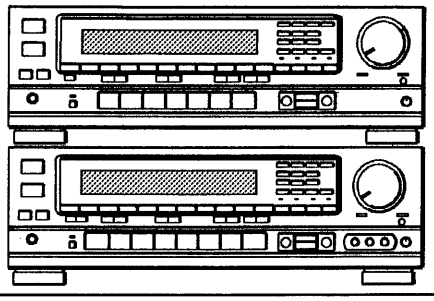
S/M Code No.90 – 003 DATE OF ISSUE 6/1990 – T

AIWA®

SERVICE MANUAL

AXR-004
AXR-005



AXR004

AXR005

STEREO RECEIVER

• TYPE. U

AIWA Co., Ltd.

Tokyo Japan

Printed in Japan

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm load, both channels driven, from 20 – 20,000 Hz, rated 120 watts (AXR-005), 100 watts (AXR-004) or 55 watts (AXR-002) per channel minimum RMS power, with no more than 0.008% (AXR-005), 0.03% (AXR-004) or 0.08% (AXR-002) total harmonic distortion from 250 milliwatts to rated output.

Other Specifications

Amplifier section

		AXR-005	AXR-004	AXR-002
Dynamic power output	8 ohms, at 1 kHz IHF	195 + 195 watts	140 + 140 watts	70 + 70 watts
	4 ohms, at 1 kHz IHF	250 + 250 watts	190 + 190 watts	90 + 90 watts
Power output of surround amplifier (8 ohms, at 1 kHz)		20 watts (10 + 10 watts)		
Harmonic distortion at rated output		Less than 0.008%	Less than 0.03%	Less than 0.08%
Intermodulation (IM) distortion at rated output		Less than 0.008%	Less than 0.03%	Less than 0.08%
Frequency response	PHONO RIAA equalization curve	±0.5 dB		
	CD, DAT, TAPE 1, 2 VIDEO 1, 2, 3*	10 Hz - 70 kHz $^{+0}_{-1}$ dB		10 Hz - 50 kHz $^{+0}_{-3}$ dB
Residual noise		Less than 70 μV		Less than 80 μV
Damping factor (8 ohms, at 1 kHz)		50		40
Input sensitivity/ inpedance	PHONO MM	2.5 mV, 50 kilohms		
	DAT, CD, VIDEO 1, 2, 3* TAPE 1, 2	150 mV 50 kilohms		
S/N	PHONO MM	87 dB 79 dB** (A, 2.5 mV)		74 dB 72 dB** (A, 2.5 mV)
	DAT, CD, VIDEO 1, 2, 3* TAPE 1, 2	105 dB 85 dB** (A, 150 mV)		100 dB 80 dB** (A, 150 mV)
Output sensitivity/ impedance	DAT OUT TAPE OUT 1, 2 VIDEO 1	150 mV 10 kilohms		
	SPEAKERS	Accepts speakers of 8 - 16 ohms		
	HEAD-PHONES	Accepts headphones of high and low impedance		
MUTING		–20 dB		
Graphic Equalizer		7-band, ±10 dB at 63 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, and 14 kHz		5-band, ±10 dB at 63 Hz, 250 Hz, 1 kHz, 3.3 kHz, and 10 kHz

*AXR-005 only
**'78 IHF

Video section

	AXR-005	AXR-004	AXR-002
Inputs	VIDEO-1, -2, -3: 1 Vp-p 75 ohms	VIDEO-1, -2: 1 Vp-p 75 ohms	
Outputs	VIDEO-1, MONITOR: 1 Vp-p 75 ohms		

FM tuner section

		AXR-005	AXR-004	AXR-002
Frequency range		87.5 - 108.0 MHz		
Antenna terminals		75 ohms coaxial	300 ohms, balanced 75 ohms, unbalanced	
Sensitivity at 50 dB		18.3 dBf, 45 μV (mono) 38.3 dBf, 45 μV (stereo)		
Usable sensitivity		11.2 dBf, 2 μV (IHF)		
S/N	Mono	84 dB	80 dB	
	Stereo	78 dB	74 dB	
Harmonic distortion at 1 kHz	Mono	0.2%	0.3%	
	Stereo	0.4%	0.5%	
IM distortion	Mono	0.2%	0.3%	
	Stereo	0.4%	0.5%	
Separation		45 dB at 1 kHz		
Frequency response		30 Hz - 15 kHz $^{+0}_{-1.5}$ dB	30 Hz - 15 kHz $^{+0}_{-2}$ dB	
Selectivity		65 dB at 300 kHz	60 dB at 400 kHz	
Capture ratio		1.2 dB		
AM suppression ratio		60 dB	54 dB	
Image response ratio		80 dB	70 dB	
IF response ratio		90 dB	70 dB	
Sprious response ratio		100 dB	80 dB	
RF intermodulation at 800 kHz		65 dB	60 dB	
Auto tuning threshold	Low	30 dBf		
	High	50 dBf		

AM tuner section

	AXR-005	AXR-004	AXR-002
Frequency range	530 - 1710 kHz (with 10 kHz interval) 531 - 1710 kHz (with 9 kHz interval)		
Antenna	Loop antenna		
Usable sensitivity	50 dB/m (at 1,000 kHz or 999 kHz)		
S/N	54 dB (at 50 mV/m)		
Harmonic distortion	0.5% (50 mV/m, 400 Hz)		
Selectivity	35 dB (9 kHz), 40 dB (10 kHz)		
Auto tuning threshold	55 dB/m		

General

		AXR-005	AXR-004	AXR-002
System	Tuner section	PLL quartz-locked digital synthesizer system		
	Preamplifier section	Low-noise NF type equalizer		
	Power amplifier section	Pure-complimentary SEPP		Quasi-complimentary SEPP
Power requirements		120 V AC, 60 Hz		
Power consumption		USA model: 210 watts		120 watts
AC outlets		Two switched, total 100 watts		
Dimensions		430 × 130 × 350 mm (17 × 5⅛ × 14⅛ inches)		430 × 130 × 295 mm (17 × 5⅛ × 11⅝ inches)
Weight		9.6 kg (21 lb 3 oz)	9.5 kg (21 lb)	6.7 kg (14 lb 13 oz)

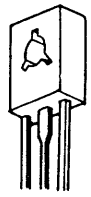
• Design and specifications are subject to change without notice.

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
===IC===		
	98-749-920-590	IC, AIQH3020S
	98-759-821-450	IC, LA1851N
	98-759-820-620	IC, LB1639
	98-759-801-010	IC, LC4966
	98-759-820-910	IC, LC7218
	98-759-820-600	IC, LC7520
	98-759-820-590	IC, LC7565
	98-759-805-140	IC, LC7822
	98-759-946-490	IC, LVA512A
※	98-759-604-350	IC, M5F78M05
※	98-759-170-000	IC, UPC78M05H
※	98-759-321-450	IC, HD614042F
※	98-759-321-450	IC, M5F78M15-J77
	98-759-929-370	IC, NE646N
	98-749-920-760	IC, SI-18752
	98-759-204-300	IC, TC9176P
	98-759-106-410	IC, UPC4570C
	98-759-112-930	IC, UPC4570HA-1
	98-759-112-930	IC, UPC4570HA-A
	98-759-604-400	IC, UPC78M15H
	98-759-105-410	IC, UPC79M15H
	98-759-102-370	IC, UPD4052BC(AXR-005)
	98-759-140-530	IC, UPD4053BC(AXR-004)
	98-759-145-010	IC, UPD75212AGF-511-3BE
	98-759-983-120	IC, YM3428
===TRANSISTOR===		
	98-729-207-610	FET, 2SK246GR
	98-729-244-610	FET, 2SK246Y
	98-729-203-210	FET, 2SK389GR
	98-729-114-220	TRANSISTOR, 2SA1142
※	98-729-119-760	TRANSISTOR, 2SA1175
※	98-729-173-380	TRANSISTOR, 2SA733
	98-729-300-220	TRANSISTOR, 2SA1215(AXR-005)
	98-729-321-180	TRANSISTOR, 2SA1673-0Y(AXR-004)
	98-729-809-260	TRANSISTOR, 2SA1684
	98-729-108-140	TRANSISTOR, 2SA988-F
	98-729-108-050	TRANSISTOR, 2SC1841
	98-729-266-930	TRANSISTOR, 2SC2669
	98-729-168-220	TRANSISTOR, 2SC2682
※	98-729-119-780	TRANSISTOR, 2SC2785
※	98-729-304-540	TRANSISTOR, 2SC3330
	98-729-300-360	TRANSISTOR, 2SC2921(AXR-005)
	98-729-201-840	TRANSISTOR, 2SC3112AB
※	98-729-900-800	TRANSISTOR, 2SC3402
※	98-729-900-800	TRANSISTOR, DTC114ES
	98-729-107-840	TRANSISTOR, 2SC3623AK
	98-729-321-150	TRANSISTOR, 2SC4388-0Y(AXR-004)
	98-729-809-290	TRANSISTOR, 2SC4431
	98-729-107-260	TRANSISTOR, 2SD1585K
※	98-729-900-360	TRANSISTOR, BA1F4M
※	98-729-900-360	TRANSISTOR, DTC124ES
※	98-729-115-440	TRANSISTOR, BN1F4M
※	98-729-900-630	TRANSISTOR, DTA124ES
	98-729-900-610	TRANSISTOR, DTA114ES
===DIODE===		
	98-719-302-360	DIODE, RBV402-01
	98-719-302-380	DIODE, RBV602-01
※	98-719-511-400	DIODE, S1VB40
※	98-719-521-100	DIODE, S1VB10S
	98-719-000-260	DIODE, US1060M
	98-719-914-110	DIODE, ZENER HZ4ALL
	98-719-002-450	DIODE, ZENER UZL27M
※	98-719-933-330	DIODE, ZENER HZS6AIL
※	98-719-000-490	DIODE, ZENER UZL6L1
※	98-719-933-400	DIODE, ZENER UZS6C3L
※	98-719-000-730	DIODE, ZENER UZL6H3-TA
	98-719-014-820	DIODE, ZENER UZP6.8B
===TUNER CIRCUIT BOARD SECTION===		
CF1	*91-567-389-110	FILTER, CERAMIC
CF2	*91-567-389-110	FILTER, CERAMIC
CF3	*91-567-389-110	FILTER, CERAMIC(AXR-005)
CFT21	*91-404-853-110	TRANSFORMER, IF(FILTER, CERAMIC)
FE1	91-463-862-210	FRONTEND, FM(AXR-004)
FE1	91-463-857-110	FRONTEND, FM(AXR-005)
FE61	*91-236-461-110	ENCAPSULATED COMPONENT AM
L1	*91-410-521-110	COIL, 100UH
L2	*91-410-521-110	COIL, 100UH(AXR-005)
L21	*91-410-171-110	COIL, 1mH
LPF21	*91-235-164-00	FILTER, LOW PASS
LPF22	*91-235-164-00	FILTER, LOW PASS
RV21	*91-238-013-110	RES, ADJ. CARBON 2.2K(AXR-004)
RV21	*91-238-015-110	RES, VAR, CARBON 4.7K(AXR-005)
RV22	*91-238-017-110	RES, VAR, CARBON 22K
RV24	*91-238-019-110	RES, VAR, CARBON 47K
RV25	*91-238-019-110	RES, VAR, CARBON 47K(AXR-005)
T21	*91-404-807-110	TRANSFORMER, DISCRIMINATOR(AXR-004)
T21	*91-404-852-110	COIL, DISCRIMINATOR(PRIMARY) (AXR-005)
T22	*91-404-851-110	COIL, DISCRIMINATOR(SECONDARY) (AXR-005)
TM1	*91-536-708-000	TERMINAL BOARD, PUSH 4P(ANTENNA) (AXR-004)
TM1	*91-537-225-110	TERMINAL BOARD, PUSH 4P(ANT(F)TYPE) (AXR-005)
XT81	*91-577-126-110	VIBRATOR, CRYSTAL 7.2MHz
===MAIN CIRCUIT BOARD SECTION===		
CF491	*91-527-822-000	OSCILLATOR, CERAMIC 4MHz
CNJ401	*91-564-980-110	PIN, CONNECRTOR 4P(VIDEO3)(AXR-005)
⚠F851	91-532-781-110	FUSE, MICRO(SECONDARY)3.15A
⚠F852	91-532-781-110	FUSE, MICRO(SECONDARY)3.15A
J401	*91-563-136-310	JACK, PIN 3P(VIDEO3 IN)(AXR-005)
J402	*91-565-258-110	JACK, PIN 4P(TAPE2)
J403	*91-565-320-110	JACK, PIN 6P(VIDEO1, 2)
J404	*91-565-320-110	JACK, PIN 6P(TAPE1, DAT IN)
J405	*91-565-320-110	JACK, PIN 6P(VIDEO, DAT OUT)
L491	*91-410-509-110	COIL, 10UH
L701	*91-420-872-000	COIL, AIR CORE
BT701	*91-238-011-110	SFR 470
BT751	*91-238-011-110	SFR 470
R726	*91-214-789-210	RES, METAL 0.1-5W
R727	*91-214-789-210	RES, METAL 0.1-5W
R857	*91-217-151-110	RES, METAL 0.22-2W
RY401	91-515-726-110	RELAY
RY701	91-515-356-000	RELAY
===DISPLAY CIRCUIT BOARD SECTION===		
CF301	*91-567-170-000	OSCILLATOR, CERAMIC 4.19MHz
D312	98-719-301-520	DIODE, SEL2810A-C(TUNING)
D313	98-719-301-520	DIODE, SEL2810A-C(INDEX)
D314	98-719-301-520	DIODE, SEL2810A-C(EQUAUZER)
D315	98-719-303-000	DIODE, SEL2510C(MONITOR/TAPE2)
FL301	91-519-521-110	INDICATOR TUBE, FLUORESCENT
L301	*91-410-509-110	COIL, 10UH
RB301	*91-233-081-110	CR BLOCK(100×7)
RB302	*91-233-081-110	CR BLOCK(100×7)
RB303	*91-233-081-110	CR BLOCK(100×7)
RB304	*91-233-081-110	CR BLOCK(100×7)
RB305	*91-233-081-110	CR BLOCK(100×7)
RB306	*91-232-997-110	CR BLOCK(100×7)
S301	*91-554-303-210	SWITCH, KEY BOARD(3)

※The ┌→ marked parts are compatible with each other.
└→

REF. NO.	PART NO.	DESCRIPTION
S302	*91-554-303-210	SWITCH, KEY BOARD(2)
S303	*91-554-303-210	SWITCH, KEY BOARD(1)
S304	*91-554-303-210	SWITCH, KEY BOARD(TUNING DIRECT)
S305	*91-554-303-210	SWITCH, KEY BOARD(6)
S306	*91-554-303-210	SWITCH, KEY BOARD(5)
S307	*91-554-303-210	SWITCH, KEY BOARD(4)
S308	*91-554-303-210	SWITCH, KEY BOARD(EQ PCM SET)
S309	*91-554-303-210	SWITCH, KEY BOARD(9)
S310	*91-554-303-210	SWITCH, KEY BOARD(8)
S311	*91-554-303-210	SWITCH, KEY BOARD(7)
S312	*91-554-303-210	SWITCH, KEY BOARD(MEMORY)
S313	*91-554-303-210	SWITCH, KEY BOARD(SHIFT)
S314	*91-554-303-210	SWITCH, KEY BOARD(0)
S315	*91-554-303-210	SWITCH, KEY BOARD(TUNING)
S316	*91-554-303-210	SWITCH, KEY BOARD(INDEX)
S317	*91-554-303-210	SWITCH, KEY BOARD(EQUALIZER)
S318	*91-554-303-210	SWITCH, KEY BOARD(SURROUND)
S319	*91-554-303-210	SWITCH, KEY BOARD(▷)
S320	*91-554-303-210	SWITCH, KEY BOARD(▽)
S321	*91-554-303-210	SWITCH, KEY BOARD(△)
S322	*91-554-303-210	SWITCH, KEY BOARD(◁)
S323	*91-554-303-210	SWITCH, KEY BOARD(FM/AM)
S324	*91-554-303-210	SWITCH, KEY BOARD(FM MODE)
S325	*91-554-303-210	SWITCH, KEY BOARD(INDEX SELECT)
S326	*91-554-303-210	SWITCH, KEY BOARD(PRESET EQ ON/OFF)
S327	*91-554-303-210	SWITCH, KEY BOARD(+)
S328	*91-554-303-210	SWITCH, KEY BOARD(-)
S329	*91-554-303-210	SWITCH, KEY BOARD(+)
S330	*91-554-303-210	SWITCH, KEY BOARD(-)
S331	*91-554-303-210	SWITCH, KEY BOARD(PHONO)
S332	*91-554-303-210	SWITCH, KEY BOARD(TUNER)
S333	*91-554-303-210	SWITCH, KEY BOARD(CD)
S334	*91-554-303-210	SWITCH, KEY BOARD(DAT)
S335	*91-554-303-210	SWITCH, KEY BOARD(VIDEO1)
S336	*91-554-303-210	SWITCH, KEY BOARD(VIDEO2/CDV)
S337	*91-554-303-210	SWITCH, KEY BOARD(VIDEO3)(AXR-005)
S338	*91-554-303-210	SWITCH, KEY BOARD(TAPE1)
S339	*91-554-303-210	SWITCH, KEY BOARD(▽SURROUND MODE)
S340	*91-554-303-210	SWITCH, KEY BOARD(△SURROUND MODE)
S341	*91-554-303-210	SWITCH, KEY BOARD(△EQ MODE)
S342	*91-554-303-210	SWITCH, KEY BOARD(▽EQ MODE)
S343	*91-554-303-210	SWITCH, KEY BOARD(SURROUND ON/OFF)
S344	*91-554-303-210	SWITCH, KEY BOARD(DISPLAY RTA EQ)
S345	*91-554-303-210	SWITCH, KEY BOARD(EQ ON/OFF)
S346	*91-554-303-210	SWITCH, KEY BOARD(PEAK HOLD)
S347	*91-554-303-210	SWITCH, KEY BOARD(SET)
S348	*91-554-303-210	SWITCH, KEY BOARD(AUDIO)
S349	*91-554-303-210	SWITCH, KEY BOARD(WRE TE)
S350	*91-554-303-210	SWITCH, KEY BOARD(VIDEO)(AXR-005)
S351	*91-554-303-210	SWITCH, KEY BOARD(MONITOR TAPE2)
S352	*91-554-303-210	SWITCH, KEY BOARD(POWER ON)
		===DOLBY CIRCUIT BOARD SECTION===
CF651	*91-567-094-000	VIBRATOR, CERAMIC 3.58MHz
RV531	*91-238-190-110	RES, VAR, CARBON 250K
		===POWER SUPPLY CIRCUIT BOARD SECTION===
⚠CNJ901	*91-540-059-110	OUTLET, AC(POLAR)(AC OUTLET)
⚠F901	91-532-598-000	FUSE, GLASS TUBE(4A)
⚠RY901	91-515-701-110	RELAY
⚠T901	91-448-517-210	TRANSFORMER, POWER
⚠VZ901	*91-807-293-110	VARISTOR(SNR-14A 140K)
		===Y/C CIRCUIT BOARD SECTION===
CNJ201	*91-556-846-110	CONNECTOR (S) TERMINAL 4P (MONITOR S VIDEO OUT)(AXR-005)
CNJ202	*91-556-846-110	CONNECTOR (S) TERMINAL 4P (VIDEO1 S VIDEO IN)(AXR-005)
CNJ203	*91-556-846-110	CONNECTOR (S) TERMINAL 4P (VIDEO1 S VIDEO OUT)(AXR-005)
CNJ204	*91-556-846-110	CONNECTOR (S) TERMINAL 4P (VIDEO2 VIDEO IN)(AXR-005)
		===VIDEO CIRCUIT BOARD SECTION===
J201	*91-565-319-110	JACK, PIN 2P(VIDEO, MONITOR OUT)
J202	*91-565-319-110	JACK, PIN 2P(VIDEO1, 2 IN)
L201	*91-410-509-110	COIL, 10UH
L202	*91-410-509-110	COIL, 10UH
		===BALANCE CIRCUIT BOARD SECTION===
D316	98-719-301-520	DIODE, SEL2810A-C(BALANCE)
D318	98-719-301-520	DIODE, SEL2810A-C(DBFB)
RV401	*91-238-115-110	RES, VAR, CARBON 250K/250K(BALANCE)
S360	91-554-303-210	SWITCH, KEY BOARD(MUTING -20dB)
S361	91-554-303-210	SWITCH, KEY BOARD(DBFB)
		===VOLUME CIRCUIT BOARD SECTION===
RV402	*91-238-479-110	RES, VAR, CARBON 250K/250K/250K (VOLUME)
		===SPEAKER CIRCUIT BOARD SECTION===
S700	91-571-854-210	SWITCH, PUSH(2 KEY)(SPEAKER A/B)
		===REAR SP CIRCUIT BOARD SECTION===
L851	*91-420-872-000	COIL, AIR CORE
		===REAR RELAY CIRCUIT BOARD SECTION===
RY851	91-515-533-110	RELAY
TM851	*91-537-156-110	TERMINAL BOARD(SURROUND SPEAKER)
		===HEADPHONE CIRCUIT BOARD SECTION===
CNJ701	*91-507-863-510	JACK, LARGE TYPE(HEAD PHONES)
		===SPEAKER TERMINAL CIRCUIT BOARD SECTION===
TM701	*91-536-706-000	TERMINAL BOARD(SP)(SPEAKER)
		===MOTOER TERMINAL CIRCUIT BOARD SECTION===
		===VR LED CIRCUIT BOARD SECTION===
D319	98-719-303-000	DIODE SEL2510C(VOLUME)
		===HP JUNPPER CIRCUIT BOARD SECTION===
		===FUSE CIRCUIT BOARD SECTION===
⚠F801	91-532-749-110	FUSE, GLASS TUBE(8A)
⚠F802	91-532-749-110	FUSE, GLASS TUBE(8A)
		===MISCELLANEOUS===
⚠CNP901	91-557-577-110	CORD, POWER
⚠	*93-703-244-000	BUSHING(2104), CORD
⚠T902	91-449-550-110	POWER TRANSFORMER(AXR-004)
⚠T902	91-449-549-110	POWER TRANSFORMER(AXR-005)



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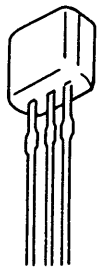

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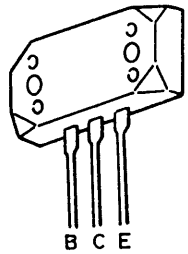

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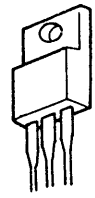

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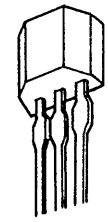

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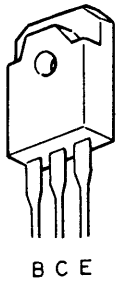
BA1F4M DTC114
BN1F4M DTC124



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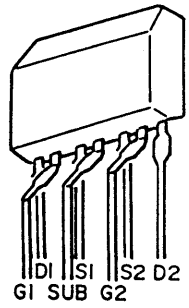
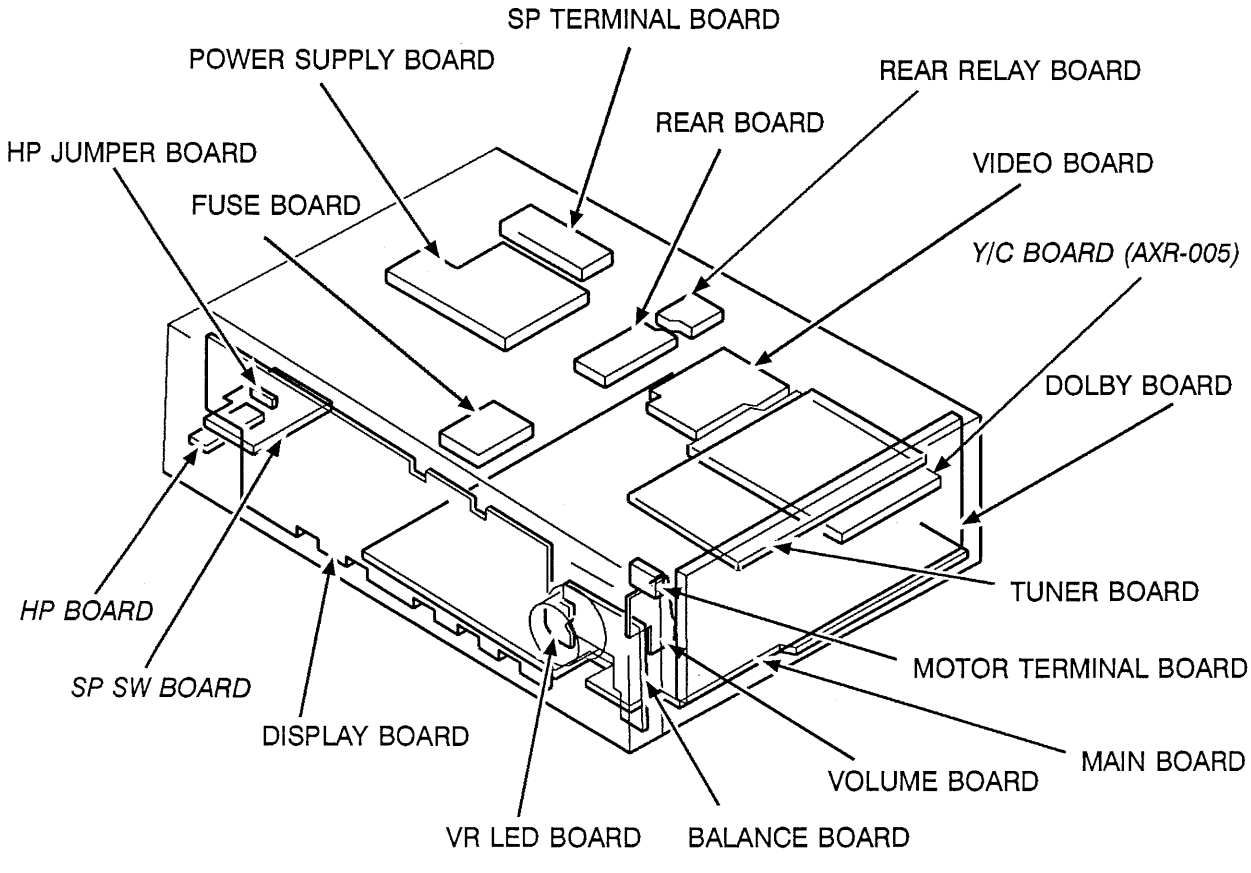
2SK246

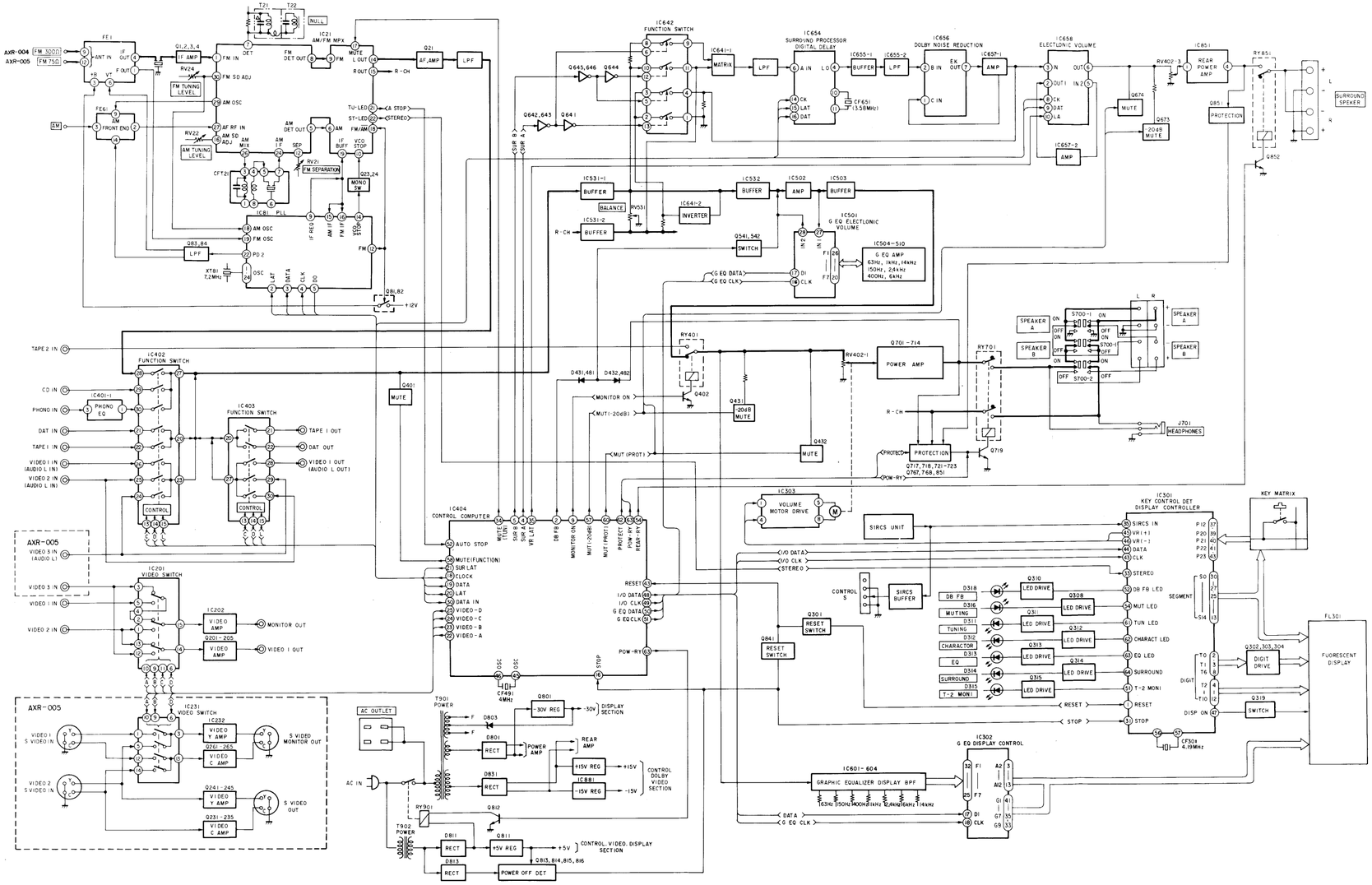


2SK389

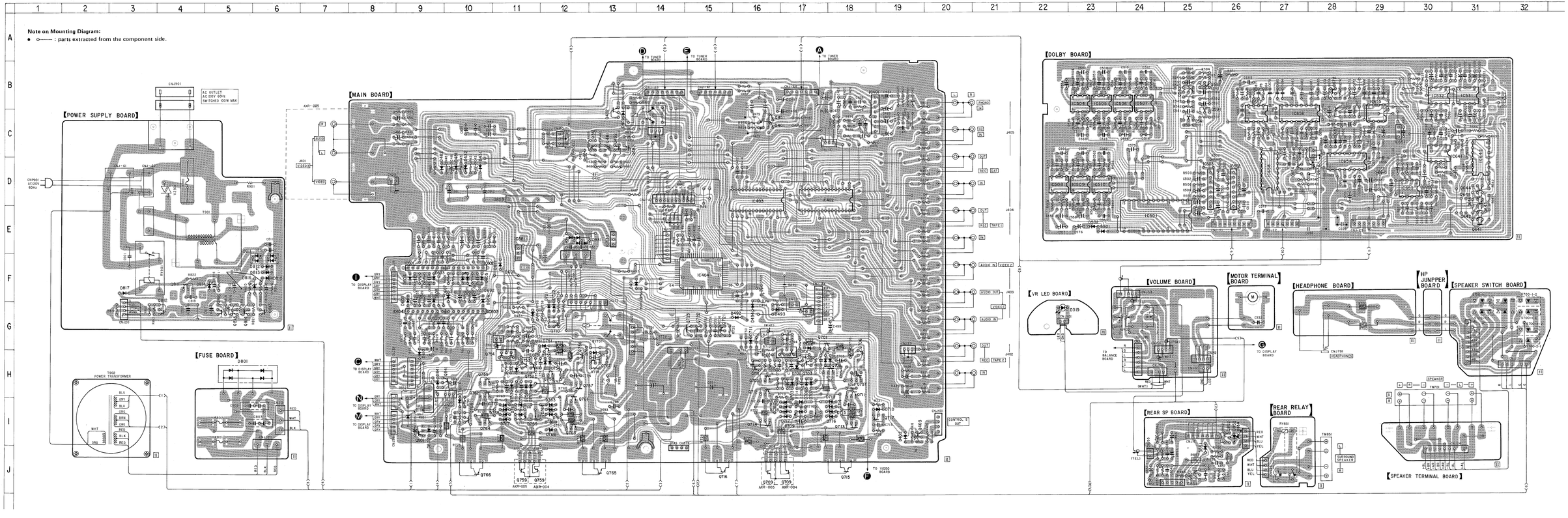
CIRCUIT BOARDS LOCATION



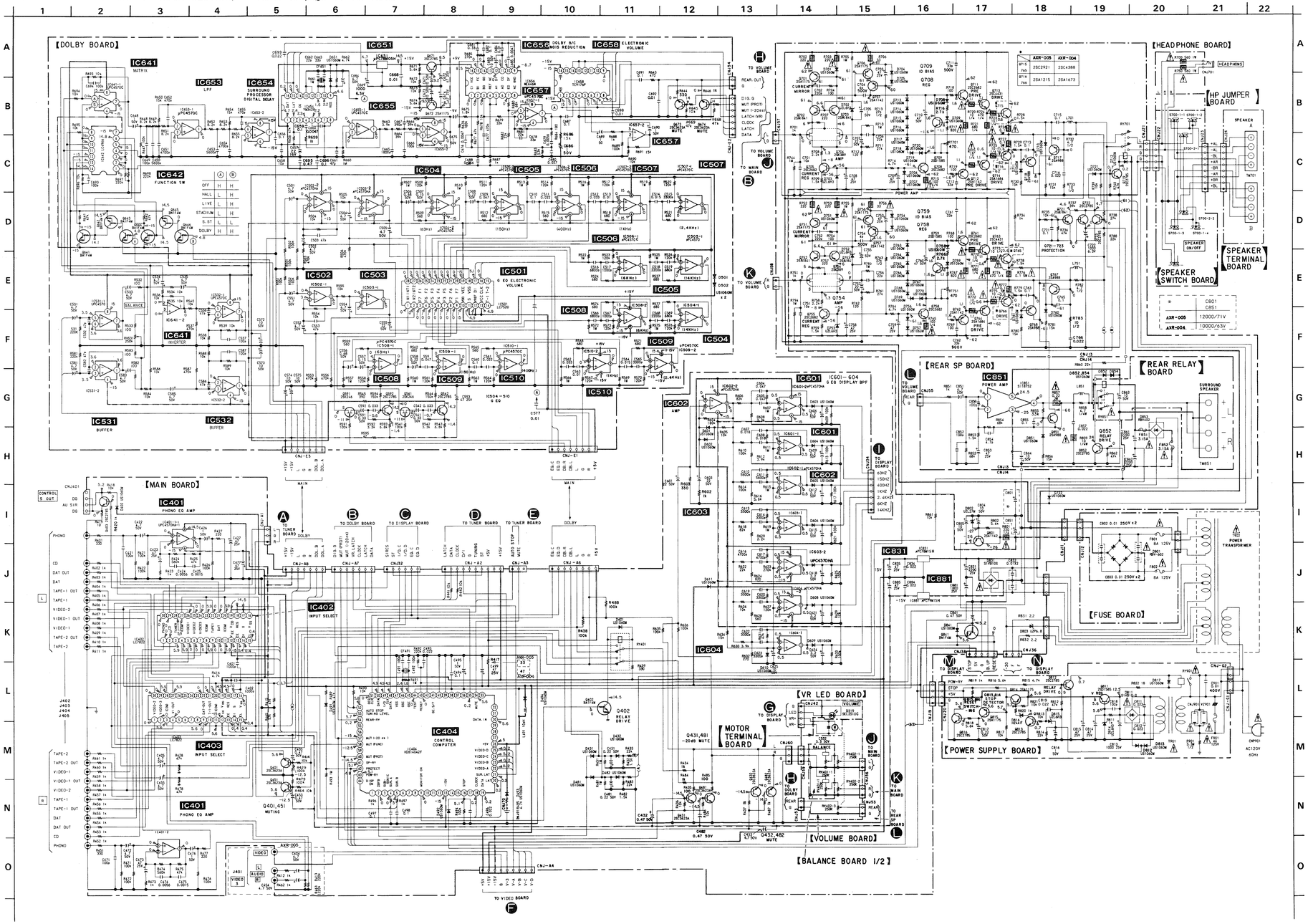
BLOCK DIAGRAM



Note on Mounting Diagram:
● o—— : parts extracted from the component side.



SCHEMATIC DIAGRAM – 1 (MAIN SECTION) • Refer to page 17 for Note.

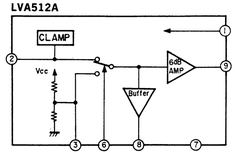


• Semiconductor Location

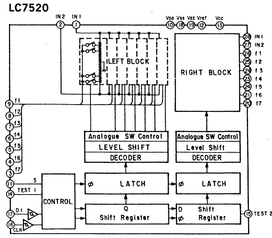
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D401	C – 13	D769	I – 11	Q755	H – 10
D402	I – 20	D770	I – 11	Q756	H – 12
D431	D – 10	D801	H – 5	Q757	H – 12
D432	D – 10	D802	I – 9	Q758	H – 12
D481	D – 10	D803	I – 9	Q759	J – 11
D482	D – 9	D811	F – 6	(AXR – 004)	
D491	F – 14	D812	F – 6	Q759	J – 11
D492	G – 16	D813	F – 6	(AXR – 005)	
D493	G – 16	D814	F – 5	Q761	I – 12
D494	G – 16	D815	F – 6	Q762	H – 10
D501	E – 23	D816	F – 6	Q763	I – 12
D502	E – 23	D817	F – 3	Q764	I – 10
D601	F – 10	D831	E – 12	Q765	J – 13
D602	F – 10	D841	H – 9	Q766	J – 10
D603	F – 9	D851	J – 25	Q767	H – 13
D604	F – 9	D852	I – 26	Q768	I – 10
D605	F – 9	D853	D – 11	Q801	I – 9
D606	F – 10			Q811	F – 4
D607	F – 10	Q341	C – 13	Q812	G – 4
D608	F – 9	Q401	C – 16	Q813	G – 6
D609	F – 9	Q402	C – 13	Q814	G – 5
D610	H – 9	Q403	I – 20	Q815	G – 5
D701	G – 17	Q432	C – 13	Q816	G – 5
D702	H – 17	Q451	C – 16	Q841	H – 10
D703	H – 17	Q481	C – 13	Q851	J – 25
D704	H – 18	Q482	C – 13	Q852	J – 26
D705	H – 17	Q541	C – 25		
D706	H – 17	Q542	B – 25	IC401	C – 18
D707	H – 17	Q592	B – 25	IC402	D – 17
D708	I – 17	Q641	B – 31	IC403	D – 16
D709	I – 17	Q643	E – 31	IC404	F – 15
D710	I – 19	Q644	D – 31	IC501	E – 24
D711	G – 16	Q645	D – 31	IC502	D – 26
D712	G – 11	Q646	D – 31	IC503	D – 25
D713	I – 18	Q672	B – 13	IC504	B – 23
D714	I – 18	Q673	D – 28	IC505	B – 23
D715	I – 18	Q674	D – 27	IC506	B – 24
D716	I – 18	Q701	I – 17	IC507	B – 24
D717	I – 17	Q703	H – 17	IC508	D – 22
D718	I – 17	Q704	H – 17	IC509	D – 23
D719	I – 17	Q705	H – 16	IC510	D – 23
D720	I – 17	Q706	H – 18	IC531	B – 31
D721	G – 12	Q707	H – 18	IC532	D – 30
D722	G – 12	Q708	H – 18	IC601	F – 9
D751	G – 12	Q709	J – 17	IC603	G – 10
D752	H – 11	(AXR – 004)		IC604	G – 10
D753	H – 11	Q709	J – 16	IC641	C – 30
D754	H – 11	(AXR – 005)		IC642	C – 31
D755	H – 12	Q711	H – 18	IC653	D – 30
D756	H – 11	Q712	H – 16	IC654	D – 28
D757	H – 11	Q713	JI – 16	IC655	D – 29
D758	H – 11	Q714	I – 16	IC656	C – 27
D759	I – 11	Q715	J – 16	IC657	C – 26
D760	H – 13	Q716	J – 15	IC658	D – 27
D761	I – 10	Q718	H – 16	IC851	J – 25
D763	I – 12	Q721	G – 15		
D764	I – 12	Q722	G – 15		
D765	I – 12	Q723	G – 15		
D766	I – 12	Q751	H – 12		
D767	I – 11	Q752	H – 12		
D768	I – 11	Q753	H – 11		

IC BLOCK DIAGRAM

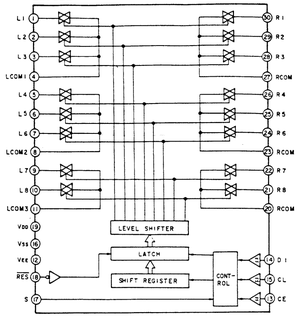
IC202
LVA512A



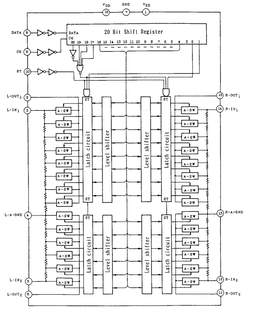
IC501
LC7520



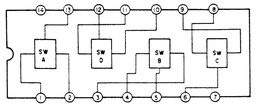
IC402
LC7822



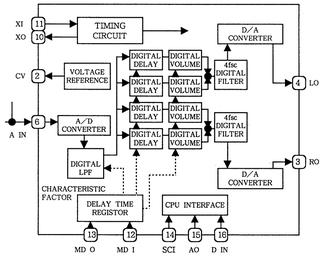
IC658
TC9176P



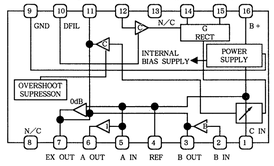
IC642
LC4966



IC654
YM3428



IC656
NE646N



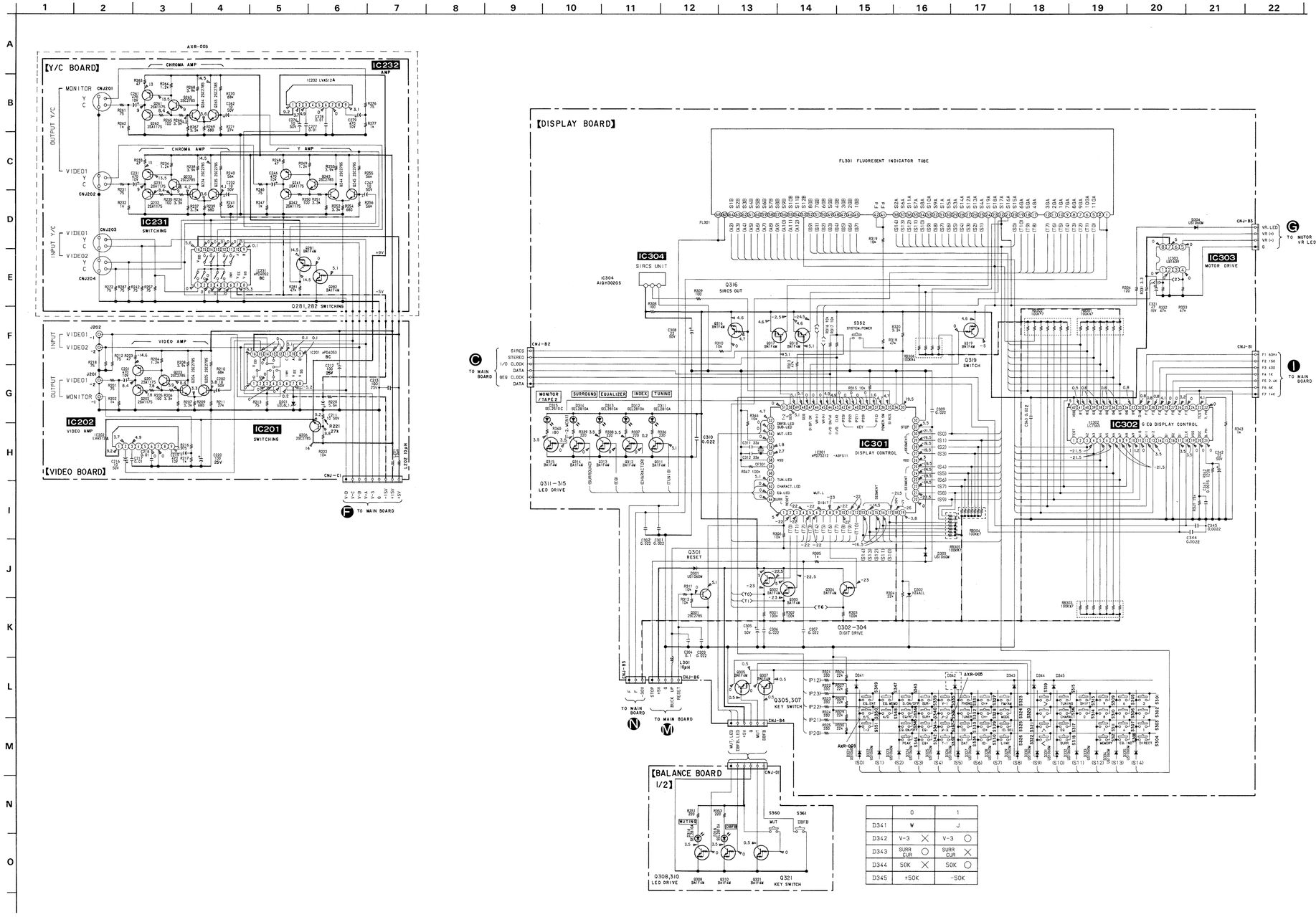
Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified. (TUNER BOARD 1/8W)
- Components for right channel have same values as for left channel. Reference numbers are coded from
- : nonflammable resistor.
- Switch with sliding contact indicated by hatched lines shows shorting type.

- : B+ Line
- : B− Line
- : adjustment for repair.
- AC voltage readings in the bias oscillator with a VTVM.
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : FM

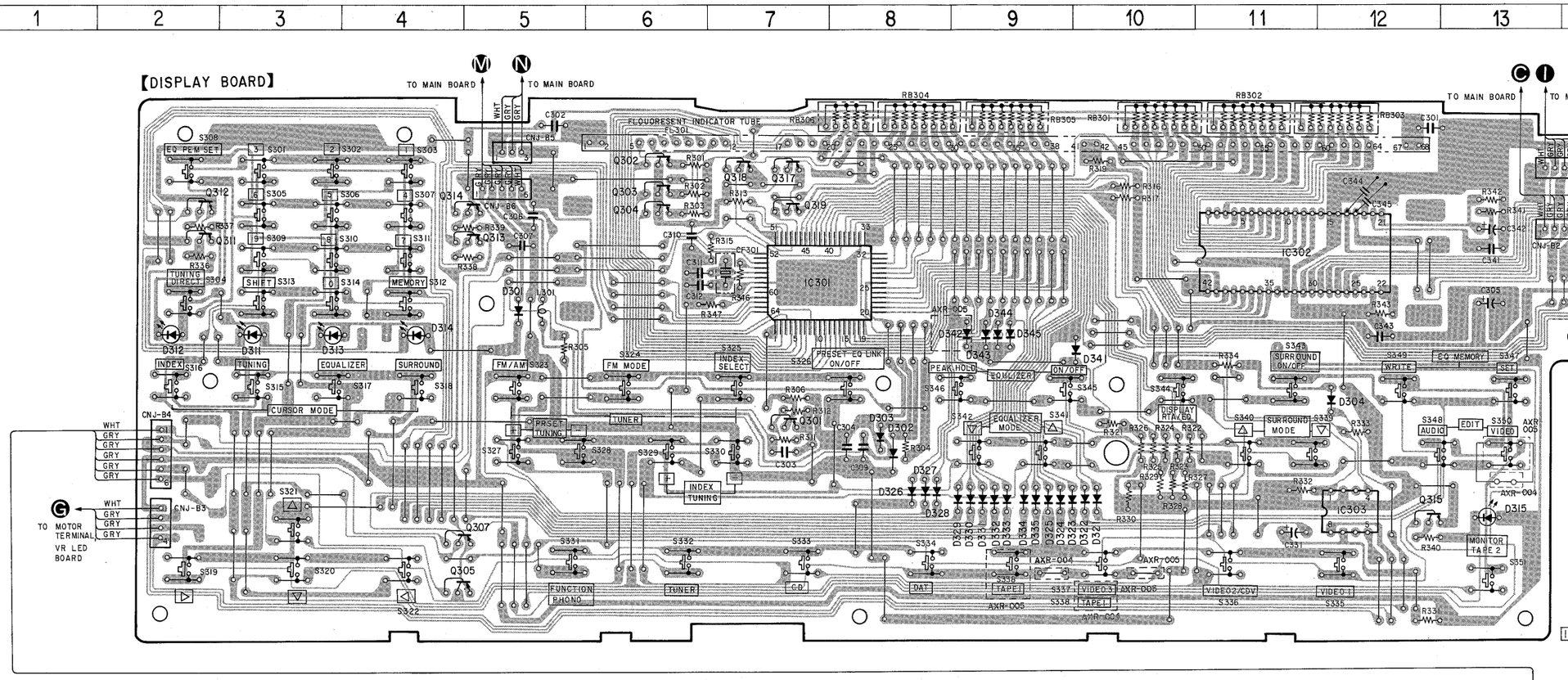
Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

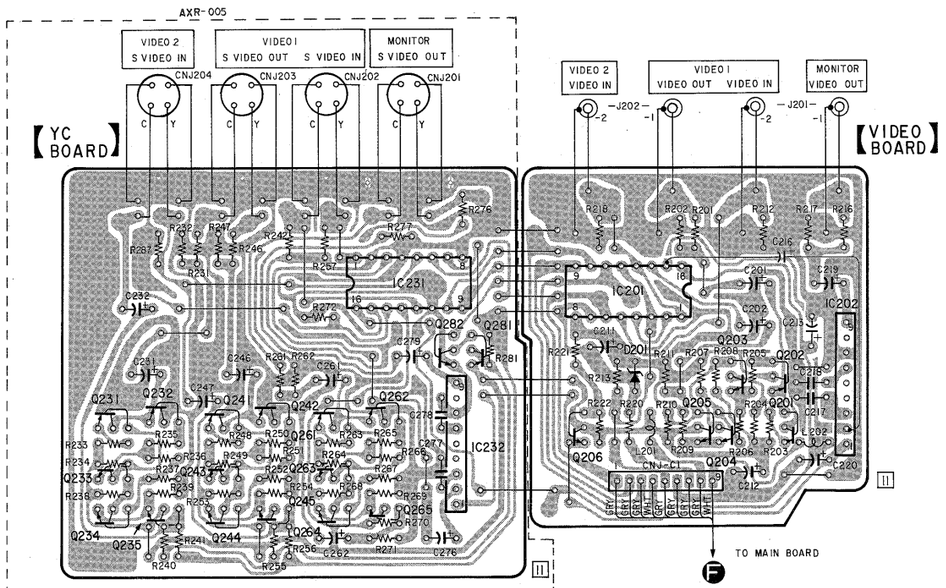
SCHEMATIC DIAGRAM – 2 (DISPLAY SECTION)

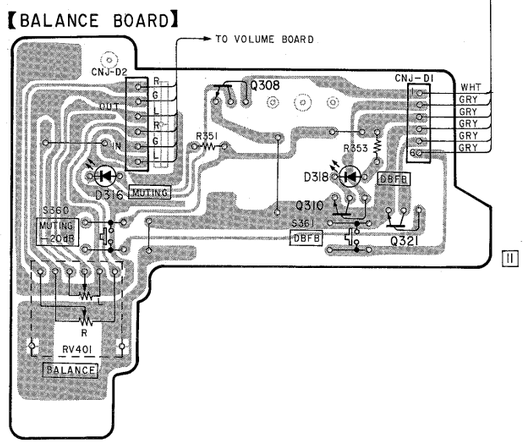


	0	1
D341	W	J
D342	V-3 ✕	V-3 ○
D343	SURR CUR ○	SURR CUR ✕
D344	50K ✕	50K ○
D345	+50K	-50K

WIRING – 2 (DISPLAY SECTION)







• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D201	H-7	IC302	B-11
D301	C-5	IC303	D-12
D302	D-8	IC304	C-11
D303	D-8		
D304	D-12	Q201	I-8
D311	C-3	Q202	H-8
D312	C-2	Q203	H-8
D313	C-3	Q204	I-8
D314	C-4	Q205	I-8
D315	D-13	Q206	I-8
D316	H-11	Q231	I-4
D318	H-12	Q232	I-4
D321	D-10	Q233	I-4
D322	D-10	Q234	I-4
D323	D-9	Q235	I-4
D324	D-9	Q241	I-4
D325	D-9	Q242	I-5
D326	D-8	Q243	I-4
D327	D-8	Q244	I-4
D328	D-8	Q245	I-5
D329	D-9	Q261	I-5
D330	D-9	Q262	I-5
D331	D-9	Q263	I-5
D332	D-9	Q264	I-5
D334	D-9	Q265	I-5
D335	D-9	Q301	D-7
D337	D-9	Q302	B-6
D341	C-10	Q303	B-6
D342	C-9	Q304	B-6
D343	C-9	Q305	E-4
D344	C-9	Q307	E-4
D345	C-9	Q311	B-2
		Q312	B-2
IC201	H-7	Q313	B-5
IC202	H-9	Q314	B-5
IC231	H-6	Q317	B-7
IC232	I-6	Q318	B-7
IC301	C-7	Q319	B-7

Note on Mounting Diagram:

- o—— : parts extracted from the component side.

● **Semiconductor Location**

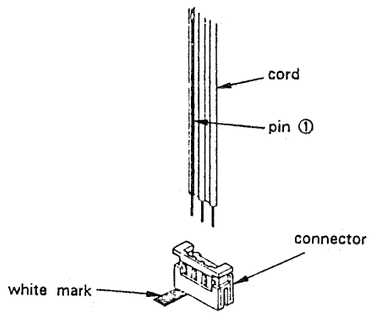
Ref. No.	Location
IC21	D-6
IC81	B-3
Q1	C-3
Q2	C-4
Q3	C-4
Q4	C-4
Q21	C-7
Q22	C-7
Q23	C-5
Q24	C-5
Q81	B-5
Q82	B-5
Q83	A-2
Q84	A-2

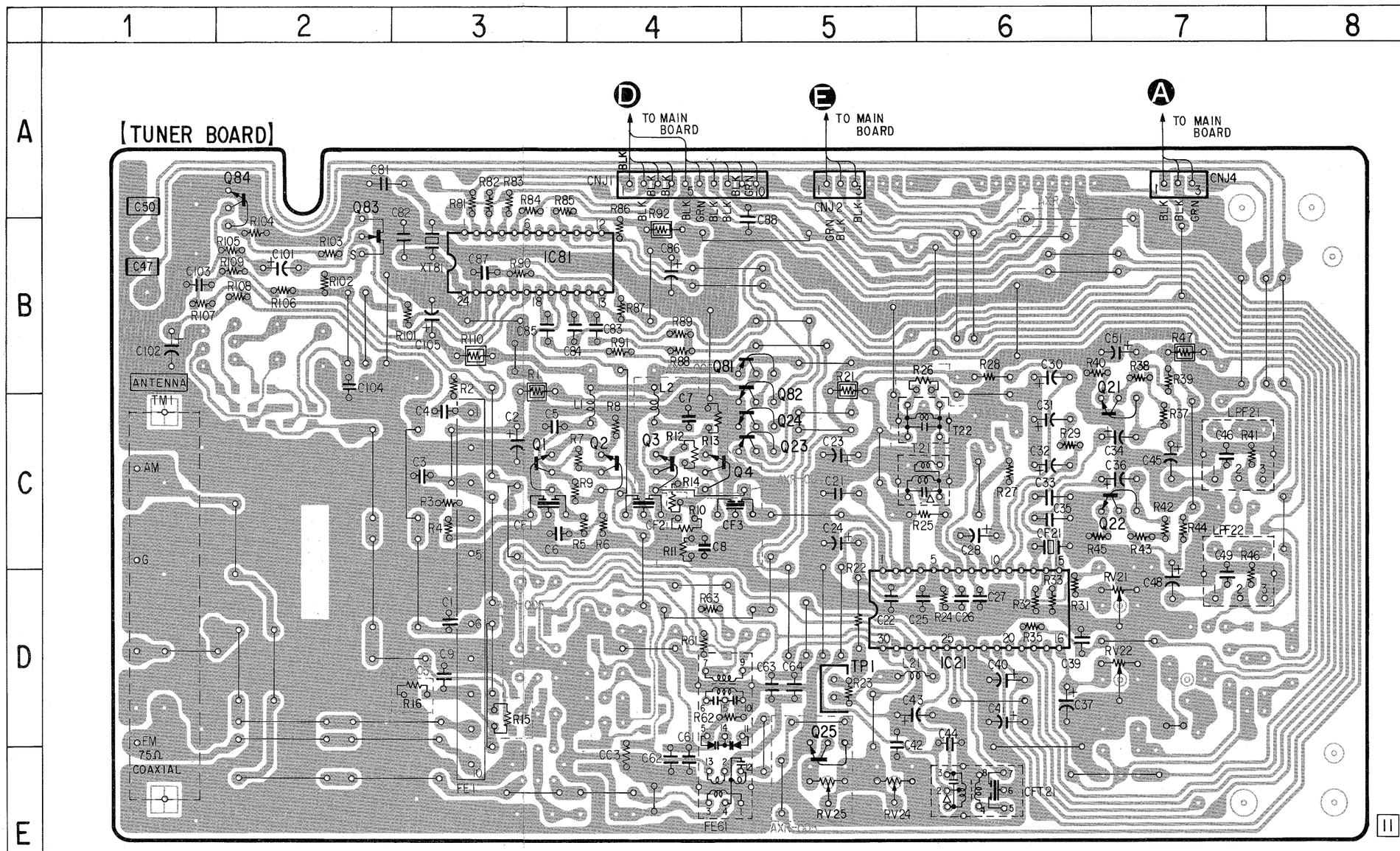
Note on Mounting Diagram:

● o—— : parts extracted from the component side.

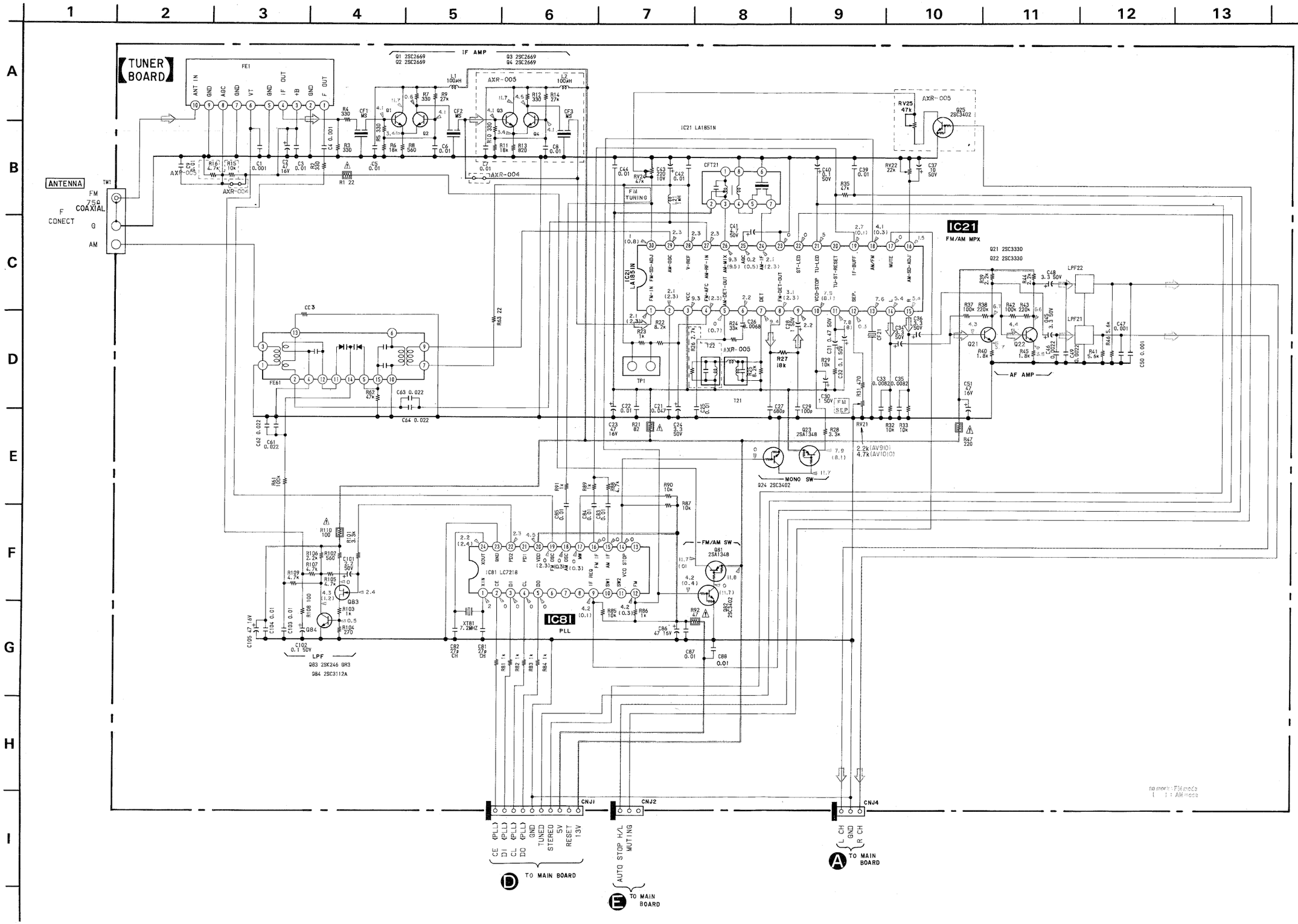
[Note on Inserting the Cord to the Connector on Tuner Board]

- Insert the cord to the connector fitting Pin ① of the cord in accordance with the white mark on the board at the connector as shown in the figure.
- In case of 3 pin cord, insert the cord fitting each color of the connector on Tuner Board and Main Board.





SCHEMATIC DIAGRAM – 3 (TUNER SECTION)



IC DESCRIPTION

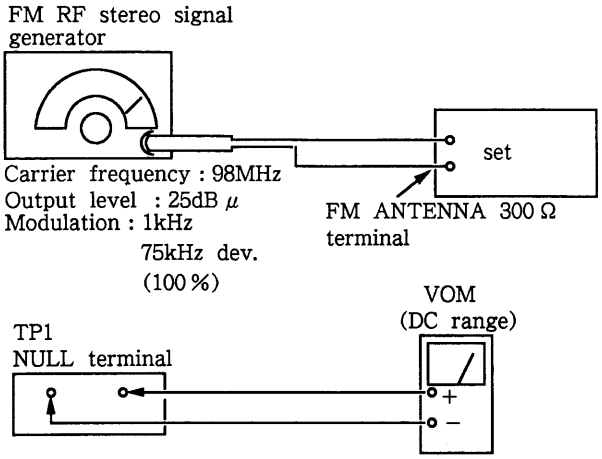
Pin Description IC404 (HD614042)

Pin No.	Symbol	ACT	I/O		Pin No.	Symbol	ACT	I/O
1	–	–	–		33	GND	–	–
2	D. B. F. B	H	O		34	T – MUTE	H	O
3	SUBSONIC	H	O		35	TC9176 (LAT)	H	O
4	SURR. A	L	O		36	–	–	–
5	SURR. B	L	O		37	–	–	–
6	+ 5V	–	–		38	GND	–	–
7	SURR. ON/OFF	H	O		39	–	–	–
8	TAPE – 2 ON	L	O		40	–	–	–
9	TAPE – 2 OFF	L	O		41	7/5 (EQ)	H/L	I
10	+ 5V	–	–		42	–	–	–
11	+ 5V	–	–		43	RESET	–	–
12	–	–	–		44	TEST	–	–
13	– 15V	–	–		45	OSC 1	–	–
14	GND	–	–		46	OSC 2	–	–
15	GND	–	–		47	GND	–	–
16	STOP	L	I		48	I/O DATA	L	I/O
17	GND	–	–		49	I/O CLK	L	I/O
18	S – CLK	H	O		50	EQ DATA	L	O
19	S – DATA	H	O		51	EQ CLK	L	O
20	S – LAT (T. F)	H	O		52	AUTO STOP	L	I
21	DOL – LAT	H	O		53	TUN – LEVEL	H	O
22	VIDEO – A	H	O		54	REAR SP – RY	–	O
23	VIDEO – B	H	O		55	(M – VOL +)	H	O
24	VIDEO – C	H	O		56	(M – VOL –)	H	O
25	VIDEO – D	H	O		57	– 20dB MUTE	H	O
26	Vcc	–	–		58	FUNC MUTE	H	O
27	GND	–	–		59	T – 2MUTE	H	O
28	GND	–	–		60	P MUTE	H	O
29	GND	–	–		61	SP – RY	H	O
30	S – DATA (T)	H	I		62	PROT – IN	L	I
31	GND	–	–		63	POW – RY	H	O
32	GND	–	–		64	DISP ON	H	O

< FM SECTION >

• FM Discriminator (NULL) Adjustment

Setting :



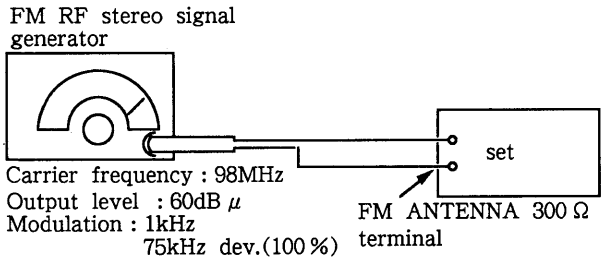
Procedure :

1. Tune the set to 98MHz.
2. Adjust T21 and T22 (AXR−005 only) for 0V reading on the VOM.

Note : FM Tuning Level adjustment should be made after FM discriminator adjustment.

• FM Stereo Operation Level Adjustment

Setting :

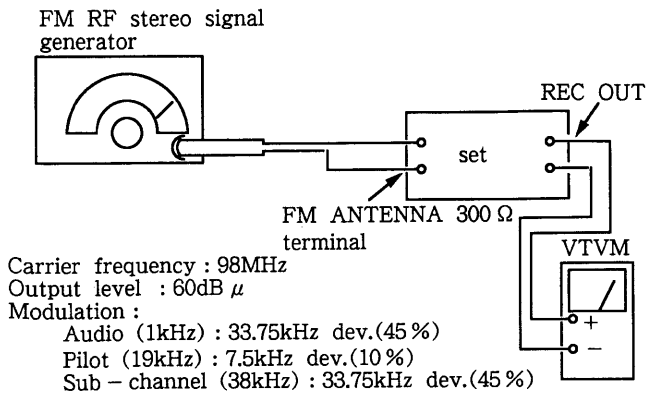


Procedure :

1. Tune the set to 98MHz.
2. Adjust RV24 so that the TUNED LED goes on.

• FM Stereo Separation Ajustment

Setting :



Procedure :

Tune the set to 98MHz.

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L − CH	L − CH	ⓐ
R − CH	L − CH	ⓑ Adjust RV21 for minimum reading.
R − CH	R − CH	ⓒ
L − CH	R − CH	ⓓ Adjust RV21 for minimum reading.

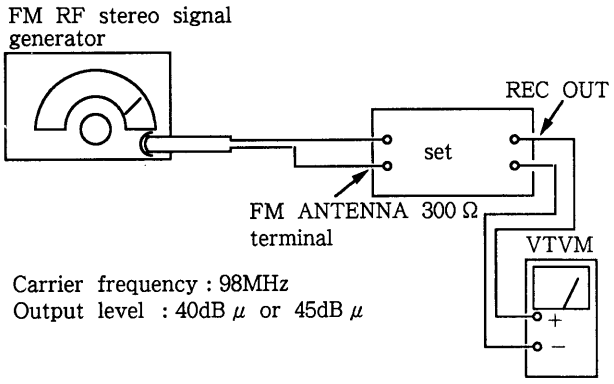
L − CH Stereo separation : ⓐ−ⓑ

R − CH Stereo separation : ⓒ−ⓓ

The separations of both channels should be equal.

• Auto Stop Level Adjustment

Setting :



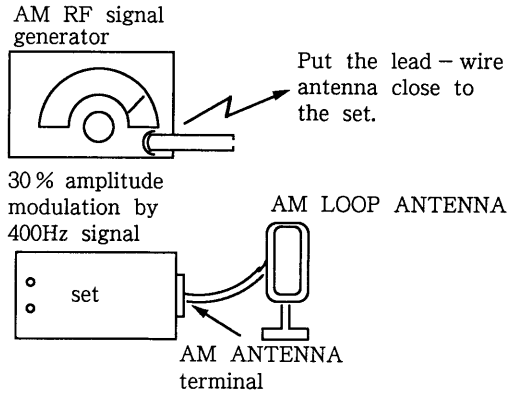
Procedure :

1. Turn the High/Low select switch to High.
2. Adjust RV25 so that the TUNED LED goes on.

< AM SECTION >

· AM Meter Adjustment

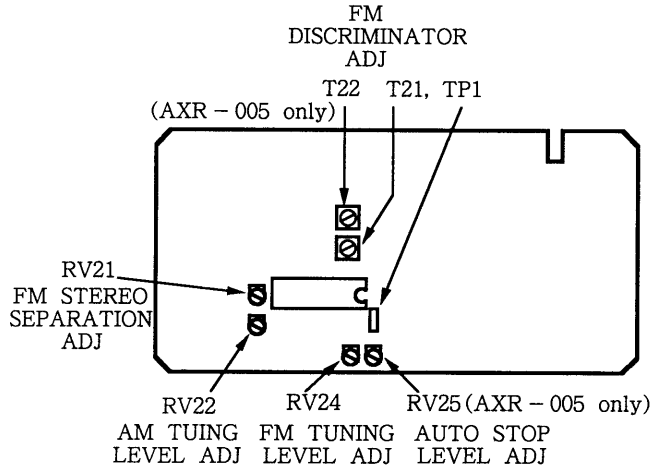
Setting :



Procedure :

1. Tune the set to 1.050kHz.
2. Adjust the RV22 so that the TUNED LED goes on.

Adjustment Location : tuner board

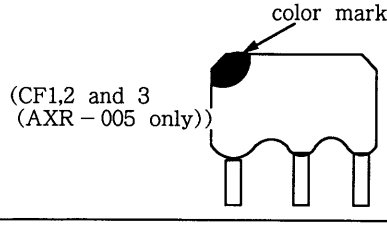


Note on Ceramic Filter (CF1,2 and3 (AXR – 005 only)) Replacement.

This set employs two ceramic filters (CF1,2 and3 (AXR – 005 only)) which should have the same color marking to identify their center frequency. Therefore FM IF offset adjustment by Pattern (※A, ※B) connection is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.

○ : short
X : open

Ceramic		Connection		FM intermediate frequency
Color mark	Center frequency	※A (D344)	※B (D345)	
White	10.750	○	X	10.750
Red	10.700	X	X	10.700
Black	10.650	○	○	10.650



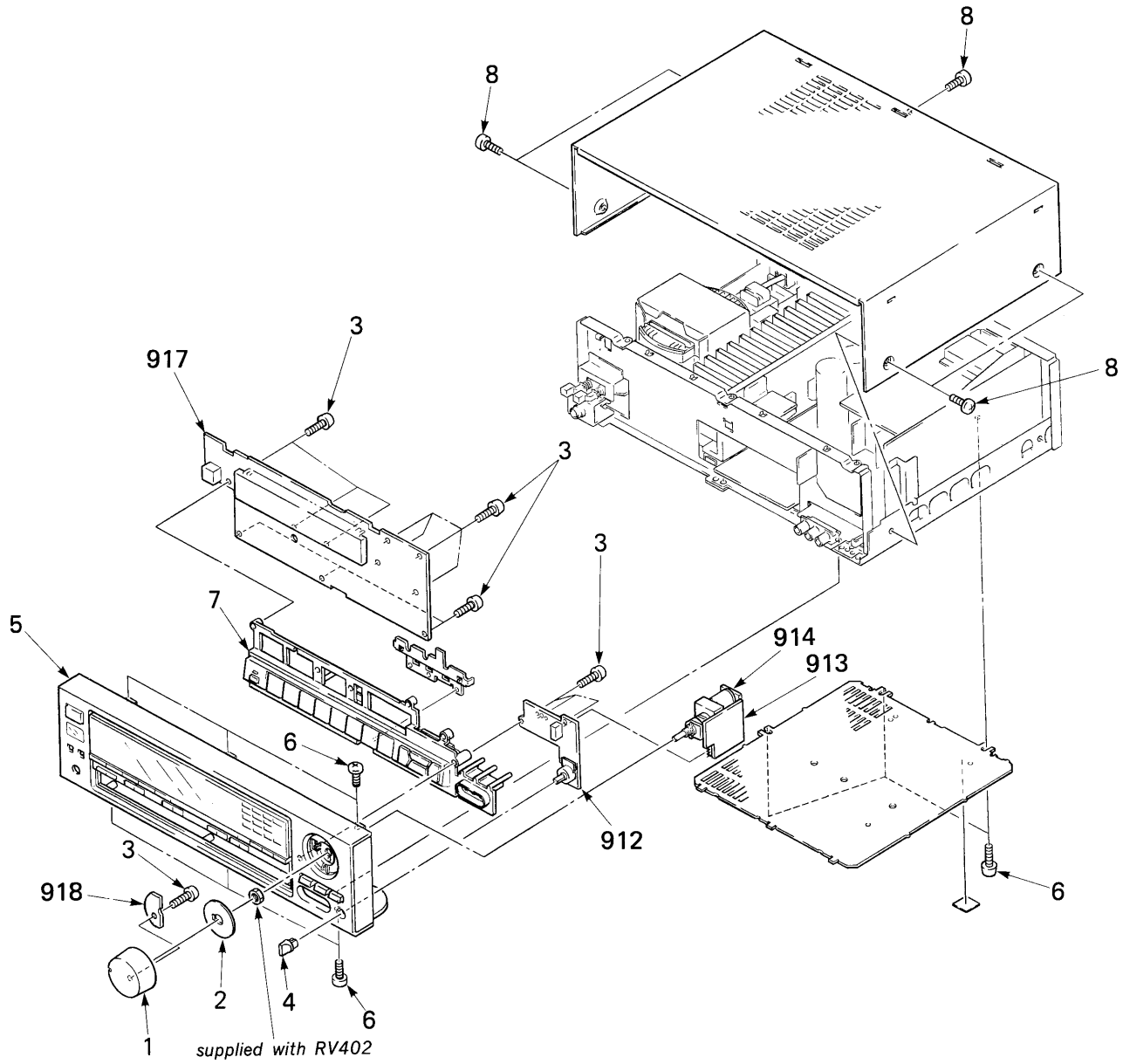
EXPLODED VIEW – 1

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts' Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

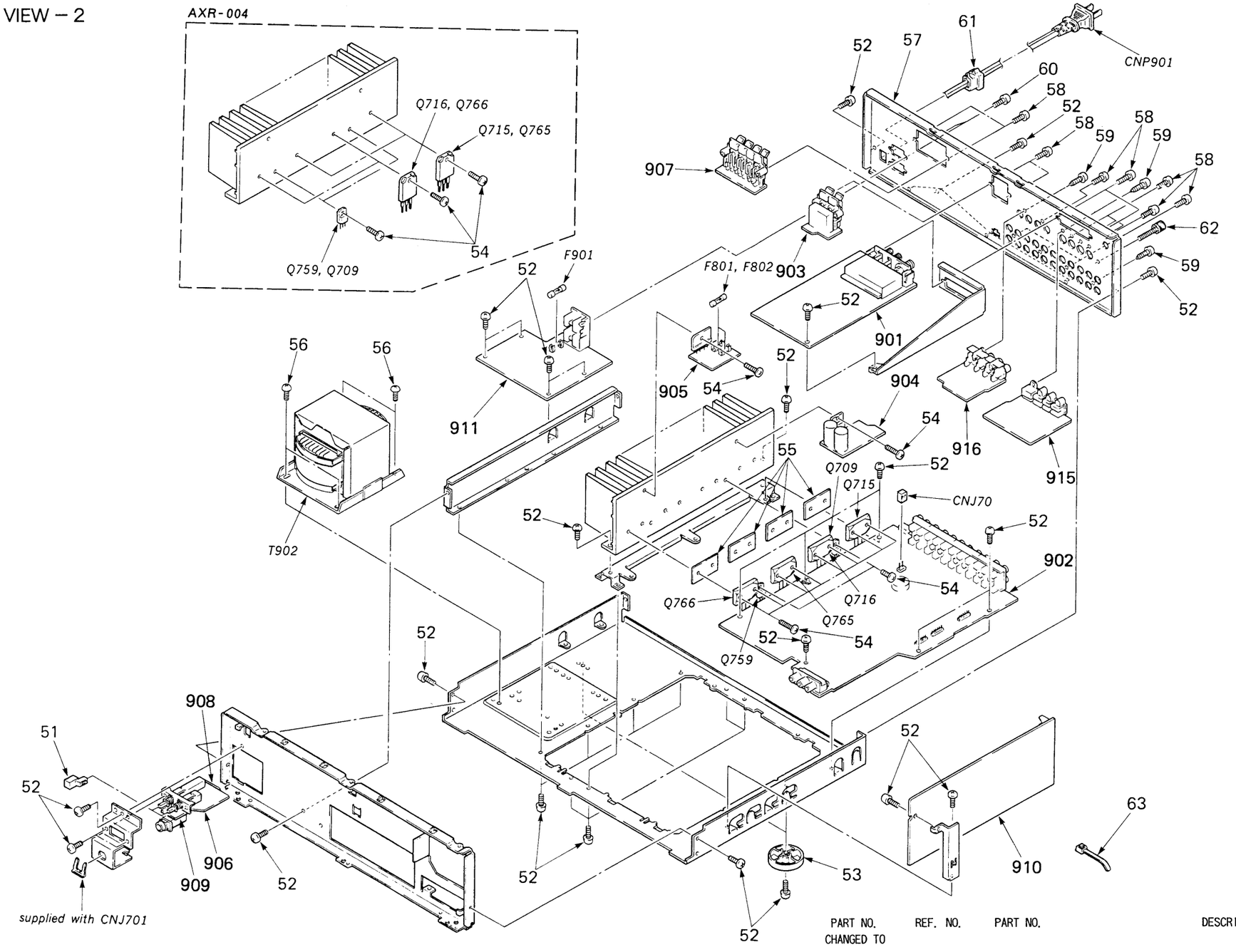
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.



MECHANICAL PARTS LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1-1	★94-925-121-010	KNOB, V2		1
	1-2	★94-931-603-110	SPACER		1
	1-3	★97-685-535-190	SCREW +BTP 2.6-10 TYPE2 N-S		14
	1-4	★94-931-065-010	KNOB, BAL 10		1
	1-5	★9A-432-331-7A0	FRONT PANEL ASSY (AXR-004)		1
	1-5	★9A-432-331-6A0	FRONT PANEL ASSY (AXR-005)		1
	1-6	★97-685-872-010	SCREW +BVTT 3-8 S		9
	1-7	---	ESCUTCHON ASSY (W/FRONT PANEL ASSY)		1
	1-8	★93-704-366-010	SCREW, CASE M3-8		5

EXPLODED VIEW – 2



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	2-51	★94-906-872-010	KNOB,SQUARE		2
	2-52	★97-685-872-010	SCREW +BVTT 3-8 S		33
	2-53	★9X-488-593-610	FOOT ASSY		2
	2-54	★97-685-874-010	SCREW +BVTT 3-12 S		6(004) 12(005)
	2-55	★94-885-901-310	SHEET,RADIATION		4
	2-56	★97-685-881-010	SCREW +BVTT 4-8 S		4
	2-57	★94-931-078-110	PANEL,BACK (AXR-004)		1
	2-57	★94-931-078-010	PANEL,BACK (AXR-005)		1
	2-58	★97-685-647-190	SCREW +BVTP 3-10 TYPE2 SLIT		9
	2-59	★94-909-982-110	SCREW,TAPPING		3
	2-60	★97-685-646-110	SCREW +BTP 3-8 TYPE2 N-S		1
	2-61	★93-703-244-000	BUSHING,AC CORD		1
	2-62	★93-706-165-010	FEEDER ROCK SCREW		1
	2-63	---	CLAMP		1

■ ACCESSORIES／PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1	★ 93－751－148－010	INSTRUCTION BOOKLET	※	1
	2	★ 91－501－224－000	ANTENNA,FEEDER		1
	3	★ 91－501－374－110	ANTENNA,LOOP		1
	4	★ 91－465－307－110	REMOTE COMMANDER (AXR－004)		1
	5	★ 91－465－308－110	REMOTE COMMANDER (AXR－005)	※	1