

# DENON

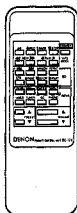
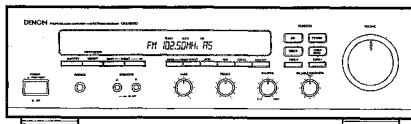
Hi-Fi AM-FM Stereo Receiver

## SERVICE MANUAL

# MODEL DRA-585RD

AM-FM STEREO RECEIVER

For Europe  
And U.K. Models



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## NIPPON COLUMBIA CO., LTD.

















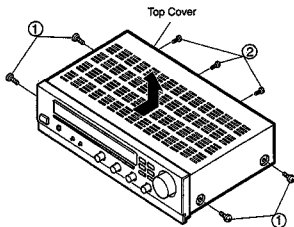


## DISASSEMBLY

(To reassemble reverse disassembly)

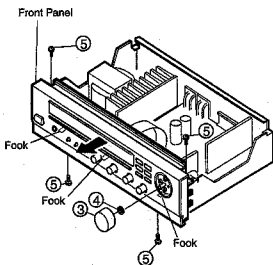
### 1. Top Cover

- (1) Remove 4 screws ①.
- (2) Remove 3 screws ②.



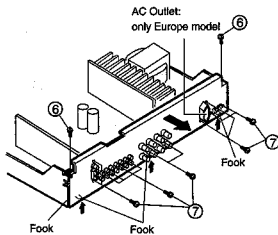
### 2. Front Panel

- (1) Pull out Volume knob ③.
- (2) Remove nut ④.
- (3) Remove 4 screws ⑤ and undo hooks at 3 places.

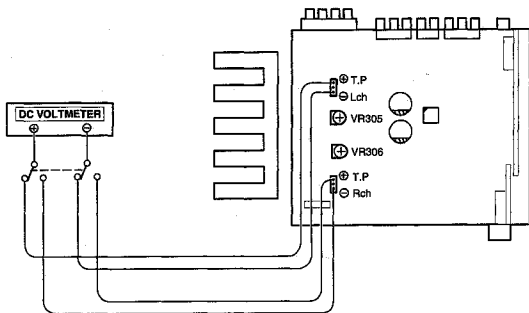


### 3. Rear Panel

- (1) Remove 2 screws ⑥ and 12 fixing screws ⑦.
- (2) Remove hooks at 3 places in arrow direction (↑).



## METHOD OF ADJUSTMENTS



### IDLING CURRENT

- (1) Set controls as follows.

POWER Switch → off (■)

VOLUME Control → 0 (min.)

SPEAKERS → off (■)

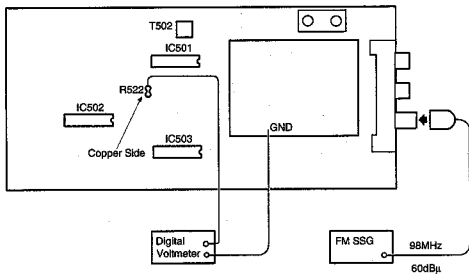
Temperature → 15°C ~ 30°C (59°F ~ 86°F)

VR305 and VR306 of the 1U-2817 (Main Unit) → MIN. (⤵)

- (2) Connect DC Voltmeter to the T.P Lch and T.P Rch of the 1U-2817.
- (3) Turn the Power Switch on and rotate VR305 clockwise so that the DC Voltmeter reads 3 mV  $\pm$ 0.2 mV DC at the T.P Lch. Follow the same procedure to VR306 for T.P Rch.
- (4) Warm up for three minutes, then readjust VR305 and VR306 so that the DC Voltmeter reads 3 mV  $\pm$ 0.5 mV DC.
- (5) Warm up for 10 minutes, then readjust VR 305 and VR306 so that the DC Voltmeter reads 2.7 mV  $\pm$ 0.5 mV DC.

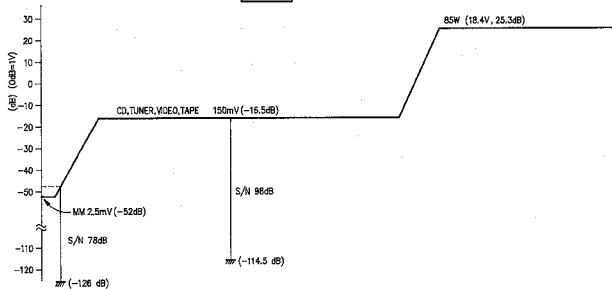
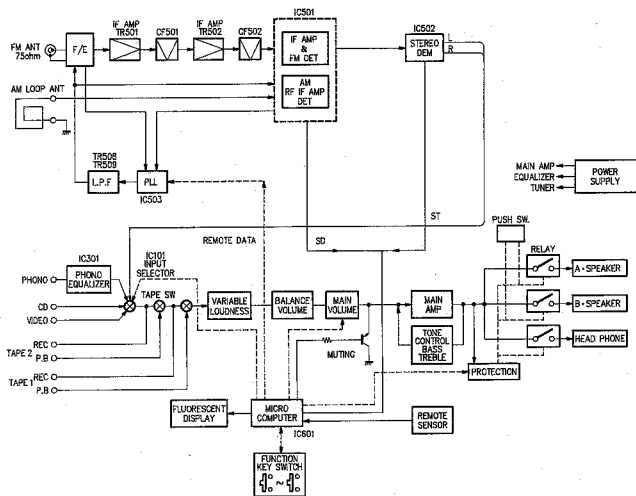
## CONNECTINON DIAGRAM OF MEASURING INSTRUMENTS

## ● FM SECTION



Adjust T502, Potential difference across R522 should be within 50mV.

## BLOCK/LEVEL DIAGRAM



Ref. No.	Part No.	Part Name	Remarks
R401	247 0013 900	Carbon chip 220kohm 1/10W	RM73B-224J
R402	247 0009 985	Carbon chip 1k0kohm 1/10W	RM73B-103J
R403	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B-472J
R404,405	247 0007 945	Carbon chip 1kohm 1/10W	RM73B-102J
R406	247 0009 985	Carbon chip 10kohm 1/10W	RM73B-103J
R407	247 0010 958	Carbon chip 20kohm 1/10W	RM73B-203J
R408	247 0009 985	Carbon chip 10kohm 1/10W	RM73B-103J
R409	247 0007 945	Carbon chip 1kohm 1/10W	RM73B-102J
R410	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B-472J
△R411	244 2051 967	Metal oxide film 4.7kohm 1W	RS14B3A472JNBS(S)
△R412	241 2377 347	Carbon 10kohm 1/4W	RD14B2E10JNBS
△R415	241 2387 308	Carbon 10kohm 1/4W	RD14B2E10JNBS
△R451-452	244 2052 912	Metal oxide film 2.7kohm 1W	RS14B3A272JNBS(S)
△R453	244 2051 900	Metal oxide film 4.7kohm 1W	RS14B3A472JNBS(S)
R460	247 0011 944	Carbon chip 47kohm 1/10W	RM73B-473J
△R465-466	244 2052 902	Metal oxide film 2.7kohm 1W	RS14B3A272JNBS(S)
△R467	244 2052 921	Metal oxide film 5.9kohm 1W	RS14B3A682JNBS(S)
R468	244 2052 957	Metal oxide film 5.6kohm 1W	RS14B3A562JNBS(S)
R475	247 0010 929	Carbon chip 15kohm 1/10W	RM73B-153J
R701,702	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B-472J
R703,704	247 0012 969	Carbon chip 150kohm 1/10W	RM73B-154J
R705,706	247 0011 986	Carbon chip 68kohm 1/10W	RM73B-683J
R707,708	247 0004 922	Carbon chip 47ohm 1/10W	RM73B-470J
R709,710	247 0005 982	Carbon chip 240ohm 1/10W	RM73B-241J
R711,712	247 0012 956	Carbon chip 130kohm 1/10W	RM73B-134J
R713,714	247 0009 938	Carbon chip 11kohm 1/10W	RM73B-113J
R715,716	247 0003 949	Carbon chip 22ohm 1/10W	RM73B-220J
R717,718	247 0005 905	Carbon chip 100ohm 1/10W	RM73B-101J
R719,720	247 0012 927	Carbon chip 100kohm 1/10W	RM73B-104J
<b>CAPACITORS GROUP</b>			
C101-108	257 0004 903	Ceramic chip 56pF/50V	CC73SL1H560J
C109,110	253 1179 945	Ceramic 220pF/50V	CK45B1H221KT
C111	257 0002 921	Ceramic chip 10pF/50V	CC73SL1H100D
C112,113	257 0012 982	Ceramic chip 0.022μF/50V	CK73FH1223Z
C124,125	257 0012 982	Ceramic chip 0.022μF/50V	CK73FH1223Z
C127	257 0012 982	Ceramic chip 0.022μF/50V	CK73FH1223Z
C131-134	257 0004 903	Ceramic chip 56pF/50V	CC73SL1H560J
C201-204	255 1265 907	Film 6800pF/50V	CQ93M1H682J(B)
C205,206	257 0006 985	Ceramic chip 820pF/50V	CC73SL1H821J
C251-254	254 4258 918	Electrolytic 10μF/35V	CE04W1V100M
△C257-258	254 4251 002	Electrolytic 7200μF/35V	CE04W-722M(CD)
C259	253 1181 904	Ceramic 0.01μF/50V	CK45FH103Z
C307,308	257 0006 927	Ceramic chip 470pF/50V	CC73SL1H471J
C311-314	253 4636 909	Ceramic 10pF/50V	CC45SL1H100D
C323,324	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C325,326	255 1265 936	Film 0.01μF/50V	CQ93M1H103J(B)

Ref. No.	Part No.	Part Name	Remarks
C331,332	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C333,334	254 4260 922	Electrolytic 0.33μF/50V	CE04W1HR33M
C335,336	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
C337,338	257 0002 992	Ceramic chip 20pF/50V	CC73SL1H200J
C339,340	254 4254 925	Electrolytic 33μF/16V	CE04W1C330M
C341,342	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
△C353-354	256 1534 973	Metalized 0.1μF/50V	CC73A1H04J
C355,356	255 1265 978	Film 0.022F/50V	CQ93M1H223J(B)
C357	254 4260 948	Electrolytic 1mF/50V	CE04W1H010M
C358	253 9030 963	Ceramic 0.01μF/25V	CK45-1E103K
C359,360	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C401	254 4258 905	Electrolytic 4.7μF/35V	CE04W1V47M
C402	257 0012 968	Ceramic chip 0.01μF/50V	CK73FH1H03Z
C403	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C404,405	253 1181 904	Ceramic 0.01μF/50V	CK45FH1H03Z
C406	259 0007 702	For back up 8200μF	SB CAP-8223-C
C407	254 4254 908	Electrolytic 10μF/16V	CE04W1C100M
C408	254 4403 734	Electrolytic 4700μF/25V	CE04W1E472M(CM3G)
C409	254 4261 821	Electrolytic 100μF/50V	CE04W1H101M
C410	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C451	254 4260 980	Electrolytic 10μF/50V	CE04W1H100M
C452	254 4254 925	Electrolytic 33μF/16V	CE04W1C330M
C453	254 4250 945	Electrolytic 330μF/6.3V	CE04W0J331M
C456	255 1265 938	Film 0.01μF/50V	CQ93M1H103J(B)
C459,460	253 1151 905	Ceramic 4700pF/500V	CK45E2H472P
△C461	259 1042 936	Metalized 0.3μF/250V	CC73A2E134K
C462	254 4254 938	Electrolytic 47μF/16V	CE04W1C470M
C549	254 4252 927	Electrolytic 47μF/10V	CE04W1A470M
C701,702	257 0003 988	Ceramic chip 47pF/50V	CC73SL1H470J
C703,704	257 0005 944	Ceramic chip 220pF/50V	CC73SL1H221J
C705,706	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C709,710	254 4250 929	Electrolytic 100μF/6.3V	CE04W0J101M
C711,712	255 4199 969	Film 0.02μF/50V	CQ92M1H243J(MRZ)
C713,714	255 1265 907	Film 6800pF/50V	CQ93M1H682J(B)
C715,716	254 4254 908	Electrolytic 10μF/16V	CE04W1C100M
C717,718	253 1181 904	Ceramic 0.01μF/50V	CK45FH1H03Z
C724	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C725	257 0012 982	Ceramic chip 0.022μF/50V	CK73FH1223Z
C801,802	257 0016 962	Ceramic chip 27pF/50V	CC73CH1H270J
C803-805	254 4250 916	Electrolytic 47μF/6.3V	CE04W0J470M
C807,808	257 0003 933	Ceramic chip 30pF/50V	CC73SL1H300J
C809	257 0012 966	Ceramic chip 0.01μF/50V	CK73FH1H03Z
C810	254 4250 916	Electrolytic 47μF/6.3V	CE04W0J470M
C811	257 0006 943	Ceramic chip 560pF/50V	CC73SL1H561J

1U-2818 TUNER UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
<b>OTHERS PARTS GROUP</b>				<b>SEMICONDUCTORS GROUP</b>			
CB29D	205 0900 045	29P FFC connector base		IC501	263 0891 001	IC LA1265(S)	
CB6A,6C	205 0918 001	6P bottom socket		IC502	263 0439 007	IC LA3401	
CB8A	205 0918 014	8P bottom socket		IC503	263 0791 907	IC LM7001M	
CB8B,8C	205 0806 090	8P connector base (9115)		IC504	263 0794 001	IC NJM78M12FA(S)	
CN3C	203 2377 000	2P DA-DA connector cord		TR501	275 0074 902	Transistor 2SK211(YGR)	
CN7A	205 0653 078	7P VH connector base		TR502	273 0438 908	Transistor 2SC2413K (Q)	
L391,392	235 0104 007	Inductor(1MHz)		TR503	269 0157 905	Transistor DTB123EK	Built in resistor
L701,702	235 9003 002	FTZ choke coil		TR504	269 0083 901	Transistor DTA114EK	Built in resistor
RL451,452	214 0167 005	Relay(G5Z-2A)		TR505,506	269 0054 901	Transistor DTC144EK	Built in resistor
RL453	214 0127 003	Relay(RY-12W)		TR507	271 0279 909	Transistor 2SA1515(R)	
TH451	279 0034 067	Fosistor	PTH9M04BB222TSF333	TR508	275 0075 901	Transistor 2SK208(YGR)	
TP001,002	205 0190 036	3P NH Connector base	TEST POINT	TR509	273 0403 904	Transistor 2SC2712(YGR)	
XL801	399 0178 007	Crystal	4.332MHz	D501	276 0559 909	Diode DAP202K	
XT801	399 0041 901	Resonator	CSA4.00MG				
	205 0484 001	8P speaker terminal	Europe model				
	203 0475 072	1P contact Assy					
	205 0472 013	8P speaker terminal	U.K model				
	204 8485 009	4P pin jack(S-GND)					
	204 8486 006	6P pin jack(S-GND)					
				<b>RESISTORS GROUP (Not included carbon film ±5% 1/4W)</b>			
	R001-016	247 0018 905	Chip 0ohm 1/10W				RM73B-0R0K
	R501	247 0004 906	Chip 39ohm 1/10W				RM73B-390J
	R502	247 0007 945	Chip 1kohm 1/10W				RM73B-102J
	R503	247 0009 985	Chip 10kohm 1/10W				RM73B-103J
	R504	247 0009 927	Chip 5.6kohm 1/10W				RM73B-562J
	R505	247 0006 920	Chip 330ohm 1/10W				RM73B-331J
	R506	247 0009 901	Chip 4.7kohm 1/10W				RM73B-472J
	R507	247 0005 989	Chip 220ohm 1/10W				RM73B-221J
	R508,509	247 0006 920	Chip 330ohm 1/10W				RM73B-331J
	R510	247 0006 989	Chip 580ohm 1/10W				RM73B-561J
	R511	247 0012 927	Chip 100kohm 1/10W				RM73B-104J
	R512	247 0009 914	Chip 5.1kohm 1/10W				RM73B-512J
	R513	247 0005 905	Chip 100ohm 1/10W				RM73B-101J
	R514	247 0008 966	Chip 3.9kohm 1/10W				RM73B-392J
	R515	247 0006 946	Chip 390ohm 1/10W				RM73B-391J
	R516	247 0005 947	Chip 150ohm 1/10W				RM73B-151J
	R517	247 0009 985	Chip 10kohm 1/10W				RM73B-103J
	R518	247 0018 905	Chip 0ohm 1/10W				RM73B-0R0K
	R519	247 0009 901	Chip 4.7kohm 1/10W				RM73B-472J
	R520	247 0004 980	Chip 82ohm 1/10W				RM73B-820J
	R521	247 0008 944	Chip 2.7kohm 1/10W				RM73B-272J
	R522	247 0011 902	Chip 33kohm 1/10W				RM73B-333J
	R523-525	247 0009 985	Chip 10kohm 1/10W				RM73B-103J
	R526	247 0008 957	Chip 3kohm 1/10W				RM73B-302J
	R527	247 0011 886	Chip 68kohm 1/10W				RM73B-683J
	R528	247 0009 956	Chip 7.5kohm 1/10W				RM73B-752J
	R529	247 0008 960	Chip 3.3kohm 1/10W				RM73B-332J
	R530	247 0012 927	Chip 100kohm 1/10W				RM73B-104J
	R532	247 0009 985	Chip 10kohm 1/10W				RM73B-103J
	R533	247 0007 945	Chip 1kohm 1/10W				RM73B-102J
	R534	247 0011 915	Chip 96kohm 1/10W				RM73B-363J

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks	
R536	247 0010 974	Chip 24kohm 1/10W	RM73B-243J	<b>OTHERS PARTS GROUP</b>				
R536	247 0012 985	Chip 180kohm 1/10W	RM73B-184J	CF501,502	261 0064 007	Ceramic filter	SFT10.7MS2	
R537	247 0012 988	Chip 200kohm 1/10W	RM73B-204J	CF504	261 0101 009	:Ceramic filter	BFU450C4N	
R538	247 0012 985	Chip 180kohm 1/10W	RM73B-184J	GN88,8C	205 0805 081	8P connector socket		
R539	247 0012 998	Chip 200kohm 1/10W	RM73B-204J	FE501	216 0065 006	Front end		
RS40,541	247 0008 902	Chip 1.8kohm 1/10W	RM73B-182J	T501	231 1813 004	MW antenna OSC coil		
RS42,543	247 0009 901	Chip 4.7kohm 1/10W	RM73B-472J	T502	231 2069 008	FM DET trans		
R544	247 1007 988	Chip 1.5kohm 1/8W	RM73B25152J	T503	231 3804 008	:AM IFT		
R545	247 0009 985	Chip 10kohm 1/10W	RM73B-103J	T504	232 9010 009	Antibrindie filter		
R546	247 0012 927	Chip 100kohm 1/10W	RM73B-104J	T505,506	232 0065 004	:LPF		
<b>CAPACITORS GROUP</b>				XL502	261 0103 007	:Resonator	CSB456F11	
C501-506	257 0012 968	Chip(Ceramic) 0.01 $\mu$ F/50V	CK73F1H103Z	XL503	399 0075 003	Crystal	7.2MHz	
C507	257 0002 947	Chip(Ceramic) 12pF/50V	CC73SL1H120J	205 0847 004	3P antenna terminal(PAL/F)			
C508	254 4254 909	Electrolytic 10 $\mu$ F/16V	CE04W1C100M	203 0526 031	1P Contact Ass'y			
C509	257 0004 961	Chip(Ceramic) 100pF/50V	CC73SL1H101J					
C510	257 0012 966	Chip(Ceramic) 0.01 $\mu$ F/50V	CK73F1H103Z					
C511	254 4260 906	Electrolytic 0.1 $\mu$ F/50V	CE04W1H0R1M					
C513	254 3056 917	Electrolytic 1 $\mu$ F/50V (Non-polar)	CE04D1H010MBP					
C514	257 0012 982	Chip(Ceramic) 0.022 $\mu$ F/50V	CK73F1H223Z					
C515,516	257 0002 976	Chip(Ceramic) 18pF/50V	CC73SL1H160J					
C517	254 4254 938	Electrolytic 47 $\mu$ F/16V	CE04W1C470M					
C518,519	257 0012 966	Chip(Ceramic) 0.01 $\mu$ F/50V	CK73F1H103Z					
C520	254 4260 922	Electrolytic 0.33 $\mu$ F/50V	CE04W1HR33M					
C521	257 0012 966	Chip(Ceramic) 0.01 $\mu$ F/50V	CK73F1H103Z					
C522	254 4256 936	Electrolytic 47 $\mu$ F/25V	CE04W1E470M					
C523	254 4260 948	Electrolytic 1 $\mu$ F/50V	CE04W1H010M					
C524	254 4260 964	Electrolytic 3.3 $\mu$ F/50V	CE04W1HR33M					
C525	257 0012 982	Chip(Ceramic) 0.022 $\mu$ F/50V	CK73F1H223Z					
C526	257 0012 966	Chip(Ceramic) 0.01 $\mu$ F/50V	CK73F1H103Z					
C527	254 4260 948	Electrolytic 1 $\mu$ F/50V	CE04W1H010M					
C528	254 4254 909	Electrolytic 10 $\mu$ F/16V	CE04W1C100M					
C529	257 1013 951	Chip(Ceramic) 0.047 $\mu$ F/25V	CK73F1E473K					
C530	254 4254 912	Electrolytic 22 $\mu$ F/16V	CE04W1C220M					
C531	257 0004 961	Chip(Ceramic) 100pF/50V	CC73SL1H101J					
C532	254 4260 948	Electrolytic 1 $\mu$ F/50V	CE04W1H010M					
C533	254 4260 919	Electrolytic 0.22 $\mu$ F/50V	CE04W1HR22M					
C534	254 4260 948	Electrolytic 1 $\mu$ F/50V	CE04W1H010M					
C535,536	257 0012 966	Chip(Ceramic) 0.01 $\mu$ F/50V	CK73F1H103Z					
C537	254 4254 912	Electrolytic 22 $\mu$ F/16V	CE04W1C220M					
C538	254 4254 938	Electrolytic 47 $\mu$ F/16V	CE04W1C470M					
C539,540	257 0005 960	Chip(Ceramic) 270pF/50V	CC73SL1H271J					
C541	254 4260 951	Electrolytic 2.2 $\mu$ F/50V	CE04W1H2R2M					
C545	253 0012 966	Chip(Ceramic) 0.01 $\mu$ F/50V	CK73F1H103Z					
C548	254 4260 951	Electrolytic 2.2 $\mu$ F/50V	CE04W1H2R2M					
C550,551	254 4260 948	Electrolytic 1 $\mu$ F/50V	CE04W1H010M					
C553,554	257 0012 966	Chip(Ceramic) 0.01 $\mu$ F/50V	CK73F1H103Z					
C555	256 1034 937	Metallized 0.047 $\mu$ F/50V	CF93A1H473J					
C561	257 0012 966	Chip(Ceramic) 0.01 $\mu$ F/50V	CK73F1H103Z					



KU-9328 DISPLAY UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>			
IC801	282 2249 001	IC T1MPC70M71F-6348	
IC802	283 0905 900	IC BA6209F	
ZD651	276 0654 901	Zener diode DT28.2B	
<b>RESISTORS GROUP (Not included carbon film ±5% 1/4W)</b>			
VR301	211 0841 018	Variable 100kohm	V14P22F104K
VR302	211 0931 002	Variable 100kohm	V14P22F104(MG)
VR303	211 0942 017	Variable 250kohm	V14P22FC254K
VR304	211 0943 016	Variable 50kohm	V14P22FC503K
VR307	211 9131 004	Variable 100kohm	V14P22F104K
R301,302	247 0011 928	Chip 38kohm 1/10W	RM738-393J
R303,304	247 0009 943	Chip 6.8kohm 1/10W	RM738-682J
R361,362	247 0011 973	Chip 62kohm 1/10W	RM738-623J
R363,364	247 0009 998	Chip 11kohm 1/10W	RM738-113J
R365,366	247 0008 931	Chip 2.4kohm 1/10W	RM738-242J
R367,368	247 0013 984	Chip 470kohm 1/10W	RM738-474J
R369,370	247 0010 945	Chip 18kohm 1/10W	RM738-183J
R371,372	247 0009 943	Chip 6.8kohm 1/10W	RM738-682J
R373,374	247 0006 917	Chip 300ohm 1/10W	RM738-301J
R375,376	247 0011 944	Chip 47kohm 1/10W	RM738-473J
R379,380	247 0009 901	Chip 4.7kohm 1/10W	RM738-472J
R651	247 1009 900	Chip 4.7kohm 1/8W	RM738B472J
R652-657	247 0009 985	Chip 10kohm 1/10W	RM738-103J
R665	247 0007 945	Chip 1kohm 1/10W	RM738-102J
R666	247 0005 976	Chip 200ohm 1/10W	RM738-201J
R667	247 0006 917	Chip 300ohm 1/10W	RM738-301J
R668	247 0007 945	Chip 1kohm 1/10W	RM738-102J
R669	247 0005 976	Chip 200ohm 1/10W	RM738-201J
R670	247 0006 917	Chip 300ohm 1/10W	RM738-301J
R671	247 0007 945	Chip 1kohm 1/10W	RM738-102J
R672	247 0005 976	Chip 200ohm 1/10W	RM738-201J
R673	247 0006 917	Chip 300ohm 1/10W	RM738-301J
R674	247 0006 975	Chip 510ohm 1/10W	RM738-511J
R675	247 0007 945	Chip 1kohm 1/10W	RM738-102J
R676	247 0007 945	Chip 1kohm 1/10W	RM738-102J
R677	247 0005 976	Chip 200ohm 1/10W	RM738-201J
R678	247 0006 917	Chip 300ohm 1/10W	RM738-301J
R679	247 0006 975	Chip 510ohm 1/10W	RM738-511J
R680	247 0007 945	Chip 1kohm 1/10W	RM738-102J
R681	247 0009 985	Chip 10kohm 1/10W	RM738-103J
R682,683	247 0009 985	Chip 10kohm 1/10W	RM738-103J
R685	247 0008 957	Chip 3kohm 1/10W	RM738-302J

Ref. No.	Part No.	Part Name	Remarks
<b>CAPACITORS GROUP</b>			
C300	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H102Z
C301,302	257 0006 943	Ceramic 500pF/50V	CC73SL1H561J
C303,304	255 1265 978	Film 0.022µF/50V	CO93M1H223J(B)
C361,362	257 0004 961	Ceramic 100pF/50V	CC73SL1H101J
C363,364	255 1265 961	Film 0.027µF/50V	CO93M1H273J(B)
C365,366	256 1034 982	Metallized 0.12µF/50V	CF93A1H124J
C367,368	255 1264 924	Film 1500pF/50V	CO93M1H152J(B)
C369,370	255 1265 936	Film 0.01µF/50V	CO93M1H103J(B)
C651	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C652	254 4300 963	Electrolytic 100µF/6.3V	CE04WUJ101M(SRE)
C653	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C655	254 4299 964	Electrolytic 47µF/16V	CE04W1C470M(SRE)
C657	257 0012 982	Chip(Ceramic) 0.022µF/50V	CK73F1H223Z
C666	257 0004 961	Ceramic 100pF/50V	CC73SL1H101J
<b>OTHERS PARTS GROUP</b>			
CN8D	205 0919 026	8P JIG socket(Side)	
CN28D	205 0960 045	29P FFC connector base	
CN6A,6C	205 0917 002	8P bottom plug	
CN8A	205 0917 015	8P bottom plug	
CN8D	205 0408 045	8P JIG socket	
FL401	393 4155 002	FL tube	FIP14AM7R
JK201	204 8354 017	Head phone jack	Black model
JK201	204 8355 003	Head phone jack	Gold model
RM601	499 0150 008	Remote sensor	SBX1610-S2
SW302,303	212 1140 009	Push switch(ESB6440)	
SW601-617	212 5504 910	Tact switch	
XL651	398 0261 901	Resonator	DCRH4.00M
	414 0740 006	Shield plate	

1U-2915 POWER UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
<b>CAPACITORS GROUP</b>			
ΔC411	263 8r14 702	Ceramic 0.01µF/400V AC	CK45F26A103MC
<b>OTHERS PARTS GROUP</b> <b>CK45-1E103K</b>			
ΔAC401	203 3R11 001	1P AC outlet	Except to UK
ΔC42A	203 2349 700	2P Fuse	
CN3A	205 0561 001	2P VH connector base	
ΔF401	206 9075 006	Fuse(2.0A)	
ΔF402	206 9075 001	Fuse(1A)	Except to UK
ΔSW401	212 0031 006	Power switch(2X1.5)	
	415 0299 000	Condenser cover	
	202 0040 909	Fuse clip	

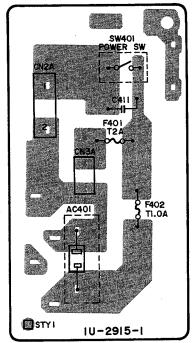
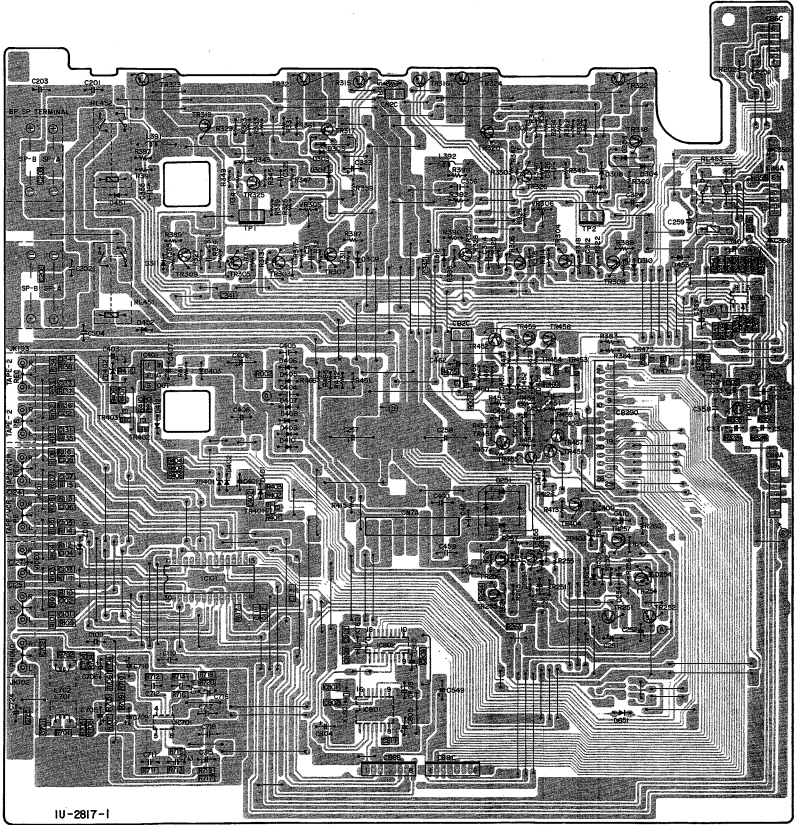
PRINTED WIRING BOARD PATTERNS

1 2 3 4 5 6 7 8

1U-2817 MAIN UNIT ASS'Y

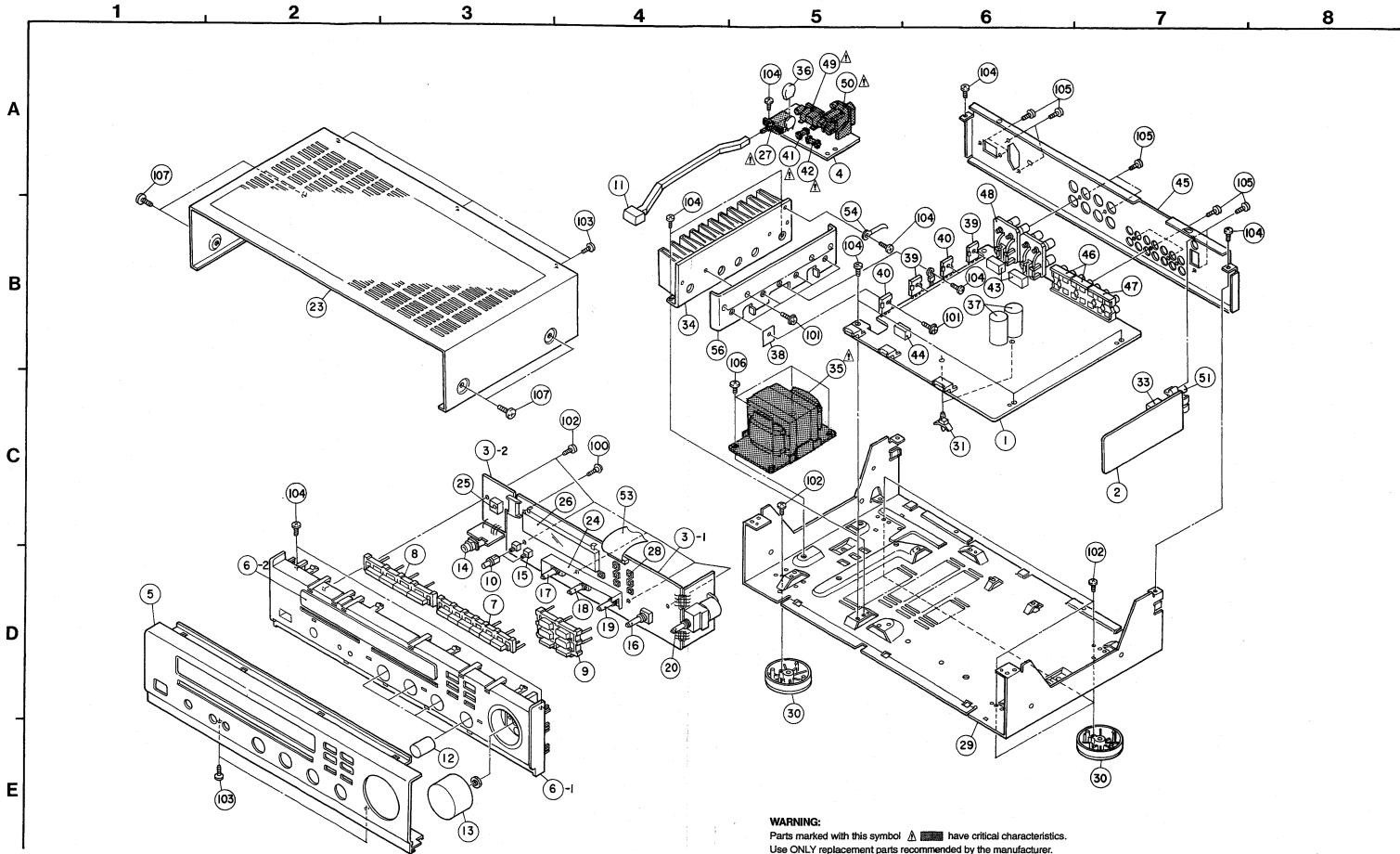
1U-2915 POWER UNIT ASS'Y

A  
B  
C  
D  
E





EXPLODED VIEW OF CHASSIS AND CABINET



**WARNING:**  
 Parts marked with this symbol ▲ have critical characteristics.  
 Use ONLY replacement parts recommended by the manufacturer.

**PARTS LIST EXPLODED VIEW**

\* Gold model = Except to U.K.

Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	1U-2817 E	Main unit Assy	Europe model	1
1	1U-2817 F	Main unit Assy	U.K. model	1
2	1U-2818	Tuner unit Assy		1
3	KU-9328	Display unit Assy		1
3-1	—	Display & Volume unit		1
3-2	—	HP I.& Remotecon unit		1
4	1U-2815	Power unit Assy		1
5	144 2487 002	Front panel	Black model	1
5	144 2487 015	Front panel	Gold model	1
5-1	146 1802 004	Inner panel Assy	Black model	1
5-2	143 9187 001	(Window)		1
5-1	146 1802 017	Inner panel Assy	Gold model	1
5-2	143 9187 001	(Window)		1
7	113 9325 008	Series button (A)	Black model	1
7	113 9325 011	Series button (A)	Gold model	1
8	113 9326 007	Series button (B)	Black model	1
8	113 9326 010	Series button (B)	Gold model	1
9	113 9324 229	Function button	Black model	1
9	113 9324 232	Function button	Gold model	1
10	113 9323 000	Push button (SP)	Black model	2
10	113 9323 013	Push button (SP)	Gold model	2
11	113 1721 105	Power button Assy	Black model	1
11	113 1721 011	Power button Assy	Gold model	1
12	112 0738 001	:Knob (Menu)	Black model	4
12	112 0738 014	:Knob (Menu)	Gold model	4
13	112 0737 029	:Volume knob	Black model	1
13	112 0737 032	:Volume knob	Gold model	1
14	204 8354 017	Head phone jack	Black model	1
14	204 8355 003	Head phone jack	Gold model	1
15	212 1140 009	Push switch(ESB6440)	SW3002_303	2
16	211 9131 004	Variable resistor	VR307	1
17	211 0842 017	Variable resistor	VR303	1
18	211 0843 016	Variable resistor	VR304	1
19	211 0841 018	Variable resistor	VR301	1
20	211 0831 002	Variable resistor	VR302	1
23	102 0571 013	Top cover	Gold model	1
23	102 0571 000	Top cover	Black model	1
24	414 0740 006	Shield plate		1
25	499 0150 008	Remote sensor	SBX1610-S2	1
26	383 4155 002	FL tube	FIP14AM/R	1
27	212 1031 008	Power switch (TV-S)		1
28	212 5604 910	Tact switch		16
29	411 1323 300	Chassis		1
30	104 0230 101	:Foot Assy		4
31	449 0033 049	Locking card spacer		2
33	218 0085 006	Front end		1
34	417 0529 006	:Power radiator		1
35	233 6134 002	:Power Transformer		1

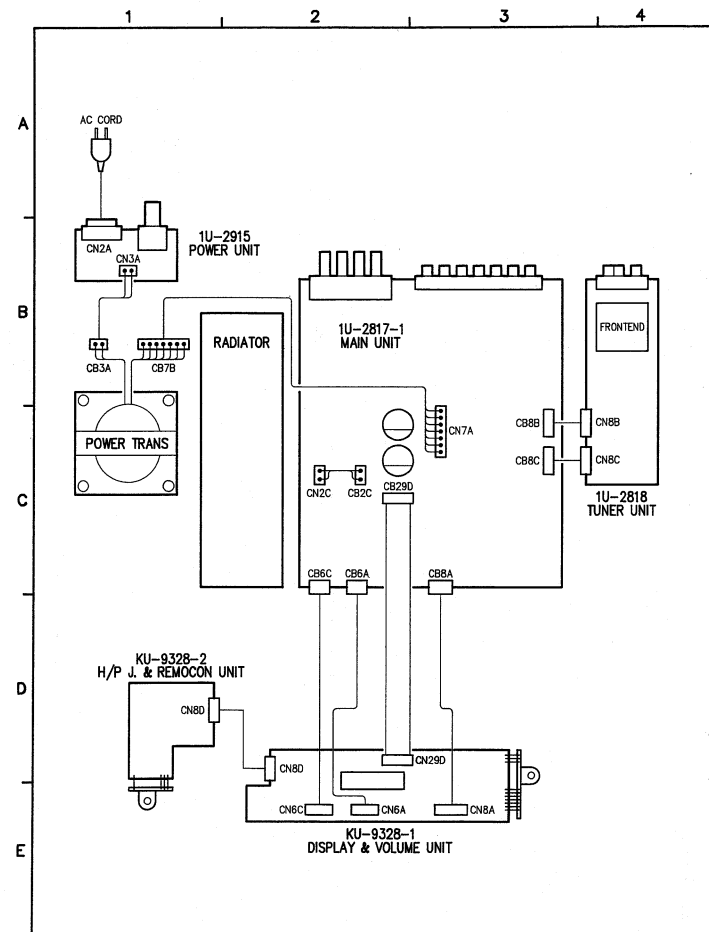
**PACKING & ACCESSORIES**

Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	505 0283 018	:Envelope		1
1	511 2840 001	Operating instructions		1
1	231 1914 003	AM loop antenna		1
1	395 0023 008	:FM antenna Assy		1
1	399 0242 001	Remote control unit	RC-174	1
1	206 2108 003	:AC connector/With plug	Europe model	1
1	206 2113 001	:AC cord/With connector	U.K. model	1
1	505 031 050	Cabinet cover		1
2	503 1140 109	:Cushion		2
1	501 1871 045	Carton case		1

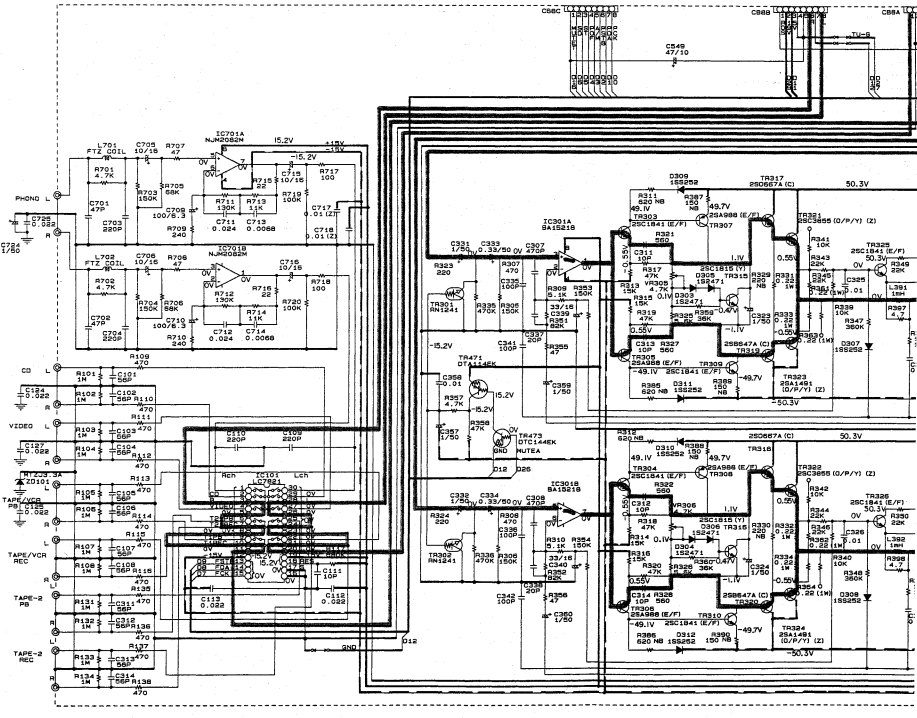
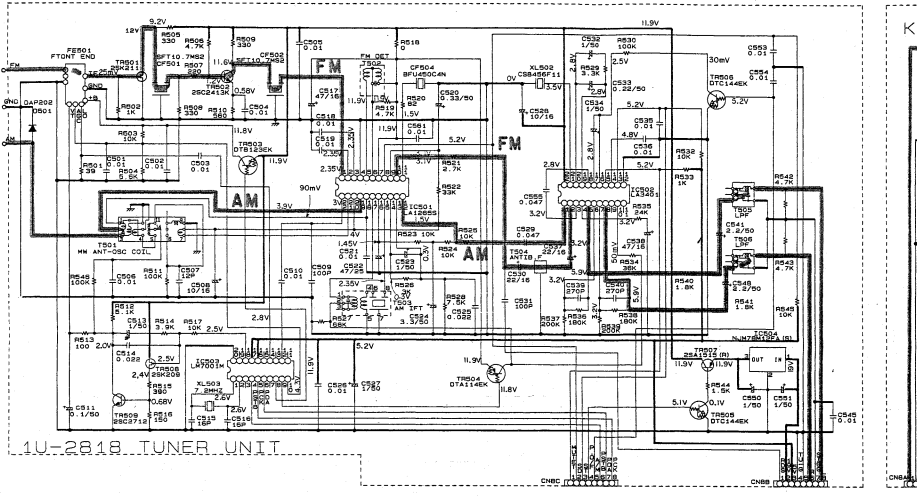
SCREWS				
Ref. No.	Part No.	Part Name	Remarks	Q'ty
100	477 0282 006	Special screw		1
101	473 8007 009	Cup screw 3x12		8
102	473 7500 044	Screw 3-8 (P) BK		9
103	473 7015 018	Screw 3-8 (S) BK		5
104	473 7002 018	Screw 3-8 (S)		12
105	477 8057 004	Fixing screw 3x10 BK		11
106	473 7004 016	Screw 4-8 (S)		4
107	473 7007 013	Screw 4x10 (S) BK	Black model	4
107	473 4801 005	Screw 4-8	Gold model	4

### WIRING DIAGRAM



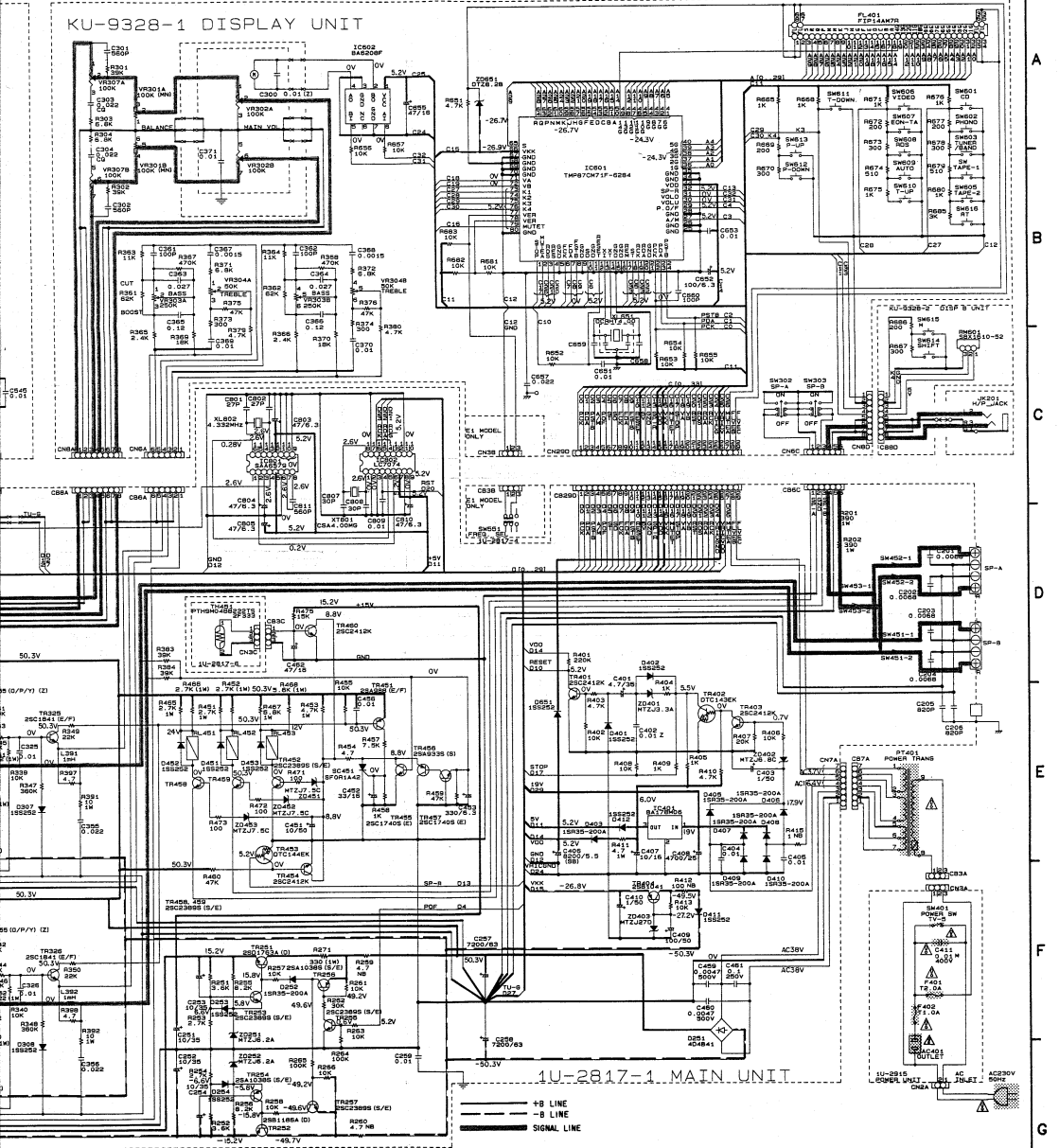
# SCHEMATIC DIAGRAM

1                      2                      3                      4                      5                      6



**WARNING:**  
Parts marked with this symbol  
Use ONLY replacement part  
**CAUTION:**  
Before returning the unit to  
current check or (2) a line it  
exceeds 0.5 millamps, or if  
cord is less than 240 kohms  
**WARNING:**  
DO NOT return the unit to it  
**NOTES:**  
Circuit and parts are subj

KU-9328-1 DISPLAY UNIT



1U-2817-1 MAIN UNIT

WARNING: Components marked with this symbol have critical characteristics. Only replacement parts recommended by the manufacturer.

CAUTION: Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current is less than 0.5 milliamperes, or if the resistance from chassis to either side of the power line is less than 240 kohms, the unit is defective.

WARNING: Do not return the unit to the customer until the problem is located and corrected.

ES: Components and parts are subject to change without prior notice.

NOTES

ALL RESISTANCE VALUES IN OHM. K=1,000 OHM, M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD.

P=MICRO-MICRO FARAD

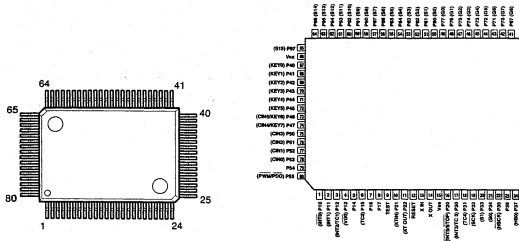
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT NOTICE.



● IC's

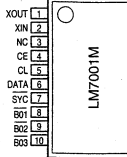
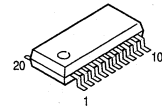
TMP87CM71F-6348 (IC601)



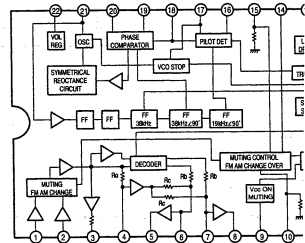
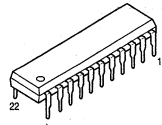
TMP87CM71F Port Allocation Table

Pin No.	Symbol	I/O	Logic	Initial Setting	Function	Pin No.	Symbol	I/O	Logic	Initial Setting	Function
1	STOP	I	L	---	Power-down detection (TV = all power down)	40	RS	O	---	FL Tube control output for 5G	
2	MUTE (A)	I	---	---	MUTE (A) output (TV = MUTE)	41	RS	O	---	FL Tube control output for 6G	
3	RDS	I	Serial	---	RDS data (stereo input)	42	RS	O	---	FL Tube control output for 7G	
4	RES	O	L	H	LCRFA reset output	43	RS	O	---	FL Tube control output for 8G	
5	GND	I	Serial	---	Not used	44	RS	O	---	FL Tube control output for 9G	
6	FCK	O	Serial	L	Function control output (0.078Hz) for F-CK	45	RS	O	---	FL Tube control output for 10G	
7	FDA	O	Serial	L	Function control output (0.078Hz) for F-DATA	46	RS	O	---	FL Tube control output for 11G	
8	F-STB	O	H	L	Function control output (0.078Hz) for F-STB	47	RS	O	---	FL Tube control output for 12G	
9	GND	I	---	---	Connect to GND	48	RS	O	---	FL Tube control output for 13G	
10	SD	I	L	---	Tuned signal input (TV = all tuned in)	49	RS	O	---	FL Tube control output for 14G	
11	GND	I	---	---	Not used	50	RS	O	---	FL Tube control output for 15G	
12	RESET	I	L	---	Reset input	51	RS	O	---	FL Tube control output for 16G	
13	MIN	I	---	---	Oscillation control (AM/FM)	52	RS	O	---	FL Tube control output for 17G	
14	XOUT	I	---	---	Oscillation circuit (AM/FM)	53	RS	O	---	FL Tube control output for 18G	
15	VDD	I	---	---	GND	54	RS	O	---	FL Tube control output for 19G	
16	GND	I	---	---	GND	55	RS	O	---	FL Tube control output for 19G	
17	REM	I	L	---	Remote control signal input	56	RS	O	---	FL Tube control output for 20G	
18	RT	I	L	---	Remote signal input (TV = all devices)	57	RS	O	---	FL Tube control output for 21G	
19	RDC	I	Serial	---	RDS data (stereo input)	58	RS	O	---	FL Tube control output for 21G	
20	RDA	I	Serial	---	RDS data (stereo input)	59	RS	O	---	FL Tube control output for 22G	
21	GND	I	---	---	Not used	60	RS	O	---	FL Tube control output for 22G	
22	PKC	O	Serial	L	LMP001 control output for PLL-CK (CL)	61	RS	O	---	FL Tube control output for 23G	
23	PDA	O	Serial	L	LMP001 control output for PLL-DATA (DATA)	62	RS	O	---	FL Tube control output for 23G	
24	PTB	O	H	L	LMP001 control output for PLL-STB (STB)	63	RS	O	---	FL Tube control output for 24G	
25	GND	O	L	---	GND	64	RS	O	---	FL Tube control output for 24G	
26	GND	O	L	---	GND	65	RS	O	---	FL Tube control output for 25G	
27	AM	O	L	L	AUTOMANUAL control	66	RS	PW	---	-15V	
28	GND	I	---	---	Not used	67	GND	I	---	GND	
29	PDSP	O	H	L	Power volume control output (TV = On)	70					
30	VRLSP	O	H	L	Power volume control output (TV = Off)	71	VA	O	L	H	Video INOut control (TV = at selector) (AV/006)
31	VRO	O	H	L	Power volume control output (0.0039 Ohm at TV)	72	VB	O	L	H	Video INOut control (TV = at selector) (AV/006)
32	SP-AR	O	H	L	Speaker relay control output (ON = at TV)	73	K1	I	---	Key input IAD compression input	
33	VOC	PW	---	---	-5V	74	K2	I	---	Key input IAD compression input	
34	GND	I	---	---	GND	75	K3	I	---	Key input IAD compression input	
35	GND	I	---	---	GND	76	K4	I	---	Key input IAD compression input	
36	1G	O	---	---	FL tube control output for 1G	77	VER	L	---	Power/stop control setting	
37	2G	O	---	---	FL tube control output for 2G	78	VER	L	---	Specification setting	
38	3G	O	---	---	FL tube control output for 3G	79	MUTE (T)	O	H	H	MUTE output (TV = MUTE)
39	4G	O	---	---	FL tube control output for 4G	80	GND	I	---	GND	

LM7001 (IC503)



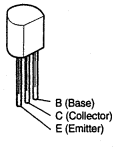
LA3401 (IC502)



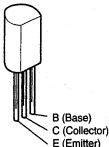
BA6201

● TRANSISTORS

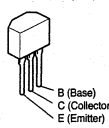
- 2SA988(E/F)
- 2SA1515(R)
- 2SC1815(Y)
- 2SC1841(E/F)



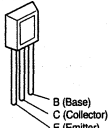
- 2SB647A(C)
- 2SB1041(R)
- 2SD667A(C)



- 2SA933S(S)
- 2SA1038S(S/E)
- 2SC1740S(E)
- 2SC2389S(S/E)



- 2SB1328(P)
- 2SD2004(P)

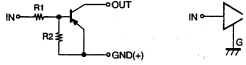


Digital Transistor (Built in Resistors)



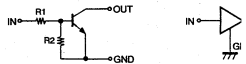
1:GND/Emitter  
2:In/Base  
3:Out/Collector

DTA · DTBEK Series



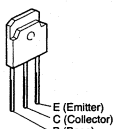
	R1	R2
DTA114EK	10kohm	10kohm
DTB123EK	2.2kohm	2.2kohm

DTCEK Series

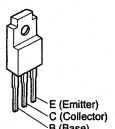


	R1	R2
DTC114EK	10kohm	10kohm
DTC143EK	4.7kohm	4.7kohm
DTC144EK (Chip)	47kohm	47kohm

- 2SA1491 (O/P/Y) (TR323,324)
- 2SC3855 (O/P/Y) (TR321,322)



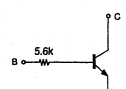
- 2SB1186A (D)
- 2SD1763A (D)



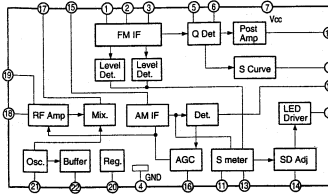
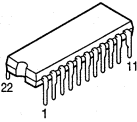
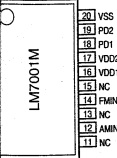
RN-1241(A/B)



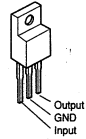
RN-1241



LA1265 (S)  
(IC501)

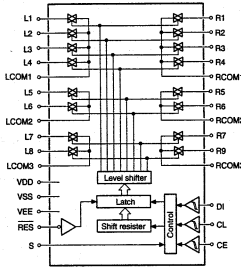
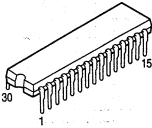
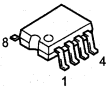


NJM78M12FA (IC504)  
BA178M06 (IC401)

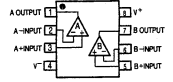
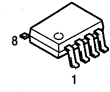


LC7821 (IC101)

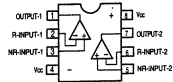
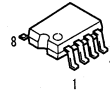
BA6208F (IC602)



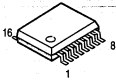
NJM2082MD (IC701)



BA15218F (IC301)

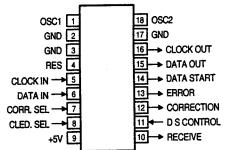
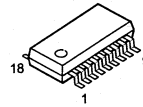


SAA6579T (IC801)

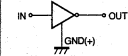


Pin No.	Symbol	Description
1	QUAL	Quality indication output.
2	RDDA	RDS data output.
3	V <sub>ref</sub>	Reference voltage output (0.5 V <sub>cc</sub> ).
4	MUX	Multiplex signal input.
5	V <sub>DDA</sub>	+5 V supply voltage for analog part.
6	V <sub>SSA</sub>	Ground for analog part (0 V).
7	CIN	Subcarrier input to comparator.
8	SCOUT	Subcarrier output of reconstruction filter.
9	TSTLD	Test control.
10	TEST	Test enable.
11	V <sub>SSD</sub>	Ground for digital part (0 V).
12	V <sub>CCD</sub>	+5 V supply voltage for digital part.
13	OSCI	Oscillator input.
14	OSCO	Oscillator output.
15	TS7	57 kHz clock signal output.
16	RDCL	RDS clock output.

LC7074M (IC802)

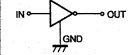


NEK Series



R1	R2
10kohm	10kohm
2kohm	2.2kohm

Series



R1	R2
1kohm	10kohm
7kohm	4.7kohm
1kohm	47kohm

2SK209 (Y/GR)



- 1: Drain
- 2: Source
- 3: Gate

2SA1037 (S/R)  
2SC2412 (S)  
2SC2413K (Q)  
2SC2712 (Y/GR)  
DTB123EK



- 1: Emitter
- 2: Base
- 3: Collector

● DIODES (included LED)

1S5252

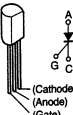
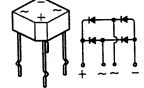
1S2471

MTZJ3.3A  
MTZJ6.2A  
MTZJ6.8C

MTZJ7.5C  
MTZJ27D

4D4B42

SF0R1A42



2SK211 (Y/GR)



- 1: Gate
- 2: Drain
- 3: Source

1SR35-200 (A)



DAP202K  
(Chip)

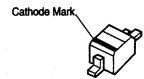


DAP202K



- 1: Cathode
- 2: Cathode

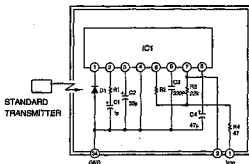
DTZB.2B



## SBX1610-52 (Remote Control Sensor)



1. Vcc
2. Output
3. GND
4. Case Fin
5. Case Fin



- IC1 : CX20106A Chip  
 D1 : PIN Photodiode Chip  
 C1,C2,C4 : Aluminun Electrolytic Capacitor  
 C3 : SL Characteristic  $\pm 5\%$   
 R1 : Gain control resistor  
 R2 : fo control resistor (Using  $\pm 1\%$ )  
 R (Other than above items)  
 :  $\pm 5\%$