

# DENON

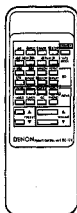
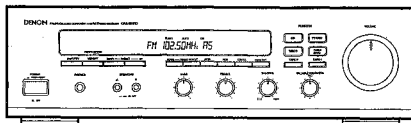
Hi-Fi AM-FM Stereo Receiver

## SERVICE MANUAL

# MODEL DRA-585RD

AM-FM STEREO RECEIVER

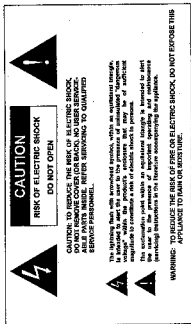
For Europe  
And U.K. Models



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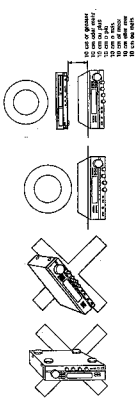
## NIPPON COLUMBIA CO., LTD.



**PRECAUTIONS EN VOOR INSTALLATIE**  
**VERBODEN TOEGANG AAN DE BAKKING** - **Do not touch the interior of the oven.** **Verbod toegang tot de bakruimte van de oven.**  
**VERBODEN TOEGANG AAN DE AFSCHERMING** - **Do not touch the interior of the oven.** **Verbod toegang tot de afdekking van de oven.**  
**VERBODEN TOEGANG AAN DE AFSCHERMING** - **Do not touch the interior of the oven.** **Verbod toegang tot de afdekking van de oven.**

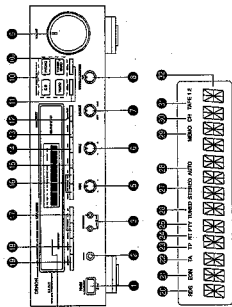
**PRECAUTIONS D'INSTALLATION**  
**NE PAS TOUCHER L'INTÉRIEUR DE LA CAVITÉ** - **Do not touch the interior of the oven.** **Ni de bakruimte van de oven aanraken.**  
**NE PAS TOUCHER L'INTÉRIEUR DE LA CAVITÉ** - **Do not touch the interior of the oven.** **Ni de bakruimte van de oven aanraken.**

**PRECAUTIONS PER INSTALLAZIONE**  
**NON TOCCARE L'INTERNO DELLA CAVITÀ** - **Do not touch the interior of the oven.** **Non toccare l'interno della camera di cottura.**  
**NON TOCCARE L'INTERNO DELLA CAVITÀ** - **Do not touch the interior of the oven.** **Non toccare l'interno della camera di cottura.**



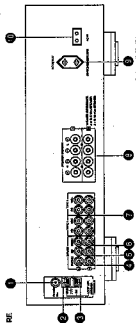
2

FRONT PANEL  
VORDERBUIZEL  
PANNELLO ANTERIORE  
PANEL ANTERIOR  
FRAMPAANELLEN  
PANEL FRONTAL



DISPLAY  
AFSCHERMING  
DISPLAY  
PANEL ANTERIOR  
KESPLATEN  
MUIS INHOUDER

REAR PANEL  
Achterbuis  
PANNELLO POSTERIORE  
PANEL POSTERIOR  
ACHTERPAANEL  
BAKRUIMEN  
PANEL TINSERO



3

NOTE ON USE / HINWIJSE ZIJN GEBRUIK / OBSERVATIONS RELATIVES A L'UTILISATION / NOTE SULL'USO / NOTAS SOBRE EL USO / ALVORENS TE GEBRUIKEN / OBSERVERA OBSERVAÇÕES SOBRE O USO

	<p>Do not get the lens scratched, worn and damaged. Do not use the lens for anything other than the intended purpose. Do not use the lens for anything other than the intended purpose. Do not use the lens for anything other than the intended purpose.</p>		<p>Do not use the lens for anything other than the intended purpose. Do not use the lens for anything other than the intended purpose. Do not use the lens for anything other than the intended purpose.</p>	
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Assess each of the following items as indicated on the appropriate line.

- (1) Operating Instructions
- (2) Manual
- (3) PM Anvoren
- (4) Nieuwste Gebruiksaanwijzing RC-174
- (5) Gebruiksaanwijzing RC-174
- (6) PM Anvoren
- (7) PM Anvoren
- (8) PM Anvoren
- (9) AEC-Cert

Vergelijk de volgende items met de volgende tabel en vink de juiste afwijkingen aan.

- (1) Gebruiksaanwijzing
- (2) Handleiding
- (3) Gebruiksaanwijzing
- (4) Nieuwste Gebruiksaanwijzing RC-174
- (5) Gebruiksaanwijzing RC-174
- (6) PM Anvoren
- (7) PM Anvoren
- (8) PM Anvoren
- (9) AEC-Cert

Verifieer de volgende items op de juiste wijze en vink de juiste afwijkingen aan.

- (1) Modelnummer
- (2) Modelnummer
- (3) Modelnummer
- (4) Modelnummer
- (5) Modelnummer
- (6) Modelnummer
- (7) Modelnummer
- (8) Modelnummer
- (9) Modelnummer

Controleer de juiste afwijkingen en vink de juiste afwijkingen aan.

- (1) Instructies per taal
- (2) Instructies per taal
- (3) Instructies per taal
- (4) Instructies per taal
- (5) Instructies per taal
- (6) Instructies per taal
- (7) Instructies per taal
- (8) Instructies per taal
- (9) Instructies per taal

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- (9) Instructies per taal


**NAR-FARBEPROBISCHE MODELLE**  
 Kontrollen  
 Instruktionen  
 Handleiding

Verifieer de volgende items op de juiste wijze en vink de juiste afwijkingen aan.













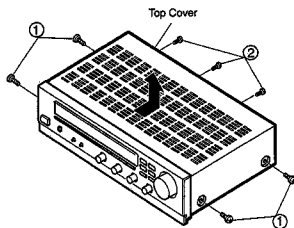


## DISASSEMBLY

(To reassemble reverse disassembly)

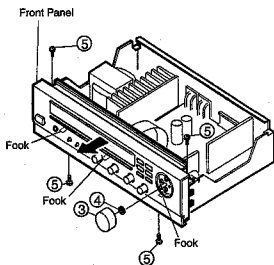
### 1. Top Cover

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



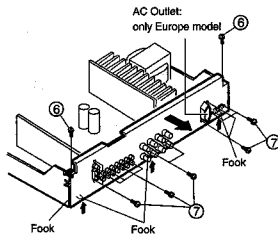
### 2. Front Panel

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

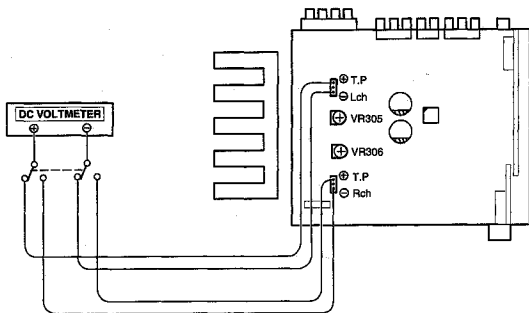


### 3. Rear Panel

- (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 (■)

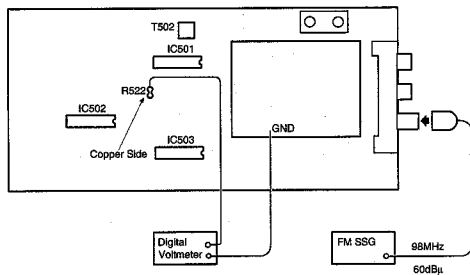
Temperature → 15°C ~ 30°C (59°F ~ 86°F)

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.

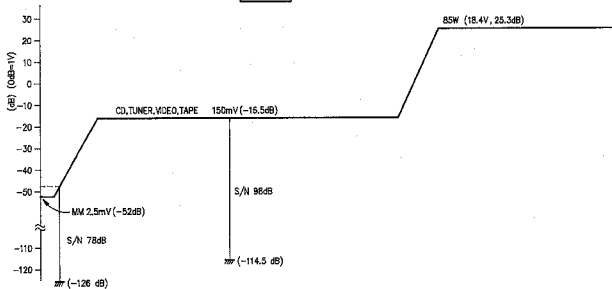
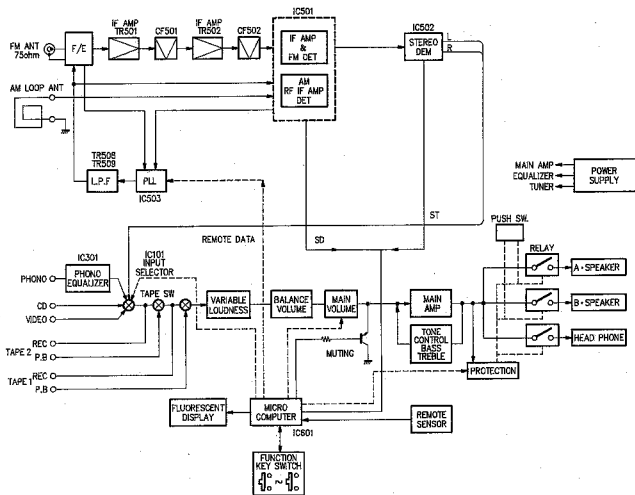
## CONNECTINON DIAGRAM OF MEASURING INSTRUMENTS

## ● FM SECTION



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

## BLOCK/LEVEL DIAGRAM



Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
R401	247 0013 900	Carbon chip 220kohm 1/10W	RM73B-224J	C331,332	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
R402	247 0009 985	Carbon chip 1k0kohm 1/10W	RM73B-103J	C333,334	254 4260 922	Electrolytic 0.33µF/50V	CE04W1HR33M
R403	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B-472J	C335,336	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
R404,405	247 0007 945	Carbon chip 1kohm 1/10W	RM73B-102J	C337,338	257 0002 992	Ceramic chip 20pF/50V	CC73SL1H200J
R406	247 0009 985	Carbon chip 10kohm 1/10W	RM73B-103J	C339,340	254 4254 825	Electrolytic 33µF/16V	CE04W1C330M
R407	247 0010 958	Carbon chip 20kohm 1/10W	RM73B-203J	C341,342	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
R408	247 0009 985	Carbon chip 10kohm 1/10W	RM73B-103J	△C353,354	256 1534 973	Metalized 0.1µF/50V	CE04W1H04J
R409	247 0007 945	Carbon chip 1kohm 1/10W	RM73B-102J	C355,356	255 1285 978	Film 0.022F/50V	CE03M1H822J(B)
R410	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B-472J	C357	254 4260 948	Electrolytic 1mF/50V	CE04W1H010M
△R411	244 2051 967	Metal oxide film 4.7kohm 1W	RS14B3A472JNBS(S)	C358	253 9030 963	Ceramic 0.01µF/25V	CK45-1E103K
△R412	241 2377 347	Carbon 100kohm 1/4W	RD14B2E10JNBS	C359,360	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
△R415	241 2367 308	Carbon 10kohm 1/4W	RD14B2E01JNBS	C401	254 4258 905	Electrolytic 4.7µF/35V	CE04W1V4R7M
△R451,452	244 2052 912	Metal oxide film 2.7kohm 1W	RS14B3A272JNBS(S)	C402	257 0012 968	Ceramic chip 0.01µF/50V	CK73F1H103Z
△R453	244 2051 960	Metal oxide film 4.7kohm 1W	RS14B3A472JNBS(S)	C403	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
R460	247 0011 944	Carbon chip 47kohm 1/10W	RM73B-473J	C404,405	253 1181 904	Ceramic 0.01µF/50V	CK45F1H103Z
△R465,466	244 2052 902	Metal oxide film 2.7kohm 1W	RS14B3A272JNBS(S)	C406	259 0007 702	For back up 8200µF	SB CAP-822-C
△R467	244 2052 921	Metal oxide film 5.6kohm 1W	RS14B3A562JNBS(S)	C407	254 4254 908	Electrolytic 10µF/16V	CE04W1C100M
R468	244 2052 957	Metal oxide film 5.6kohm 1W	RS14B3A562JNBS(S)	C408	254 4403 734	Electrolytic 4700µF/25V	CE04W1E472M(C)M(S)
R475	247 0010 929	Carbon chip 15kohm 1/10W	RM73B-153J	C409	254 4261 821	Electrolytic 100µF/50V	CE04W1H010M
R701,702	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B-472J	C410	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
R703,704	247 0012 969	Carbon chip 150kohm 1/10W	RM73B-154J	C451	254 4260 980	Electrolytic 10µF/50V	CE04W1H100M
R705,706	247 0011 986	Carbon chip 68kohm 1/10W	RM73B-683J	C452	254 4254 825	Electrolytic 33µF/16V	CE04W1C330M
R707,708	247 0004 922	Carbon chip 47ohm 1/10W	RM73B-470J	C453	254 4250 945	Electrolytic 330µF/6.3V	CE04W0J331M
R709,710	247 0005 982	Carbon chip 240ohm 1/10W	RM73B-241J	C456	255 1285 938	Film 0.01µF/50V	CE03M1H103J(B)
R711,712	247 0012 956	Carbon chip 130kohm 1/10W	RM73B-134J	C459,460	253 1151 905	Ceramic 4700pF/500V	CK45E2H472P
R713,714	247 0009 938	Carbon chip 11kohm 1/10W	RM73B-113J	△C461	259 1042 936	Metalized 0.1µF/250V	CE03A2E134K
R715,716	247 0003 949	Carbon chip 22ohm 1/10W	RM73B-220J	C462	254 4254 938	Electrolytic 47µF/16V	CE04W1C470M
R717,718	247 0005 905	Carbon chip 100ohm 1/10W	RM73B-101J	C549	254 4252 927	Electrolytic 47µF/10V	CE04W1A470M
R719,720	247 0012 927	Carbon chip 100kohm 1/10W	RM73B-104J	C701,702	257 0003 988	Ceramic chip 47pF/50V	CC73SL1H470J
<b>CAPACITORS GROUP</b>				C703,704	257 0005 944	Ceramic chip 220pF/50V	CC73SL1H221J
C101-108	257 0004 903	Ceramic chip 56pF/50V	CC73SL1H560J	C705,706	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C109,110	253 1179 945	Ceramic 220pF/50V	CK45B1H221KT	C709,710	254 4250 929	Electrolytic 100µF/6.3V	CE04W0J101M
C111	257 0002 921	Ceramic chip 10pF/50V	CC73SL1H100D	C711,712	255 4199 969	Film 0.02µF/50V	CE02M1H243J(MRZ)
C112,113	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z	C713,714	255 1285 907	Film 6800pF/50V	CE03M1H682J(B)
C124,125	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z	C715,716	254 4254 908	Electrolytic 10µF/16V	CE04W1C100M
C127	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z	C717,718	253 1181 904	Ceramic 0.01µF/50V	CK45F1H103Z
C131-134	257 0004 903	Ceramic chip 56pF/50V	CC73SL1H560J	C724	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C201-204	255 1265 907	Film 6800pF/50V	CE03M1H682J(B)	C725	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C205,206	257 0006 985	Ceramic chip 820pF/50V	CC73SL1H821J	C801,802	257 0016 962	Ceramic chip 27pF/50V	CC73CH1H270J
C251-254	254 4258 918	Electrolytic 10µF/35V	CE04W1V100M	C803-805	254 4250 916	Electrolytic 47µF/6.3V	CE04W0J470M
△C257,258	254 4261 002	Electrolytic 7200µF/33V	CE04W-722M(M)DL	C807,808	257 0003 933	Ceramic chip 30pF/50V	CC73SL1H300J
C259	253 1181 904	Ceramic 0.01µF/50V	CK45F1H103Z	C809	257 0012 966	Ceramic chip 0.01µF/50V	CK73F1H103Z
C307,308	257 0006 927	Ceramic chip 470pF/50V	CC73SL1H471J	C810	254 4250 916	Electrolytic 47µF/6.3V	CE04W0J470M
C311-314	253 4636 909	Ceramic 10pF/50V	CE45SL1H1000	C811	257 0006 943	Ceramic chip 560pF/50V	CC73SL1H561J
C323,324	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M				
C325,326	255 1265 936	Film 0.01µF/50V	CE03M1H103J(B)				

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 560ohm 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 990	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
R536	247 0010 974	Chip 24kohm 1/10W	RM73B-243J
R536	247 0012 985	Chip 180kohm 1/10W	RM73B-184J
R537	247 0012 988	Chip 200kohm 1/10W	RM73B-204J
R538	247 0012 985	Chip 180kohm 1/10W	RM73B-184J
R539	247 0012 998	Chip 200kohm 1/10W	RM73B-204J
RS40,541	247 0008 902	Chip 1.8kohm 1/10W	RM73B-182J
RS42,543	247 0009 901	Chip 4.7kohm 1/10W	RM73B-472J
R544	247 1007 988	Chip 1.5kohm 1/8W	RM73B25152J
R545	247 0009 985	Chip 10kohm 1/10W	RM73B-103J
R546	247 0012 927	Chip 100kohm 1/10W	RM73B-104J

**CAPACITORS GROUP**

C501-506	257 0012 968	Chip(Ceramic) 0.01 $\mu$ F/50V	CK73F1H103Z
C507	257 0002 947	Chip(Ceramic) 12pF/50V	CC73SL1H120J
C508	254 4254 909	Electrolytic 10 $\mu$ F/16V	CE04W1C100M
C509	257 0004 961	Chip(Ceramic) 100pF/50V	CC73SL1H101J
C510	257 0012 968	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	CC73SL1H180J
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

Ref. No.	Part No.	Part Name	Remarks
<b>OTHERS PARTS GROUP</b>			
CF501,502	261 0064 007	Ceramic filter	SFT10.7MS2
CF504	261 0101 009	:Ceramic filter	BFU450C4N
GN88,8C	205 0805 081	8P connector socket	
FE501	216 0065 006	Front end	
T501	231 1813 004	MW antenna OSC coil	
T502	231 2069 008	FM DET trans	
T503	231 3804 008	:AM IFT	
T504	232 9010 009	Antibrindie filter	
T505,506	232 0065 004	:LPF	
XL502	261 0103 007	:Resonator	CSB456F11
XL503	399 0075 003	Crystal	7.2MHz
	205 0847 004	3P antenna terminal(PAL/F)	
	203 0526 031	1P Contact Ass'y	



KU-9328 DISPLAY UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>			
IC601	292 2248 001	IC TM187C0M71F-6348	
IC602	293 0909 900	IC BA4200F	
ZD651	275 0654 901	Zener diode D1Z8.2B	
<b>RESISTORS GROUP (Not included carbon film ±5% 1/4W)</b>			
VR301	211 0841 016	Variable 100kohm	V14P22F104K
VR302	211 0931 002	Variable 100kohm	V16B01Z5FB104(MG)
VR303	211 0942 017	Variable 25kohm	V14P22F0254K
VR304	211 0843 016	Variable 5kohm	V14P22F0503K
VR307	211 9131 004	Variable 100kohm	V14P22FB104K
R301,302	247 0011 969	Chip 38kohm 1/10W	RM738-393J
R303,304	247 0009 943	Chip 6.8kohm 1/10W	RM738-682J
R361,362	247 0011 973	Chip 82kohm 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 884	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 300kohm 1/10W	RM738-301J
R375,376	247 0011 944	Chip 47kohm 1/10W	RM738-473J
R373,380	247 0009 901	Chip 4.7kohm 1/10W	RM738-472J
R651	247 1069 900	Chip 4.7kohm 1/8W	RM73828472J
R652-657	247 0009 985	Chip 10kohm 1/10W	RM738-103J
R665	247 0007 945	Chip 10kohm 1/10W	RM738-102J
R666	247 0006 976	Chip 200kohm 1/10W	RM738-201J
R667	247 0006 917	Chip 300kohm 1/10W	RM738-301J
R668	247 0007 945	Chip 10kohm 1/10W	RM738-102J
R669	247 0006 976	Chip 200kohm 1/10W	RM738-201J
R670	247 0006 917	Chip 300kohm 1/10W	RM738-301J
R671	247 0007 945	Chip 10kohm 1/10W	RM738-102J
R672	247 0006 976	Chip 200kohm 1/10W	RM738-201J
R673	247 0006 917	Chip 300kohm 1/10W	RM738-301J
R674	247 0006 976	Chip 510kohm 1/10W	RM738-511J
R675	247 0007 945	Chip 10kohm 1/10W	RM738-102J
R676	247 0007 945	Chip 10kohm 1/10W	RM738-102J
R677	247 0006 976	Chip 200kohm 1/10W	RM738-201J
R678	247 0006 917	Chip 300kohm 1/10W	RM738-301J
R679	247 0006 976	Chip 510kohm 1/10W	RM738-511J
R680	247 0007 945	Chip 10kohm 1/10W	RM738-102J
R681	247 0009 985	Chip 10kohm 1/10W	RM738-103J
R682,883	247 0009 985	Chip 10kohm 1/10W	RM738-103J
R685	247 0008 957	Chip 38kohm 1/10W	RM738-393J

Ref. No.	Part No.	Part Name	Remarks
<b>CAPACITORS GROUP</b>			
C300	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C301,302	257 0006 943	Ceramic 500pF/50V	CC73SL1H5E1J
C303,304	255 1285 978	Film 0.022µF/50V	CQ99M1H223J(B)
C361,362	257 0004 961	Ceramic 100pF/50V	CC73SL1H101J
C363,364	255 1285 981	Film 0.027µF/50V	CQ99M1H273J(B)
C365,366	256 1034 882	Metallized 0.12µF/50V	CF93A1H124J
C367,368	255 1264 924	Film 1500pF/50V	CQ99M1H1503J(B)
C369,370	255 1285 936	Film 0.01µF/50V	CQ99M1H103J(B)
C651	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C652	254 4300 863	Electrolytic 100µF/6.3V	CEM4WJ101M(SRE)
C653	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C655	254 4299 964	Electrolytic 47µF/16V	CEM4W1C470M(SRE)
C657	257 0012 982	Chip(Ceramic) 0.022µF/50V	CK73F1H223Z
C666	257 0004 961	Ceramic 100pF/50V	CC73SL1H101J
<b>OTHERS PARTS GROUP</b>			
CN28D	205 0919 026	8P JIG socket(Side)	
CN29D	205 0960 045	29P PFC connector base	
CN6A,6C	205 0917 002	8P bottom plug	
CN6A	205 0917 015	8P bottom plug	
CN6D	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 008	Head phone jack	Gold model
RM601	499 0150 008	Barcode sensor	S8X1610-D-82
SH382,303	212 1140 008	Push switch(ES8644J)	
SW601-617	212 5604 910	Tact switch	
XL651	Repeater	DCRH4.00M	
	414 0740 006	Shield plate	

1U-2915 POWER UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
<b>CAPACITORS GROUP</b>			
<b>OTHERS PARTS GROUP</b> <span style="float: right;">DK45-1E103K</span>			
CN8A	206 0561 001	2P VH connector base	
	415 0299 000	Condenser cover	
	202 0040 908	Fuse clip	

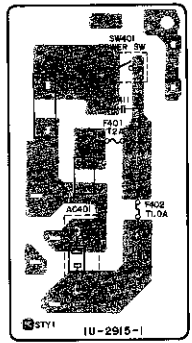
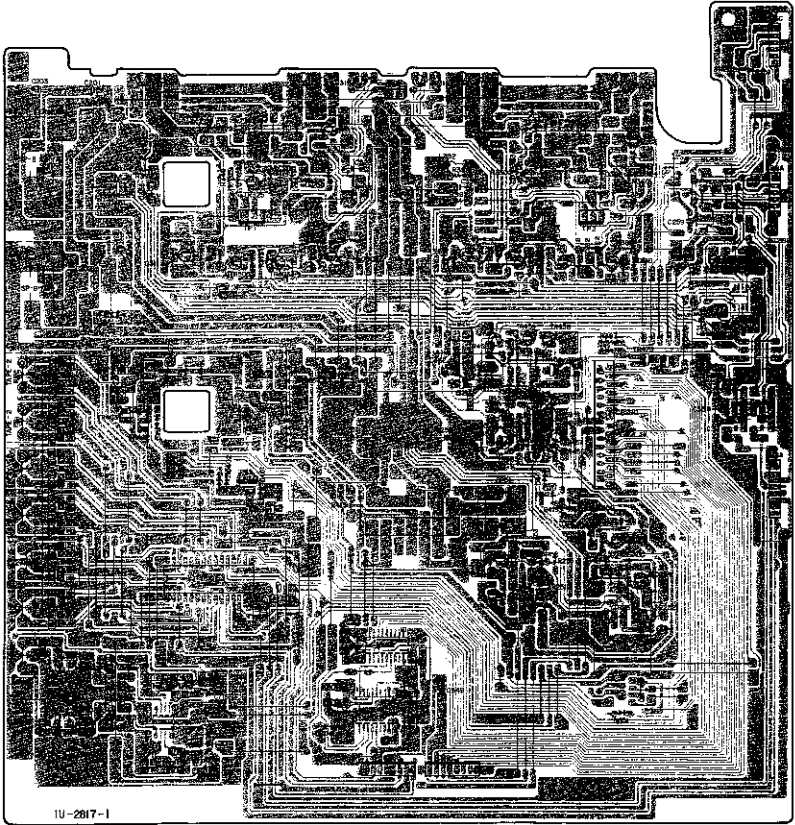
PRINTED WIRING BOARD PATTERNS

1 2 3 4 5 6 7 8

1U-2817 MAIN UNIT ASS'Y

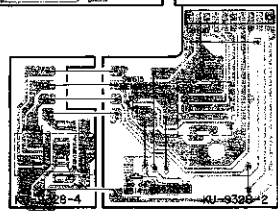
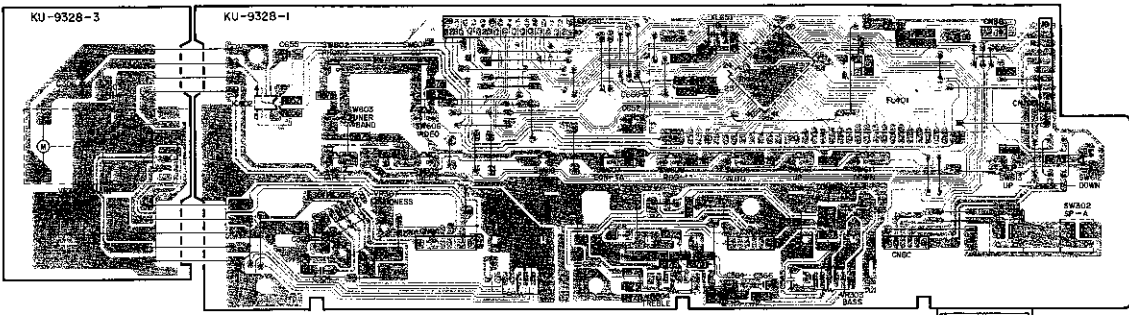
1U-2915 POWER UNIT ASS'Y

A  
B  
C  
D  
E

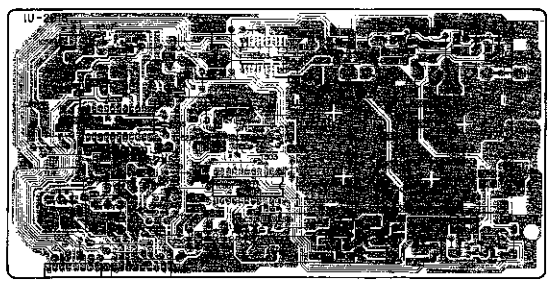


1 2 3 4 5 6 7 8

KU-9328 DISPLAY UNIT ASS'Y



IU-2818 TUNER UNIT ASS'Y



A

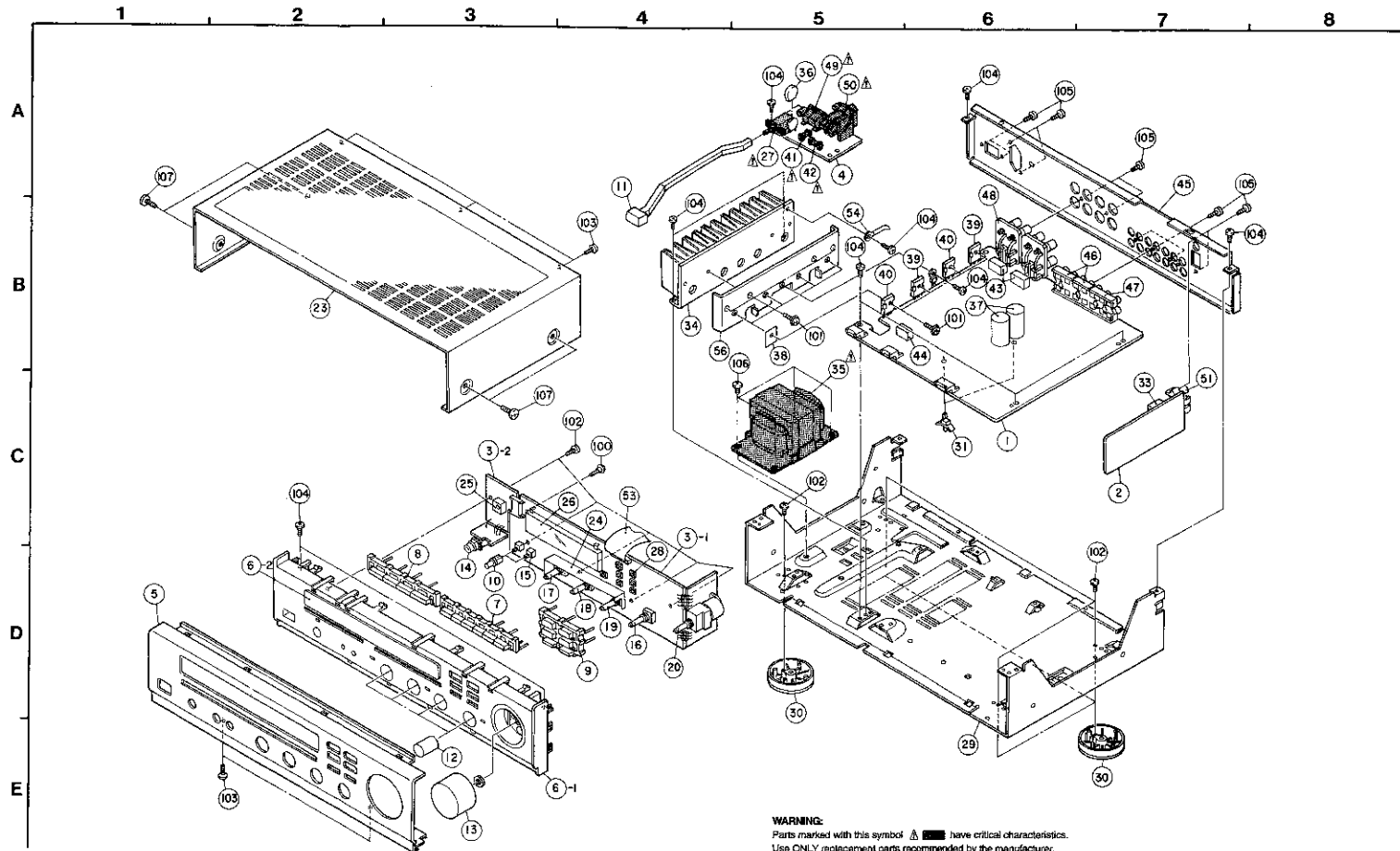
B

C

D

E

## EXPLODED VIEW OF CHASSIS AND CABINET



## PARTS LIST EXPLODED VIEW

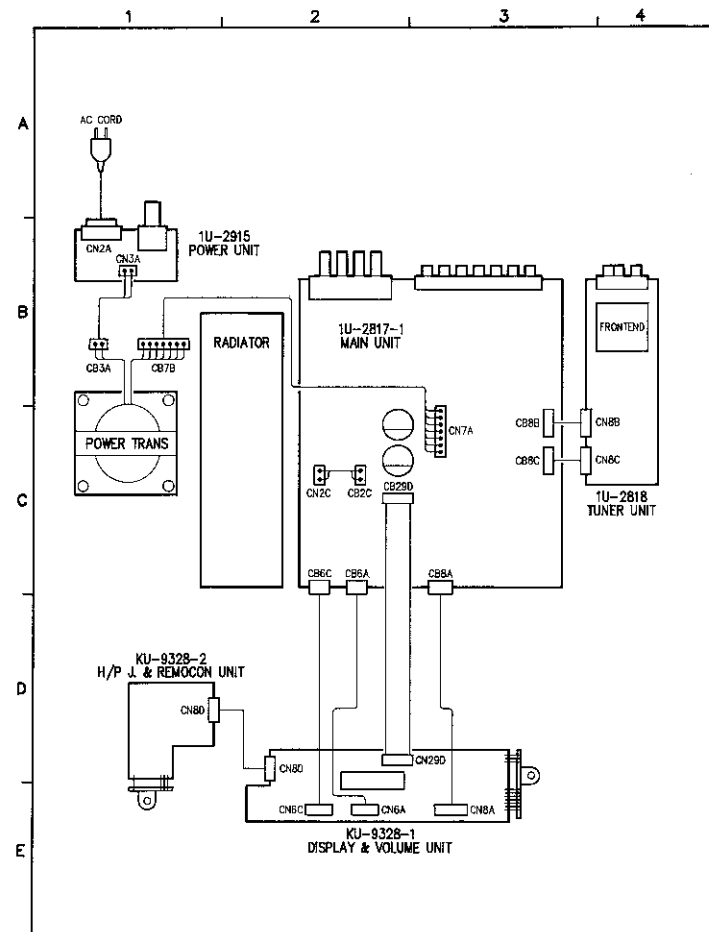
\* Gold model = Except to U.K.

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	1U-2817 E	Main unit Assy	Europe model	1	36	415 0299 000	Capacitor cover		1
	---	---			37	254 6201 002	Electrolytic capacitor	C257,258	2
1	1U-2817 F	Main unit Assy	U.K. model	1	38	415 0234 007	Insulating sheet		4
	---	---			39	271 0240 006	Transformer 2SA1491(OP/N)	TR323,324	2
	---	---			40	273 0289 002	Transformer 2SC3455(OP/N)	TR321,322	2
2	1U-2818	Tuner unit Assy		1					
3	KU-9228	Display unit Assy		1					
3-1	---	Display & Volume unit							
3-2	---	HP J.A. Resonance unit							
4	1U-2915	Power unit Assy		1	43	214 0187 005	Relay(R52-2A)	RL451,452	2
5	144 2487 002	Front panel	Black model	1	44	214 0127 003	Relay(RY-12W)	RL453	1
	144 2487 015	Front panel	Gold model	1	45	105 1187 104	:Rear panel	Europe model	1
	146 1632 004	Inner panel Assy	Black model	1	45	105 1187 117	:Rear panel	U.K. model	1
5-1	143 9187 001	(Window)		1	46	204 9435 009	4P pin jack(S-GND)		2
5-2	143 9187 001	(Window)		1	47	204 9486 006	8P pin jack(S-GND)		1
5-1	146 1632 017	Inner panel Assy	Gold model	1	48	205 0484 001	8P speaker terminal	Europe model	1
5-2	143 9187 001	(Window)		1	48	205 0472 013	8P speaker terminal	U.K. model	1
7	113 8325 008	Series button (A)	Black model	1					
7	113 8325 011	Series button (A)	Gold model	1					
8	113 8325 007	Series button (B)	Black model	1	51	205 0847 004	3P antenna terminal(PAL/F)		1
8	113 8328 010	Series button (B)	Gold model	1	53	009 0134 039	29P FFC cable		1
9	113 9324 229	Function button	Black model	1	54	445 0048 003	Cord holder(L=76)		1
9	113 9324 232	Function button	Gold model	1	56	417 0520 102	Sub radiator		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	SCREWS				
11	113 1721 011	Power button Assy	Gold model	1	100	477 0282 006	Special screw		1
12	112 0730 001	*Knob (Menu)	Black model	4	101	473 8007 005	Cup screw 3x12		8
12	112 0730 014	*Knob (Menu)	Gold model	4	102	473 7500 044	Screw 3x6 (P) BK		9
13	112 0737 029	*Volume knob	Black model	1	103	473 7015 018	Screw 3x8 (S) BK		5
13	112 0737 032	*Volume knob	Gold model	1	104	473 7002 018	Screw 3x8 (S)		12
14	204 8354 017	Head phone jack	Black model	1	106	477 8057 004	Fixing screw 3x10 BK		11
14	204 8355 003	Head phone jack	Gold model	1	106	473 7004 016	Screw 4x8 (S)		4
15	212 1140 008	Push switch(EB9564G)	SW3002,303	2	107	473 7007 013	Screw 4x10 (S) BK	Black model	4
16	211 0131 004	Variable resistor	VR307	1	107	473 4801 005	Screw 4x8	Gold model	4
17	211 0642 017	Variable resistor	VR303	1					
18	211 0643 016	Variable resistor	VR304	1					
19	211 0641 018	Variable resistor	VR301	1					
20	211 0851 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	489 0150 006	Remote sensor	SRX1810-S2	1					
26	383 4155 002	FL tube	FIP14AM/R	1					
27	212 1011 005	Push switch(T)		1					
28	212 5604 910	Tact switch	SW601-603,805-817	16					
29	411 1323 300	Chassis		1					
30	104 0230 101	Foot Assy		4					
31	449 0033 049	Locking cart spacer		2					
33	215 0065 008	Front and		1					
34	417 0529 006	Power radiator		1					

## PACKING &amp; ACCESSORIES

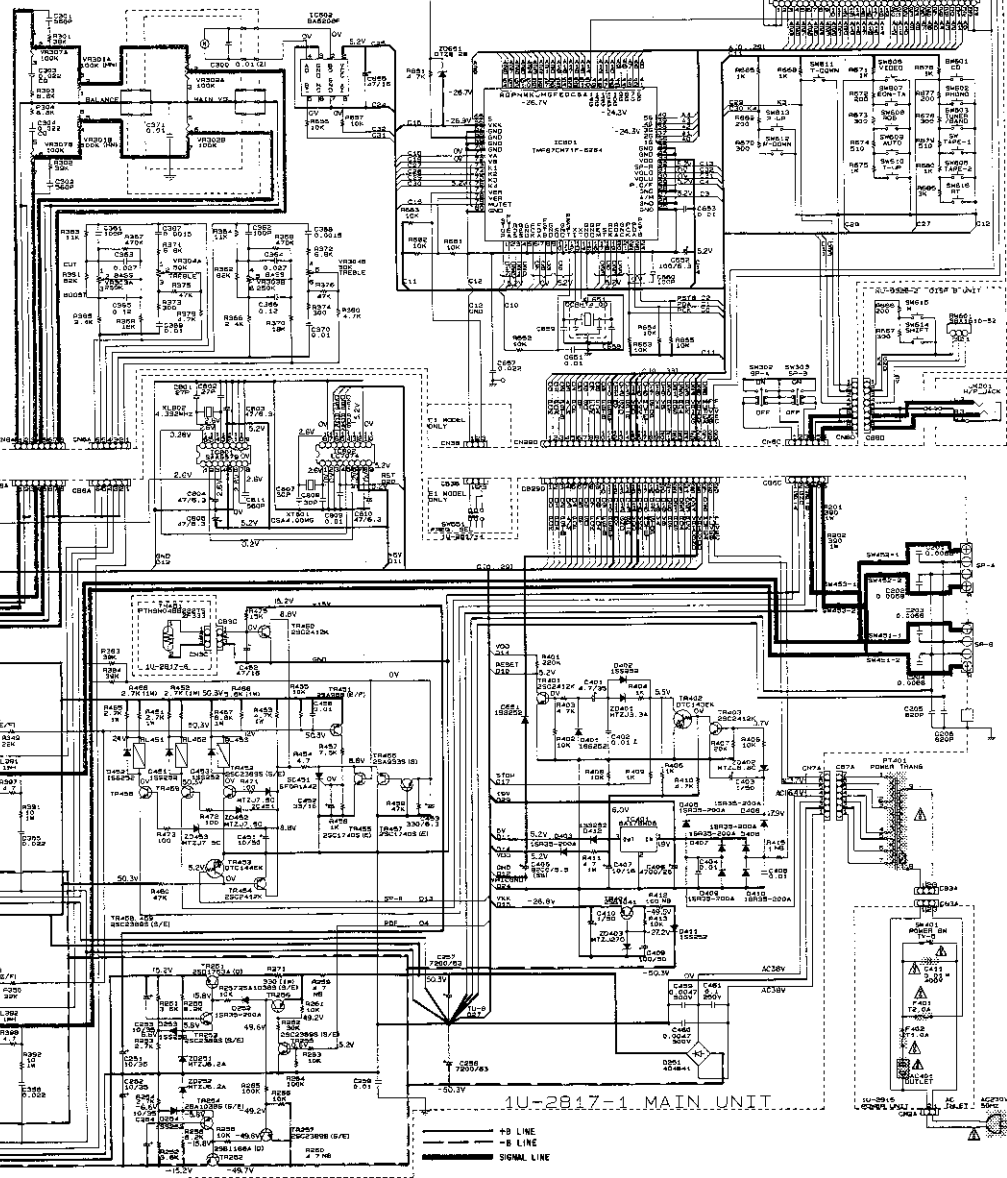
Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	505 0283 018	:Envelope		1
1	511 2849 001	:Operating instructions		1
1	231 1914 003	:AM loop antenna		1
1	395 0023 008	:FM antenna Assy		1
1	399 0242 001	:Remote control Unit	RC-174	1
1	505 0131 050	:Cabinet cover		1
2	503 1140 109	:Custom		2
1	501 1871 045	:Carton case		1

### WIRING DIAGRAM





KU-9328-1 DISPLAY UNIT



1U-2817-1 MAIN UNIT

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

**TION:**  
 returning the unit to the customer, make sure you make either (1) a leakage  
 in check or (2) a line to chassis resistance check. If the leakage current  
 is less than 240 volts, the unit is defective.

**WARNING:**  
 NOT return the unit to the customer until the problem is located and corrected.

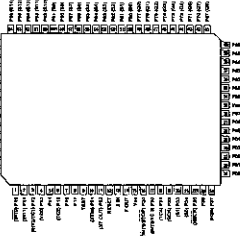
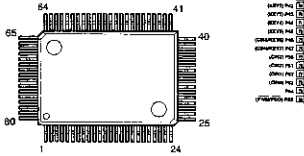
**ES:**  
 and parts are subject to change without prior notice.

**NOTES**  
 ALL RESISTANCE VALUES IN OHM, K=1,000 OHM,  
 M=1,000,000 OHM  
 ALL CAPACITANCE VALUES IN MICRO PARAD.  
 P=PICTO-MICRO PARAD  
 EACH VOLTAGE AND CURRENT ARE MEASURED AT NO  
 SIGNAL INPUT CONDITION.  
 CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT  
 PRIOR NOTICE.



● IC's

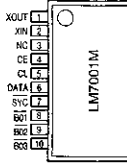
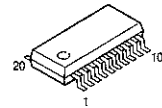
TMP87CM71F-6348 (IC601)



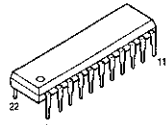
TMP87CM71F Pin Allocation Table

Pin No.	Symbol	ID	Logic	Input Setup	Function	Pin No.	Symbol	ID	Logic	Input Setup	Function
1	VCC				Power down circuit (P.C. in power down)	42	RD	C			FL tube control output for RD
2	MCUTE (A)				MUTE (A) output (P.P. + MUTE)	41	RD	C			FL tube control output for RD
3	MDS	I	Serial		MDS data output input	40	RD	C			FL tube control output for RD
4	FRCS	O	L	H	FRCS output output	39	RD	C			FL tube control output for RD
5	GN2	I	Serial		Not used	38	RD	C			FL tube control output for RD
6	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	37	RD	C			FL tube control output for RD
7	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	36	RD	C			FL tube control output for RD
8	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	35	RD	C			FL tube control output for RD
9	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	34	RD	C			FL tube control output for RD
10	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	33	RD	C			FL tube control output for RD
11	GN2	I	Serial		Not used	32	RD	C			FL tube control output for RD
12	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	31	RD	C			FL tube control output for RD
13	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	30	RD	C			FL tube control output for RD
14	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	29	RD	C			FL tube control output for RD
15	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	28	RD	C			FL tube control output for RD
16	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	27	RD	C			FL tube control output for RD
17	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	26	RD	C			FL tube control output for RD
18	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	25	RD	C			FL tube control output for RD
19	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	24	RD	C			FL tube control output for RD
20	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	23	RD	C			FL tube control output for RD
21	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	22	RD	C			FL tube control output for RD
22	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	21	RD	C			FL tube control output for RD
23	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	20	RD	C			FL tube control output for RD
24	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	19	RD	C			FL tube control output for RD
25	GN2	I	Serial		Not used	18	RD	C			FL tube control output for RD
26	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	17	RD	C			FL tube control output for RD
27	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	16	RD	C			FL tube control output for RD
28	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	15	RD	C			FL tube control output for RD
29	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	14	RD	C			FL tube control output for RD
30	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	13	RD	C			FL tube control output for RD
31	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	12	RD	C			FL tube control output for RD
32	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	11	RD	C			FL tube control output for RD
33	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	10	RD	C			FL tube control output for RD
34	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	9	RD	C			FL tube control output for RD
35	GN2	I	Serial		Not used	8	RD	C			FL tube control output for RD
36	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	7	RD	C			FL tube control output for RD
37	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	6	RD	C			FL tube control output for RD
38	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	5	RD	C			FL tube control output for RD
39	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	4	RD	C			FL tube control output for RD
40	FRCS	O	Serial	L	Function control output (FRCS) for P.C.K.	3	RD	C			FL tube control output for RD
41	RD	C			MUTE (A) output (P.P. + MUTE)	2	RD	C			FL tube control output for RD
42	RD	C			Power down circuit (P.C. in power down)	1	RD	C			FL tube control output for RD

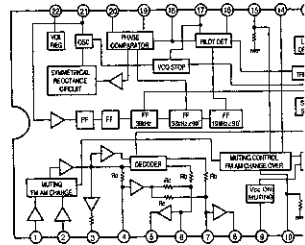
LM7001 (IC503)



LA3401 (IC502)

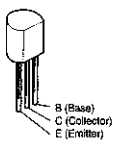


BA620

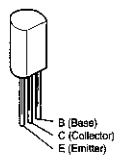


● TRANSISTORS

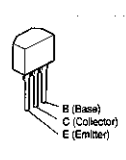
- 2SA988(E/F)
- 2SA1515(R)
- 2SC1815(Y)
- 2SC1841(E/F)



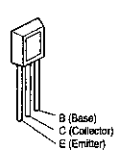
- 2SB647A(C)
- 2SB1041(R)
- 2SD667A(C)



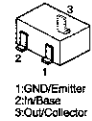
- 2SA933S(S)
- 2SA1038S(S/E)
- 2SC1740S(E)
- 2SC2389S(S/E)



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

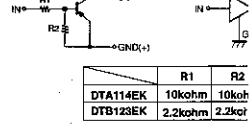


Digital Transistor (Built in Resistors)



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

DTA - DTBEK Series



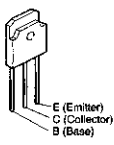
	R1	R2
DTA114EK	10kohm	10kohm
DTB123EK	2.2kohm	2.2kohm

DTCEK Series

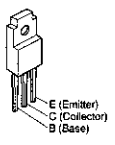


	R1	R2
DTC114EK	10kohm	10kohm
DTC143EK	4.7kohm	4.7kohm
DTC144EK (Chip)	47kohm	47kohm

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



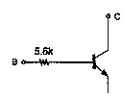
- 2SB1186A (D)
- 2SD1763A (D)



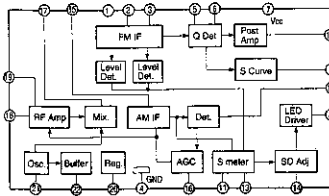
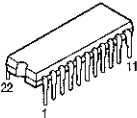
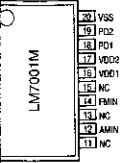
RN-1241(A/B)



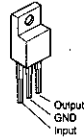
RN-1241



LA1265 (S)  
(IC501)

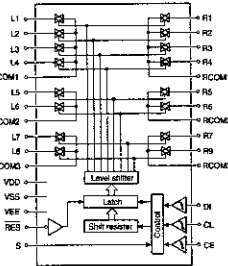
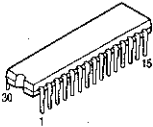
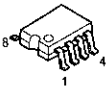


NJM78M12FA (IC504)  
BA178M06 (IC401)

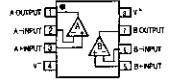
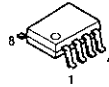


LC7821 (IC101)

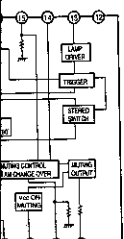
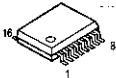
BA6208F (IC602)



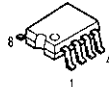
NJM2082MD (IC701)



SAA6579T (IC801)

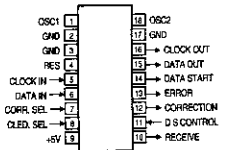
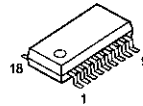


BA15218F (IC301)

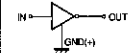


Pin No.	Symbol.	Description
1	QUAL	Quality indication output.
2	RDDA	RDS data output.
3	V <sub>ref</sub>	Reference voltage output (0.5 Vcc).
4	MUX	Multiplex signal input.
5	V <sub>DDA</sub>	+5 V supply voltage for analog part.
6	V <sub>SSA</sub>	Ground for analog part (0 V).
7	CIN	Subcarrier input to 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	OSC1	Oscillator input.
14	OSCO	Oscillator output.
15	T67	57 kHz clock signal output.
16	RDCL	RDS clock output.

LC7074M (IC802)

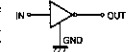


NEK Series



R1	R2
1kohm	10kohm
1kohm	2.2kohm

Series



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

2SK209 (V/GR)



1: Drain  
2: Source  
3: Gate

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



1: Emitter  
2: Base  
3: Collector

● DIODES (Included LED)

1S8252

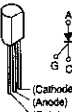
1S2471

MTZJ3.3A

MTZJ7.5C

4D4B42

SF0R1A42



2SK211 (V/RG)



1: Gate  
2: Drain  
3: Source

1SR35-200 (A)

DAP202K (Chip)

DAP202K

DTZ8.2B

