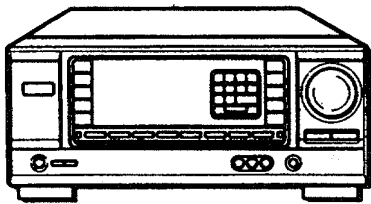


aiwa



AV-X120 AV-X220



STEREO RECEIVER

• TYPE: U

SERVICE MANUAL

SPECIFICATIONS

FM tuner section

Tuning range 87.5 MHz to 108 MHz
Usable sensitivity (IHF) 13.2 dBf
Antenna terminals 75 ohms (unbalanced)

AM tuner section

Tuning range 530 kHz to 1710 kHz (10 kHz step),
 531 kHz to 1602 kHz (9 kHz step)
Usable sensitivity 350 μ V/m
Antenna Loop antenna

Amplifier section

Power output (AV-X220) [Stereo Mode]
Front
 125 watts per channel, Min. RMS at 4 or 8 ohms, from 40 Hz to 20 kHz, with no more than 0.8% Total Harmonic Distortion
[Dolby Pro Logic Mode]
Front
 120 watts per channel, Min. RMS at 4 or 8 ohms (selectable), from 40 Hz to 20 kHz, with no more than 0.9% Total Harmonic Distortion
Rear (Surround)
 60 watts per channel, Min. RMS at 8 ohms, 1 kHz, with no more than 0.9% Total Harmonic Distortion
Center
 120 watts, Min. RMS at 4 or 8 ohms (selectable), 1 kHz, with no more than 0.9% Total Harmonic Distortion

Power output (AV-X120) [Stereo Mode]
Front
 75 watts per channel, Min. RMS at 4 or 8 ohms, from 40 Hz to 20 kHz, with no more than 0.8% Total Harmonic Distortion
[Dolby Pro Logic Mode]
Front
 70 watts per channel, Min. RMS at 4 or 8 ohms, from 40 Hz to 20 kHz, with no more than 0.9% Total Harmonic Distortion
Rear (Surround)
 35 watts per channel, Min. RMS at 8 ohms, 1 kHz, with no more than 0.9% Total Harmonic Distortion
Center
 70 watts, Min. RMS at 4 or 8 ohms, 1 kHz, with no more than 0.9% Total Harmonic Distortion

Total harmonic distortion inputs 0.07 % (105 W, 1 kHz, 8 ohms, Front)

AUDIO IN
 PHONO: 2.8 mV (50 kohms)
 CD: 300 mV (50 kohms)
 TAPE MONITOR: 200 mV (25 kohms)
 VIDEO 1, VIDEO 2/LD/MD,
 VIDEO 3, AUX/TV: 250 mV (50 kohms)
 VIDEO IN: 1 Vp-p (75 ohms)

Outputs

AUDIO OUT (REC OUT): 200 mV (2 kohms)
VIDEO OUT (MONITOR): 1 Vp-p (75 ohms)
SUPER WOOFER: 3.1 V
FRONT SPEAKERS IMP: 8 Ω /4 Ω selectable (front speakers A and B):
 With the **SPEAKER IMPEDANCE SELECTOR** set to 4 Ω , accepts speakers of 4 ohms.
 With the **SPEAKER IMPEDANCE SELECTOR** set to 8 Ω , accepts speakers of 8 ohms or more.
SURROUND SPEAKERS IMP: 8 Ω (surround speakers): accepts speakers of 8 ohms or more

CENTER SPEAKER IMP: 8 Ω /4 Ω selectable
 With the **SPEAKER IMPEDANCE SELECTOR** set to 4 Ω , accepts speaker of 4 ohms.
 With the **SPEAKER IMPEDANCE SELECTOR** set to 8 Ω , accepts speaker of 8 ohms or more.
PHONES (stereo jack): accepts headphones of 32 ohms or more
 -20 dB

Muting

General (AV-X220)

Power requirements 120 V AC, 60 Hz
Power consumption 210 W
Dimensions (W x H x D) 360 x 153.5 x 335 mm (14 $\frac{1}{4}$ x 6 $\frac{1}{8}$ x 13 $\frac{1}{4}$ in.)
Weight 10.3 kg (22 lb 11 oz.)

General (AV-X120)

Power requirements 120 V AC, 60 Hz
Power consumption 160 W
Dimensions (W x H x D) 360 x 153.5 x 335 mm (14 $\frac{1}{4}$ x 6 $\frac{1}{8}$ x 13 $\frac{1}{4}$ in.)
Weight 8.5 kg (18 lb 12 oz.)




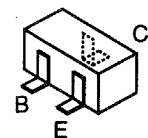
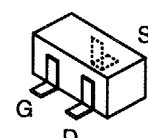
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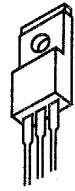
REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C330	87-010-805-080		C-CAP,S 1-16 Z F	C708	87-010-546-080		CAP,E 0.33-50 SME
C331	87-010-805-080		C-CAP,S 1-16 Z F	C711	87-010-263-080		CAP,E 100-10 SME
C332	87-010-805-080		C-CAP,S 1-16 Z F	C712	87-010-112-080		CAP,E 100-16 M SME
C339	87-010-305-080		C-CAP,470P-50 J CH	C722	87-010-152-080		C-CAP,S 8P-50 D CH
C340	87-010-305-080		C-CAP,470P-50 J CH	C723	87-010-178-080		C-CAP,S 1000P-50 K B
C341	87-010-178-080		C-CAP,S 1000P-50 K B	C725	87-010-178-080		C-CAP,S 1000P-50 K B
C342	87-010-178-080		C-CAP,S 1000P-50 K B	C727	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C345	87-010-408-040		CAP,E 47-50 M SME	C728	87-010-248-080		CAP,E 220-10 SME
C501	87-010-404-080		CAP,E 4.7-50 M SME	C729	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C502	87-010-404-080		CAP,E 4.7-50 M SME	C731	87-012-153-080		C-CAP,S 120P-50 J CH GRM
C503	87-012-157-080		C-CAP,S 330P-50 J CH GRM	C732	87-012-155-080		C-CAP,S 180P-50 J CH GRM
C504	87-012-157-080		C-CAP,S 330P-50 J CH GRM	C733	87-012-155-080		C-CAP,S 180P-50 J CH GRM
C511	87-010-404-080		CAP,E 4.7-50 M SME	C771	87-010-405-080		CAP,E 10-50 M SME
C512	87-010-404-080		CAP,E 4.7-50 M SME	C772	87-010-194-080		C-CAP,S 0.047-25 Z F
C513	87-010-260-080		CAP,E 47-25 SME	C774	87-010-263-080		CAP,E 100-10 SME
C514	87-010-260-080		CAP,E 47-25 SME	C775	87-010-405-080		CAP,E 10-50 M SME
C515	87-010-370-080		CAP,E 330-6.3 M SME	C776	87-010-197-080		C-CAP,S 0.01-25 K B
C516	87-010-370-080		CAP,E 330-6.3 M SME	C777	87-010-400-080		CAP,E 0.47-50 M SME
C525	87-010-184-080		C-CAP,S 3300P-50 K B	C778	87-010-401-080		CAP,E 1-50 M SME
C526	87-010-184-080		C-CAP,S 3300P-50 K B	C779	87-010-401-080		CAP,E 1-50 M SME
C531	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C780	87-010-197-080		C-CAP,S 0.01-25 K B
C532	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C789	87-010-194-080		C-CAP,S 0.047-25 Z F
C533	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C790	87-010-194-080		C-CAP,S 0.047-25 Z F
C534	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C791	87-010-401-080		CAP,E 1-50 M SME
C541	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C792	87-010-180-080		C-CAP,S 1500P-50 K B
C549	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C793	87-010-189-080		C-CAP,S 8200P-50 K B
C551	87-010-406-080		CAP,E 22-50 M SME	C794	87-010-260-080		CAP,E 47-25 SME
C552	87-010-406-080		CAP,E 22-50 M SME	C795	87-010-194-080		C-CAP,S 0.047-25 Z F
C553	87-010-406-080		CAP,E 22-50 M SME	C796	87-010-403-080		CAP,E 3.3-50 M SME
C554	87-010-406-080		CAP,E 22-50 M SME	C797	87-010-197-080		C-CAP,S 0.01-25 K B
C555	87-010-406-080		CAP,E 22-50 M SME	C799	87-010-405-080		CAP,E 10-50 M SME
C556	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C820	87-010-260-080		CAP,E 47-25 SME
C557	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C821	87-010-197-080		C-CAP,S 0.01-25 K B
C558	87-010-384-080		CAP,E 100-25 M SME	C823	87-010-197-080		C-CAP,S 0.01-25 K B
C559	87-010-371-080		CAP,E 470-6.3 M SME	C825	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C560	87-010-371-080		CAP,E 470-6.3 M SME	C834	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C561	87-010-371-080		CAP,E 470-6.3 M SME	C835	87-016-461-080		C-CAP,S 0.47-16 Z F
C604	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C836	87-010-401-080		CAP,E 1-50 M SME
C605	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C837	87-010-197-080		C-CAP,S 0.01-25 K B
C621	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C849	87-010-197-080		C-CAP,S 0.01-25 K B
C631	87-010-322-080		C-CAP,S 100P-50 J CH	C850	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C632	87-018-209-080		CAP,TC U 0.1-50 Z F UP050	C901	87-010-197-080		C-CAP,S 0.01-25 K B
C641	87-010-405-080		CAP,E 10-50 M SME	C920	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C642	87-010-405-080		CAP,E 10-50 M SME	C955	87-010-197-080		C-CAP,S 0.01-25 K B
C643	87-010-301-080		C-CAP,220P-50 J CH	C960	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C644	87-012-156-080		C-CAP,S 220P-50 J CH GRM	C988	87-010-198-080		C-CAP,S 0.022-25 K B
C645	87-010-197-080		C-CAP,S 0.01-25 K B	C989	87-010-154-080		C-CAP,S 10P-50 D CH
C646	87-010-197-080		C-CAP,S 0.01-25 K B	CF801	87-008-261-080		FLTR,CF SPE10.7MA5
C647	87-010-195-080		C-CAP,S 0.068-25 Z F C2012	CF802	87-008-261-080		FLTR,CF SPE10.7MA5
C648	87-010-195-080		C-CAP,S 0.068-25 Z F C2012	EMI501	87-008-372-080		FLTR,EMIBL01 RN1
C649	87-010-260-080		CAP,E 47-25 SME	FFE801	A8-6ZA-195-030		6ZA-1 YFEENM
C651	87-010-378-080		CAP,E 10-16 M SME	J261	87-A60-198-010		JACK,6.3 BLK ST W/O SW HPJ
C652	87-010-378-080		CAP,E 10-16 M SME	J521	87-099-609-010		JACK,PIN 4P BLK W/O SW
C661	87-012-140-080		C-CAP,S 470P-50 J CH	J522	87-099-609-010		JACK,PIN 4P BLK W/O SW
C662	87-018-127-080		CAP,TC U 470P-50 K B UP050	J525	87-099-911-010		JACK,PIN 3P YEL W/O SW
C663	87-010-188-080		C-CAP,S 6800P-50 K B	J527	87-099-911-010		JACK,PIN 3P YEL W/O SW
C664	87-010-188-080		C-CAP,S 6800P-50 K B	J530	87-A60-197-010		JACK,PIN 3P Y/W/R W/O SW H
C665	87-010-101-080		CAP,E 220-16 SME	J583	87-099-911-010		JACK,PIN 3P YEL W/O SW
C666	87-010-404-080		CAP,E 4.7-50 M SME	J584	87-099-911-010		JACK,PIN 3P YEL W/O SW
C667	87-010-404-080		CAP,E 4.7-50 M SME	J586	87-099-911-010		JACK,PIN 3P YEL W/O SW
C668	87-010-404-080		CAP,E 4.7-50 M SME	J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
C669	87-010-404-080		CAP,E 4.7-50 M SME	L551	87-005-444-080		COIL,100UH K FLR50
C670	87-010-404-080		CAP,E 4.7-50 M SME	L741	87-A50-015-010		COIL,FM DET (TOK)
C671	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	L742	87-A90-052-010		FLTR, CFMT-450A(TOK)
C672	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	L770	87-005-849-080		COIL,10UH K CECS
C701	87-010-404-080		CAP,E 4.7-50 M SME	L832	87-005-847-080		COIL,2.2UH K CECS
C702	87-010-197-080		C-CAP,S 0.01-25 K B	L981	85-NF7-664-010		TU UNIT, AM PACK 1,(SG1) R
C703	87-010-197-080		C-CAP,S 0.01-25 K B	△PRI104	87-026-691-080		FUSE,10A 125V 251
C704	87-018-131-080		CAP,TC U 1000P-50 K B UP050	△PRI105	87-026-691-080		FUSE,10A 125V 251
C707	87-010-546-080		CAP,E 0.33-50 SME	△PRI106	87-026-691-080		FUSE,10A 125V 251

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
△PR107	87-026-691-080		FUSE,10A 125V 251	LED313	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
△PR201	87-026-691-080		FUSE,10A 125V 251	LED314	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
△PR202	87-026-691-080		FUSE,10A 125V 251	LED315	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
△PR301	87-026-691-080		FUSE,10A 125V 251	LED316	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
△PR302	87-026-691-080		FUSE,10A 125V 251	LED317	87-001-123-080		LED,SLZ-981C-02H-AB-T2 RED
R229	87-022-184-080		RES,M/F 0.33-1W J	LED318	87-001-123-080		LED,SLZ-981C-02H-AB-T2 RED
R230	87-022-184-080		RES,M/F 0.33-1W J	LED319	87-001-123-080		LED,SLZ-981C-02H-AB-T2 RED
R231	87-022-184-080		RES,M/F 0.33-1W J	LED320	87-001-123-080		LED,SLZ-981C-02H-AB-T2 RED
R232	87-022-184-080		RES,M/F 0.33-1W J	LED321	87-001-123-080		LED,SLZ-981C-02H-AB-T2 RED
R295	87-A00-126-080		RES,M/F 220-1W J VTP	LED322	87-001-123-080		LED,SLZ-981C-02H-AB-T2 RED
R296	87-A00-126-080		RES,M/F 220-1W J VTP	LED323	87-001-123-080		LED,SLZ-981C-02H-AB-T2 RED
R297	87-A00-126-080		RES,M/F 220-1W J VTP	LED324	87-001-123-080		LED,SLZ-981C-02H-AB-T2 RED
R298	87-A00-126-080		RES,M/F 220-1W J VTP	S201	87-A90-095-080		SW,TACT EVQ11G04M
R329	87-022-184-080		RES,M/F 0.33-1W J	S202	87-A90-095-080		SW,TACT EVQ11G04M
R330	87-022-184-080		RES,M/F 0.33-1W J	S203	87-A90-095-080		SW,TACT EVQ11G04M
R331	87-022-184-080		RES,M/F 0.33-1W J	S204	87-A90-095-080		SW,TACT EVQ11G04M
R332	87-022-184-080		RES,M/F 0.33-1W J	S205	87-A90-095-080		SW,TACT EVQ11G04M
SFR722	87-024-171-080		SFR,4.7K H RH0638C	S206	87-A90-095-080		SW,TACT EVQ11G04M
SW261	87-A90-174-010		SW,PUSH 2-2-2	S207	87-A90-095-080		SW,TACT EVQ11G04M
SW262	87-A90-174-010		SW,PUSH 2-2-2	S208	87-A90-095-080		SW,TACT EVQ11G04M
TC721	87-011-253-080		TRIMMER,CER 30P 4.0X4.5 ECRLA	S209	87-A90-095-080		SW,TACT EVQ11G04M
TH201	87-A90-221-080		C-THMS,100K	S210	87-A90-095-080		SW,TACT EVQ11G04M
TH202	87-A90-221-080		C-THMS,100K	S211	87-A90-095-080		SW,TACT EVQ11G04M
TH301	87-A90-221-080		C-THMS,100K	S212	87-A90-095-080		SW,TACT EVQ11G04M
TH302	87-A90-221-080		C-THMS,100K	S213	87-A90-095-080		SW,TACT EVQ11G04M
W101	87-AR4-676-010		F-CABLE,8P 2.5 400MM BL	S214	87-A90-095-080		SW,TACT EVQ11G04M
W103	87-AR4-678-010		F-CABLE,2P 2.5 150MM BL	S221	87-A90-095-080		SW,TACT EVQ11G04M
X703	84-508-618-010		VIB,CER CSB 456 F15	S222	87-A90-095-080		SW,TACT EVQ11G04M
X721	87-030-372-010		VIB,XTAL 7.200MHZ CSA-309	S223	87-A90-095-080		SW,TACT EVQ11G04M
				S224	87-A90-095-080		SW,TACT EVQ11G04M
				S225	87-A90-095-080		SW,TACT EVQ11G04M
				S226	87-A90-095-080		SW,TACT EVQ11G04M
				S227	87-A90-095-080		SW,TACT EVQ11G04M
				S228	87-A90-095-080		SW,TACT EVQ11G04M
				S229	87-A90-095-080		SW,TACT EVQ11G04M
				S230	87-A90-095-080		SW,TACT EVQ11G04M
				S231	87-A90-095-080		SW,TACT EVQ11G04M
				S232	87-A90-095-080		SW,TACT EVQ11G04M
				S241	87-A90-095-080		SW,TACT EVQ11G04M
				S242	87-A90-095-080		SW,TACT EVQ11G04M
				S243	87-A90-095-080		SW,TACT EVQ11G04M
				S244	87-A90-095-080		SW,TACT EVQ11G04M
				S245	87-A90-095-080		SW,TACT EVQ11G04M
				S246	87-A90-095-080		SW,TACT EVQ11G04M
				S247	87-A90-095-080		SW,TACT EVQ11G04M
				S248	87-A90-095-080		SW,TACT EVQ11G04M
				S249	87-A90-095-080		SW,TACT EVQ11G04M
				S250	87-A90-095-080		SW,TACT EVQ11G04M
				VR601	86-AR4-653-010		VR,RTRY 100K3BMX1 1 H
				X101	87-A70-070-080		VIB,CER 5.76MHZ CRHR
FRONT-1 C.B				FRONT-2 C.B			
C101	87-018-209-010		CAP,TC U 0.1-50 Z F UP050	C601	87-010-384-040		CAP,E 100-25 SME
C103	87-010-316-080		C-CAP,S 33P-50 CH	C602	87-010-263-040		CAP,E 100-10 M SME
C105	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C603	87-015-692-040		CAP,E 0.22-50 M 7L SRA
C106	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C604	87-015-692-040		CAP,E 0.22-50 M 7L SRA
C108	87-015-681-040		CAP,E 10-16 7L SRA	C609	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C109	87-010-178-080		C-CAP,S 1000P-50 K B	C610	87-012-153-080		C-CAP,S 120P-50 J CH GRM
C111	87-010-263-040		CAP,E 100-10 M SME	C621	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C112	87-A10-189-040		CAP,E 220-10 M	C701	87-010-402-040		CAP,E 2.2-50 SME
C113	87-010-544-080		CAP,E 0.1-50 M SME<120U>	C702	87-010-402-040		CAP,E 2.2-50 SME
C113	87-010-546-080		CAP,E 0.33-50 M SME<220U>	C703	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C114	87-010-401-040		CAP,E 1-50 M SME	C704	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C115	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C705	87-016-460-080		C-CAP,S 0.22-16 K B
C117	87-010-320-080		C-CAP,S 68P-50 J CH	C706	87-016-460-080		C-CAP,S 0.22-16 K B
C118	87-010-312-080		C-CAP,S 15P-50 J CH	C707	87-010-182-080		C-CAP,S 2200P-50 K B
C120	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C708	87-010-182-080		C-CAP,S 2200P-50 K B
C121	87-010-178-080		C-CAP,S 1000P-50 K B	C709	87-010-597-080		C-CAP,S 0.056-16 K R
C161	87-010-408-040		CAP,E 47-50 M SME	C710	87-010-597-080		C-CAP,S 0.056-16 K R
C162	87-010-405-040		CAP,E 10-50 SME				
C163	87-010-405-040		CAP,E 10-50 SME				
C301	87-010-196-080		C-CAP,S 0.1-25 Z F C2012				
C302	87-010-196-080		C-CAP,S 0.1-25 Z F C2012				
C605	87-A10-224-040		CAP,E 10-10 M 7L BP				
C606	87-A10-224-040		CAP,E 10-10 M 7L BP				
C607	87-A10-224-040		CAP,E 10-10 M 7L BP				
C608	87-A10-224-040		CAP,E 10-10 M 7L BP				
FL101	86-AR4-670-010		FL,9-BT-153GK				
LED301	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				
LED302	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				
LED303	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				
LED304	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				
LED305	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				
LED306	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				
LED307	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				
LED308	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				
LED309	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				
LED310	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				
LED311	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				
LED312	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN				

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C711	87-016-460-080		C-CAP,S 0.22-16 K B	C52	87-016-456-040		CAP,E 22-16 M LLA
C712	87-016-460-080		C-CAP,S 0.22-16 K B	C53	87-016-251-040		CAP,E 220-16 M SMG<220U>
C713	87-016-462-080		C-CAP,S 1-16 Z F	C54	87-010-405-080		CAP,E 10-50 M SME
C714	87-010-260-080		CAP,E 47-25 SME	C57	87-010-405-080		CAP,E 10-50 M SME
C715	87-010-405-080		CAP,E 10-50 M SME	C58	87-010-405-080		CAP,E 10-50 M SME
C716	87-010-260-080		CAP,E 47-25 SME	C61	87-010-384-040		CAP,E 100-25 SME
C717	87-016-081-080		C-CAP,S 0.1-16 K R	C62	87-012-368-080		C-CAP,S 0.1-50 Z F
C718	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C63	87-010-315-080		C-CAP,S 27P-50 CH
MVR601	86-AR4-669-010		VR,MOT 50KBX4 1 H	C64	87-010-315-080		C-CAP,S 27P-50 CH
				C65	87-010-315-080		C-CAP,S 27P-50 CH
SPEAKER C.B				C112	87-010-382-080		CAP,E 22-25 M SME
C251	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C114	87-010-384-080		CAP,E 100-25 M SME
C252	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C115	87-012-140-080		C-CAP,S 470P-50 J CH
C253	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C116	87-010-263-080		CAP,E 100-10 SME
C254	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C117	87-010-235-080		CAP,E 470-16 SME
C255	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C118	87-010-235-080		CAP,E 470-16 SME
C256	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C119	87-010-407-080		CAP,E 33-50 SME
C257	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C120	87-010-407-080		CAP,E 33-50 SME
C258	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C121	87-010-408-080		CAP,E 47-50 SME
C351	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C122	87-010-263-080		CAP,E 100-10 SME
C352	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C123	87-010-112-040		CAP,E 100-16 SME<220U>
C353	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C123	87-010-404-040		CAP,E 4.7-50 SME<120U>
C354	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	L1	87-005-481-080		COIL,47UH J FLR50
J201	87-A60-244-010		JACK, PIN 1P BLK W/O SW	R27	87-025-407-080		RES,M/F 100K-1/8W F
J202	87-A60-199-010		TERMINAL, SP 8P CJ-9034-07 V0	▲R144	87-029-060-010		RES,FUSE 33-1/4W J
J303	87-A60-200-110		TERMINAL, SP 6P CJ-9033-21-3 V0	RY201	87-A90-143-010		RELAY, DG12D2-OS(M)<220U>
L201	87-003-383-010		COIL,1UH K	RY202	87-A90-143-010		RELAY, DG12D2-OS(M)<220U>
L202	87-003-383-010		COIL,1UH K				
L203	87-003-383-010		COIL,1UH K	AC1 C.B			
L204	87-003-383-010		COIL,1UH K	▲	87-050-053-010		AC CORD ASSY,U-2
L301	87-003-383-010		COIL,1UH K	▲	87-085-189-010		BUSHING,AC CORD(U) CM-22C
L302	87-003-383-010		COIL,1UH K	▲ F106	87-035-493-010		FUSE,8A 125V T 237<120U>
S101	86-SP8-611-010		SW,SL 1-1-2	▲ F106	87-035-494-010		FUSE,10A 125V T 237<220U>
W201	86-AR4-686-110		F-CABLE,8P 2.5 500MM	▲ F107	87-035-493-010		FUSE,8A 125V T 237<120U>
W301	86-AR4-642-110		F-CABLE,4P 2.5 300MM	▲ F107	87-035-494-010		FUSE,10A 125V T 237<220U>
				▲ FC101	87-033-147-010		FUSE CLAMP,MT-20
PRO C.B				▲ FC102	87-033-147-010		FUSE CLAMP,MT-20
C1	87-010-405-040		CAP,E 10-50 M SME	▲ FC103	87-033-147-010		FUSE CLAMP,MT-20
C2	87-010-405-040		CAP,E 10-50 M SME	▲ FC104	87-033-147-010		FUSE CLAMP,MT-20
C3	87-010-405-040		CAP,E 10-50 M SME	▲ P1	87-A60-317-010		TERMINAL, 1P MSC
C4	87-010-260-040		CAP,E 47-25 SME	▲ P2	87-A60-317-010		TERMINAL, 1P MSC
C5	87-010-405-040		CAP,E 10-50 M SME	▲ PT101	87-AR6-662-010		PT,U EI96-70 7AR-6<220U>
C6	87-016-081-080		C-CAP,S 0.1-16 K R	▲ PT101	87-AR7-662-010		PT,U EI85-58 7AR-7<120U>
C7	87-010-401-040		CAP,E 1-50 M SME	AC2 C.B			
C8	87-010-318-080		C-CAP,S 47P-50 J CH	▲ PR11	87-026-691-080		FUSE,10A 125V 251
C9	87-010-318-080		C-CAP,S 47P-50 J CH	▲ PR12	87-026-691-080		FUSE,10A 125V 251
C10	87-012-368-080		C-CAP,S 0.1-50 Z F	▲ PR13	87-026-691-080		FUSE,10A 125V 251
C11	87-010-263-040		CAP,E 100-10 M SME	▲ PR14	87-026-691-080		FUSE,10A 125V 251
C12	87-016-456-040		CAP,E 22-16 M SME	▲ PR15	87-026-691-080		FUSE,10A 125V 251
C22	87-016-081-080		C-CAP,S 0.1-16 K R	▲ PR16	87-026-691-080		FUSE,10A 125V 251
C23	87-016-081-080		C-CAP,S 0.1-16 K R	RY101	87-A90-454-010		RELAY,12V DJ12D2-O(M)
C24	87-016-081-080		C-CAP,S 0.1-16 K R	RY102	87-A90-454-010		RELAY,12V DJ12D2-O(M)
C25	87-012-140-080		C-CAP,S 470P-50 J CH				
C27	87-010-401-040		CAP,E 1-50 M SME				
C28	87-010-177-080		C-CAP,S 820P-50 J SL				
C31	87-A10-229-080		C-CAP,S 0.68-10 K WSR				
C32	87-012-393-080		C-CAP,S 0.22-16 K WSR CM/CB				
C33	87-012-393-080		C-CAP,S 0.22-16 K WSR CM/CB				
C34	87-010-404-040		CAP,E 4.7-50 SME				
C35	87-010-404-040		CAP,E 4.7-50 SME				
C36	87-012-393-080		C-CAP,S 0.22-16 K WSR CM/CB				
C37	87-012-393-080		C-CAP,S 0.22-16 K WSR CM/CB				
C38	87-016-081-080		C-CAP,S 0.1-16 K R				
C41	87-016-081-080		C-CAP,S 0.1-16 K R				
C42	87-016-081-080		C-CAP,S 0.1-16 K R				
C45	87-016-081-080		C-CAP,S 0.1-16 K R				
C47	87-010-176-080		C-CAP,S 680P-50 J SL				
C49	87-010-176-080		C-CAP,S 680P-50 J SL				

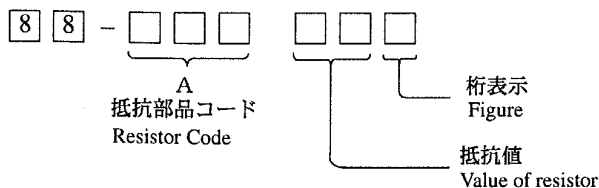
TRANSISTOR ILLUSTRATION

				
ECB	ECB	ECB		
2SA952 2SC2235 2SC3266 C2N5401 CSD655 KTC3198	2SA1175 DTA114YS	2SB1370	2SA1015 2SA1037 2SA1235 2SC2412 2SC2714 2SC3052 2SD2114 CMBT5551 CSD1306E DTA114YK DTA124EK DTA144WK DTC124EK DTC144WK RN1410 RTIN141C RTIP141C RTIP144C UN221E	2SK543

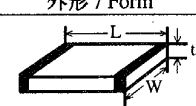
	
GDS	BCE
2SK2723	FN1016 FP1016

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

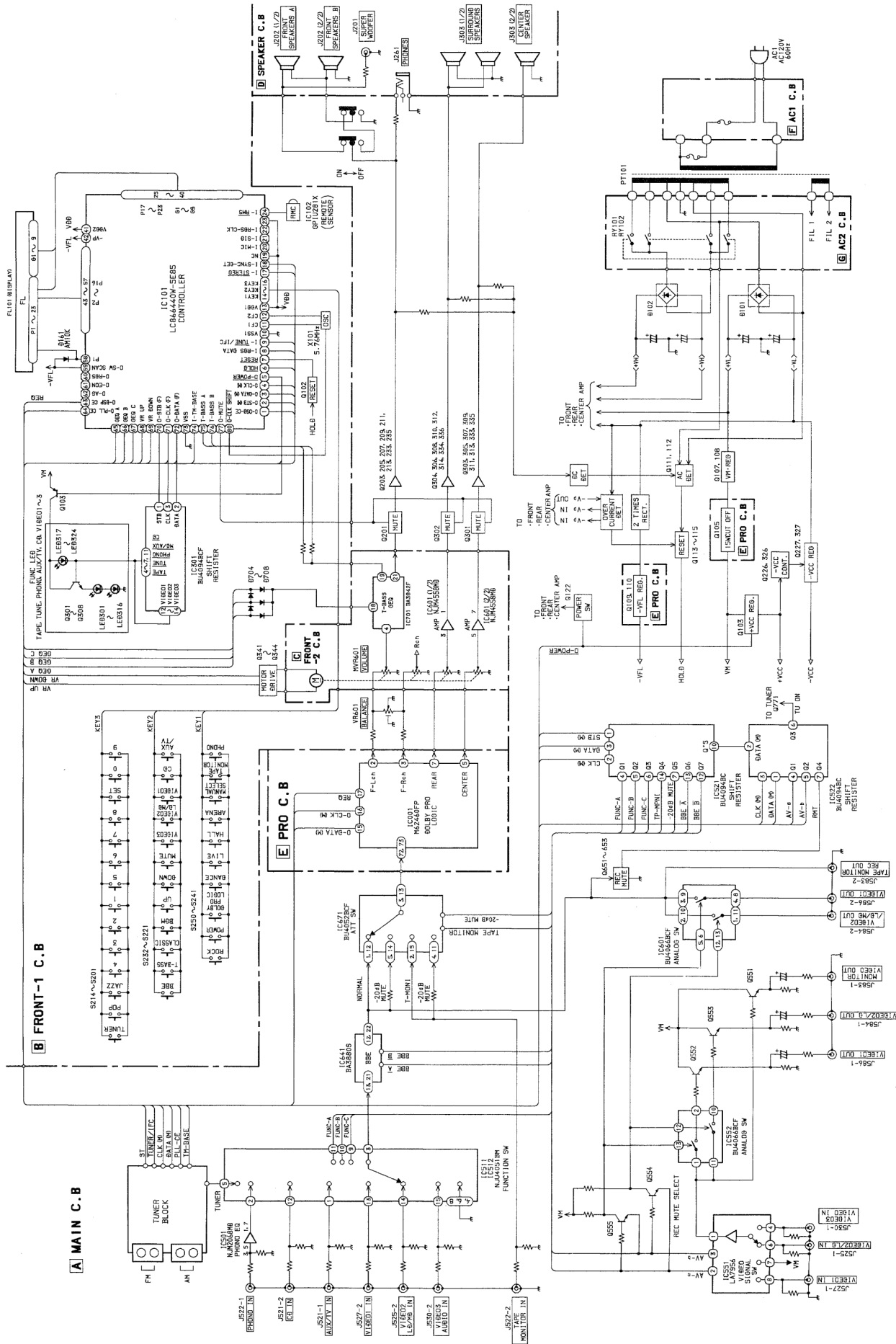
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding

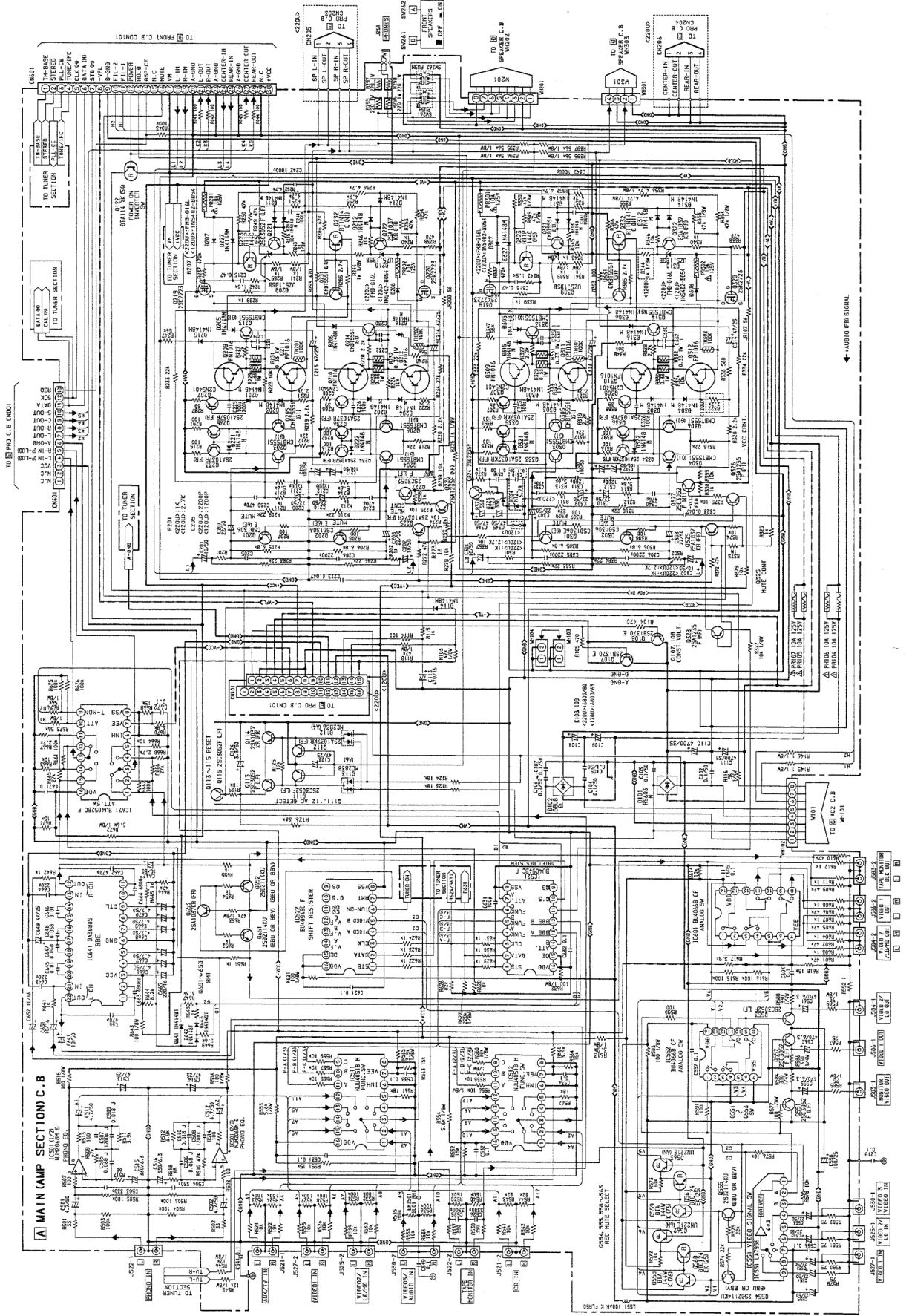


チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Dimensions (mm)			抵抗コード : A Resistor Code : A	
				外形 / Form	L	W		t
1/16W	1608	5%	CJ		1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

BLOCK DIAGRAM





IC DESCRIPTION
IC, LC866448W-5E85

Pin No.	Pin Name	I/O	Description
1	O-OSD-CE	O	OSD data latch CE output.
2	O-STB(M)	O	Main shift register data latch strobe output.
3	O-DATA(M)	O	Main shift register data output.
4	O-CLK(M)	O	Main shift register clock output.
5	$\overline{\text{O-POWER}}$	O	System power supply ON/OFF output.
6	$\overline{\text{HOLD}}$	I	Power failure detected input "L" to stop clock and maintain memory.
7	$\overline{\text{RESET}}$	I	Reset input.
8	I-RDS DATA	I	RDS data input (TUNER).
9	$\overline{\text{I-TUNE/IFC}}$	I	Tuner $\overline{\text{SD}}$ detect input. IF count serial data input.
10	VSS1	—	GND.
11, 12	CF1, 2	—	5.7 MHz oscillator circuit.
13	VDD1	—	Power supply input.
14-16	I-KEY1-3	I	Key input. (A/D).
17	$\overline{\text{I-STEREO}}$	I	TUNER stereo signal input.
18	I-SYNC DET	I	VIDEO signal level input.
19	-	-	Not used.
20	I-MIC	I	Microphone input for auto VF display.
21	I-SIG	I	RDS signal input (TUNER).
22	I-RDS CLK	I	RDS clock input (TUNER).
23	-	-	Not used.
24	$\overline{\text{I-RMS}}$	I	System remote control signal input.
25-33	G9-G1	O	FL grid output G9 to G1.
34-40	P23-P17	O	FL segment output.
41	VDD2	—	Power supply input.
42	-VP	—	Power supply input for FL display. (-34.5 V)
43-54	P16-P5	O	FL segment output P16-P5.
55	P4	O	FL segment output P4, AM stereo, FM-WIDE mode data input to diode.
56	P3	O	FL segment output P3, RDS mode data input to diode.
57	P2	O	FL segment output P2, K-CON mode data input to diode.
58	P1	O	FL segment output 1, AM 10kHz step data input to diode.
59	O-SW SCAN	O	Switch cam timing output.
60	O-RDS	O	RDS LED turn output.
61	O-EON	O	EON LED turn output.
62	O-AG	O	AG LED turn output.
63	DSP-CE	O	DSP data latch strobe output.
64	PLL-CE	I/O	PLL IC chip enable.
65	GEQ A	O	GEQ control output.
66	GEQ B	O	GEQ control output.
67	GEQ-C	O	GEQ/T-BASS IC GEQ control output.
68	VR-UP	O	MVR motor control (up) output.
69	VR-DOWN	O	MVR motor control (down) output.

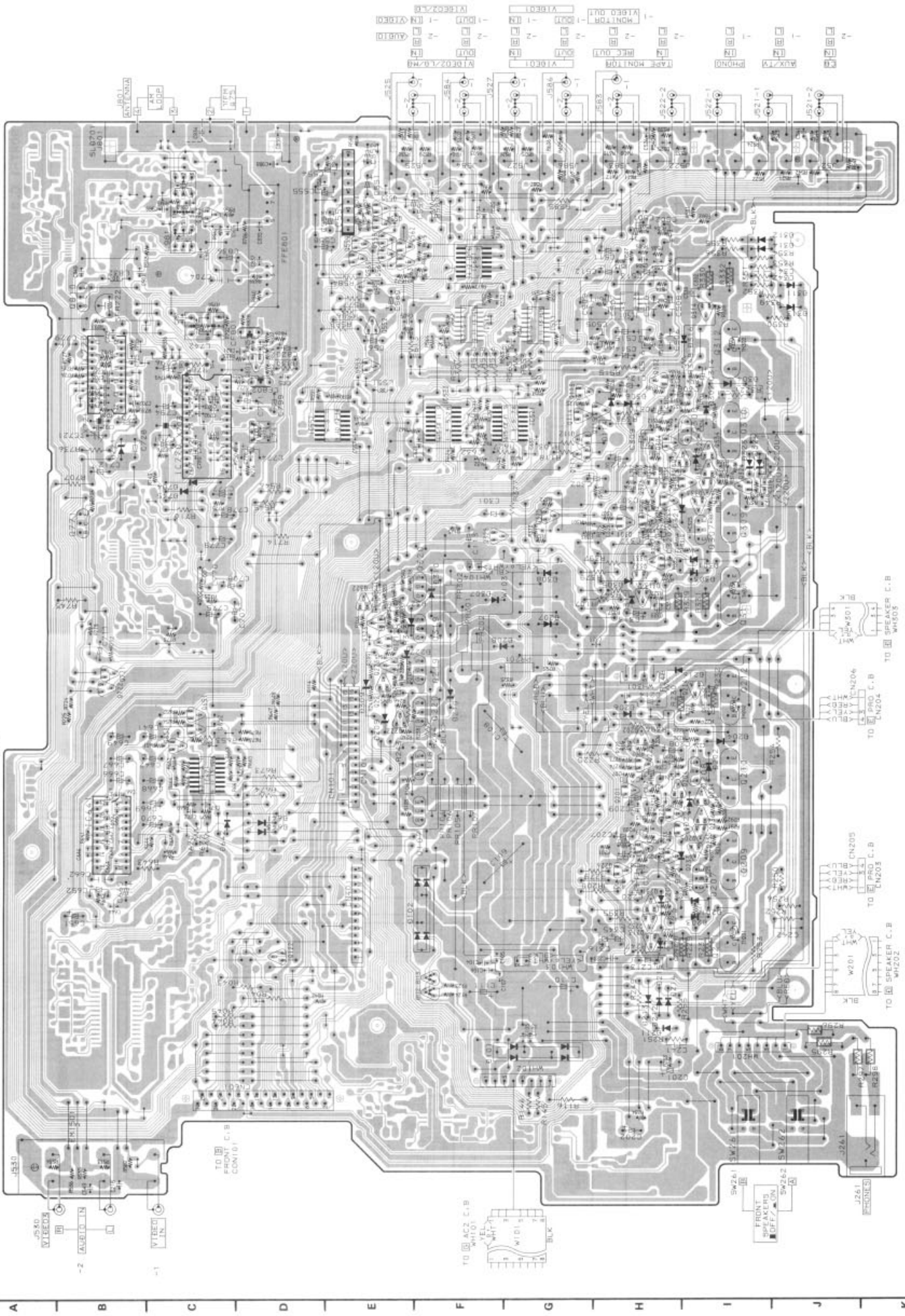
Pin No.	Pin Name	I/O	Description
70	O-STB(F)	O	Front shift register, data latch strobe output.
71	O-CLK(F)	O	Front shift register, data transfer clock output.
72	O-DATA(F)	O	Front shift register, data output.
73	VSS2	—	GND.
74	I-TM BASE	I	Reference clock input for timer watch.
75	T-BSS A	O	GEQ/T-BASS IC T-BASS control output.
76	T-BSS B	O	GEQ/T-BASS IC T-BASS control output.
77	O-MUTE	O	System mute output.
78	O-RT	O	RT LED turn output.
79	O-TRFC	O	TRFC LED turn output.
80	$\overline{\text{O-CLK SHIFT}}$	O	Micro clock shift output.

See the AV-X100/X200(S/M Cord No.09-967-142-10I)of the IC BLOCK DIAGRAM below.

AV-X100/X200	AV-X120 /X220
LA1836	LA1836
BU4094BCF	BU4094BCF
LC72131	LC72131
BA3880S	BA3880S
BA3842F	BA3842F

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

A MAIN C.B

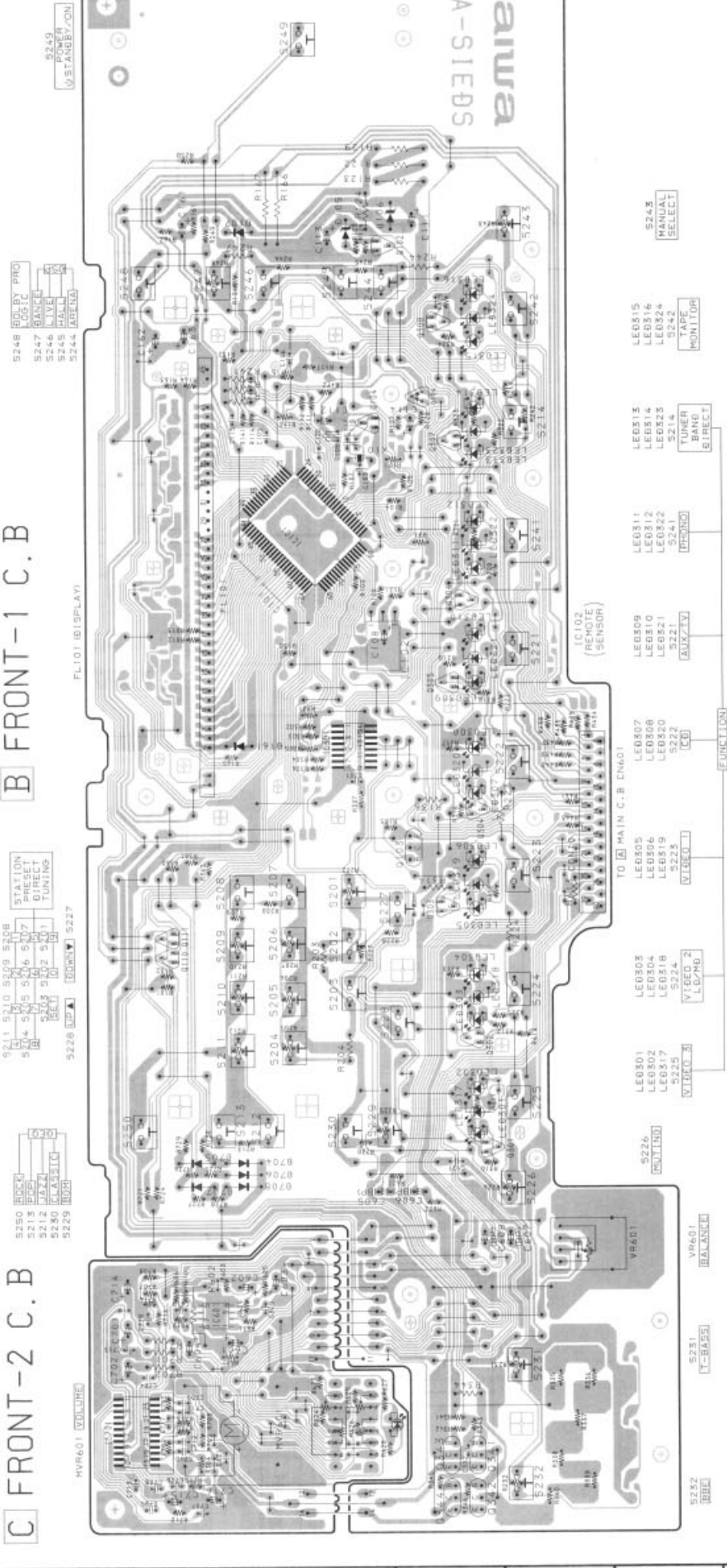


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

A B C D E F G H I J K

C FRONT-2 C.B

B FRONT-1 C.B



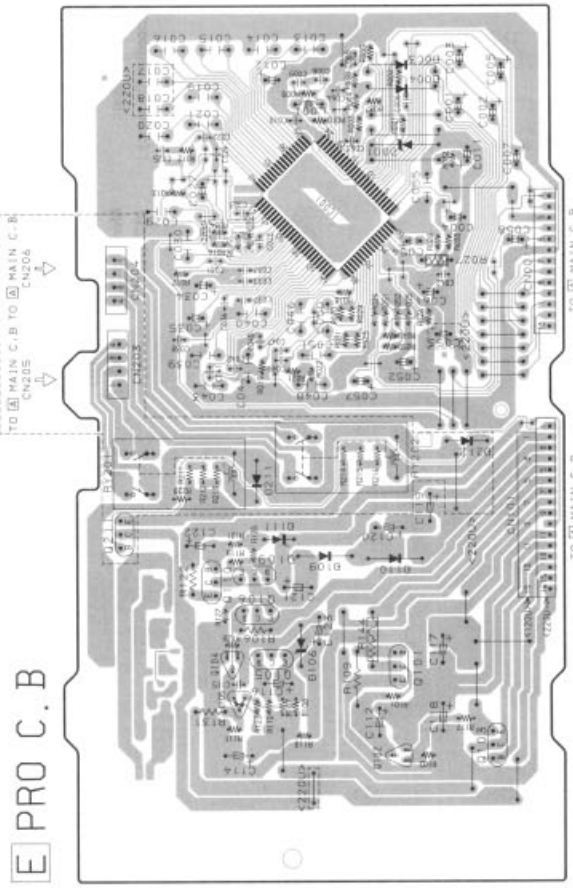
- 5250 RICE
5213 BEP
5212 JZAZ
5250 CLASSIC
5229 BOP
- 5211 S210 S209 S208
S24 S25 S26 S27
S28 S29 S30 S31
S32 S33 S34
S228 UP DOWN S227
- STATION
PRESET
TUNING
TUNING

- 5248 POLY PRO
5247 BASIC
5246 HANE
5244 ARENA
- 5249
POWER
STANDBY/ON

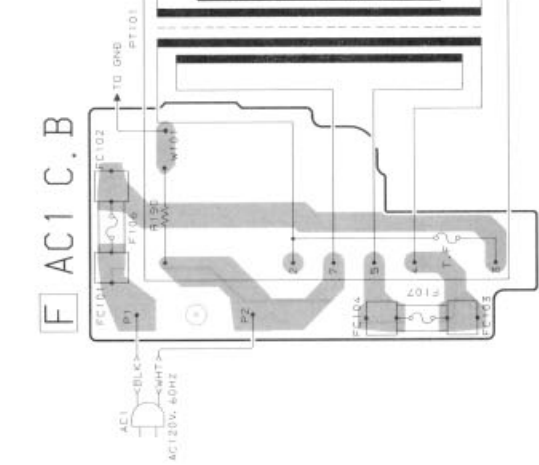
- 5252 BR6-1
5281 T-8455
VR6-01 BALANCE
5226 BOLLING
- LED8301
LED8302
LED8317
5225
VIDEOL
- LED8303
LED8304
LED8318
5224
VIDEOL2
LDP/PH
- TO MAIN C.B CN601
LED8305
LED8306
LED8319
5225
VIDEOL1
- LED8307
LED8308
LED8320
5222
CB
- LED8309
LED8310
LED8321
5221
AUXTV
- LED8311
LED8312
LED8322
5241
OPEN
- LED8313
LED8314
LED8323
5214
TUNER
DIRECT
- LED8315
LED8316
LED8324
5242
TAPE
MONITOR
- 5243
MANUAL
SELECT

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

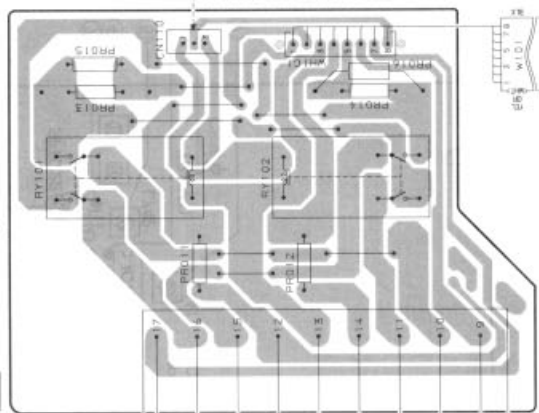
E PRO C.B



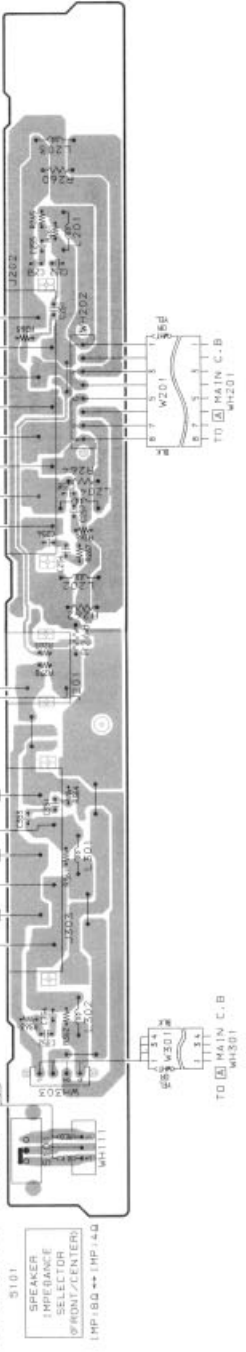
F AC1 C.B



G AC2 C.B

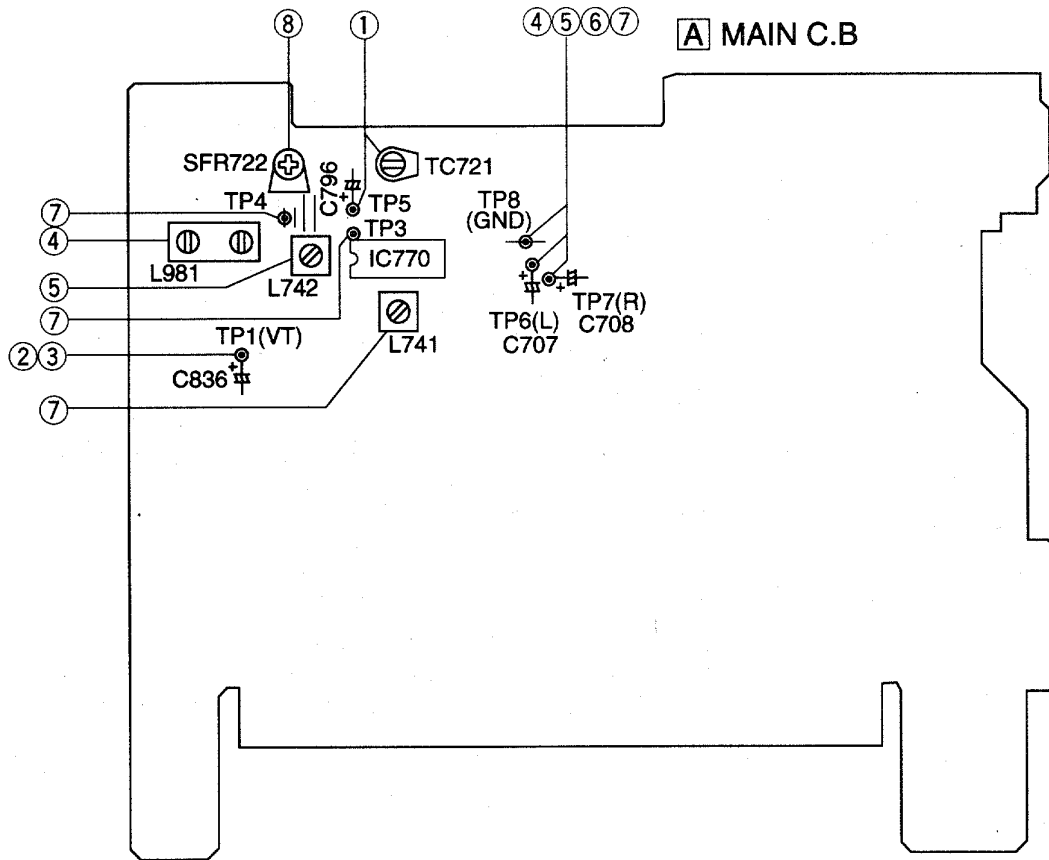


D SPEAKER C.B



5101
SPEAKER
IMPEDANCE
SELECTOR
(FRONT/CENTER)
(HP 15Ω ↔ (HP 14Ω

ADJUSTMENT



1. Clock Frequency Adjustment

Settings: · Test point : TP5(CLK IC770 pin 30)
· Adjustment location : TC721

Method: Set to AM 1710kHz and adjust TC721 so that the test point becomes $2160\text{kHz} \pm 0.01\text{kHz}$.

2. AM VT Check

Settings: · Test point : TP1(VT)

Method: Set to AM 530kHz and check the test point is $1.1 \pm 0.20\text{V}$.

3. FM VT Check

Setting: · Test point : TP1(VT)

Method: Set to FM 108.0MHz and check that the test point is $7.5 \pm 1.0\text{V}$. Then set to FM 87.5MHz and check that the test point is $2.9 \pm 1.0\text{V}$.

4. AM Tracking Adjustment

Settings: · Test point : TP6(Lch), TP7(Rch), TP8(GND)
· Adjustment location : L981

Method: Set to AM 1000kHz and adjust L981 that the test point becomes maximum.

5. AM IF Adjustment

Setting: · Test point : TP6(Lch), TP7(Rch), TP8(GND)
L742 450kHz

6. FM Tracking Check

Setting: · Test point : TP6(Lch), TP7(Rch), TP8(GND)

Method: Set to FM 87.5MHz and 108.0MHz, and check that the test point is $4 \pm 4\text{dB}$ and $6 \pm 4\text{dB}$.

7. DC Balance/MONO Distortion Adjustment

Settings: · Test point : TP3, TP4 (DC Balance)
TP6(Lch), TP7(Rch), TP8(GND)
(Distortion)

· Adjustment location : L741

· Input level : 60dB

Method: Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes $0\text{V} \pm 0.01\text{V}$.

Next check that the distortion is less than 1.3%

8. Auto Stop Level Adjustment

Settings: · Adjustment location : SFR722

· Input level : 20dB

Method: Set to FM 98.0MHz and adjust voltage low (about 0.01V) by SFR722. After that voltage high (about 7.0V) out by 2dB down.

PRACTICAL SERVICE FIGURE

TUNER SECTION

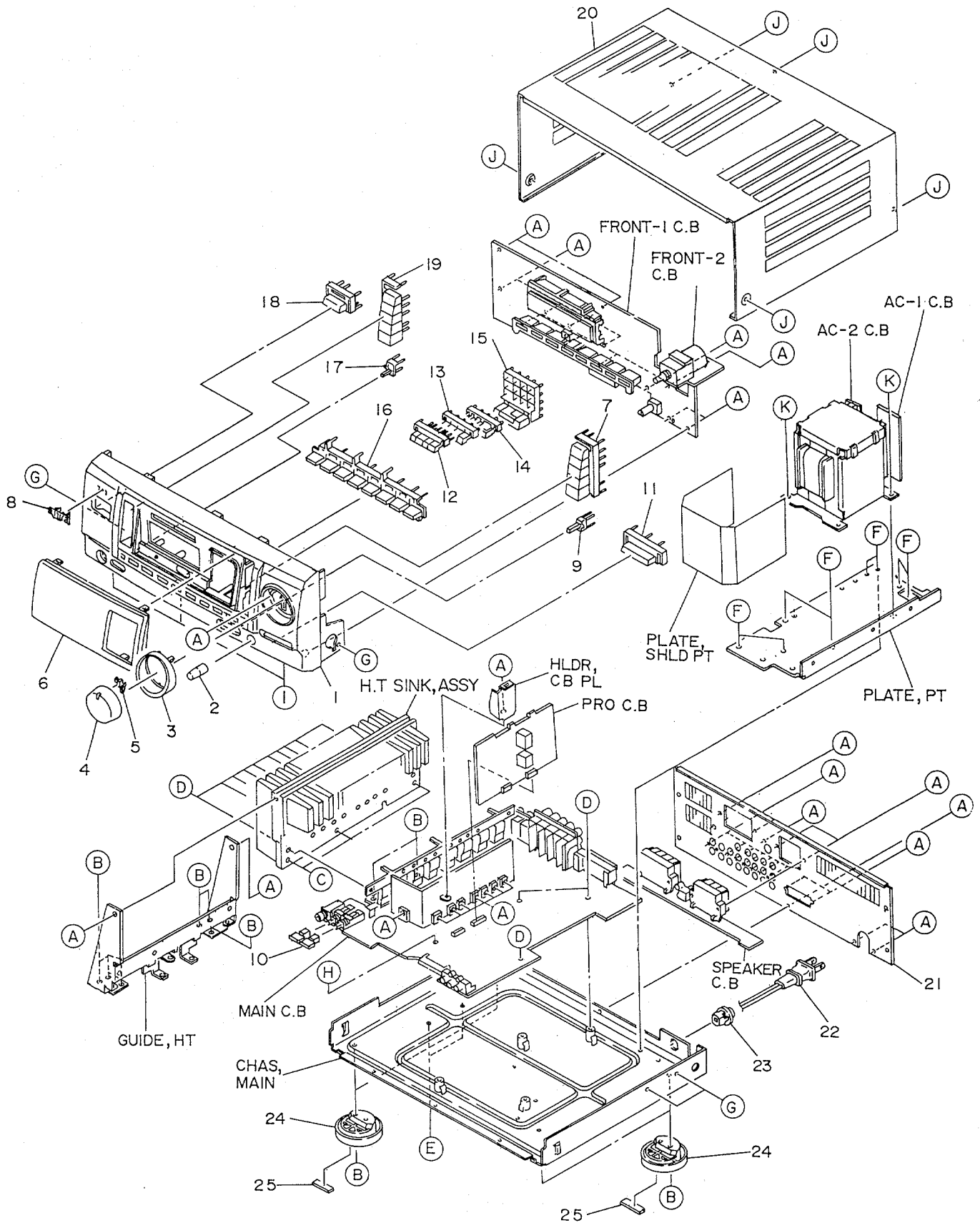
<FM SECTION>

IHF Sensitivity : 6dB \pm 6dB
(THD 3%) (87.5MHz/98.0MHz)
8dB \pm 6dB(108.0MHz)
S/N 50dB Quieting Sensitivity: 31dB \pm 5dB
(87.5/98.0/108.0MHz)
Signal to noise ratio : More than 64dB(98.0MHz)
Distortion : Less than 1.3%(98.0MHz)
Stereo separation : More than 25dB(98.0MHz)
Intermediate frequency : 10.7MHz

<AM SECTION>

Sensitivity : 57dB \pm 6dB(600kHz)
(S/N 20dB) 53dB \pm 6dB(1000/1400kHz)
Distortion : Less than 1.5%(1000kHz)
Auto stop level : 50dB \pm 10dB(1000kHz)
Intermediate frequency : 450kHz

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-AR7-002-010		CABI, FR U<X120>	20	86-AR5-002-010		CABI, STEEL
1	87-AR6-002-010		CABI, FR U<X220U>	21	87-AR7-006-010		PANEL, REAR U<X120>
2	86-AR5-034-010		KNOB, RTRY MIC 2	21	87-AR6-007-010		PANEL, REAR UBN<X220U>
3	86-AR5-018-010		RING, VOL	22	87-050-053-010		AC CORD ASSY, U-2
4	86-AR5-016-210		KNOB, RTRY VOL	23	87-085-189-010		BUSHING, AC CORD(U) CM-22C
5	86-AR5-017-010		REFLECTOR, VOL	24	86-AR5-023-010		FOOT, FR
6	86-AR5-020-110		WINDOW, DISPLAY	25	82-VW2-211-010		FELT, 20-7.5-2
7	86-AR5-005-010		KEY, GBQ	A	87-067-703-010		BVTT+3-10 W/O SLOT
8	82-NE8-032-010		BADGE, AIWA 27.5 ABS GLD	B	87-067-688-010		BVTT+3-6
9	86-AR5-008-010		KEY, MUTE	C	87-067-758-010		BVTT+3-12 W/O SLOT
10	86-AR5-009-010		KEY, SELECT	D	87-067-581-010		BVTT+3-15 W/O SLOT
11	86-AR5-011-010		KEY, BBE	E	87-067-585-010		BVTT+4-6
12	86-AR5-012-010		KEY, 10 A	F	87-067-586-010		BVTT+4-8
13	86-AR5-013-010		KEY, 10 B	G	87-591-095-410		QIT+3-8
14	86-AR5-014-010		KEY, 10 C	H	87-067-632-010		BVTT+3-15 W/O SLOT W/CONVEX
15	86-AR5-015-010		KEY, UP/DOWN	I	87-067-716-010		BVTT+3-6 BLK
16	86-AR5-006-010		KEY, FUN	J	87-067-641-010		UTT+3-8 W/O SLOT BLK
17	86-AR5-007-010		KEY, MODE	K	87-067-975-010		S-SCREW, IT+4-8 SWCH12A
18	86-AR5-003-010		KEY, POWER				
19	86-AR5-004-010		KEY, DSP				

ACCESSORIES LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-AR6-903-010		IB<X220>
1	87-AR7-903-010		IB<X120>
2	87-006-225-010		ANT, LOOP ANT NC2
3	87-043-115-010		FEEDER-ANT, FM
4	87-AR4-685-010		RC UNIT, RC-AR01<X220>
5	87-AR7-650-010		RC UNIT, RC-7AR02<X120>

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース

番号	連絡内容
G- -	
G- -	
G- -	

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