715	117-2221-20	Chip-R 1/10W 2.2KΩ J	8
R522,711,724,725	117-3321-20	Chip-R 1/10W 3.3KΩ J	4
R601,602,604	117-3921-20	Chip-R 1/10W 3.9KΩ J	3
R107,701	117-4721-20	Chip-R 1/10W 4.7KΩ J	2
R515	117-6821-20	Chip-R 1/10W 6.8KΩ J	1
R504,516~519	117-7521-20	Chip-R 1/10W 7.5KΩ J	5
R404,503,606,609 705,721,722,730 739	117-1031-20	Chip-R 1/10W 10KΩ J	9
R109,124	117-1231-20	Chip-R 1/10W 12KΩ J	2
R125,126	117-1531-20	Chip-R 1/10W 15KΩ J	2
R509	117-1831-20	Chip-R 1/10W 18KΩ J	1
R103,120,123,208 209,524~527 741	117-2231-20	Chip-R 1/10W 22KΩ J	10
R122,203	117-2731-20	Chip-R 1/10W 27KΩ J	2
R205,401,402,720 723,745	117-3331-20	Chip-R 1/10W 33KΩ J	6
R104,206,207	117-4731-20	Chip-R 1/10W 47KΩ J	3
R101	117-6831-20	Chip-R 1/10W 68KΩ J	1
R413,414,506,742	117-1041-20	Chip-R 1/10W 100KΩ J	4
R407,408	117-1241-20	Chip-R 1/10W 120KΩ J	2
R106	117-3941-20	Chip-R 1/10W 390KΩ J	1

MAIN P.W.B.:

Ref. No.	Order No.	Description	Q'ty
R712	117-1061-20	Chip-R 1/10W 10MΩ JP	1
C104	160-4712-05	Ceramic-C 50V 470PF K B	1
C105	171-1023-06	Ceramic-C 25V 1000PF M SR	1
C808	171-1523-06	Ceramic-C 25V 1500PF M SR	1
C103	171-1033-06	Ceramic-C 25V 0.01μF M SR	1
C102	171-2233-06	Ceramic-C 25V 0.022μF M SR	1
C105	171-3333-06	Ceramic-C 25V 0.033μF M SR	1
C407,408	173-2731-10	Polyester-C 50V 0.027μF J	2
C612,614~621 719,721	173-1042-10	Polyester-C 50V 0.1 F K	11
C710	176-3301-50	Chip-C 50V 33PF J CH	1
C713	176-4301-50	Chip-C 50V 43PF J CH	1
C707,708	176-1011-50	Chip-C 50V 100PF J CH	2
C708	176-2211-50	Chip-C 50V 220PF J CH	1
C118	176-3911-02	Chip-C 50V 390PF J CH	1
C610	177-1522-05	Chip-C 50V 1500PF K Y5P	1
C709	177-1032-05	Chip-C 50V 0.01μF K Y5P	1
C123,124	177-1532-05	Chip-C 50V 0.015μF K Y5P	2
C116	178-4712-05	Chip-C 50V 470PF K Y5P	1
C401,402	178-8212-05	Chip-C 50V 820PF K Y5P	2
C217	178-1022-05	Chip-C 50V 1000PF K Y5P	1
C608,611	178-1522-05	Chip-C 50V 1500PF K Y5P	2
C112	178-2722-05	Chip-C 50V 2700PF K Y5P	1
C514,517	178-3322-05	Chip-C 50V 3300PF K Y5P	2
C514,515	178-4722-05	Chip-C 50V 4700PF K Y5P	2
C110,117	178-6822-05	Chip-C 50V 6800PF K Y5P	2
C712,747	178-1032-05	Chip-C 25V 0.01μF K Y5P	2
C202,203,204,518 519	178-2232-05	Chip-C 25V 0.022μF K Y5P	5
C412,413	178-2732-05	Chip-C 25V 0.027μF K Y5P	2
C113	178-3332-05	Chip-C 25V 0.033μF K Y5P	1
C107,108,201	178-4732-05	Chip-C 25V 0.047μF K Y5P	3
C302,709,715,716	180-1072-22	Electrolytic-C 10V 100μF M RB	4
C701	180-1072-36	Electrolytic-C 16V 100μF M RB	1
C207,512	180-2272-22	Electrolytic-C 10V 220μF M RB	2
C114,119,120	182-2243-62	SS Electrolytic-C 50V 0.22μF M	3
C403,404,410,411 710	182-1053-62	SS Electrolytic-C 50V 1μF M	5
C109,529,601	182-4753-62	SS Electrolytic-C 50V 4.7μF M SSB	3
C414	182-1063-32	SS Electrolytic-C 16V 10μF M	1
C720	182-2263-32	SS Electrolytic-C 16V 22μF M	1
C409,702	182-4763-22	SS Electrolytic-C 10V 47μF M	2
C745,746	182-4763-32	SS Electrolytic-C 16V 47μF M	2
C104,405,406,704 717	182-1073-22	SS Electrolytic-C 10V 100μF M SSA	5
C711	182-1054-63	SS Electrolytic-C 50V 1μF M SSB LN	1
C111	183-1043-62	VS Electrolytic-C 50V 0.1μF M	1
C507,508,526,527	183-2243-62	VS Electrolytic-C 50V 0.22μF M	4
C744	183-4743-62	VS Electrolytic-C 50V 0.47μF M	1
C121,501~504 506	183-1053-62	VS Electrolytic-C 50V 1μF M	6
C122	183-3353-62	VS Electrolytic-C 50V 3.3μF M	1

MAIN P.W.B.:

Ref. No.	Order No.	Description	Q'ty
C115,530~533 602~605	183-4753-62	VS Electrolytic-C 35V 4.7μF M	9
C505,509,510 520~525,607	183-1063-32	VS Electrolytic-C 16V 10μF M	10
C303,511	183-1073-22	VS Electrolytic-C 10V 100μF M	2
C613	99121-545-1	Electrolytic-C 16V 3300μF M	1

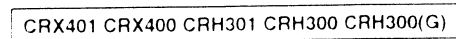
SW P.W.B.:

Ref. No.	Order No.	Description	Q'ty
IC101	99102-255-0	IC LC75853E	1
S102,103,111,112 116,118	99160-128-2	Tact SW SKHVBB3420-CR	6
S108,109,110,113 114,115,117	99160-136-2	Tact SW SKQCB 160G	7
S101,104~107	99160-144-0	Tact SW JPM1110-0211	5
S122	99160-145-0	Push SW ESB-64805-N	1
PL105~110	99168-030-0	Pilot lamp 14V 40mA D3X6.5mm	6
PL101~104	99168-065-0	Pilot Lamp 8V 68mA 0.13CP D3X6.5mm	4
D101~104	99101-025-0	Diode 1SS176,1SS133	4
R101,102,103,108	117-2221-20	Chip-R 1/10W 2.2KΩ J	4
R105,106,107	117-1031-20	Chip-R 1/10W 10KΩ J	3
R104	117-4731-20	Chip-R 1/10W 47KΩ J	1
C101	178-1022-05	Chip-C 50V 1000PF K Y5P	1
C102,103,104	178-1045-06	Chip-C 25V 0.1μF Z Y5P	3

VF P.W.B.:

Ref. No.	Order No.	Description	Q'ty
IC201	99102-253-0	IC LA2232M	1
VR201	99150-256-0	Semi Fixed VR KVSF 639A 5KB	1
X201	99177-028-0	Ceramic Resonator CSB456F33	1
R211	111-1021-94	Carbon Film-R 1/4WSS 1KΩ JP	1
R215	116-5621-20	Chip-R 1/10W 5.6KΩ J	1
R219	117-1021-20	Chip-R 1/10W 1KΩ J	1
R216,217	117-1031-20	Chip-R 1/10W 10KΩ J	2
R202	117-3331-20	Chip-R 1/10W 33KΩ J	1
R210	171-5641-20	Chip-R 1/10W 560KΩ J	1
C210,211	177-3312-05	Chip-C 50V 330PF K Y5P	2
C207,208	178-3322-05	Chip-C 50V 3300PF K Y5P	2
C209	178-1032-05	Chip-C 25V 0.01μF K Y5P	1
C213	183-4753-52	VS Electrolytic-C 35V 4.7μF M	1
C212	183-1063-32	VS Electrolytic-C 16V 10μF M	1
C208,214	183-2263-22	VS Electrolytic-C 10V 22μF M	2
C215,216	183-4763-12	VS Electrolytic-C 6.3V 47μF M	2
C205	183-4763-22	VS Electrolytic-C 10V 47μF M	1

- CRX400



■ PART LIST:

• CRX400

MAIN P.W.B.:

Ref. No.	Order No.	Description	Q'ty
IC401	99102-092-0	IC LA3161	1
IC501	99102-237-1	IC HA12134AF	1
IC101	99102-246-0	IC AN7463S	1
IC601	99102-252-0	IC HA13151	1
IC502	99102-254-0	IC LC7538NM	1
IC503	99102-257-0	IC NJM2058M	1
IC701	99102-256-1	IC LC7233N-8849	1
VR101,501,502	99150-280-1	Semi Fixed VR TB067A-0 10KΩ	3
VR103	99150-315-1	Semi Fixed VR TB067A-0 1KΩ	1
VR102	99150-317-1	Semi Fixed VR TB067A-0 5KΩ	1
L701	99154-034-0	CHOKE IMH E1=24	1
L103	99155-095-1	COIL 2R2K	1
L101	99155-108-1	COIL 30μH	1
L102	99155-109-1	COIL R1K	1
L201	99155-121-0	COIL 121K	1
CN102	99174-101-1	Connector 53014-0910 Molex	1
CN103	99174-117-1	Connector 53014-0310 Molex	1
CN104	99174-134-0	Connector 89178-1800 Molex	1
CN101	99174-136-0	Connector CAM-A45(D41-A341)	1
X701	99177-015-0	X-TAL OSC 4.5MHz 20PPM	1
SUP101	99101-141-1	Diode DSP-301N-BS	1
D702	99101-004-3	Zener Diode MTZ 6.2 JC	1
D301	99101-006-3	Zener Diode MTZ 8.2 JC	1
D704,706,710	99101-007-3	Zener Diode MTZ 9.1 JC	3
D101	99101-010-0	LED LTZ MR-15	1
D726	99101-027-2	Zener Diode MTZ 6.8 JB	1
D711,714,716,728	99101-012-0	Diode 1N4003 RL103	4
D715	99101-038-0	Diode 1S1885	1
D201,202	99101-039-0	Pin Diode MA77	2
D102,103,203,204 503,504,506,701 705,707~709 719,720,722,724 726,727,729~731	99101-025-0	Diode 1SS176,1SS133	21
D727	99101-197-0	LED D3 RED	1
Q201,503,707,722	100-1048-00	Transistor 2SA1048	4
Q702,704,719	100-1548-29	Transistor 2SA1548 Q'R	3
Q716	101-1166-19	Transistor 2SB1166 S'T	1
Q715	102-1846-18	Transistor 2SC1846 R'S	1
Q202,401,402,501 709,711,717,718 721	102-2458-28	Transistor 2SC2458 Q'R	9
Q712,714	102-2710-25	Transistor 2SC2710Y	2
Q504~507	103-1450-00	Transistor 2SD1450 RST	4
Q302,701,706	103-1858-A3	Transistor 2SD1858 Q'R	3
Q101,520,703,705 708,710,713,720 723	19H-1203-00	Transistor RN1203	9
R728	111-4711-81	Carbon Film-R 1/2WS 470Ω JP	1
TP.G,TP.F,TP	111-1841-24	Carbon Film-R 1/4WSS 180KΩ JP	3
R610~617	111-2291-91	Carbon Film-R 1/4WSS 2.2Ω JP	8
R703	111-3311-91	Carbon Film-R 1/4WSS 330Ω JP	1
R303,744	111-4711-91	Carbon Film-R 1/4WSS 470Ω JP	2

Ref. No.	Order No.	Description	Q'ty
R735,736,743	111-1021-91	Carbon Film-R 1/4WSS 1KΩ JP	3
R710	111-2221-91	Carbon Film-R 1/4WSS 2.2KΩ JP	1
R520,521,523,731 733	111-3321-91	Carbon Film-R 1/4WSS 3.3KΩ JP	5
R704,727	111-4721-91	Carbon Film-R 1/4WSS 4.7KΩ JP	2
R805	111-7521-91	Carbon Film-R 1/4WSS 7.5KΩ JP	1
R808,713,737	111-1031-91	Carbon Film-R 1/4WSS 10KΩ JP	3
R730	111-1231-91	Carbon Film-R 1/4WSS 12KΩ JP	1
R501,502,740	111-2231-91	Carbon Film-R 1/4WSS 22KΩ JP	3
R416	111-3331-91	Carbon Film-R 1/4WSS 33KΩ JP	1
R301	111-1041-91	Carbon Film-R 1/4WSS 100KΩ JP	1
R403,404	116-8201-20	Chip-R 1/4W 82Ω J	2
R204	116-2211-20	Chip-R 1/4W 220Ω J	1
R528,529,531	116-3311-20	Chip-R 1/4W 330Ω J	3
R726	116-4711-20	Chip-R 1/4W 470Ω J	1
R410,411	116-2221-20	Chip-R 1/4W 2.2KΩ J	2
R412,415	116-2721-20	Chip-R 1/4W 2.7KΩ J	2
R121	116-3321-20	Chip-R 1/4W 3.3KΩ J	1
R603	116-3921-20	Chip-R 1/4W 3.9KΩ J	1
R127,128,405,406	116-4721-20	Chip-R 1/4W 4.7KΩ J	4
R607,708,732	116-1031-20	Chip-R 1/4W 10KΩ J	3
R729	116-1231-20	Chip-R 1/4W 12KΩ J	1
R707	116-2231-20	Chip-R 1/4W 22KΩ J	1
R718,719,720	116-3331-20	Chip-R 1/4W 33KΩ J	3
R530	117-3311-20	Chip-R 1/10W 330Ω J	1
R423,714,738	117-1021-20	Chip-R 1/10W 1KΩ J	3
R105	117-1521-20	Chip-R 1/10W 1.5KΩ J	1
R706,709	117-1821-20	Chip-R 1/10W 1.8KΩ J	2
R102,201,510 532~535,715	117-2221-20	Chip-R 1/10W 2.2KΩ J	8
R522,711,724,725	117-3321-20	Chip-R 1/10W 3.3KΩ J	4
R601,602,604	117-3921-20	Chip-R 1/10W 3.9KΩ J	3
R107,701	117-4721-20	Chip-R 1/10W 4.7KΩ J	2
R515	117-6821-20	Chip-R 1/10W 6.8KΩ J	1
R504,516~519	117-7521-20	Chip-R 1/10W 7.5KΩ J	5
R404,503,606,609 705,721,722,730 739	117-1031-20	Chip-R 1/10W 10KΩ J	9
R109,124	117-1231-20	Chip-R 1/10W 12KΩ J	2
R125,126	117-1531-20	Chip-R 1/10W 15KΩ J	2
R509	117-1831-20	Chip-R 1/10W 18KΩ J	1
R103,120,123,208 209,524~527 741	117-2231-20	Chip-R 1/10W 22KΩ J	10
R122,203	117-2731-20	Chip-R 1/10W 27KΩ J	2
R205,401,402,720 723,745	117-3331-20	Chip-R 1/10W 33KΩ J	6
R104,206,207	117-4731-20	Chip-R 1/10W 47KΩ J	3
R101	117-6831-20	Chip-R 1/10W 68KΩ J	1
R413,414,506,742	117-1041-20	Chip-R 1/10W 100KΩ J	4
R407,408	117-1241-20	Chip-R 1/10W 120KΩ J	2
R106	117-3941-20	Chip-R 1/10W 390KΩ J	1
R712	117-1061-20	Chip-R 1/10W 10MΩ JP	1

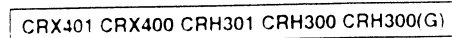
MAIN P.W.B.:

Ref. No.	Order No.	Description	Q'ty
C106	160-4712-05	Ceramic-C 50V 470PF K B	1
C101	171-1023-06	Ceramic-C 25V 1000PF M SR	1
C609	171-1523-06	Ceramic-C 25V 1500PF M SR	1
C103	171-1033-06	Ceramic-C 25V 0.01μF M SR	1
C102	171-2233-06	Ceramic-C 25V 0.022μF M SR	1
C105	171-3333-06	Ceramic-C 25V 0.033μF M SR	1
C407,408	173-2731-10	Polyester-C 50V 0.027μF J	2
C612,614~621 719,721	173-1042-10	Polyester-C 50V 0.1 F K	11
C710	176-3301-50	Chip-C 50V 33PF J CH	1
C713	176-4301-50	Chip-C 50V 43PF J CH	1
C707,708	176-1011-50	Chip-C 50V 100PF J CH	2
C706	176-2211-50	Chip-C 50V 220PF J CH	1
C118	176-3911-02	Chip-C 50V 390PF J CH	1
C610	177-1522-05	Chip-C 50V 1500PF K Y5P	1
C705	177-1032-05	Chip-C 50V 0.01μF K Y5P	1
C123,124	177-1532-05	Chip-C 50V 0.015μF K Y5P	2
C116	178-4712-05	Chip-C 50V 470PF K Y5P	1
C401,402	178-8212-05	Chip-C 50V 820PF K Y5P	2
C217	178-1022-05	Chip-C 50V 1000PF K Y5P	1
C606,611	178-1522-05	Chip-C 50V 1500PF K Y5P	2
C112	178-2722-05	Chip-C 50V 2700PF K Y5P	1
C516,517	178-3322-05	Chip-C 50V 3300PF K Y5P	2
C514,515	178-4722-05	Chip-C 50V 4700PF K Y5P	2
C110,117	178-6822-05	Chip-C 50V 6800PF K Y5P	2
C712,747	178-1032-05	Chip-C 25V 0.01μF K Y5P	2
C202,203,204,518 519	178-2232-05	Chip-C 25V 0.022μF K Y5P	5
C412,413	178-2732-05	Chip-C 25V 0.027μF K Y5P	2
C113	178-3332-05	Chip-C 25V 0.033μF K Y5P	1
C107,108,201	178-4732-05	Chip-C 25V 0.047μF K Y5P	3
C302,709,715,716	180-1072-22	Electrolytic-C 10V 100μF M RB	4
C701	180-1072-36	Electrolytic-C 16V 100μF M RB	1
C207,512	180-2272-22	Electrolytic-C 10V 220μF M RB	2
C114,119,120	182-2243-62	SS Electrolytic-C 50V 0.22μF M	3
C403,404,410,411 718	182-1053-62	SS Electrolytic-C 50V 1μF M	5
C109,529,601	182-4753-62	SS Electrolytic-C 50V 4.7μF M SSB	3
C414	182-1063-32	SS Electrolytic-C 16V 10μF M	1
C720	182-2263-32	SS Electrolytic-C 16V 22μF M	1
C409,702	182-4763-22	SS Electrolytic-C 10V 47μF M	2
C745,746	182-4763-32	SS Electrolytic-C 16V 47μF M	2
C104,405,406,704 717	182-1073-22	SS Electrolytic-C 10V 100μF M SSA	5
C711	182-1054-63	SS Electrolytic-C 50V 1μF M SSB LN	1
C111	183-1043-62	VS Electrolytic-C 50V 0.1μF M	1
C507,508,526,527	183-2243-62	VS Electrolytic-C 50V 0.22μF M	4
C744	183-4743-62	VS Electrolytic-C 50V 0.47μF M	1
C121,501~504 506	183-1053-62	VS Electrolytic-C 50V 1μF M	6
C122	183-3353-62	VS Electrolytic-C 50V 3.3μF M	1
C115,530~533 602~605	183-4753-62	VS Electrolytic-C 35V 4.7μF M	9

SW P.W.B.:

Ref. No.	Order No.	Description	Q'ty
C505,509,510 520~525,607	183-1063-32	VS Electrolytic-C 16V 10μF M	10
C303,511	183-1073-22	VS Electrolytic-C 10V 100μF M	2
C613	99121-545-1	Electrolytic-C 16V 3300μF M	1
IC101	99102-255-0	IC LC75853E	1
S102,103,112,116 118	99160-128-2	Tact SW SKHVB3420-CR	5
S108,109,110,111 113,114,115	99160-136-2	Tact SW SKQCAB 160G	7
S101,104~107	99160-144-0	Tact SW JPM1110-0211	5
S122	99160-145-0	Push SW ESB-64805-N	1
PL105~110	99168-030-0	Pilot lamp 14V 40mA D3x6.5mm	6
PL101~104	99168-065-0	Pilot Lamp 8V 68mA 0.13CP D3x6.5mm	4
D101~104	99101-025-0	Diode 1SS176,1SS133	4
R101,102,103,108	117-2221-20	Chip-R 1/10W 2.2KΩ J	4
R105,106,107	117-1031-20	Chip-R 1/10W 10KΩ J	3
R104	117-4731-20	Chip-R 1/10W 47KΩ J	1
C101	178-1022-05	Chip-C 50V 1000PF K Y5P	1
C102,103,104	178-1045-06	Chip-C 25V 0.1μF Z Y5P	3

- **CRH301**



■ PART LIST:

• CRH301

MAIN P.W.B.:

Ref. No.	Order No.	Description	Q'ty
IC401	99102-092-0	IC LA3161	1
IC501	99102-258-0	IC TC4052BF EL	1
IC101	99102-246-0	IC AN7483S	1
IC801	99102-252-0	IC HA13151	1
IC502	99102-254-0	IC LC7538NM	1
IC503	99102-257-0	IC NJM2058M	1
IC701	99102-256-1	IC LC7233N-8849	1
IC504	99102-259-0	IC BA4558F E2	1
VR101	99150-280-1	Semi Fixed VR TB067A-0 10KΩ	1
VR103	99150-315-1	Semi Fixed VR TB067A-0 1KΩ	1
VR102	99150-317-1	Semi Fixed VR TB067A-0 5KΩ	1
L701	99154-034-0	CHOKE DMH E1=24	1
L103	99155-095-1	COIL 2R2K	1
L101	99155-108-1	COIL 30μH	1
L102	99155-109-1	COIL R1K	1
L201	99155-120-0	COIL 121K	1
CN102	99174-101-1	Connector 53014-0910 Molex	1
CN103	99174-117-1	Connector 53014-0310 Molex	1
CN104	99174-134-0	Connector 89178-1600 Molex	1
CN101	99174-136-0	Connector CAM-A45(D41-A341)	1
X701	99177-015-0	X-TAL OSC 4.5MHz 20PPM	1
SUP101	99101-141-1	Diode DSP-301N-BS	1
D702	99101-004-3	Zener Diode MTZ 6.2 JC	1
D301	99101-006-3	Zener Diode MTZ 8.2 JC	1
D704,706,710	99101-007-3	Zener Diode MTZ 9.1 JC	3
D101	99101-010-0	LED LTZ MR-15	1
D726	99101-027-2	Zener Diode MTZ 6.8 JB	1
D711,716,728	99101-012-0	Diode 1N4003 RL103	3
D715	99101-038-0	Diode 1S1885	1
D201,202	99101-039-0	Pin Diode MA77	2
D102,103,203,204 503,504,506,701 705,707,719,720 722,724,726,727 729,731	99101-025-0	Diode 1SS176,1SS133	18
D727	99101-197-0	LED D3 RED	1
Q201,503,707,722	100-1048-00	Transistor 2SA1048	4
Q702,704	100-1548-29	Transistor 2SA1548 Q'R	2
Q716	101-1166-19	Transistor 2SB1163 S'T	1
Q715	102-1846-18	Transistor 2SC1846 R'S	1
Q202,401,402,501 709,711,717,721	102-2458-28	Transistor 2SC2458 Q'R	8
Q504~507	103-1450-00	Transistor 2SD1450 RST	4
Q302,701,706	103-1858-A3	Transistor 2SD1858 Q'R	3
Q101,520,703,705 708,710,720,723	19H-1203-00	Transistor RN1203	8
R728	111-4711-81	Carbon Film-R 1/2WS 470Ω JP	1
TP.G.TP.F,TP	111-1841-24	Carbon Film-R 1/4WSS 180KΩ JP	3
R610~617	111-2291-91	Carbon Film-R 1/4WSS 2.2Ω JP	8
R703	111-3311-91	Carbon Film-R 1/4WSS 330Ω JP	1
R303,744	111-4711-91	Carbon Film-R 1/4WSS 470Ω JP	2
R736,743	111-1021-91	Carbon Film-R 1/4WSS 1KΩ JP	2

Ref. No.	Order No.	Description	Q'ty
R710	111-2221-91	Carbon Film-R 1/4WSS 2.2KΩ JP	1
R520,521,523,731	111-3321-91	Carbon Film-R 1/4WSS 3.3KΩ JP	4
R704,727	111-4721-91	Carbon Film-R 1/4WSS 4.7KΩ JP	2
R805	111-7521-91	Carbon Film-R 1/4WSS 7.5KΩ JP	1
R608,713,737	111-1031-91	Carbon Film-R 1/4WSS 10KΩ JP	3
R730	111-1231-91	Carbon Film-R 1/4WSS 12KΩ JP	1
R129,740	111-2231-91	Carbon Film-R 1/4WSS 22KΩ JP	2
R416	111-3331-91	Carbon Film-R 1/4WSS 33KΩ JP	1
R301	111-1041-91	Carbon Film-R 1/4WSS 100KΩ JP	1
R403,404	116-8201-20	Chip-R 1/4W 82Ω J	2
R204	116-2211-20	Chip-R 1/4W 220Ω J	1
R528,529,531	116-3311-20	Chip-R 1/4W 330Ω J	3
R726	116-4711-20	Chip-R 1/4W 470Ω J	1
R410,411	116-2221-20	Chip-R 1/4W 2.2KΩ J	2
R412,415	116-2721-20	Chip-R 1/4W 2.7KΩ J	2
R121	116-3321-20	Chip-R 1/4W 3.3KΩ J	1
R603	116-3921-20	Chip-R 1/4W 3.9KΩ J	1
R127,128,405,408	116-4721-20	Chip-R 1/4W 4.7KΩ J	4
R607,708	116-1031-20	Chip-R 1/4W 10KΩ J	2
R729	116-1231-20	Chip-R 1/4W 12KΩ J	1
R707	116-2231-20	Chip-R 1/4W 22KΩ J	1
R718,719,720	116-3331-20	Chip-R 1/4W 33KΩ J	3
R501,503,504,508	116-1041-20	Chip-R 1/4W 100KΩ J	4
R530	117-3311-20	Chip-R 1/10W 330Ω J	1
R714,738	117-1021-20	Chip-R 1/10W 1KΩ J	2
R105	117-1521-20	Chip-R 1/10W 1.5KΩ J	1
R125,126,706,709	117-1821-20	Chip-R 1/10W 1.8KΩ J	4
R102,201,510 532~535,715	117-2221-20	Chip-R 1/10W 2.2KΩ J	8
R512,513,522,711	117-3321-20	Chip-R 1/10W 3.3KΩ J	4
R601,602,604	117-3921-20	Chip-R 1/10W 3.9KΩ J	3
R107,701	117-4721-20	Chip-R 1/10W 4.7KΩ J	2
R515	117-6821-20	Chip-R 1/10W 6.8KΩ J	1
R504,516~519	117-7521-20	Chip-R 1/10W 7.5KΩ J	5
R404,503,606,609 705,721,722,730 739	117-1031-20	Chip-R 1/10W 10KΩ J	9
R109,124,203	117-1231-20	Chip-R 1/10W 12KΩ J	3
R511,514	117-1831-20	Chip-R 1/10W 18KΩ J	2
R103,120,123,208 209,524~527 741	117-2231-20	Chip-R 1/10W 22KΩ J	10
R122	117-2731-20	Chip-R 1/10W 27KΩ J	1
R205,401,402,720 723,745	117-3331-20	Chip-R 1/10W 33KΩ J	6
R104,206,207	117-4731-20	Chip-R 1/10W 47KΩ J	3
R101	117-6831-20	Chip-R 1/10W 68KΩ J	1
R413,414,502,506 507,509,742	117-1041-20	Chip-R 1/10W 100KΩ J	7
R407,408	117-1241-20	Chip-R 1/10W 120KΩ J	2
R106	117-3941-20	Chip-R 1/10W 390KΩ J	1
R712	117-1061-20	Chip-R 1/10W 10MΩ JP	1
C106	160-4712-05	Ceramic-C 50V 470PF K B	1
C101	171-1023-06	Ceramic-C 25V 1000PF M SR	1

MAIN P.W.B.:

Ref. No.	Order No.	Description	Q'ty
C809	171-1523-08	Ceramic-C 25V 1500PF M SR	1
C103	171-1033-06	Ceramic-C 25V 0.01μF M SR	1
C102	171-2233-06	Ceramic-C 25V 0.022μF M SR	1
C105	171-3333-06	Ceramic-C 25V 0.033μF M SR	1
C407,408	173-2731-10	Polyester-C 50V 0.027μF J	2
C612,614~621 719,721	173-1042-10	Polyester-C 50V 0.1 F K	11
C710	176-3301-50	Chip-C 50V 33PF J CH	1
C713	176-4301-50	Chip-C 50V 43PF J CH	1
C707,708	176-1011-50	Chip-C 50V 100PF J CH	2
C706	176-2211-50	Chip-C 50V 220PF J CH	1
C108	176-3911-02	Chip-C 50V 390PF J CH	1
C610	177-1522-05	Chip-C 50V 1500PF K Y5P	1
C705	177-1032-05	Chip-C 50V 0.01μF K Y5P	1
C123,124	177-2232-05	Chip-C 50V 0.022μF K Y5P	2
C106	178-4712-05	Chip-C 50V 470PF K Y5P	1
C401,402	178-8212-05	Chip-C 50V 820PF K Y5P	2
C207	178-1022-05	Chip-C 50V 1000PF K Y5P	1
C608,611	178-1522-05	Chip-C 50V 1500PF K Y5P	2
C102	178-2722-05	Chip-C 50V 2700PF K Y5P	1
C506,517	178-3322-05	Chip-C 50V 3300PF K Y5P	2
C504,515	178-4722-05	Chip-C 50V 4700PF K Y5P	2
C100,117	178-6822-05	Chip-C 50V 6800PF K Y5P	2
C712,747	178-1032-05	Chip-C 25V 0.01μF K Y5P	2
C202,203,204,518 519	178-2232-05	Chip-C 25V 0.022μF K Y5P	5
C412,413	178-2732-05	Chip-C 25V 0.027μF K Y5P	2
C103	178-3332-05	Chip-C 25V 0.033μF K Y5P	1
C107,108,201	178-4732-05	Chip-C 25V 0.047μF K Y5P	3
C302,709,715,716	180-1072-22	Electrolytic-C 10V 100μF M RB	4
C701	180-1072-36	Electrolytic-C 16V 100μF M RB	1
C207,512	180-2272-22	Electrolytic-C 10V 220μF M RB	2
C104,119,120	182-2243-82	SS Electrolytic-C 50V 0.22μF M	3
C403,404,410,411	182-1053-82	SS Electrolytic-C 50V 1μF M	4
C109,529,601	182-4753-82	SS Electrolytic-C 50V 4.7μF M SSB	3
C404	182-1063-32	SS Electrolytic-C 16V 10μF M	1
C504	182-3363-23	SS Electrolytic-C 10V 33μF M SSB	1
C700	182-2263-32	SS Electrolytic-C 16V 22μF M	1
C409,702	182-4763-22	SS Electrolytic-C 10V 47μF M	2
C104,405,406,704 717	182-1073-22	SS Electrolytic-C 10V 100μF M SSA	5
C711	182-1054-83	SS Electrolytic-C 50V 1μF M SSB LN	1
C101	183-1043-62	VS Electrolytic-C 50V 0.1μF M	1
C501,527	183-2243-82	VS Electrolytic-C 50V 0.22μF M	2
C704	183-4743-82	VS Electrolytic-C 50V 0.47μF M	1
C121,501~504	183-1053-62	VS Electrolytic-C 50V 1μF M	5
C122	183-3353-62	VS Electrolytic-C 50V 3.3μF M	1
C115,536,537 580~533 602~605	183-4753-62	VS Electrolytic-C 35V 4.7μF M	11
C507 520~525,607	183-1063-32	VS Electrolytic-C 16V 10μF M	8
C535	183-3363-22	VS Electrolytic-C 10V 33μF M	1

MAIN P.W.B.:

Ref. No.	Order No.	Description	Q'ty
C303,511	183-1073-22	VS Electrolytic-C 10V 100μF M	2
C613	99121-545-1	Electrolytic-C 16V 3300μF M	1

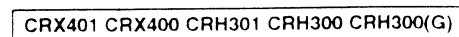
SW P.W.B.:

Ref. No.	Order No.	Description	Q'ty
IC101	99102-255-0	IC LC75853E	1
S102,103,112 116,118	99160-128-2	Tact SW SKHVB3420-CR	5
S108,109,110,113 114,115,117	99160-136-2	Tact SW SKQCA160G	7
S101,104~107	99160-144-0	Tact SW JPM1110-0211	5
S122	99160-145-0	Push SW ESB-64805-N	1
PL106~110	99168-030-0	Pilot lamp 14V 40mA D3X6.5mm	3
PL101,102	99168-065-0	Pilot Lamp 8V 68mA 0.13CP D3X6.5mm	2
D101,102	99101-025-0	Diode 1SS176,1SS133	2
R101,102,103,108	117-2221-20	Chip-R 1/10W 2.2KΩ J	4
R105,106,107	117-1031-20	Chip-R 1/10W 10KΩ J	3
R104	117-4731-20	Chip-R 1/10W 47KΩ J	1
C101	178-1022-05	Chip-C 50V 1000PF K Y5P	1
C102,103,104	178-1045-06	Chip-C 25V 0.1μF Z Y5P	3

VF P.W.B.:

Ref. No.	Order No.	Description	Q'ty
IC201	99102-253-0	IC LA2232M	1
VR201	99150-256-0	Semi Fixed VR KVSF 639A 5KB	1
X201	99177-028-0	Ceramic Resonator CSB456F33	1
R211	111-1021-94	Carbon Film-R 1/4WSS 1KΩ JP	1
R215	116-5621-20	Chip-R 1/10W 5.6KΩ J	1
R219	117-1021-20	Chip-R 1/10W 1KΩ J	1
R216,217	117-1031-20	Chip-R 1/10W 10KΩ J	2
R202	117-3331-20	Chip-R 1/10W 33KΩ J	1
R210	171-5641-20	Chip-R 1/10W 560KΩ J	1
C210,211	177-3312-05	Chip-C 50V 330PF K Y5P	2
C207,208	178-3322-05	Chip-C 50V 3300PF K Y5P	2
C209	178-1032-05	Chip-C 25V 0.01μF K Y5P	1
C213	183-4753-52	VS Electrolytic-C 35V 4.7μF M	1
C212	183-1063-32	VS Electrolytic-C 16V 10μF M	1
C206,214	183-2263-22	VS Electrolytic-C 10V 22μF M	2
C215,216	183-4763-12	VS Electrolytic-C 6.3V 47μF M	2
C205	183-4763-22	VS Electrolytic-C 10V 47μF M	1

- CRH300/CRH300(G)



■ PART LIST:

• CRH300/CRH300(G)

MAIN P.W.B.:

Ref. No.	Order No.	Description	Q'ty
IC401	99102-092-0	IC LA3161	1
IC101	99102-246-0	IC AN7463S	1
IC801	99102-252-0	IC HA13151	1
IC502	99102-254-0	IC LC7538NM	1
IC503	99102-257-0	IC NJM2058M	1
IC701	99102-256-1	IC LC7233N-8849	1
IC504	99102-259-0	IC BA4558F E2	1
VR101	99150-280-1	Semi Fixed VR TB067A-0 10KΩ	1
VR103	99150-315-1	Semi Fixed VR TB067A-0 1KΩ	1
VR102	99150-317-1	Semi Fixed VR TB067A-0 5KΩ	1
L701	99154-034-0	CHOKO LMH E1=24	1
L103	99155-095-1	COIL 2R2K	1
L101	99155-108-1	COIL 30μH	1
L102	99155-109-1	COIL R1K	1
L201	99155-120-0	COIL 121K	1
CN102	99174-101-1	Connector 53014-0910 Molex	1
CN103	99174-117-1	Connector 53014-0310 Molex	1
CN104	99174-134-0	Connector 89178-1600 Molex	1
CN101	99174-136-0	Connector CAM-A45(D41-A341)	1
X701	99177-015-0	X-TAL OSC 4.5MHz 20PPM	1
SUP101	99101-141-1	Diode DSP-301N-BS	1
D702	99101-004-3	Zener Diode MTZ 6.2 JC	1
D301,401	99101-006-3	Zener Diode MTZ 8.2 JC	2
D704,706,710	99101-007-3	Zener Diode MTZ 9.1 JC	3
D101	99101-010-0	LED LTZ MR-15	1
D726	99101-027-2	Zener Diode MTZ 6.8 JB	1
D711,716,728	99101-012-0	Diode 1N4003 RL103	3
D715	99101-038-0	Diode 1S1885	1
D201,202	99101-039-0	Pin Diode MA77	2
D102,103,203,204 503,504,506,701 705,707,719,720 722,724,726,727 729,731	99101-025-0	Diode 1SS176,1SS133	18
D727	99101-197-0	LED D3 RED	1
Q201,503,707,722	100-1048-00	Transistor 2SA1048	4
Q702,704	100-1548-29	Transistor 2SA1548 Q'R	2
Q716	101-1166-19	Transistor 2SB1166 S'T	1
Q715	102-1846-18	Transistor 2SC1846 R'S	1
Q202,401,402,501 709,711,717,721	102-2458-28	Transistor 2SC2458 Q'R	8
Q504~507	103-1450-00	Transistor 2SD1450 RST	4
Q302,701,706	103-1858-A3	Transistor 2SD1858 Q'R	3
Q101,520,703,705 708,710,720,723	19H-1203-00	Transistor RN1203	8
R728	111-4711-81	Carbon Film-R 1/2WS 470Ω JP	1
TP G.TP.F.TP	111-1841-24	Carbon Film-R 1/4WSS 180KΩ JP	3
R610~617	111-2291-91	Carbon Film-R 1/4WSS 2.2Ω JP	8
R409,703	111-3311-91	Carbon Film-R 1/4WSS 330Ω JP	2
R303,744	111-4711-91	Carbon Film-R 1/4WSS 470Ω JP	2
R736,743	111-1021-91	Carbon Film-R 1/4WSS 1KΩ JP	2
R710	111-2221-91	Carbon Film-R 1/4WSS 2.2KΩ JP	1

Ref. No.	Order No.	Description	Q'ty
R520,521,523,731	111-3321-91	Carbon Film-R 1/4WSS 3.3KΩ JP	4
R704,727	111-4721-91	Carbon Film-R 1/4WSS 4.7KΩ JP	2
R805	111-7521-91	Carbon Film-R 1/4WSS 7.5KΩ JP	1
R608,713,737	111-1031-91	Carbon Film-R 1/4WSS 10KΩ JP	3
R730	111-1231-91	Carbon Film-R 1/4WSS 12KΩ JP	1
R740	111-2231-91	Carbon Film-R 1/4WSS 22KΩ JP	1
R416	111-3331-91	Carbon Film-R 1/4WSS 33KΩ JP	1
R301	111-1041-91	Carbon Film-R 1/4WSS 100KΩ JP	1
R403,404	116-8201-20	Chip-R 1/4W 82Ω J	2
R204	116-2211-20	Chip-R 1/4W 220Ω J	1
R528,529,531	116-3311-20	Chip-R 1/4W 330Ω J	3
R726	116-4711-20	Chip-R 1/4W 470Ω J	1
R410,411	116-2221-20	Chip-R 1/4W 2.2KΩ J	2
R412,415	116-2721-20	Chip-R 1/4W 2.7KΩ J	2
R121	116-3321-20	Chip-R 1/4W 3.3KΩ J	1
R603	116-3921-20	Chip-R 1/4W 3.9KΩ J	1
R127,128,405,406	116-4721-20	Chip-R 1/4W 4.7KΩ J	4
R607,708	116-1031-20	Chip-R 1/4W 10KΩ J	2
R729	116-1231-20	Chip-R 1/4W 12KΩ J	1
R707	116-2231-20	Chip-R 1/4W 22KΩ J	1
R718,719,720	116-3331-20	Chip-R 1/4W 33KΩ J	3
R503,508	116-1041-20	Chip-R 1/4W 100KΩ J	2
R530	117-3311-20	Chip-R 1/10W 330Ω J	1
R125,126,714,738	117-1021-20	Chip-R 1/10W 1KΩ J	4
R105	117-1521-20	Chip-R 1/10W 1.5KΩ J	1
R706,709	117-1821-20	Chip-R 1/10W 1.8KΩ J	2
R102,201,510 532~535,715	117-2221-20	Chip-R 1/10W 2.2KΩ J	8
R512,513,522,711	117-3321-20	Chip-R 1/10W 3.3KΩ J	4
R601,602,604	117-3921-20	Chip-R 1/10W 3.9KΩ J	3
R107,701	117-4721-20	Chip-R 1/10W 4.7KΩ J	2
R515	117-6821-20	Chip-R 1/10W 6.8KΩ J	1
R504,516~519	117-7521-20	Chip-R 1/10W 7.5KΩ J	5
R203	117-8221-20	Chip-R 1/10W 8.2KΩ J	1
R404,503,606,609 705,721,722,730 739	117-1031-20	Chip-R 1/10W 10KΩ J	9
R109,124	117-1231-20	Chip-R 1/10W 12KΩ J	2
R103,120,123,208 209,524~527 741	117-2231-20	Chip-R 1/10W 22KΩ J	10
R511,524	117-2731-20	Chip-R 1/10W 24KΩ J	2
R122	117-2731-20	Chip-R 1/10W 27KΩ J	1
R205,401,402,720 723,745	117-3331-20	Chip-R 1/10W 33KΩ J	6
R104,206,207	117-4731-20	Chip-R 1/10W 47KΩ J	3
R101	117-6831-20	Chip-R 1/10W 68KΩ J	1
R413,414,506,742	117-1041-20	Chip-R 1/10W 100KΩ J	4
R407,408	117-1241-20	Chip-R 1/10W 120KΩ J	2
R106	117-3941-20	Chip-R 1/10W 390KΩ J	1
R712	117-1061-20	Chip-R 1/10W 10MΩ JP	1
C108	180-4712-05	Ceramic-C 50V 470PF K B	1
C101	171-1023-06	Ceramic-C 25V 1000PF M SR	1

MAIN P.W.B.:

Ref. No.	Order No.	Description	Q'ty
C699	171-1523-06	Ceramic-C 25V 1500PF M SR	1
C103	171-1033-06	Ceramic-C 25V 0.01μF M SR	1
C102	171-2233-06	Ceramic-C 25V 0.022μF M SR	1
C105	171-3333-06	Ceramic-C 25V 0.033μF M SR	1
C407,408	173-2731-10	Polyester-C 50V 0.027μF J	2
C612,614~621 719,721	173-1042-10	Polyester-C 50V 0.1 F K	11
C710	176-3301-50	Chip-C 50V 33PF J CH	1
C713	176-4301-50	Chip-C 50V 43PF J CH	1
C707,708	176-1011-50	Chip-C 50V 100PF J CH	2
C706	176-2211-50	Chip-C 50V 220PF J CH	1
C119	176-3911-02	Chip-C 50V 390PF J CH	1
C610	177-1522-05	Chip-C 50V 1500PF K Y5P	1
C705	177-1032-05	Chip-C 50V 0.01μF K Y5P	1
C123,124	177-2232-05	Chip-C 50V 0.022μF K Y5P	2
C116	178-4712-05	Chip-C 50V 470PF K Y5P	1
C401,402	178-8212-05	Chip-C 50V 820PF K Y5P	2
C217	178-1022-05	Chip-C 50V 1000PF K Y5P	1
C608,611	178-1522-05	Chip-C 50V 1500PF K Y5P	2
C112	178-2722-05	Chip-C 50V 2700PF K Y5P	1
C516,517	178-3322-05	Chip-C 50V 3300PF K Y5P	2
C514,515	178-4722-05	Chip-C 50V 4700PF K Y5P	2
C110,117	178-6822-05	Chip-C 50V 6800PF K Y5P	2
C712,747	178-1032-05	Chip-C 25V 0.01μF K Y5P	2
C202,203,204,518 519	178-2232-05	Chip-C 25V 0.022μF K Y5P	5
C412,413	178-2732-05	Chip-C 25V 0.027μF K Y5P	2
C113	178-3332-05	Chip-C 25V 0.033μF K Y5P	1
C107,108,201	178-4732-05	Chip-C 25V 0.047μF K Y5P	3
C302,709,715,716	180-1072-22	Electrolytic-C 10V 100μF M RB	4
C701	180-1072-36	Electrolytic-C 16V 100μF M RB	1
C207,512	180-2272-22	Electrolytic-C 10V 220μF M RB	2
C114,119,120	182-2243-62	SS Electrolytic-C 50V 0.22μF M	3
C403,404,410,411	182-1053-62	SS Electrolytic-C 50V 1μF M	4
C109,529,601	182-4753-62	SS Electrolytic-C 50V 4.7μF M SSB	3
C414	182-1063-32	SS Electrolytic-C 16V 10μF M	1
C534	182-3363-23	SS Electrolytic-C 10V 33μF M SSB	1
C720	182-2263-32	SS Electrolytic-C 16V 22μF M	1
C409,702	182-4763-22	SS Electrolytic-C 10V 47μF M	2
C104,405,406,704 717	182-1073-22	SS Electrolytic-C 10V 100μF M SSA	5
C711	182-1054-63	SS Electrolytic-C 50V 1μF M SSB LN	1
C111	183-1043-62	VS Electrolytic-C 50V 0.1μF M	1
C535,527	183-2243-62	VS Electrolytic-C 50V 0.22μF M	2
C744	183-4743-62	VS Electrolytic-C 50V 0.47μF M	1
C121,501,503	183-1053-62	VS Electrolytic-C 50V 1μF M	3
C122	183-3353-62	VS Electrolytic-C 50V 3.3μF M	1
C115,536,537 530~533 602~605	183-4753-62	VS Electrolytic-C 35V 4.7μF M	11
C520~525,607	183-1063-32	VS Electrolytic-C 16V 10μF M	7
C535	183-3363-22	VS Electrolytic-C 10V 3μF M	1

SW P.W.B.:

Ref. No.	Order No.	Description	Q'ty
C303,511	183-1073-22	VS Electrolytic-C 10V 100μF M	2
C613	99121-545-1	Electrolytic-C 16V 3300μF M	1
IC101	99102-255-0	IC LC75853E	1
S102,103,111,112 116	99160-128-2	Tact SW SKHVBB3420-CR	5
S108,109,110,113 114,115	99160-136-2	Tact SW SKQCAB 160G	6
S101,104~107	99160-144-0	Tact SW JPM1110-0211	5
S122	99160-145-0	Push SW ESB-64805-N	1
PL108~110	99168-030-0	Pilot lamp 14V 40mA D3x6.5mm	3
PL101,102	99168-065-0	Pilot Lamp 8V 68mA 0.13CP D3x6.5mm	2
D101,102	99101-025-0	Diode 1SS176,1SS133	2
R101,102,103,108	117-2221-20	Chip-R 1/10W 2.2KΩ J	4
R105,106,107	117-1031-20	Chip-R 1/10W 10KΩ J	3
R104	117-4731-20	Chip-R 1/10W 47KΩ J	1
C101	178-1022-05	Chip-C 50V 1000PF K Y5P	1
C102,103,104	178-1045-06	Chip-C 25V 0.1μF Z Y5P	3