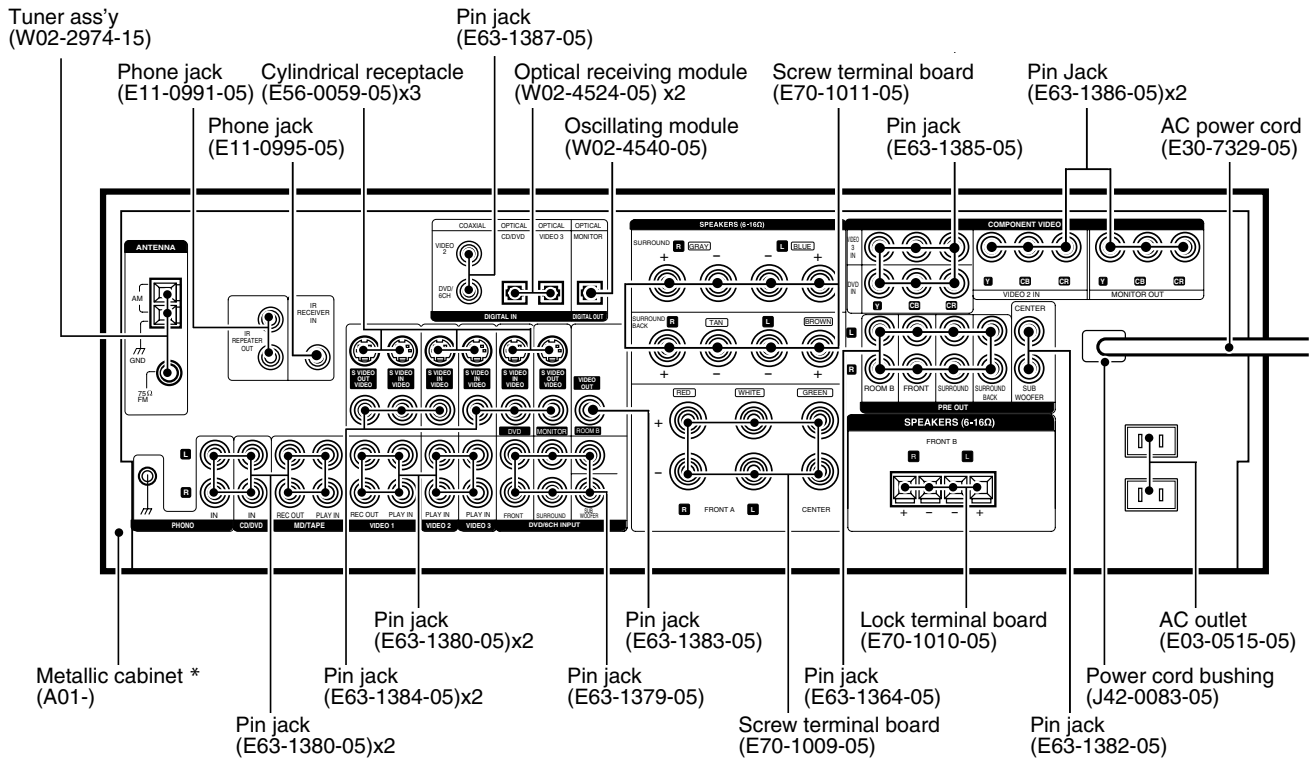
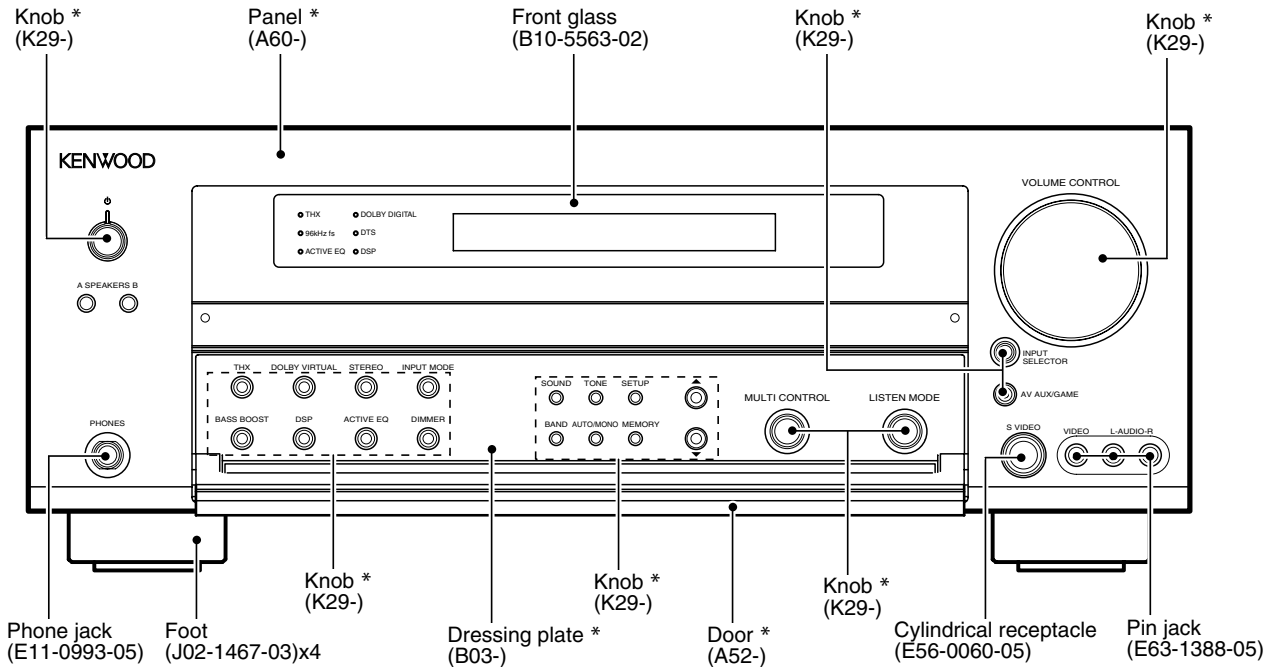


KRF-V7090D/V7090D-S/VR-9050 VR-9050-S/9060/9060-S/9070/9070-S SERVICE MANUAL

KENWOOD

Kenwood Corporation

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B51-5950-00 (K/K) 1010



Illust. is VR-9070.

* Refer to parts list on page 32.

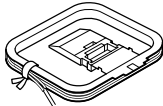
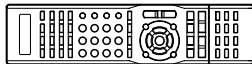
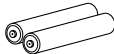
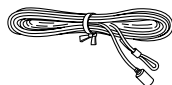
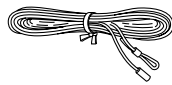
This product uses Lead Free solder.



KRF-V7090D/VR-9050/9060/9070

ACCESSORIES / CAUTIONS / ADJUSTMENT

ACCESSORIES

AM loop antenna (1) (T90-0893-05) 	Remote control unit (1) See the following table. 	Batteries (R03/AAA) (2) 	FM indoor antenna (1) U.S.A. and Canada (T90-0905-05) 	Other countries (T90-0855-05) 
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PCB vs MODEL

MODEL		SURROUND	AUDIO	SUB	DISPLAY
VR-9050/-S	K,P	X08-3390-10	X09-6960-10	X13-7960-10	X14-7900-10
VR-9060/-S	K,P	X08-3390-11	X09-6960-10	X13-7960-11	X14-7900-11
VR-9070/-S	K,P	X08-3390-12	X09-6960-10	X13-7960-12	X14-7900-12
KRF-V7090D-S	X	X08-3390-10	X09-6960-71	X13-7962-71	X14-7900-71
KRF-V7090D/D-S	E	X08-3392-71	X09-6962-71	X13-7962-71	X14-7902-71

REMOTE CONTROL vs MODEL

MODEL		PARTS #	CONTROLLER #
VR-9050/-S	K,P	A70-1673-05	RC-R0731
VR-9060/-S	K,P	A70-1671-05	RC-R0829
VR-9070/-S	K,P	A70-1675-05	RC-R0918
KRF-V7090D-S	X	A70-1674-05	RC-R0731E
KRF-V7090D/D-S	E	A70-1674-05	RC-R0731E



CAUTIONS

Resetting the Microcomputer

The microcomputer may malfunction (unit cannot be operated, or shows an erroneous display) if the power cord is unplugged while the power is ON, or due to some other external factor. If this happens, execute the following procedure to reset the microcomputer and return the unit to its normal operating condition.

Unplug the power cord from the wall outlet, then plug it back in while holding down the ϕ (POWER ON/STANDBY) key.

- Please note that resetting the microcomputer will clear the contents of the memory and returns the unit to the state it was in when it left the factory.

Memory back up function

Please note that the following items will be deleted from the unit's memory if the power cord is disconnected from the AC outlet for approximately 1 day.

- Power mode
- Input selector settings
- Speaker ON/OFF
- Volume level
- BASS, TREBLE, INPUT level
- TONE ON/OFF
- LOUDNESS ON/OFF
- Dimmer level
- Listen mode setting
- Speaker settings
- Distance setting
- Input mode setting
- Sound mode settings
- Broadcast band
- Frequency setting
- Preset stations
- Tuning mode
- ACTIVE EQ mode
- GAME mode setting

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	RECEIVER SETTINGS	ALIGNMENT SETTINGS	ALIGNMENT POINTS	FIG.
AUDIO SECTION		SPEAKER : A					
<1>	IDLE CURRENT *	-	CN11, FL ch. CN10, FR ch. CN14, SL ch. CN13, SR ch. CN12, C ch. CN15, SBL ch. X09(A/4) CN706, SBR ch. X13(F/6)	(FRONT 2ch MODE) Volume: Minimum	VR1(FL) VR2(FR) VR3(SL) VR4(SR) VR5(CENTER) VR6(SBL) X09(A/4) VR702(SBR) X13(F/6)	Adjust every potentiometer 10 minutes later after turned the power on.	

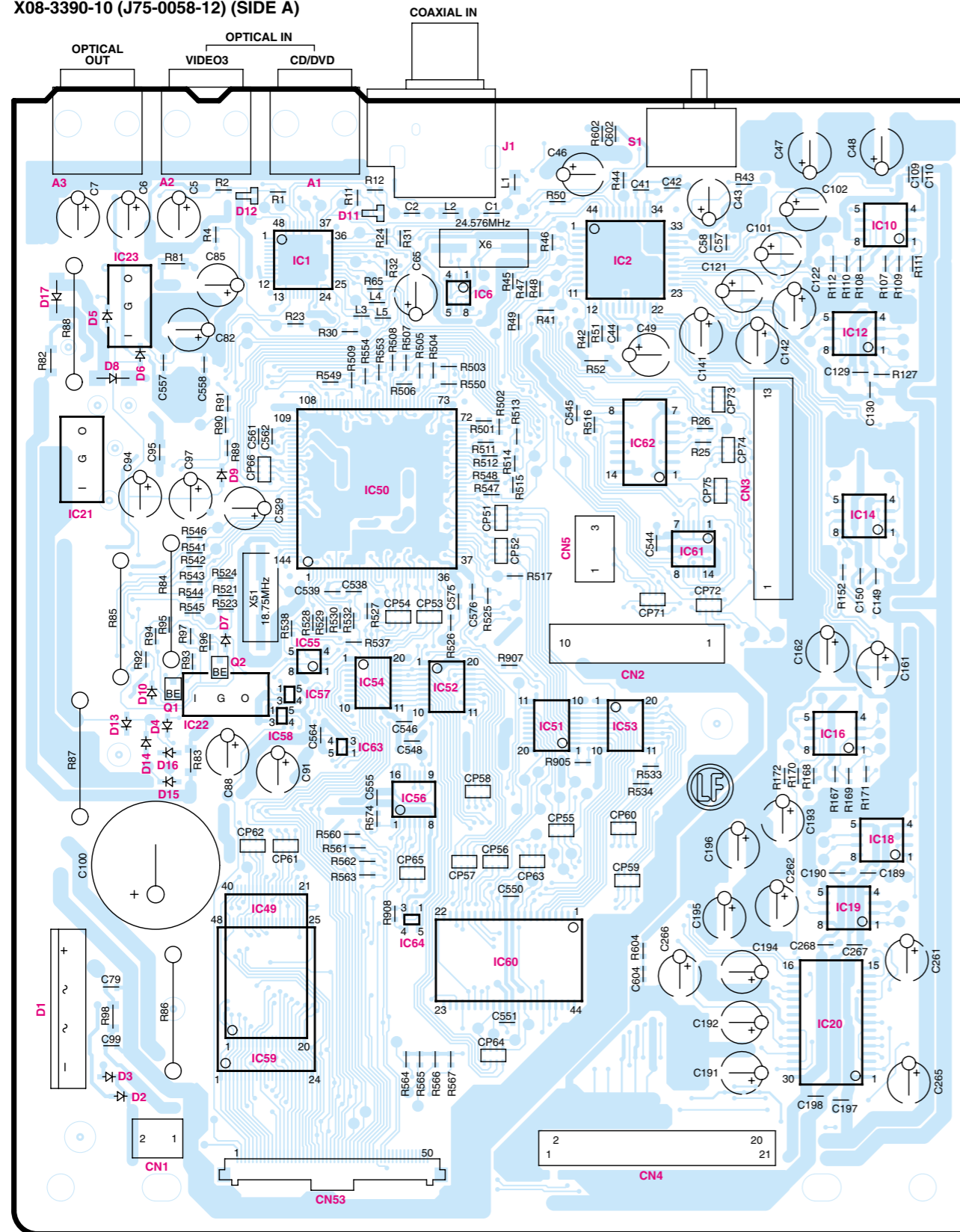
* Idling Current Adjustment

All power amplifier stage need idling current adjustment after the installation of TRAIT transistor.

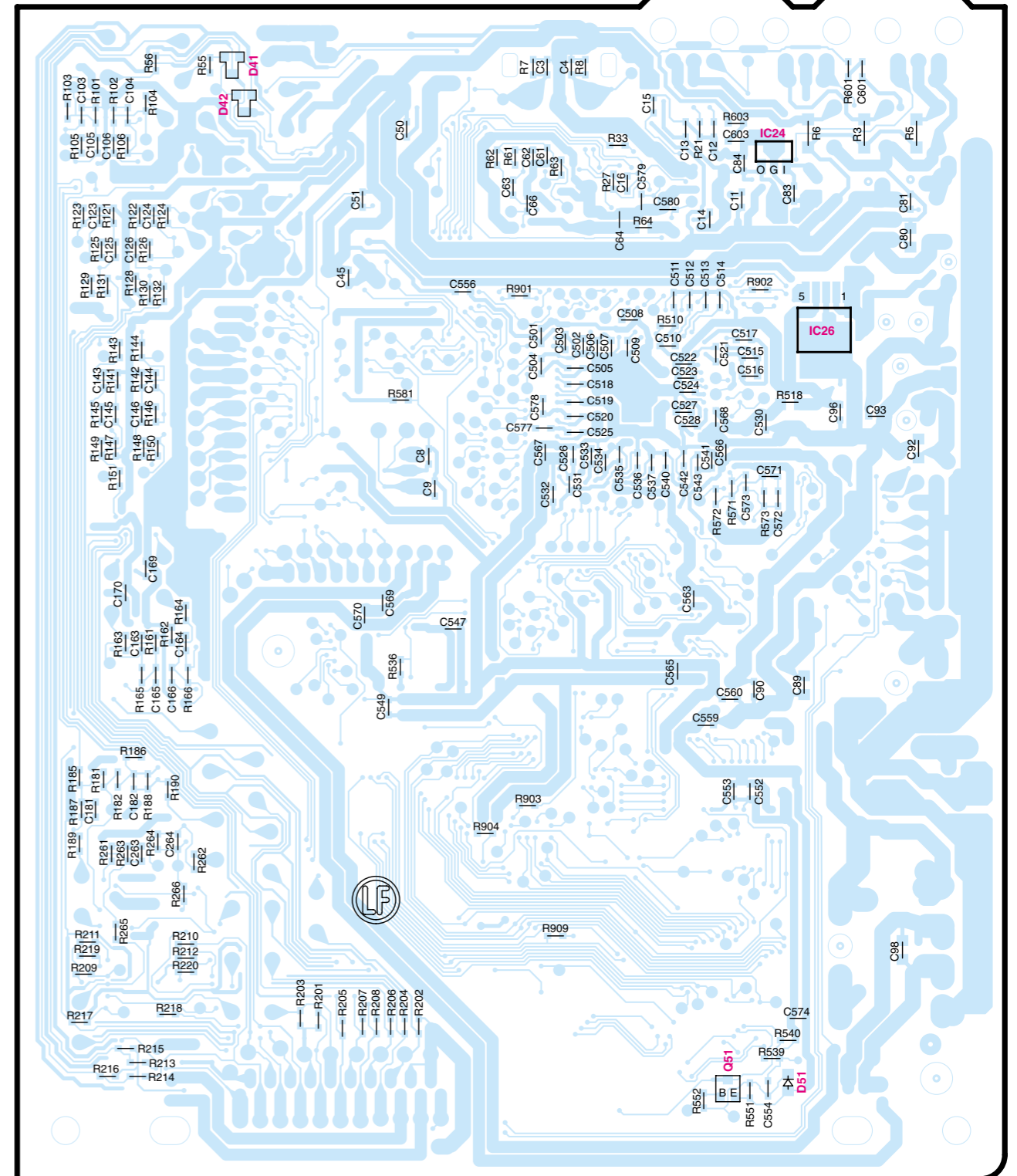
1. Connect a voltmeter to CNs with the correct polarity as indicated by the PCB silk print.
2. Adjust the preset, VRs to get 8.8mV (Idling current = 20mA) at the voltmeter reading.
3. Repeat step few times for all channels.

PC BOARD

X08-3390-10 (J75-0058-12) (SIDE A)

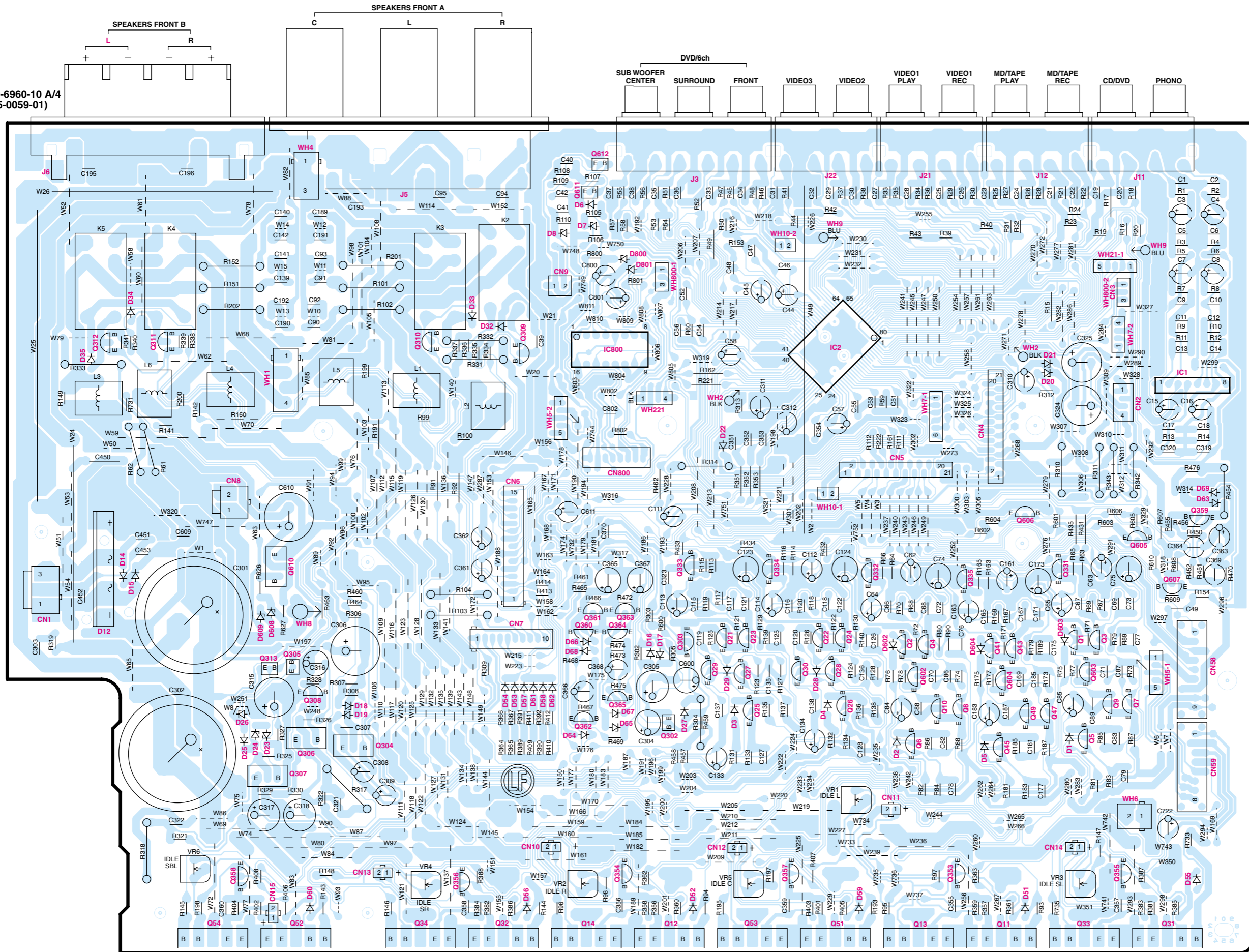


X08-3390-10 (J75-0058-12) (SIDE B)

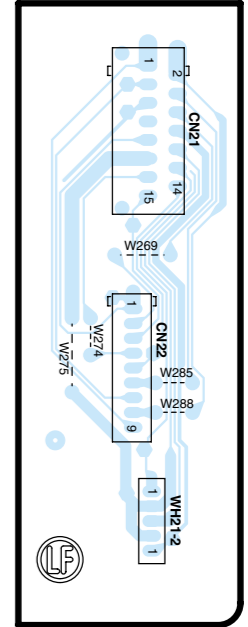


PC BOARD

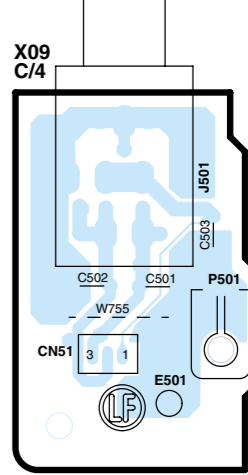
X09-6960-10 A/4
(J75-0059-01)



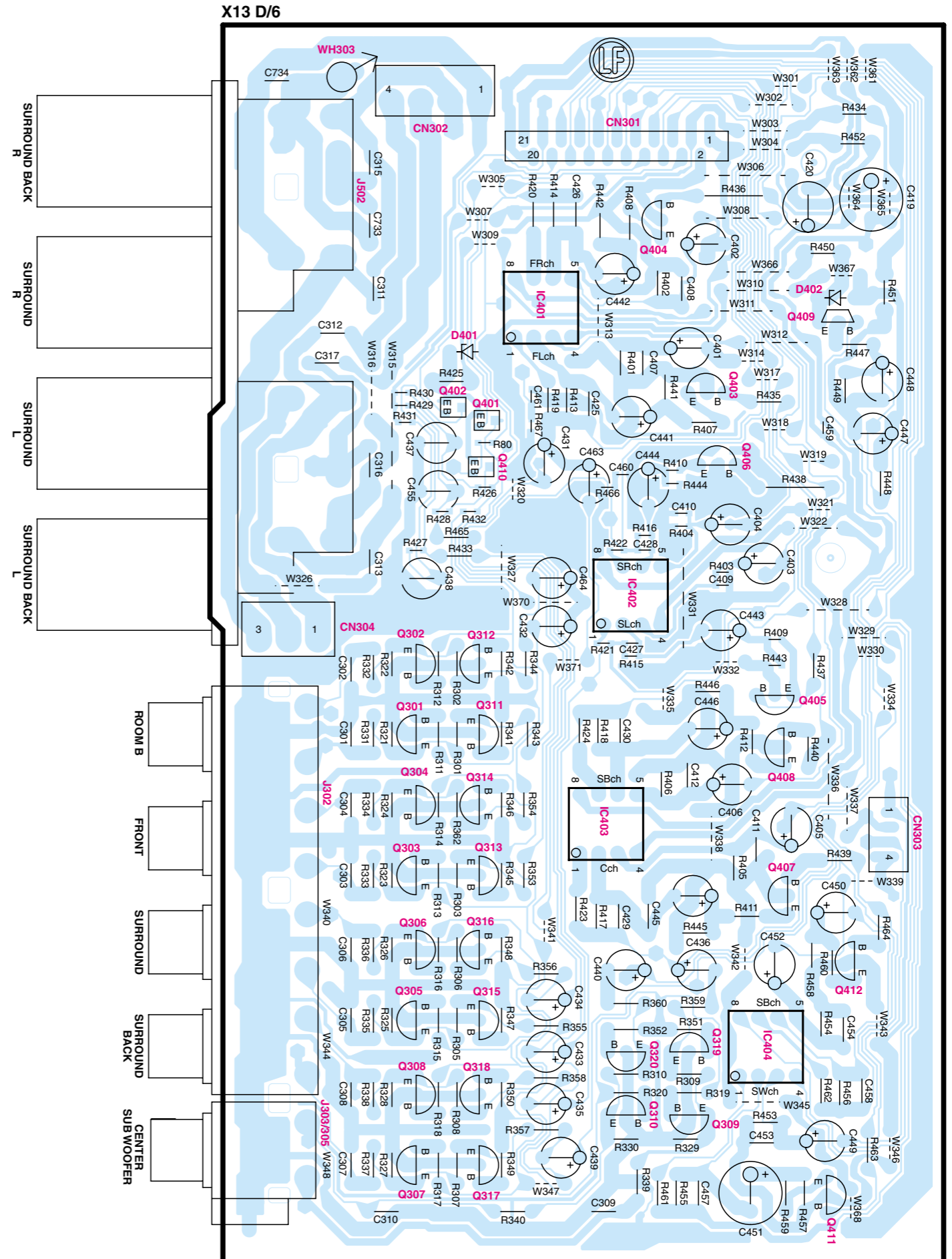
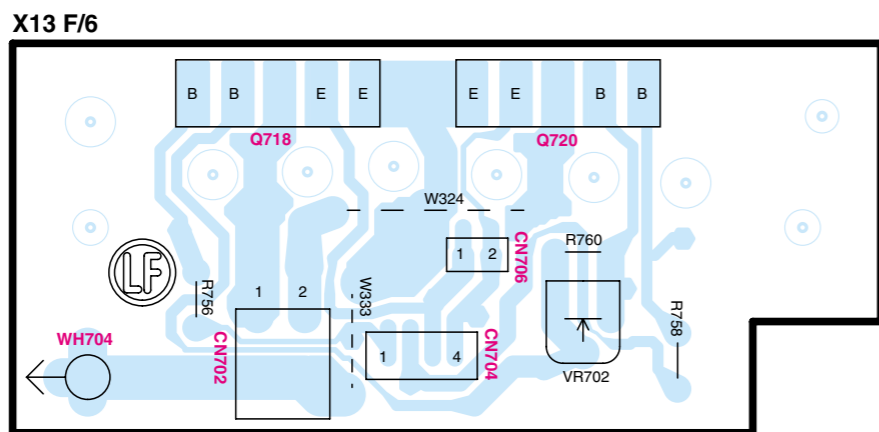
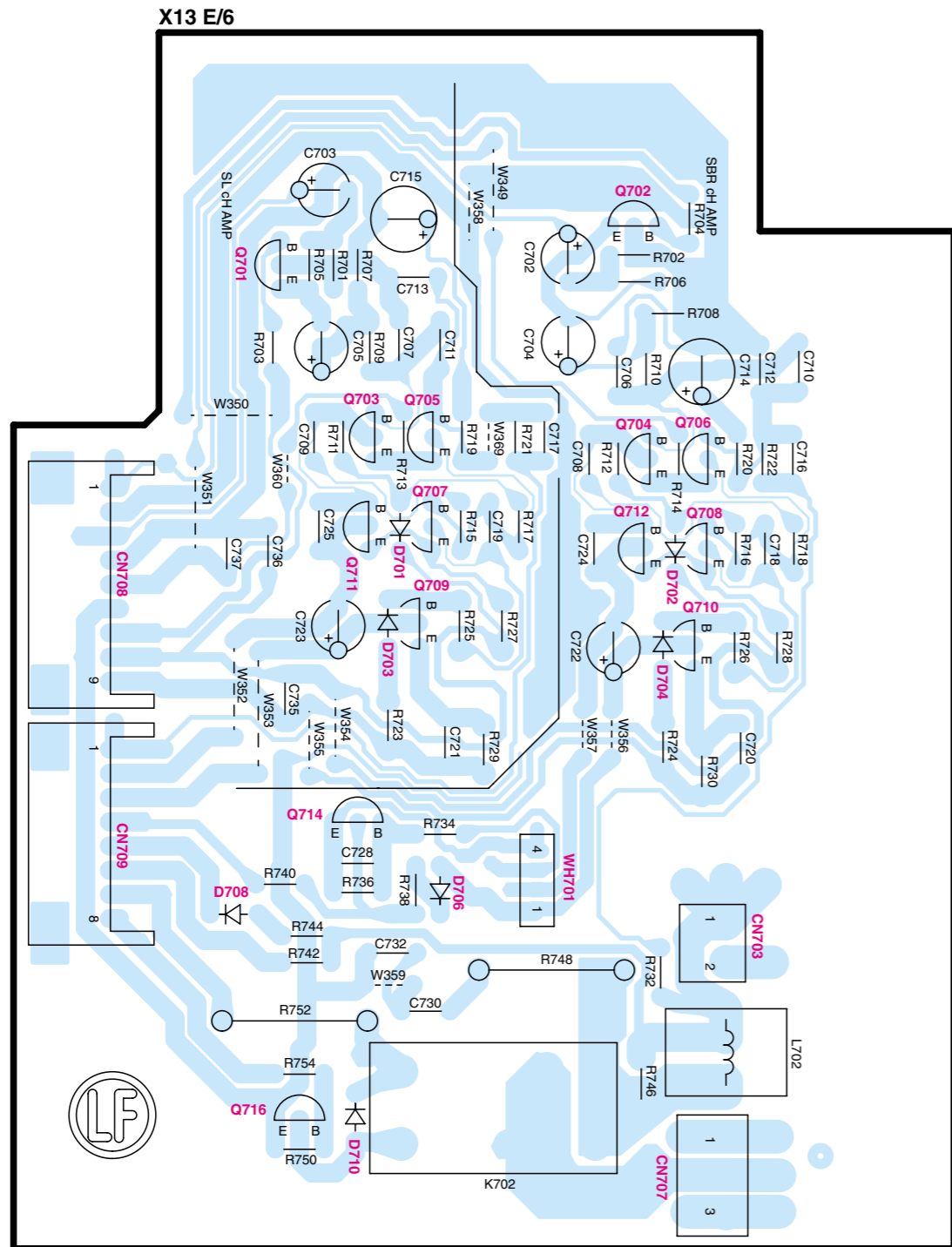
X09 B/4



PHONES



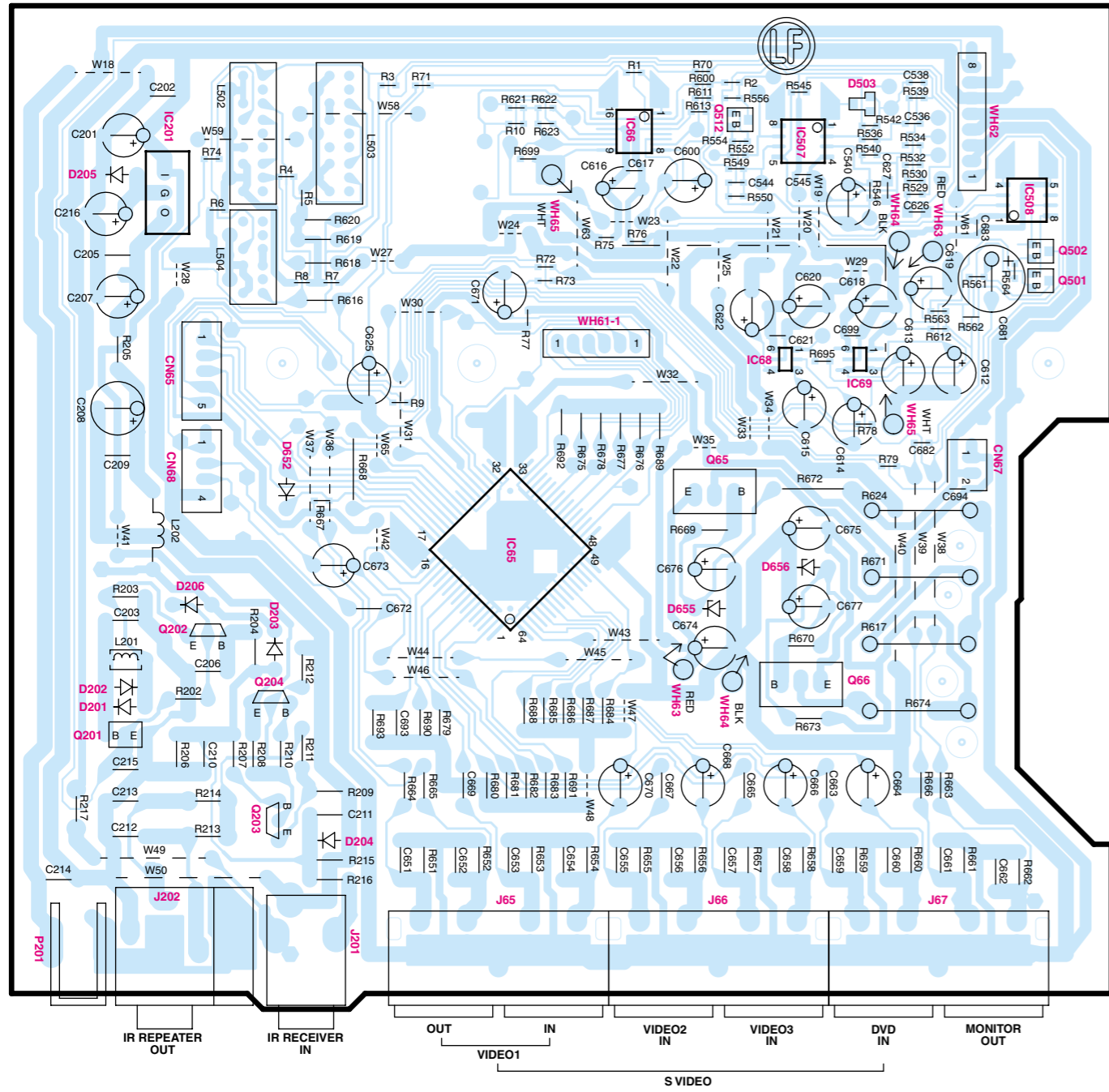
PC BOARD



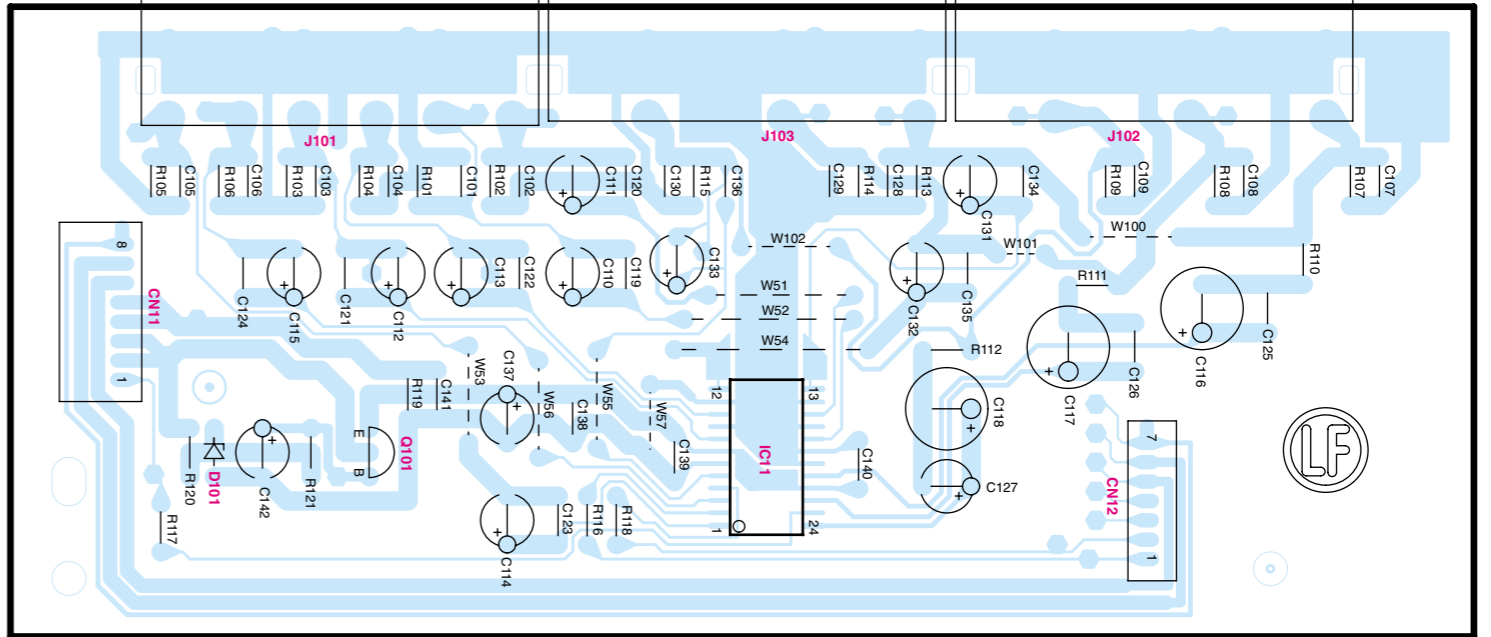
Refer to the schematic diagram for the value of resistors and capacitors.

PC BOARD

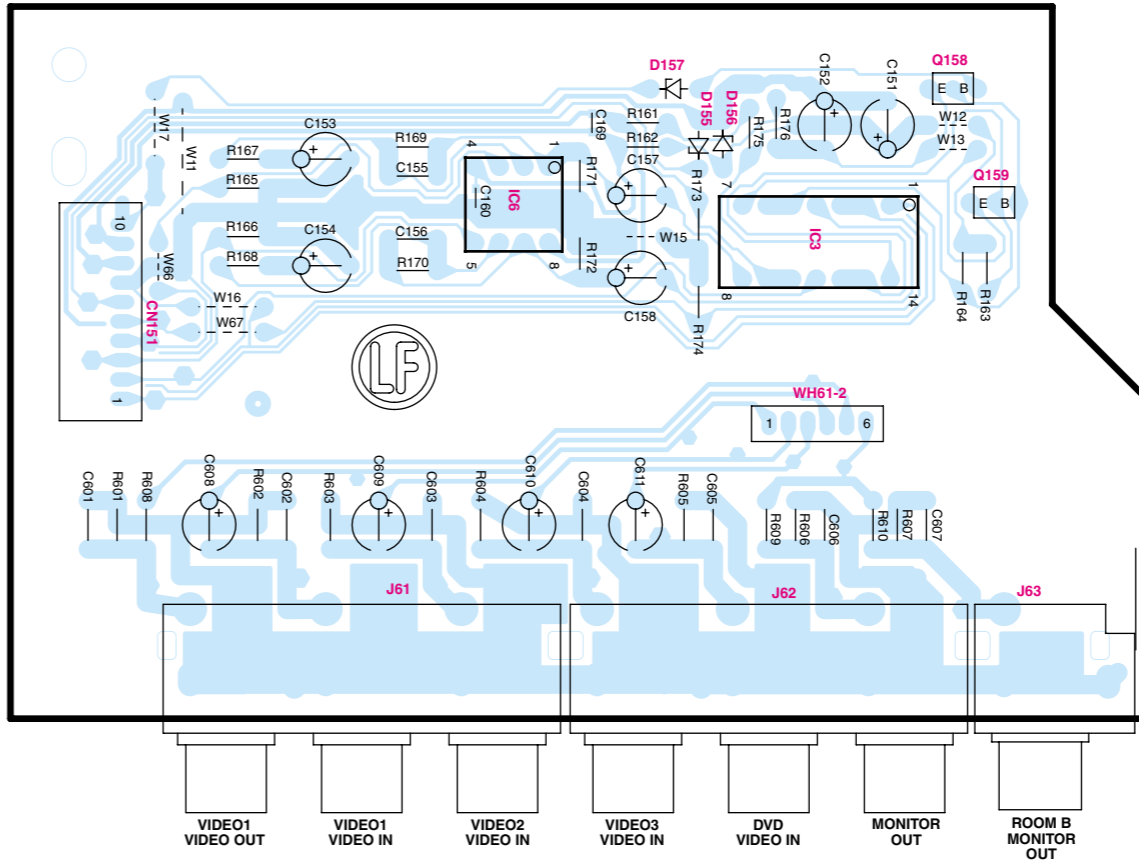
X13-7960-10 A/6 (J75-0060-01)



X13 C/6

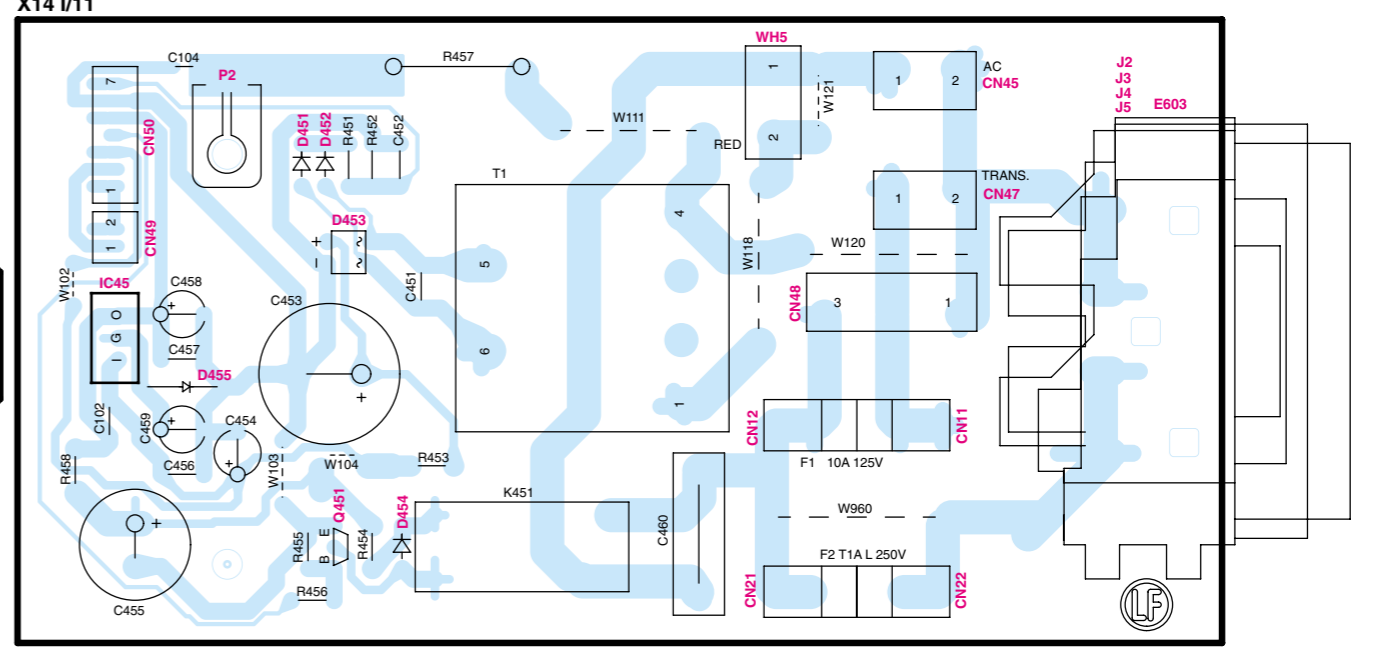
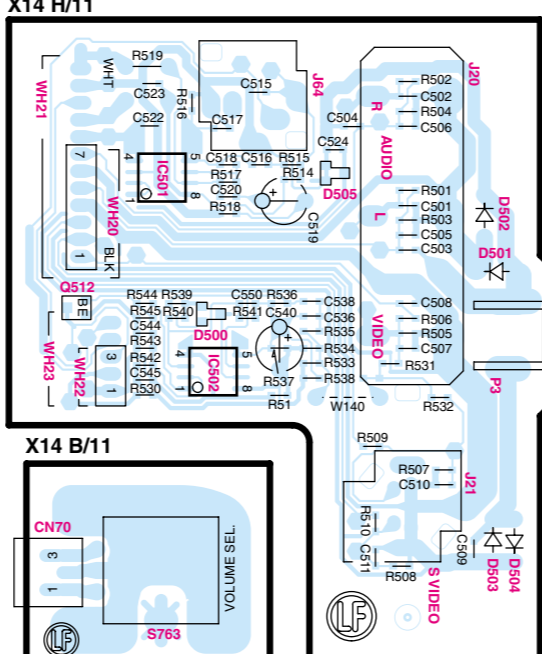
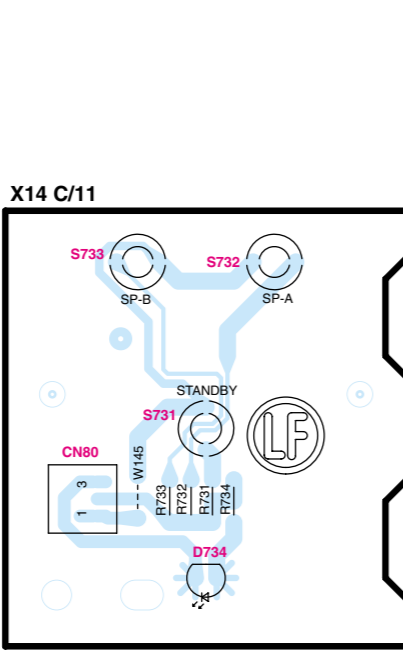
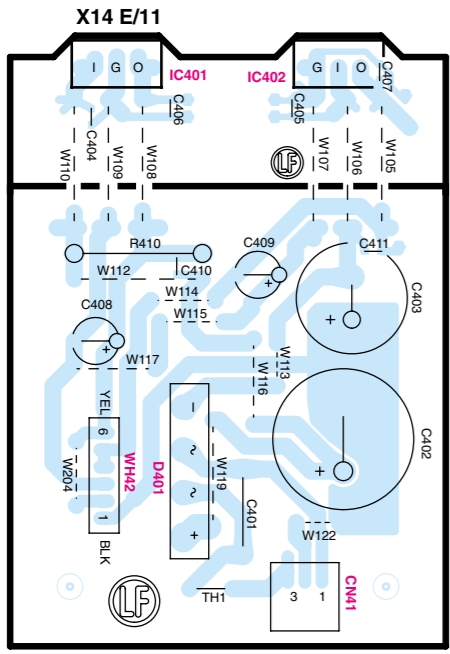
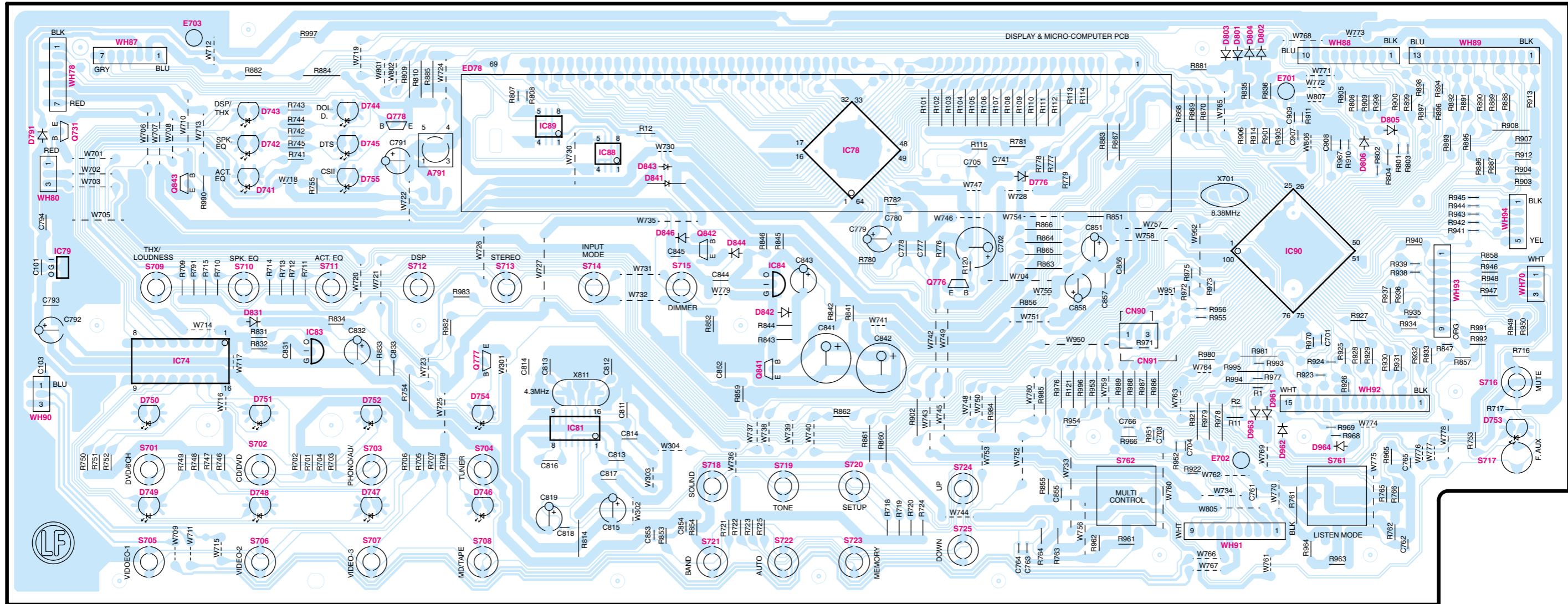


X13 B/6



PC BOARD

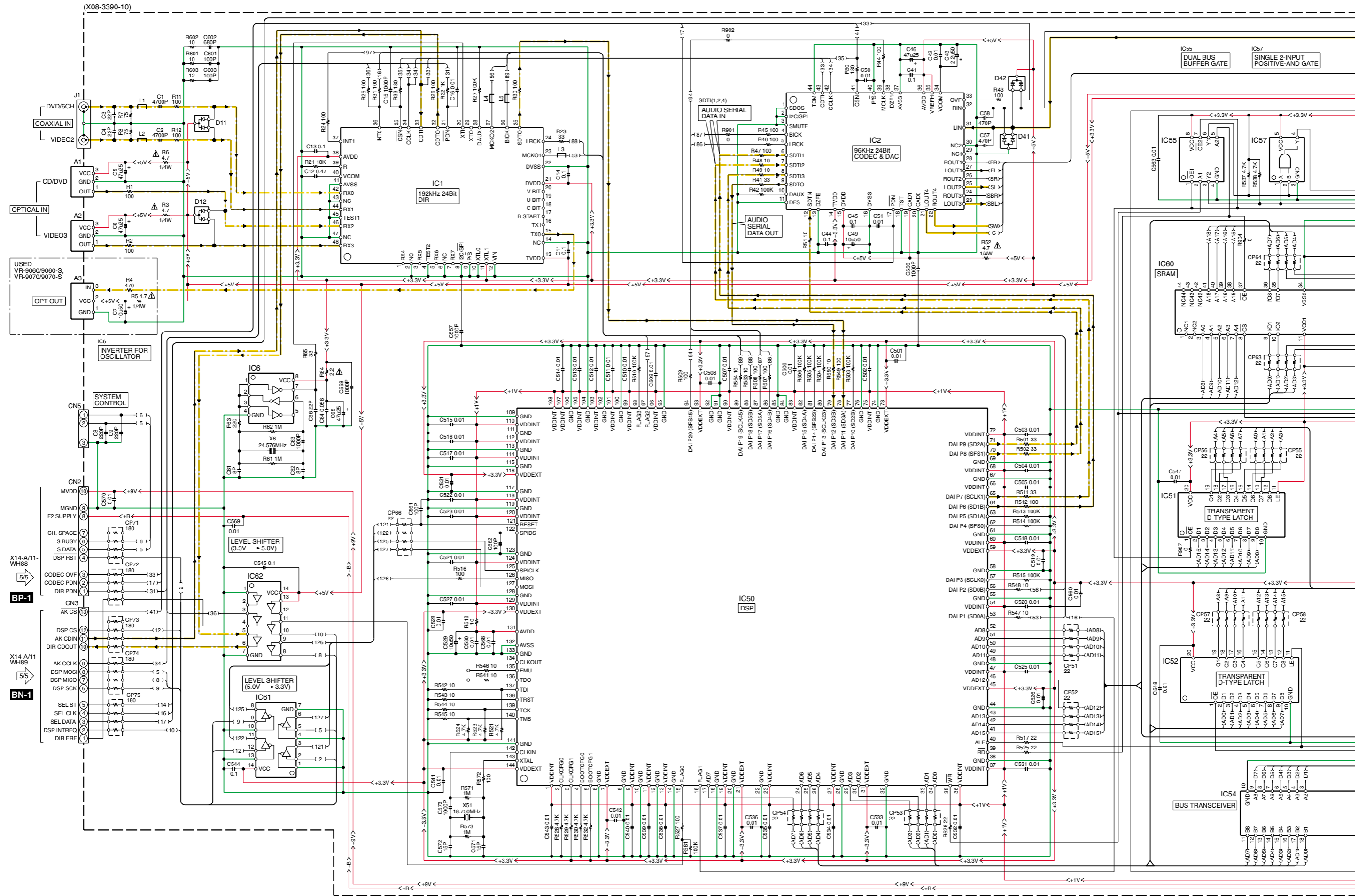
X14-7900-10 A/11 (J75-0061-01)

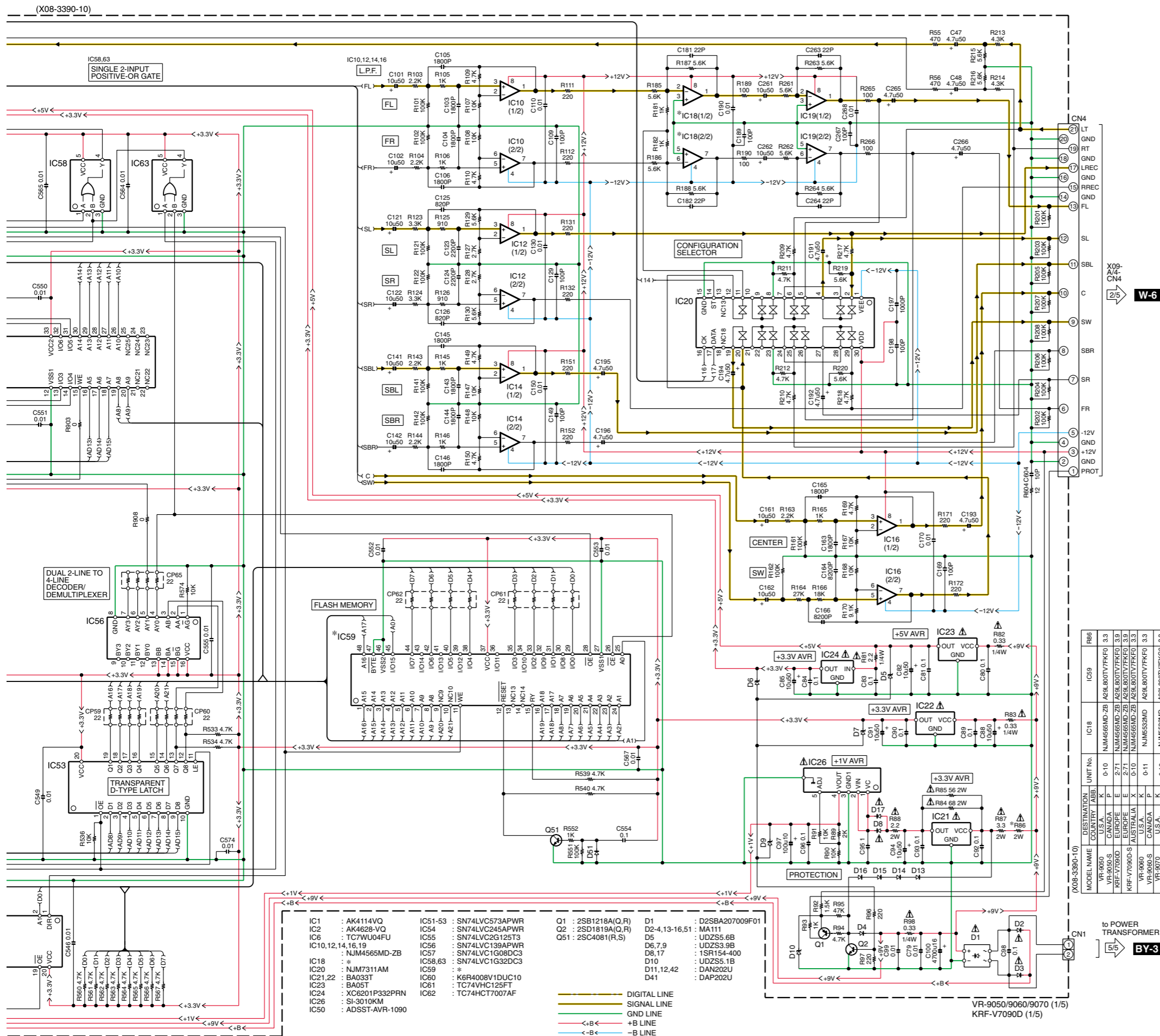


X14 D/11

Refer to the schematic diagram for the value of resistors and capacitors.

KRF-V7090D/VR-9050/9060/9070



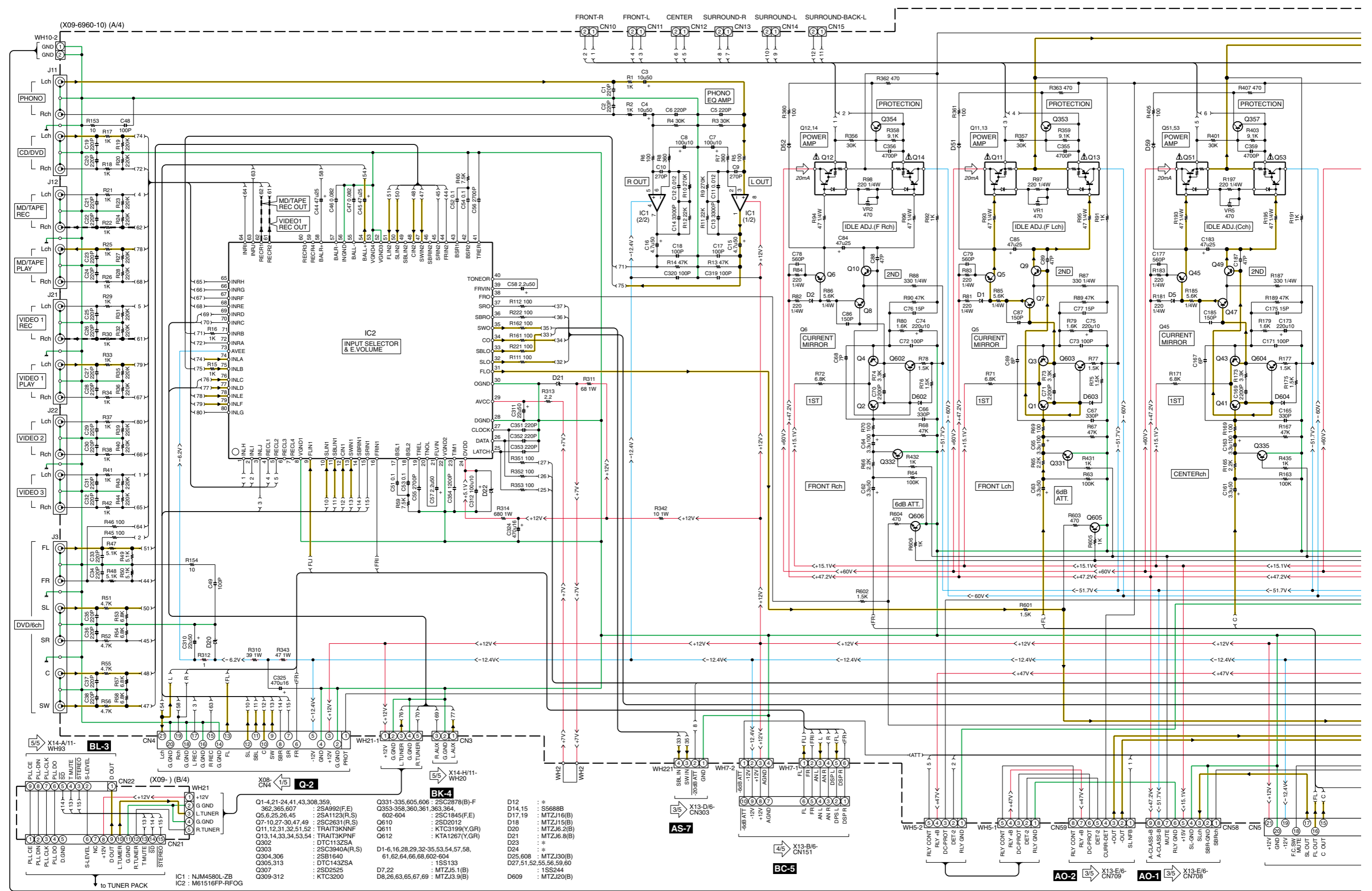


CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

MODEL NAME	DESTINATION COUNTRY	ABB.	UNIT No.	IC18	IC59	R86
VR-9050	U.S.A.	K	0-10	NJM4565MD-ZB	A2BL800T7FKF0	3.3
VR-9050-S	CANADA	P	0-10	NJM4565MD-ZB	A2BL800T7FKF0	3.9
KRF-V7090D	EUROPE	E	2-71	NJM4565MD-ZB	A2BL800T7FKF0	3.3
KRF-V7090D-S	EUROPE	E	2-71	NJM4565MD-ZB	A2BL800T7FKF0	3.9
VR-9060	AUSTRALIA	X	0-10	NJM4565MD-ZB	A2BL800T7FKF0	3.3
VR-9060-S	CANADA	P	0-11	NJM5532MD	A2BL800T7FKF0	3.3
VR-9070	U.S.A.	K	0-12	NJM5532MD	A2BL800T7FKF0	3.3
VR-9070-S	CANADA	P	0-12	NJM5532MD	A2BL800T7FKF0	3.3

KRF-V7090D/VR-9050/9060/9070



IC1 : NJM4580L-ZB
IC2 : M61516P-RFOG

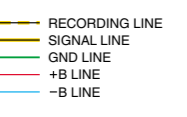
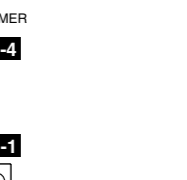
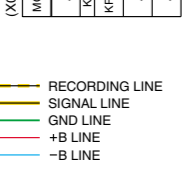
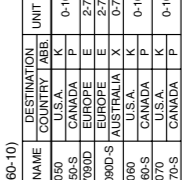
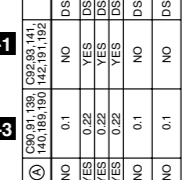
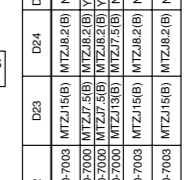
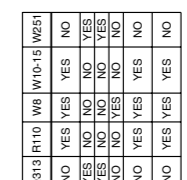
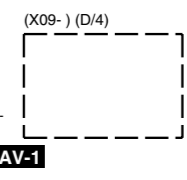
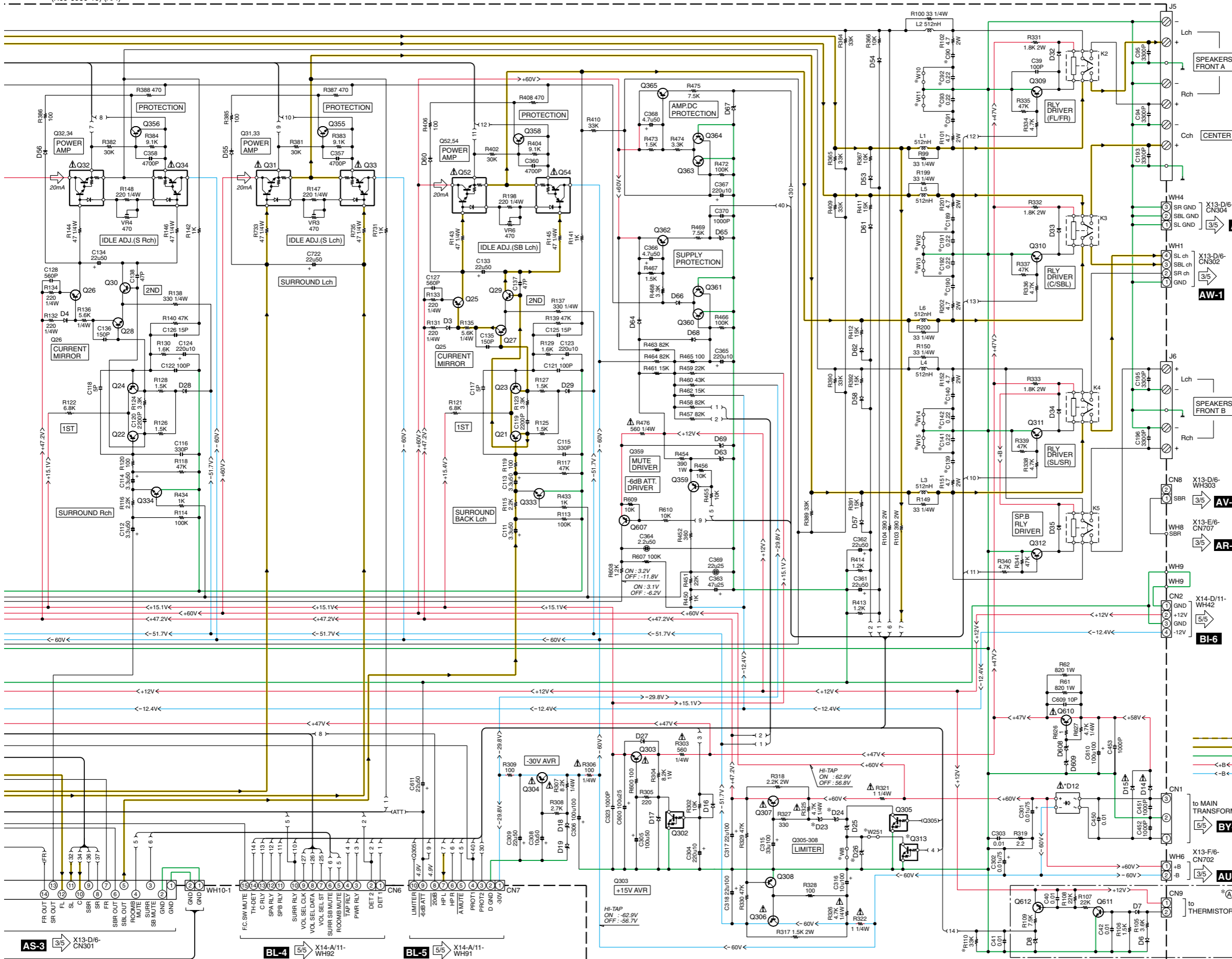
- | | |
|--|-----------------|
| Q1-4,21,24,41,43,308,359,
362,365,607 | : 2SA992(F,E) |
| Q5,6,25,26,45 | : 2SA1123(R,S) |
| Q7-10,27-30,47,49 | : 2SC2631(R,S) |
| Q11,12,31,32,51,52 | : TRAIT3KNNF |
| Q13,14,33,34,53,54 | : TRAIT3KPNF |
| Q302 | : DTC113ZSA |
| Q303 | : 2SC3940A(R,S) |
| Q304,306 | : 2SB1640 |
| Q305,313 | : DTC143ZSA |
| Q307 | : 2SD2525 |
| Q309-312 | : KTC3200 |

- | | |
|--------------------------------------|-----------------|
| Q331-335,605,606 | : 2SC2878(B)-F |
| Q353-358,360,361,363,364,
602-604 | : 2SC1845(F,E) |
| Q610 | : 2SD2012 |
| Q611 | : KTC3199(Y,GR) |
| Q612 | : KTA1267(Y,GR) |

- | | |
|--|--------------|
| D1-6,16,26,29,32-35,53,54,57,58,
61,62,64,66,68,602-604 | : 1SS133 |
| D7,22 | : MTZJ5.1(B) |
| D8,26,63,65,67,69 | : MTZJ3.9(B) |

- | | |
|-----------------------|--------------|
| D12 | : S5688B |
| D14,15 | : MTZJ16(B) |
| D17,19 | : MTZJ15(B) |
| D18 | : MTZJ6.2(B) |
| D20 | : MTZJ6.8(B) |
| D21 | : MTZJ6.8(B) |
| D23 | : S5688B |
| D24 | : S5688B |
| D25,608 | : MTZJ30(B) |
| D27,51,52,55,56,59,60 | : 1SS244 |
| D609 | : MTZJ20(B) |

(X09-6960-10) (A/4)

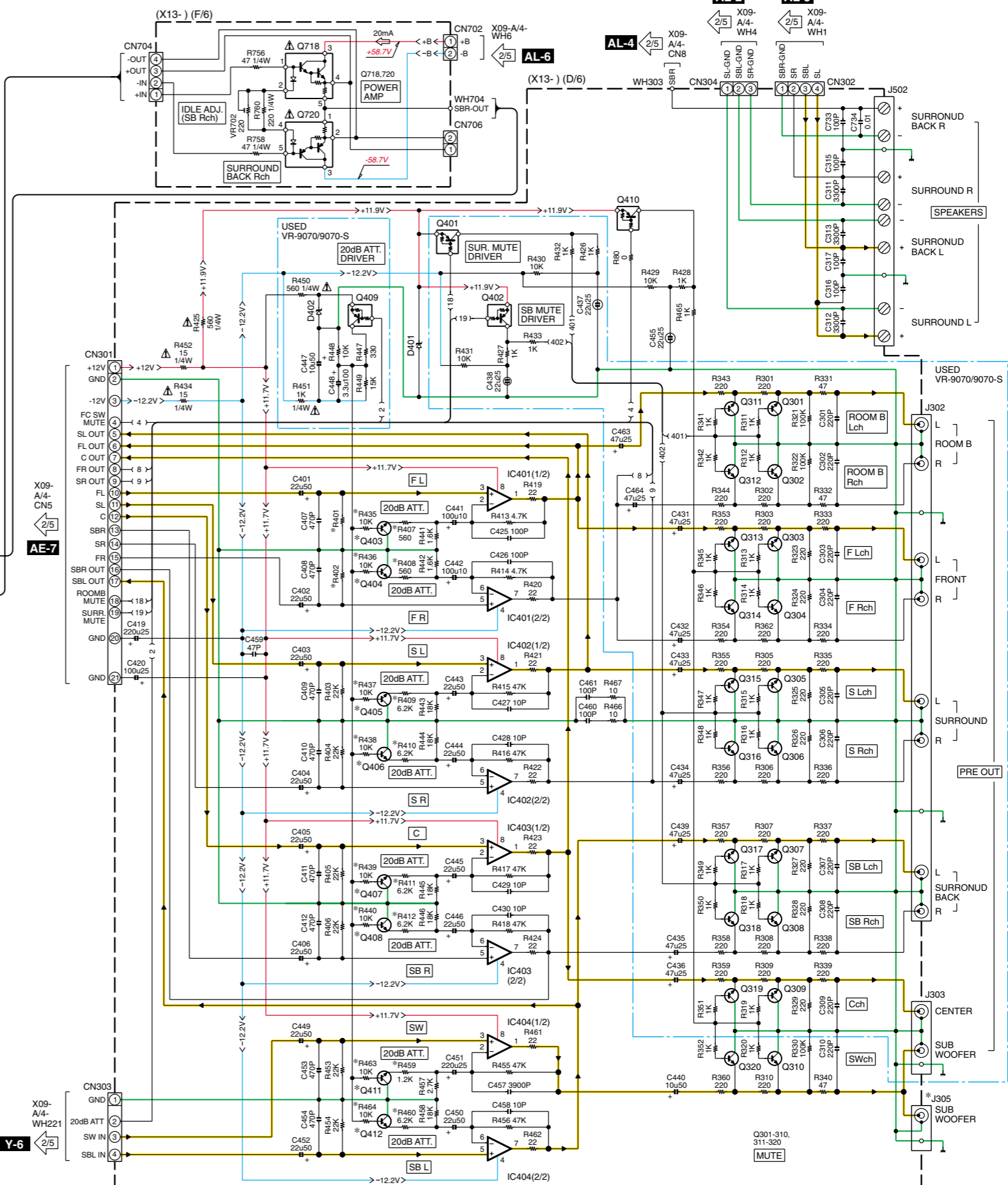
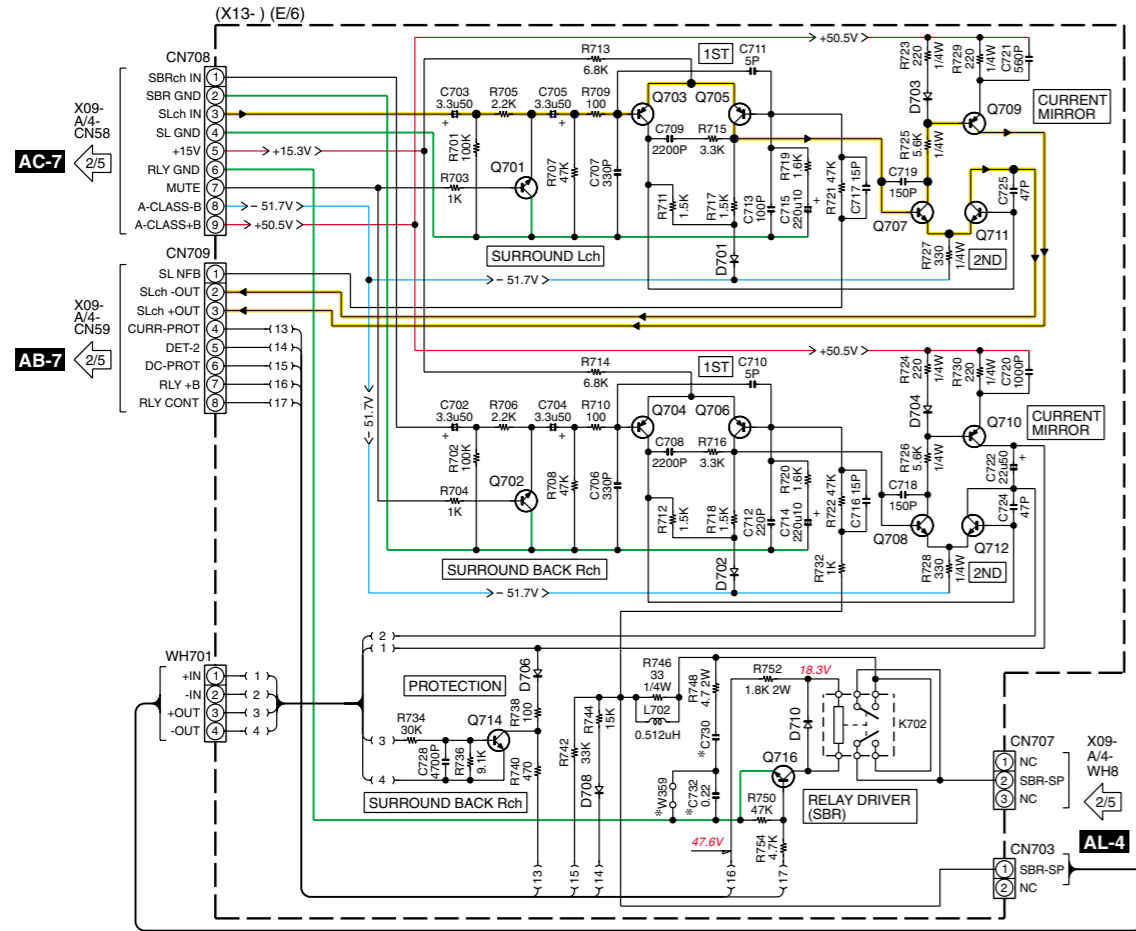


MODEL NAME	DESTINATION	COUNTRY	ABIB	UNIT No.	Q92,93,141,140,188,190,142,191,192	D12	D24	D26	Q313	R110	WB	W10-15	W251
VR-9050-S	U.S.A.	K	P	0-10	NO	NO	NO	NO	NO	NO	NO	NO	NO
VR-9060-S	CANADA	P	P	0-10	NO	NO	NO	NO	NO	NO	NO	NO	NO
KRF-V7090D	EUROPE	E	E	0-22	YES	YES	YES	YES	YES	YES	YES	YES	YES
KRF-V7090D-S	EUROPE	E	P	0-22	YES	YES	YES	YES	YES	YES	YES	YES	YES
VR-9060	AUS/ALIA	X	P	0-10	NO	NO	NO	NO	NO	NO	NO	NO	NO
VR-9060-S	CANADA	P	P	0-10	NO	NO	NO	NO	NO	NO	NO	NO	NO
VR-9070	U.S.A.	K	P	0-10	NO	NO	NO	NO	NO	NO	NO	NO	NO
VR-9070-S	CANADA	P	P	0-10	NO	NO	NO	NO	NO	NO	NO	NO	NO

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

KRF-V7090D/VR-9050/9060/9070



(X13-7960-10)

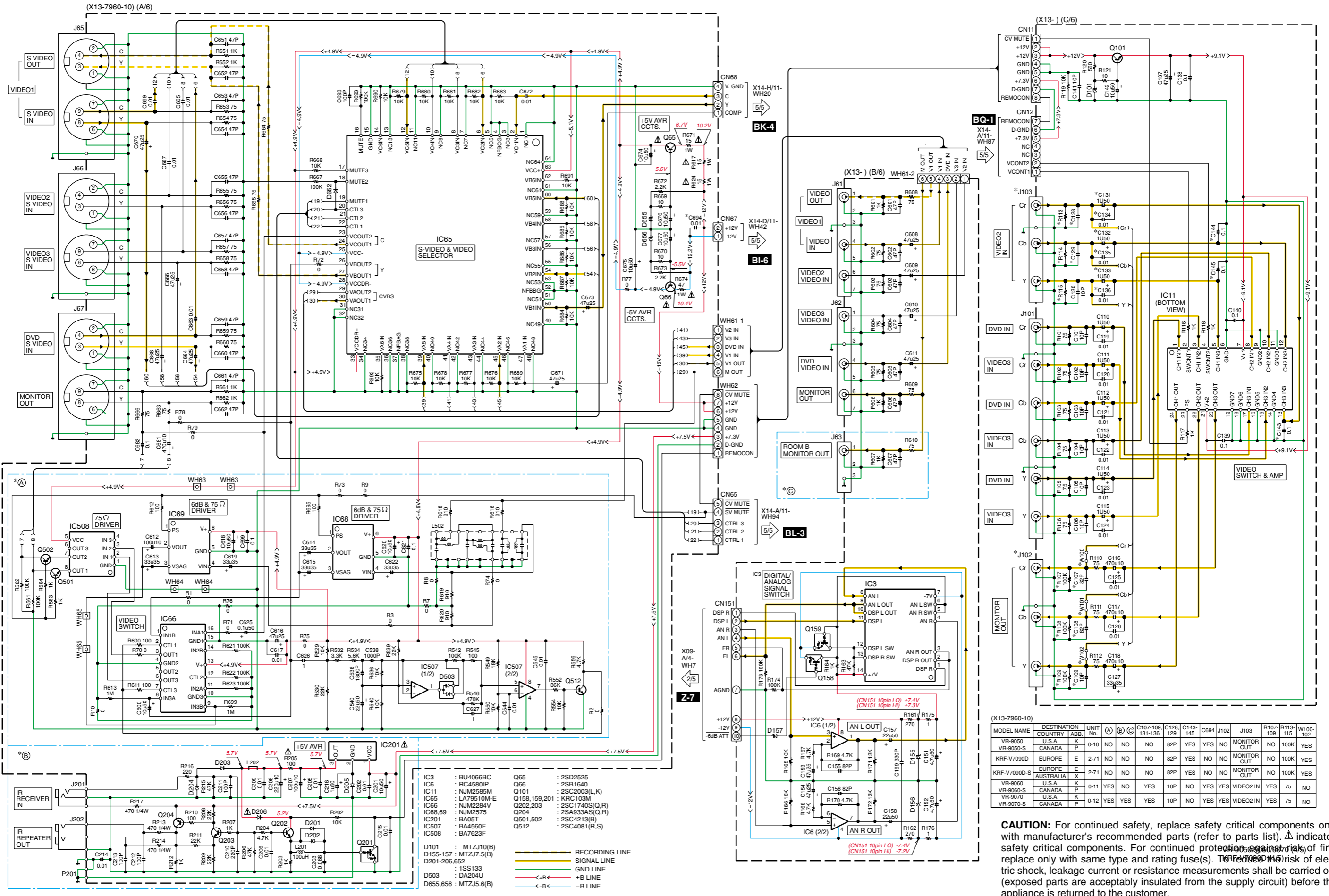
MODEL NAME	DESTINATION COUNTRY	ABB.	UNIT No.	C730	C732	J305	Q403-408, 411, 412	R407-412, 435-440, 459, 460, 463, 464	R401, 402	W359
VR-9050	U.S.A.	K	0-10	0.1	NO	YES	NO	NO	100K	YES
VR-9050-S	CANADA	P	2-71	0.22	YES	YES	NO	NO	100K	NO
KRF-V7090D	EUROPE	E	2-71	0.22	YES	YES	NO	NO	100K	NO
KRF-V7090D-S	EUROPE	E	2-71	0.22	YES	YES	NO	NO	100K	NO
KRF-V7090D-X	AUSTRALIA	X	2-71	0.22	YES	YES	NO	NO	100K	NO
VR-9060	U.S.A.	K	0-11	0.1	NO	YES	NO	NO	100K	YES
VR-9060-S	CANADA	P	2-71	0.22	YES	YES	NO	NO	100K	NO
VR-9070	U.S.A.	K	0-12	0.1	NO	NO	YES	YES	18K	YES
VR-9070-S	CANADA	P	2-71	0.22	YES	YES	NO	NO	100K	NO

- IC401-404 : RC45801P
- Q301-320, 403-408, 411, 412, 701, 702 : 2SC2878(B)-F
 Q401, 402, 410 : DTA124EUA
 Q409 : KRA103M
 Q703-706 : 2SA992(F,E)
 Q707, 708, 711, 712 : 2SC2631(R,S)
 Q709, 710 : 2SA1123(R,S)
 Q714 : 2SC1845(F,E)
 Q716 : KTC3200
 Q718 : TRAIT3KPNF
 Q720 : TRAIT3KPNF
- D401 : MTZJ3.9(B)
 D402 : MTZJ5.1(B)
 D701-704, 708, 710 : 1SS133
 D706 : 1SS244

- SIGNAL LINE
- GND LINE
- +B LINE
- -B LINE

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

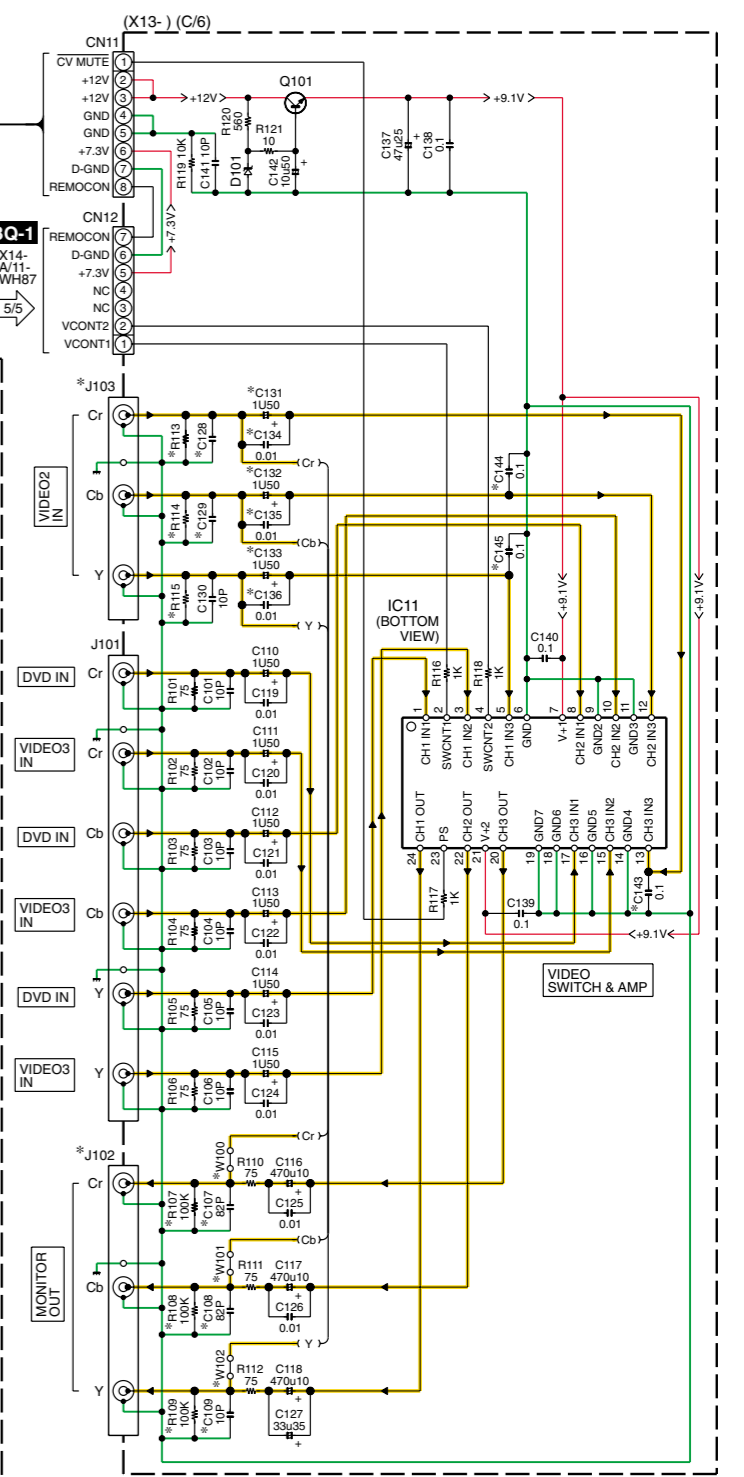
The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.



- IC3 : BU4066BC
- IC6 : RC4580IP
- IC11 : NJM2585M
- IC65 : LA79510M-E
- IC68 : NUM2294V
- IC68.69 : NUM2575
- IC201 : BA05T
- IC507 : BA4560F
- IC508 : BA7623F
- Q65 : 2SD2525
- Q66 : 2SB1640
- Q101 : 2SC2003(L,K)
- Q158,159,201 : KRC103M
- Q202,203 : 2SC1740S(Q,R)
- Q204 : 2SA933AS(Q,R)
- Q501,502 : 2SC4213(B)
- Q512 : 2SC4081(R,S)
- D101 : MTZJ10(B)
- D155-157 : MTZJ7.5(B)
- D201-206.652 : 1SS133
- D503 : DA204U
- D655,656 : MTZJ5.6(B)

- RECORDING LINE
- SIGNAL LINE
- GND LINE
- +B LINE
- -B LINE

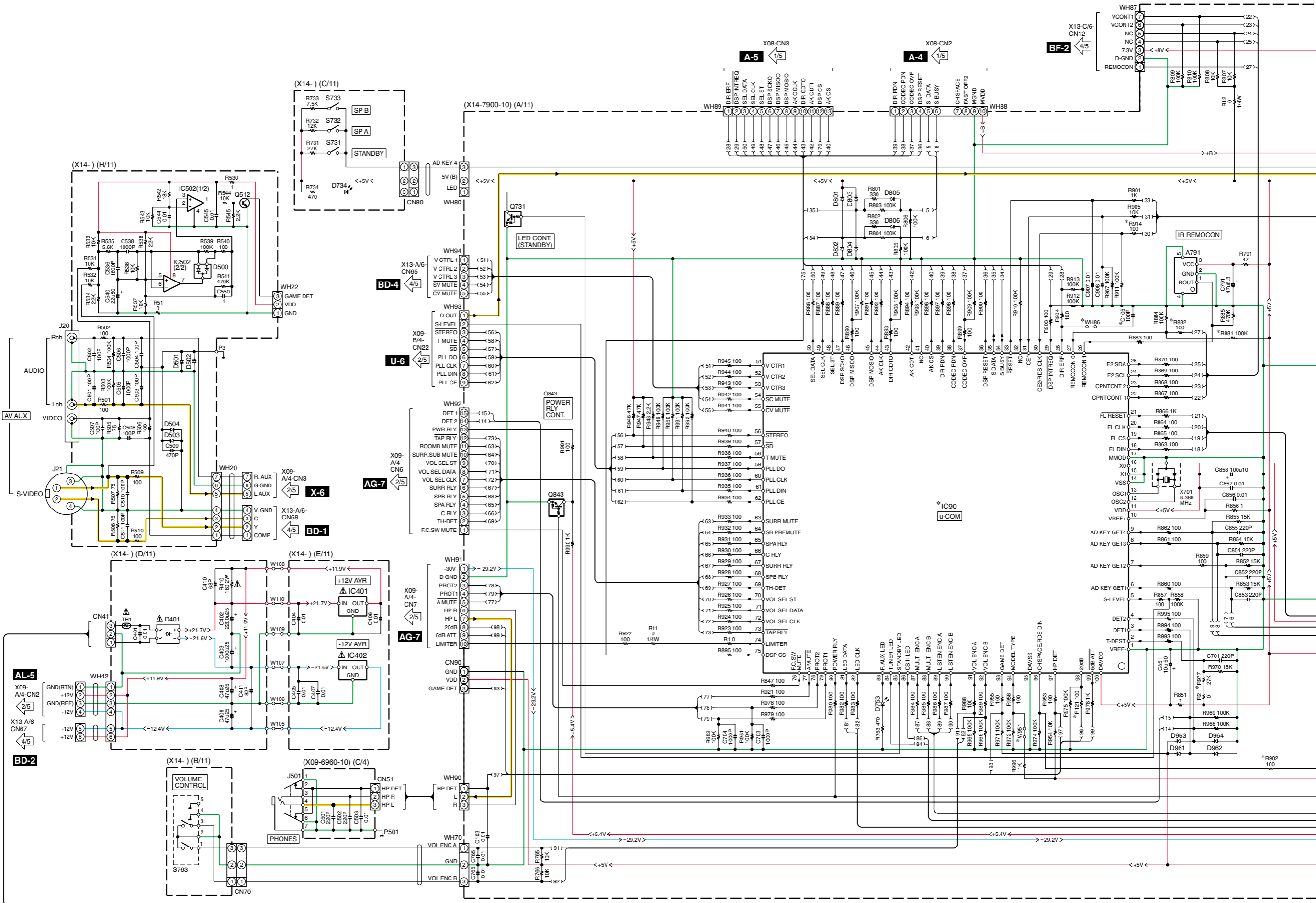
The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.



(X13-7960-10)																	
MODEL NAME	DESTINATION	COUNTRY	ABB.	UNIT No.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	C107-109 131-136	C128 129	C143- 145	C694	J102	J103	R107-109 109-115	R113- 115	W100- 102
VR-9050	U.S.A.	K	P	0-10	NO	NO	NO	NO	NO	82P	YES	YES	NO	MONITOR OUT	NO	100K	YES
VR-9050-S	CANADA	P	P	0-10	NO	NO	NO	NO	NO	82P	YES	YES	NO	MONITOR OUT	NO	100K	YES
KRF-V7090D	EUROPE	E	E	2-71	NO	NO	NO	NO	NO	82P	YES	NO	NO	MONITOR OUT	NO	100K	YES
KRF-V7090D-S	EUROPE	E	E	2-71	NO	NO	NO	NO	NO	82P	YES	NO	NO	MONITOR OUT	NO	100K	YES
VR-9060	U.S.A.	K	K	0-11	YES	NO	YES	YES	YES	10P	NO	YES	YES	VIDEO2 IN	YES	75	NO
VR-9060-S	CANADA	P	P	0-11	YES	NO	YES	YES	YES	10P	NO	YES	YES	VIDEO2 IN	YES	75	NO
VR-9070	U.S.A.	K	K	0-12	YES	YES	YES	YES	YES	10P	NO	YES	YES	VIDEO2 IN	YES	75	NO
VR-9070-S	CANADA	P	P	0-12	YES	YES	YES	YES	YES	10P	NO	YES	YES	VIDEO2 IN	YES	75	NO

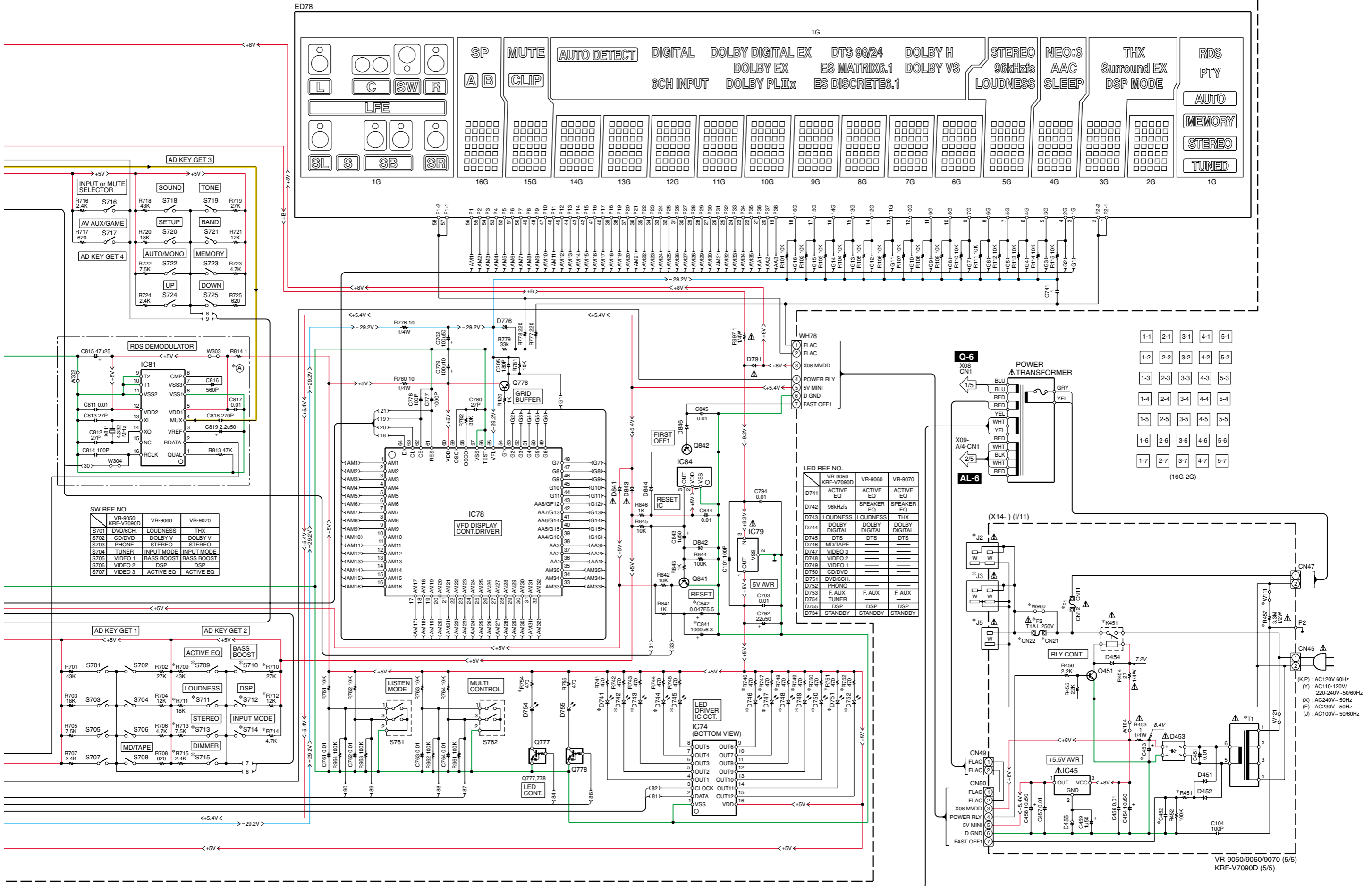
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Ⓐ indicates safety critical components. For continued protection against risk of fire, electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KRF-V7090D/VR-9050/9060/9070



KRF-V7090D/VR-9050/9060/9070

(X14-7900-10) (A/11)



SW REF. NO.

	VR-9050 KRF-V7090D	VR-9060	VR-9070
S701	DVD/6CH	LOUDNESS	THX
S702	CD/DVD	DOLBY V	DOLBY V
S703	PHONE	STEREO	STEREO
S704	TUNER	INPUT MODE	INPUT MODE
S705	VIDEO 1	BASS BOOST	BASS BOOST
S706	VIDEO 2	DSP	DSP
S707	VIDEO 3	ACTIVE EQ	ACTIVE EQ

LED REF. NO.

	VR-9050 KRF-V7090D	VR-9060	VR-9070
D741	ACTIVE EQ	ACTIVE EQ	ACTIVE EQ
D742	96kHzfs	SPEAKER EQ	SPEAKER EQ
D743	LOUDNESS	LOUDNESS	THX
D744	DOLBY DIGITAL	DOLBY DIGITAL	DOLBY DIGITAL
D745	DTS	DTS	DTS
D746	MD/TAPE		
D747	VIDEO 3		
D748	VIDEO 2		
D749	VIDEO 1		
D750	CD/DVD		
D751	DVD/6CH		
D752	PHONO		
D753	F.AUX	F.AUX	F.AUX
D754	TUNER		
D755	DSP	DSP	DSP
D734	STANDBY	STANDBY	STANDBY

1-1	2-1	3-1	4-1	5-1
1-2	2-2	3-2	4-2	5-2
1-3	2-3	3-3	4-3	5-3
1-4	2-4	3-4	4-4	5-4
1-5	2-5	3-5	4-5	5-5
1-6	2-6	3-6	4-6	5-6
1-7	2-7	3-7	4-7	5-7

(16G-2G)

(K,P): AC120V 60Hz
 (Y): AC110-120V/
 220-240V-50/60Hz
 (X): AC240V-50Hz
 (E): AC230V-50Hz
 (J): AC100V-50/60Hz

KRF-V7090D/VR-9050/9060/9070

ANODE CONNECTION

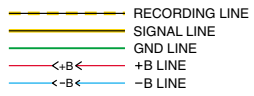
	1G	2G	3G	4G	5G	6-14G	15G	16G
P1	L	1-1	1-1	1-1	1-1	1-1	1-1	1-1
P2	C	2-1	2-1	2-1	2-1	2-1	2-1	2-1
P3	R	3-1	3-1	3-1	3-1	3-1	3-1	3-1
P4	SR	4-1	4-1	4-1	4-1	4-1	4-1	4-1
P5	SB	5-1	5-1	5-1	5-1	5-1	5-1	5-1
P6	SL	1-2	1-2	1-2	1-2	1-2	1-2	1-2
P7	S	2-2	2-2	2-2	2-2	2-2	2-2	2-2
P8	SW	3-2	3-2	3-2	3-2	3-2	3-2	3-2
P9	LFE	4-2	4-2	4-2	4-2	4-2	4-2	4-2
P10	(L)	5-2	5-2	5-2	5-2	5-2	5-2	5-2
P11	(C)	1-3	1-3	1-3	1-3	1-3	1-3	1-3
P12	(R)	2-3	2-3	2-3	2-3	2-3	2-3	2-3
P13	(SR)	3-3	3-3	3-3	3-3	3-3	3-3	3-3
P14	(SBR)	4-3	4-3	4-3	4-3	4-3	4-3	4-3
P15	(SBL)	5-3	5-3	5-3	5-3	5-3	5-3	5-3
P16	(SL)	1-4	1-4	1-4	1-4	1-4	1-4	1-4
P17	(SW)	2-4	2-4	2-4	2-4	2-4	2-4	2-4
P18	AUTO DETECT	3-4	3-4	3-4	3-4	3-4	3-4	3-4
P19	DIGITAL	4-4	4-4	4-4	4-4	4-4	4-4	4-4
P20	6CH INPUT	5-4	5-4	5-4	5-4	5-4	5-4	5-4
P21	DOLBY DIGITAL	1-5	1-5	1-5	1-5	1-5	1-5	1-5
P22	(DOLBY DIGITAL) EX	2-5	2-5	2-5	2-5	2-5	2-5	2-5
P23	DOLBY EX	3-5	3-5	3-5	3-5	3-5	3-5	3-5
P24	DOLBY PL	4-5	4-5	4-5	4-5	4-5	4-5	4-5
P25	II	5-5	5-5	5-5	5-5	5-5	5-5	5-5
P26	X	1-6	1-6	1-6	1-6	1-6	1-6	1-6
P27	DTS	2-6	2-6	2-6	2-6	2-6	2-6	2-6
P28	96/24	3-6	3-6	3-6	3-6	3-6	3-6	3-6
P29	ES MATRIX6.1	4-6	4-6	4-6	4-6	4-6	4-6	4-6
P30	ES DISCRETE6.1	5-6	5-6	5-6	5-6	5-6	5-6	5-6
P31	DOLBY H	1-7	1-7	1-7	1-7	1-7	1-7	1-7
P32	DOLBY VS	2-7	2-7	2-7	2-7	2-7	2-7	2-7
P33	RDS	3-7	3-7	3-7	3-7	3-7	3-7	3-7
P34	PTY	4-7	4-7	4-7	4-7	4-7	4-7	4-7
P35	AUTO	5-7	5-7	5-7	5-7	5-7	5-7	5-7
P36	MEMORY	—	THX	NEO:6	STEREO	—	MUTE	SP
P37	STEREO	—	Surround EX	AAC	96kHzfs	—	CLIP	A
P38	TUNED	—	DSP MODE	SLEEP	LOUDNESS	—	—	B

IC45 : BA05T
 IC74 : BU2090
 IC78 : LC75711NED-E
 IC79 : XC6202P502PR
 IC81 : BU1924F
 IC84 : S-80840CNY-GZ
 IC90 : *
 IC401 : KIA7812API-UP
 IC402 : KIA7912API-UP
 IC502 : BA4560F

Q451,776,841
 : 2SC1740S(Q,R)
 Q512 : 2SC4081(R,S)
 Q731,843 : DTC113ZSA
 Q777,778 : DTC124ESA
 Q842 : 2SA933AS(Q,R)

D401 : D2SBA207009F01
 D451,452,454,501-504,
 791,801-806,842,844,
 846,961-964 : 1SS133
 D453 : S1ZB20(7101)
 D455,841,843 : RB721Q
 D500 : 1SS302
 D734,753 : B30-2545-05
 D741-745,755 : *
 D746-752,754 : B30-2651-05
 D776 : MTZJ5.1(B)

TH1 : MF-R090-99



MODEL NAME	DESTINATION COUNTRY	ABB.	UNIT No.	①	C105	C482	C463	C841	C842	CH21, 22	D741-745, 755	D746-752	F2	IC90	Ⓐ	J5	J6	J7	K451	R121, 881, 882	R451	R457	R709-715, 746-752	R754	R902, S709-715	T1	WB51	WH86
VR-9050	U.S.A.	K	0-10	NO	NO	0.1	3300u16	YES	NO	NO	B30-2545-05	YES	125V 0A	MM101C-6RHYD	NO	NO	NO	NO	S76-0107-05	NO	38K	YES	YES	YES	YES	YES	YES	NO
VR-9050-S	CANADA	P	2-71	YES	YES	0.038	3300u25	NO	YES	YES	B30-2651-05	YES	250V 7AAL	MM101C-6RHYD	NO	NO	NO	NO	S76-0107-05	NO	130K	NO	YES	YES	YES	YES	YES	NO
KRF-V7090D	EUROPE	E	2-71	YES	YES	0.038	3300u25	NO	YES	YES	B30-2651-05	YES	250V 7AAL	MM101C-6RHYD	NO	NO	NO	NO	S76-0107-05	NO	130K	NO	YES	YES	YES	YES	YES	NO
KRF-V7090D-S	EUROPE	E	2-71	YES	YES	0.038	3300u25	NO	YES	YES	B30-2651-05	YES	250V 7AAL	MM101C-6RHYD	NO	NO	NO	NO	S76-0107-05	NO	130K	NO	YES	YES	YES	YES	YES	NO
VR-9060	AUSTRALIA	X	0-71	YES	NO	0.047	3300u25	NO	YES	YES	B30-2545-05	YES	250V 7AAL	MM101C-6RHYD	NO	NO	NO	NO	S76-0107-05	NO	38K	YES	NO	NO	NO	NO	NO	NO
VR-9060-S	U.S.A.	K	0-11	NO	NO	0.1	3300u16	YES	NO	NO	B30-2545-05	NO	125V 0A	MM101C-6RHYD	YES	NO	NO	NO	S76-0107-05	NO	38K	YES	NO	NO	NO	NO	NO	NO
VR-9070	U.S.A.	K	0-12	NO	NO	0.1	3300u16	YES	NO	NO	B30-2545-05	NO	125V 0A	MM101C-6RHYC	YES	NO	NO	NO	S76-0107-05	YES	38K	YES	NO	NO	NO	NO	NO	NO
VR-9070-S	CANADA	P	0-12	NO	NO	0.1	3300u16	YES	NO	NO	B30-2545-05	NO	125V 0A	MM101C-6RHYC	YES	NO	NO	NO	S76-0107-05	YES	38K	YES	NO	NO	NO	NO	NO	NO

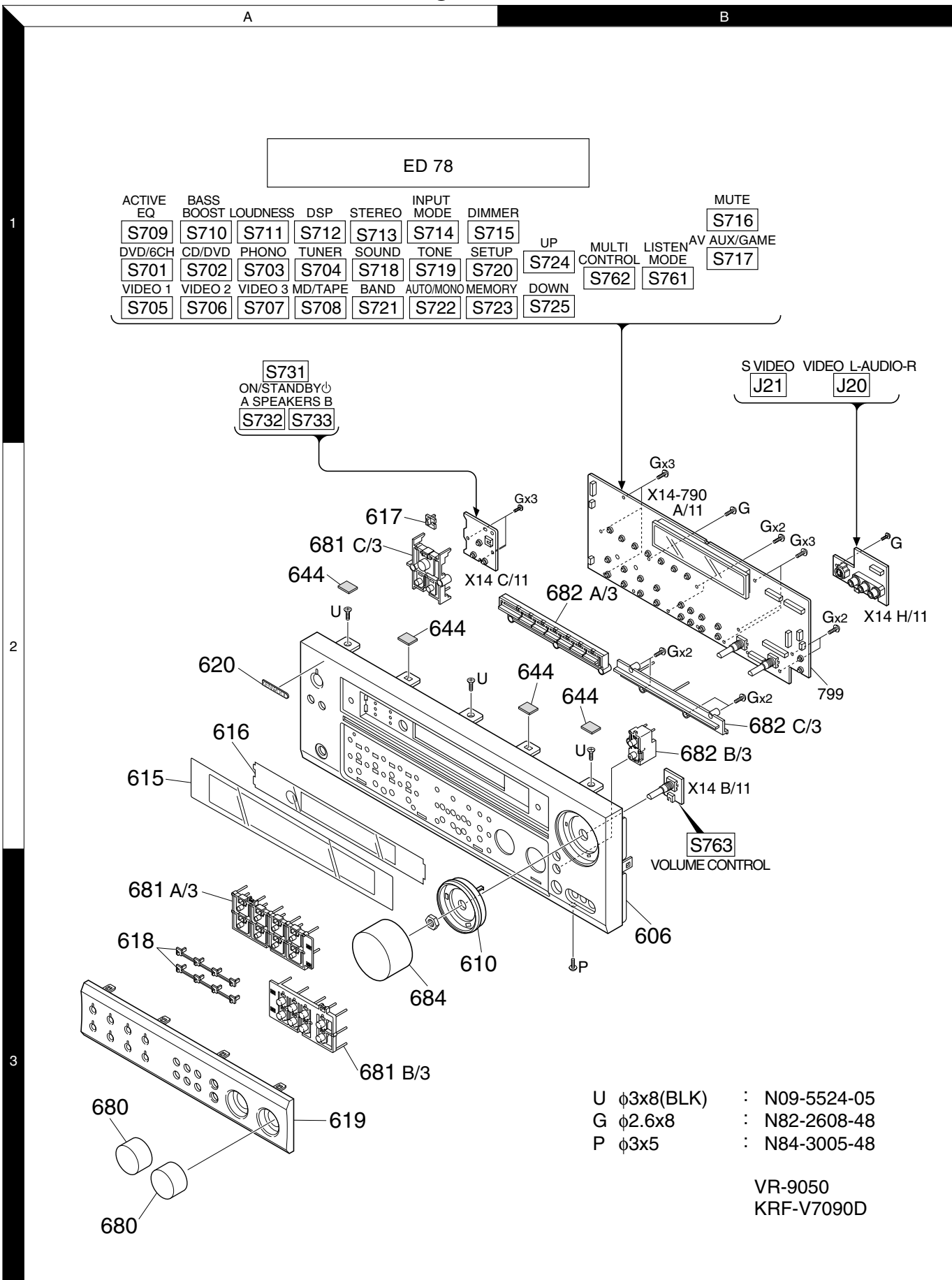
(X14-7900-10)

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

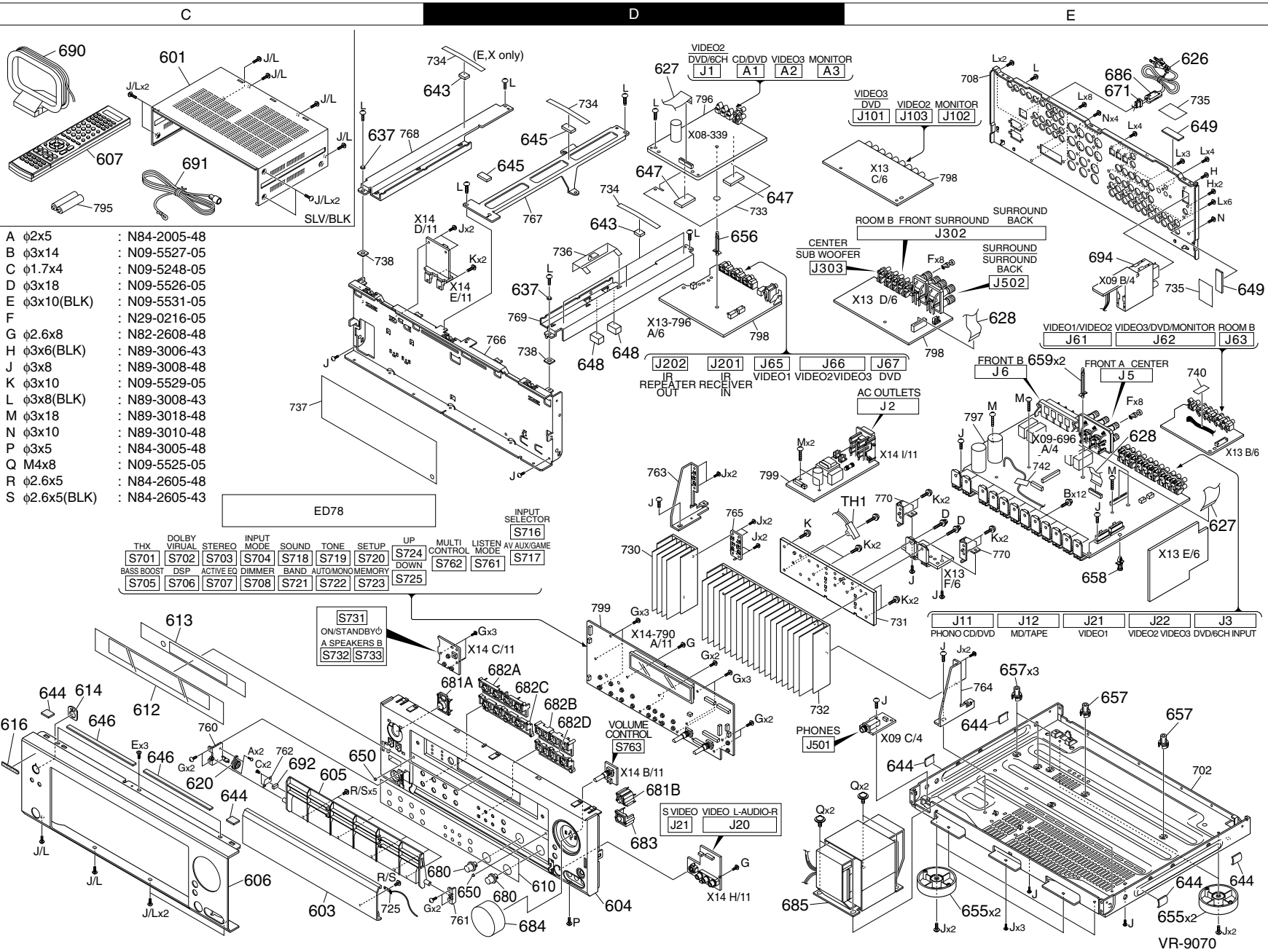
The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

KRF-V7090D/VR-9050/9060/9070

EXPLODED VIEW



EXPLODED VIEW



Parts with exploded numbers larger than 700 are not supplied.

* New Parts

Parts without **Parts No.** are not supplied.
 Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.
 Teile ohne **Parts No.** werden nicht geliefert.



Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
645	1D		G11-2886-04	CUSHION		
646	2C		G11-2887-04	CUSHION		
647	1D		G11-2916-04	CUSHION		
648	1D		G11-2958-04	CUSHION		
649	1E		G11-2959-04	CUSHION		
650	2C,2D		G11-2968-04	CUSHION	K6P6	
650	2C,2D		G11-2969-04	CUSHION	K7P7	
-			J61-0307-05	WIRE BAND		
655	2E		J02-1467-03	FOOT (D=60,H=21.5)		
656	1D		J19-5915-05	UNIT HOLDER		
657	2E		J19-6002-04	UNIT HOLDER		
658	2E		J19-6069-05	UNIT HOLDER		
△ 659	1E		J19-6312-05	UNIT HOLDER		
671	1E		J42-0083-05	POWER CORD BUSHING		
680	2D		K29-8432-04	KNOB	K6P6	
680	2D		K29-8433-04	KNOB	K7P7	
681	2D		K29-8434-13	KNOB	K7P7	
681	2D		K29-8446-13	KNOB	K6P6	
682	2D		K29-8435-01	KNOB	K6P6	
682	2D		K29-8436-01	KNOB	K7P7	
683	2D		K29-8437-04	KNOB ASSY	K6P6	
683	2D		K29-8439-04	KNOB ASSY	K7P7	
684	2D		K29-8444-04	KNOB	K6P6	
684	2D		K29-8445-04	KNOB	K7P7	
△ 685	2D		L07-3285-15	POWER TRANSFORMER		
A			N84-2005-48	PAN HEAD TAPTITE SCREW		
G			N82-2608-48	BINDING HEAD TAPTITE SCREW		
J			N89-3008-48	BINDING HEAD TAPTITE SCREW		
M			N89-3018-48	BINDING HEAD TAPTITE SCREW		
N			N89-3010-48	BINDING HEAD TAPTITE SCREW		
P			N84-3005-48	PAN HEAD TAPTITE SCREW		
R			N84-2605-48	PAN HEAD TAPTITE SCREW	K7P7	
690	1C		T90-0893-05	LOOP ANTENNA		
691	1C		T90-0905-05	LEAD WIRE ANTENNA		
692	2C		T99-0672-05	MAGNET		
Q11 ,12			TRAIT3KNNF	TRANSISTOR		
Q13 ,14			TRAIT3KPNF	TRANSISTOR		
Q31 ,32			TRAIT3KNNF	TRANSISTOR		
Q33 ,34			TRAIT3KPNF	TRANSISTOR		
Q51 ,52			TRAIT3KNNF	TRANSISTOR		
Q53 ,54			TRAIT3KPNF	TRANSISTOR		
Q718			TRAIT3KNNF	TRANSISTOR		
Q720			TRAIT3KPNF	TRANSISTOR		
694	1E		W02-2974-15	TUNER ASSY		
KRF-V7090D/VR-9050						
601	1C		A01-3948-01	METALLIC CABINET	K4P4E4	
601	1C	*	A01-3949-01	METALLIC CABINET	E5	
601	1C	*	A01-3949-01	METALLIC CABINET	K5P5X5	
606	3B	*	A60-2425-01	PANEL	K4P4E4	
606	3B	*	A60-2426-01	PANEL	E5	
606	3B	*	A60-2426-01	PANEL	K5P5X5	

L : Scandinavia K : USA P : Canada R : Mexico C : China I : Malaysia
 Y : PX(Far East,Hawaii) T : England E : Europe G : Germany V : China(Shanghai)
 Y : AAFES(Europe) X : Australia Q : Russia H : Korea M : Other Areas △ indicates safety critical components .

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
607	1C	*	A70-1673-05	REMOTE CONTROLLER ASSY	K4K5P4	
607	1C	*	A70-1673-05	REMOTE CONTROLLER ASSY	P5	
607	1C	*	A70-1674-05	REMOTE CONTROLLER ASSY	X5E4E5	
-			B60-5534-00	INSTRUCTION MANUAL (EN)	K4K5P4	
-			B60-5534-00	INSTRUCTION MANUAL (EN)	P5	
-			B60-5535-00	INSTRUCTION MANUAL (FR)	P4P5	
-			B60-5536-00	INSTRUCTION MANUAL (6-LN)	E4E5	
-			B60-5537-00	INSTRUCTION MANUAL (EN)	X5	
610	3A		B07-2606-03	ESCUTCHEON	K4P4E4	
610	3A		B07-2607-03	ESCUTCHEON	E5	
610	3A		B07-2607-03	ESCUTCHEON	K5P5X5	
615	2A	*	B10-5571-02	FRONT GLASS	K4K5P4	
615	2A	*	B10-5571-02	FRONT GLASS	P5	
615	2A	*	B10-5572-02	FRONT GLASS	X5E4E5	
616	2A	*	B11-1618-03	COLOR FILTER		
617	2A	*	B12-0484-14	INDICATOR		
618	3A	*	B12-0486-03	INDICATOR		
619	3A	*	B07-2720-01	ESCUTCHEON	K4P4E4	
619	3A	*	B07-2721-01	ESCUTCHEON	E5	
619	3A	*	B07-2721-01	ESCUTCHEON	K5P5X5	
620	2A		B43-0336-04	BADGE		
△ 626	1E		E30-7329-05	AC POWER CORD	K4K5P4	
△ 626	1E		E30-7329-05	AC POWER CORD	P5	
△ 626	1E		E30-7330-05	AC POWER CORD	X5	
△ 626	1E		E30-7346-05	AC POWER CORD	E4E5	
627	1D,2E		E35-3216-05	FLAT CABLE		
628	1E		E35-3746-05	FLAT CABLE		
637	1C,1D		F29-0134-04	INSULATING WASHER		
643	1D		G11-2416-04	CUSHION		
644	2A,2E		G11-2885-04	CUSHION		
645	1D		G11-2886-04	CUSHION		
647	1D		G11-2916-04	CUSHION		
648	1D		G11-2958-04	CUSHION		
649	1E		G11-2959-04	CUSHION		
-			J61-0307-05	WIRE BAND		
655	2E		J02-1532-03	FOOT		
656	1D		J19-5915-05	UNIT HOLDER		
657	2E		J19-6002-04	UNIT HOLDER		
658	2E		J19-6069-05	UNIT HOLDER		
659	1E		J19-6312-05	UNIT HOLDER		
△ 671	1E		J42-0083-05	POWER CORD BUSHING		
680	3A		K29-8352-14	KNOB	K4P4E4	
680	3A		K29-8353-04	KNOB	E5	
680	3A		K29-8353-04	KNOB	K5P5X5	
681	2A,3A		K29-8364-11	KNOB	K4P4E4	
681	2A,3A		K29-8365-01	KNOB	E5	
681	2A,3A		K29-8365-01	KNOB	K5P5X5	
682	2B		K29-8358-13	KNOB ASSY	K4P4E4	
682	2B		K29-8362-03	KNOB ASSY	E5	
682	2B		K29-8362-03	KNOB ASSY	K5P5X5	
684	3A		K29-8103-04	KNOB	K4P4E4	

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KRF-V7090D/VR-9050/9060/9070 PARTS LIST

* New Parts

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13

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
R201,202			RS14KB3D4R7J	FL-PROOF RS 4.7 J 2W		
Δ R303			RD14NB2E561J	RD 560 J 1/4W		
R304			RS14KB3A822J	FL-PROOF RS 8.2K J 1W		
Δ R306			RD14NB2E101J	RD 100 J 1/4W		
Δ R307			RD14NB2E822J	RD 8.2K J 1/4W		
R310			RS14KB3A390J	FL-PROOF RS 39 J 1W		
R311			RS14KB3A680J	FL-PROOF RS 68 J 1W		
R314			RS14KB3A681J	FL-PROOF RS 680 J 1W		
R317			RS14KB3D152J	FL-PROOF RS 1.5K J 2W		
R318			RS14KB3D222J	FL-PROOF RS 2.2K J 2W		
Δ R321,322			RD14NB2E1R0J	RD 1 J 1/4W		
Δ R325,326			RD14NB2E472J	RD 4.7K J 1/4W		
R331-333			RS14KB3D182J	FL-PROOF RS 1.8K J 2W		
R342			RS14KB3A100J	FL-PROOF RS 10 J 1W		
R343			RS14KB3A470J	FL-PROOF RS 47 J 1W		
R454			RS14KB3A391J	FL-PROOF RS 390 J 1W		
Δ R476			RD14NB2E561J	RD 560 J 1/4W		
R627			RD14NB2E472J	RD 4.7K J 1/4W		
R733			RD14NB2E470J	RD 47 J 1/4W		
R735			RD14NB2E470J	RD 47 J 1/4W		
VR1 -6			R32-0118-05	SEMI FIXED VARIABLE RESISTOR		
K2 -5			S76-0098-05	MAGNETIC RELAY		
D1 -5			1SS133	DIODE		
D6			1SS133	DIODE	X5E4E5	
D7			MTZJ5.1(B)	ZENER DIODE	X5E4E5	
D8			MTZJ3.9(B)	ZENER DIODE	X5E4E5	
Δ D12		*	D5SBA20-7000	DIODE	X5E4E5	
Δ D12			D5SBA20-7003	DIODE	K4K5P4	
Δ D12			D5SBA20-7003	DIODE	P5	
Δ D14 ,15			S5688B	DIODE	6789	
D16			1SS133	DIODE		
D17			MTZJ16(B)	ZENER DIODE		
D18			MTZJ15(B)	ZENER DIODE		
D19			MTZJ16(B)	ZENER DIODE		
D20			MTZJ6.2(B)	ZENER DIODE		
D21			MTZJ6.8(B)	ZENER DIODE		
D22			MTZJ5.1(B)	ZENER DIODE		
D23			MTZJ13(B)	ZENER DIODE	X5	
D23			MTZJ15(B)	ZENER DIODE	K4K5P4	
D23			MTZJ15(B)	ZENER DIODE	P5	
D23			MTZJ15(B)	ZENER DIODE	6789	
D23			MTZJ15(B)	ZENER DIODE		
D23			MTZJ7.5(B)	ZENER DIODE	E4E5	
D24			MTZJ7.5(B)	ZENER DIODE	X5	
D24			MTZJ8.2(B)	ZENER DIODE	K4K5P4	
D24			MTZJ8.2(B)	ZENER DIODE	P5E4E5	
D24			MTZJ8.2(B)	ZENER DIODE	6789	
D25			MTZJ30(B)	ZENER DIODE		
D26			MTZJ3.9(B)	ZENER DIODE	E4E5	
D27			1SS244	DIODE		
D28 ,29			1SS133	DIODE		
D32 -35			1SS133	DIODE		
D51 ,52			1SS244	DIODE		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
D53 ,54			1SS133	DIODE		
D55 ,56			1SS244	DIODE		
D57 ,58			1SS133	DIODE		
D59 ,60			1SS244	DIODE		
D61 ,62			1SS133	DIODE		
D63			MTZJ3.9(B)	ZENER DIODE		
D64			1SS133	DIODE		
D65			MTZJ3.9(B)	ZENER DIODE		
D66			1SS133	DIODE		
D67			MTZJ3.9(B)	ZENER DIODE		
D68			1SS133	DIODE		
D69			MTZJ3.9(B)	ZENER DIODE		
D602-604			1SS133	DIODE		
D608			MTZJ30(B)	ZENER DIODE		
D609			MTZJ20(B)	ZENER DIODE		
IC1		*	NJM4580L-ZB	ANALOGUE IC		
IC2			M61516FP-RF0G	ANALOGUE IC		
Q1 -4			2SA992(F,E)	TRANSISTOR		
Q5 ,6			2SA1123(R,S)	TRANSISTOR		
Q7 -10			2SC2631(R,S)	TRANSISTOR		
Q21 -24			2SA992(F,E)	TRANSISTOR		
Q25 ,26			2SA1123(R,S)	TRANSISTOR		
Q27 -30			2SC2631(R,S)	TRANSISTOR		
Q41			2SA992(F,E)	TRANSISTOR		
Q43			2SA992(F,E)	TRANSISTOR		
Q45			2SA1123(R,S)	TRANSISTOR		
Q47			2SC2631(R,S)	TRANSISTOR		
Q49			2SC2631(R,S)	TRANSISTOR		
Q302			DTC113ZSA	DIGITAL TRANSISTOR		
Δ Q303			2SC3940A(R,S)	TRANSISTOR		
Δ Q304			2SB1640	TRANSISTOR		
Δ Q305		*	DTC143ZSA	DIGITAL TRANSISTOR		
Δ Q306			2SB1640	TRANSISTOR		
Q307			2SD2525	TRANSISTOR		
Q308			2SA992(F,E)	TRANSISTOR		
Q309-312			KTC3200	TRANSISTOR		
Q313		*	DTC143ZSA	DIGITAL TRANSISTOR	E4E5	
Q331-335			2SC2878(B)-F	TRANSISTOR		
Q353-358			2SC1845(F,E)	TRANSISTOR		
Q359			2SA992(F,E)	TRANSISTOR		
Q360,361			2SC1845(F,E)	TRANSISTOR		
Q362			2SA992(F,E)	TRANSISTOR		
Q363,364			2SC1845(F,E)	TRANSISTOR		
Q365			2SA992(F,E)	TRANSISTOR		
Q602-604			2SC1845(F,E)	TRANSISTOR		
Q605,606			2SC2878(B)-F	TRANSISTOR		
Q607			2SA992(F,E)	TRANSISTOR		
Q610			2SD2012	TRANSISTOR		
Q611			KTC3199(Y,GR)	TRANSISTOR	X5E4E5	
Q612			KTA1267(Y,GR)	TRANSISTOR	X5E4E5	
SUB (X13-7960-10)						
C101-106			CC45FCH1H100D	CERAMIC 10PF	D	
C107,108			CC45FSL1H820J	CERAMIC 82PF	J	6789
C109			CC45FCH1H100D	CERAMIC 10PF	D	6789
C110-115			CD04BJ1H010M	ELECTRO 1.0UF	50WV	

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C116-118			CD04BJ1A471M	ELECTRO 470UF 10WV		
C119-126			CK45FF1H103Z	CERAMIC 0.010UF Z		
C127			CD04BJ1V330M	ELECTRO 33UF 35WV		
C128,129			CC45FCH1H100D	CERAMIC 10PF D	6789	
C128,129			CC45FSL1H820J	CERAMIC 82PF J	45	
C130			CC45FCH1H100D	CERAMIC 10PF D		
C131-133			CD04BJ1H010M	ELECTRO 1.0UF 50WV	6789	
C134-136			CK45FF1H103Z	CERAMIC 0.010UF Z	6789	
C137			CD04BJ1E470M	ELECTRO 47UF 25WV		
C138-140			CQ93FMG1H104J	MYLAR 0.10UF J		
C141			CC45FCH1H100D	CERAMIC 10PF D		
C142			CD04BJ1H100M	ELECTRO 10UF 50WV		
C143-145			CK73GB1H104K	CHIP C 0.10UF K	4567	
C151,152			CD04BJ1H4R7M	ELECTRO 4.7UF 50WV		
C153,154			CD04BJ1E470M	ELECTRO 47UF 25WV		
C155,156			CC45FSL1H820J	CERAMIC 82PF J		
C157,158			CD04BJ1H220M	ELECTRO 22UF 50WV		
C169			CK73GB1H331K	CHIP C 330PF K		
C201			CD04BJ1H100M	ELECTRO 10UF 50WV	89	
C202			CK45FF1H103Z	CERAMIC 0.010UF Z	89	
C203			CQ93FMG1H683J	MYLAR 0.068UF J	89	
C205,206			CK45FF1H103Z	CERAMIC 0.010UF Z	89	
C207			CD04BJ1A101M	ELECTRO 100UF 10WV	89	
C208			CD04BJ1A221M	ELECTRO 220UF 10WV	89	
C209			CK45FF1H103Z	CERAMIC 0.010UF Z	89	
C210			CC45FSL1H221J	CERAMIC 220PF J	89	
C211-213			CC45FSL1H101J	CERAMIC 100PF J	89	
C214,215			CK45FF1H103Z	CERAMIC 0.010UF Z	89	
C216			CD04BJ1H010M	ELECTRO 1.0UF 50WV	89	
C301-309			CC45FSL1H221J	CERAMIC 220PF J	89	
C310			CC45FSL1H221J	CERAMIC 220PF J		
C311-313			CK45FB1H332K	CERAMIC 3300PF K		
C315-317			CC45FSL1H101J	CERAMIC 100PF J		
C401-406			CD04BJ1H220M	ELECTRO 22UF 50WV		
C407,408			CK45FB1H471K	CERAMIC 470PF K		
C409,410			CC73GCH1H471J	CHIP C 470PF J		
C411,412			CK45FB1H471K	CERAMIC 470PF K		
C419			CD04BJ1E221M	ELECTRO 220UF 25WV		
C420			CD04BJ1E101M	ELECTRO 100UF 25WV		
C425,426			CC45FSL1H101J	CERAMIC 100PF J		
C427,428			CC73GCH1H100D	CHIP C 10PF D		
C429,430			CC45FCH1H100D	CERAMIC 10PF D		
C431-436			CD04BJ1E470M	ELECTRO 47UF 25WV	89	
C437,438			CD04AU1E220M	NP ELEC 22UF 25WV	89	
C439			CD04BJ1E470M	ELECTRO 47UF 25WV	89	
C440			CD04BJ1H100M	ELECTRO 10UF 50WV		
C441,442			CD04BJ1A101M	ELECTRO 100UF 10WV		
C443-446			CD04BJ1H220M	ELECTRO 22UF 50WV		
C447			CD04BJ1H100M	ELECTRO 10UF 50WV	89	
C448		*	CD04BJ2A3R3M	ELECTRO 3.3UF 100WV	89	
C449,450			CD04BJ1H220M	ELECTRO 22UF 50WV		
C451			CD04BJ1E221M	ELECTRO 220UF 25WV		
C452			CD04BJ1H220M	ELECTRO 22UF 50WV		
C453,454			CK45FB1H471K	CERAMIC 470PF K		
C455			CD04AU1E220M	NP ELEC 22UF 25WV		

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C457			CQ93FMG1H392J	MYLAR 3900PF J		
C458			CC45FCH1H100D	CERAMIC 10PF D		
C459			CC73GCH1H470J	CHIP C 47PF J		
C460,461			CC73GCH1H101J	CHIP C 100PF J		
C463,464			CD04BJ1E470M	ELECTRO 47UF 25WV	89	
C536			CK73GB1H182K	CHIP C 1800PF K	6789	
C538			CK73GB1H102K	CHIP C 1000PF K	6789	
C540			CD04BJ1H220M	ELECTRO 22UF 50WV	6789	
C544,545			CK73GB1H103K	CHIP C 0.010UF K	6789	
C600			CD04BJ1H100M	ELECTRO 10UF 50WV	6789	
C601-606			CC45FSL1H470J	CERAMIC 47PF J	89	
C607			CC45FSL1H470J	CERAMIC 47PF J		
C608-611			CD04BJ1E470M	ELECTRO 47UF 25WV		
C612			CD04BJ1A101M	ELECTRO 100UF 10WV	6789	
C613-615			CD04BJ1V330M	ELECTRO 33UF 35WV	6789	
C616			CD04BJ1E470M	ELECTRO 47UF 25WV	6789	
C617			CK73GB1H103K	CHIP C 0.010UF K	6789	
C618			CD04BJ1H100M	ELECTRO 10UF 50WV	6789	
C619			CD04BJ1V330M	ELECTRO 33UF 35WV	6789	
C620			CD04BJ1H100M	ELECTRO 10UF 50WV	6789	
C621			CK73GB1H104K	CHIP C 0.10UF K	6789	
C622			CD04BJ1V330M	ELECTRO 33UF 35WV	6789	
C625			CD04BJ1H0R1M	ELECTRO 0.1UF 50WV	6789	
C626,627			CK73FB1C105K	CHIP C 1.0UF K	6789	
C651-662			CC45FSL1H470J	CERAMIC 47PF J	6789	
C663			CK45FF1H103Z	CERAMIC 0.010UF Z		
C664			CD04BJ1E470M	ELECTRO 47UF 25WV		
C665			CK45FF1H103Z	CERAMIC 0.010UF Z		
C666			CD04BJ1E470M	ELECTRO 47UF 25WV		
C667			CK45FF1H103Z	CERAMIC 0.010UF Z		
C668			CD04BJ1E470M	ELECTRO 47UF 25WV		
C669			CK45FF1H103Z	CERAMIC 0.010UF Z		
C670,671			CD04BJ1E470M	ELECTRO 47UF 25WV		
C672			CK45FF1H103Z	CERAMIC 0.010UF Z		
C673			CD04BJ1E470M	ELECTRO 47UF 25WV		
C674-677			CD04BJ1H100M	ELECTRO 10UF 50WV	6789	
C681			CD04BJ1A471M	ELECTRO 470UF 10WV	6789	
C682			CK73GB1H104K	CHIP C 0.10UF K		
C693			CC45FSL1H101J	CERAMIC 100PF J		
C694			CK73GB1H103K	CHIP C 0.010UF K	K4K5P4	
C694			CK73GB1H103K	CHIP C 0.010UF K	P5	
C694			CK73GB1H103K	CHIP C 0.010UF K	6789	
C699			CK73GB1H104K	CHIP C 0.10UF K	6789	
C702-705			CD04BJ1H3R3M	ELECTRO 3.3UF 50WV		
C706,707			CC45FSL1H331J	CERAMIC 330PF J		
C708,709			CK45FB1H222K	CERAMIC 2200PF K		
C710,711			CC45FCH1H050C	CERAMIC 5.0PF C		
C712			CC45FSL1H221J	CERAMIC 220PF J		
C713			CC45FSL1H101J	CERAMIC 100PF J		
C714,715			CD04BJ1A221M	ELECTRO 220UF 10WV		
C716,717			CC45FCH1H150J	CERAMIC 15PF J		
C718,719			CC45FSL1H151J	CERAMIC 150PF J		
C720			CK45FB1H102K	CERAMIC 1000PF K		
C721			CK45FB1H51K	CERAMIC 560PF K		
C722			CD04BJ1H220M	ELECTRO 22UF 50WV		

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KRF-V7090D/VR-9050/9060/9070
PARTS LIST

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Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks
C724,725			CC45FSL2H470J	CERAMIC 47PF J		
C728			CK45FF1H472Z	CERAMIC 4700PF Z		
C730			C91-1573-05	MP-C 0.10UF J	K4K5P4	
C730			C91-1573-05	MP-C 0.10UF J	P5	
C730			C91-1573-05	MP-C 0.10UF J	6789	
C730			C91-1577-05	MP-C 0.22UF J	X5E4E5	
C732			C91-1577-05	MP-C 0.22UF J	X5E4E5	
C733			CC45FSL1H101J	CERAMIC 100PF J		
C734			CK45FF1H103Z	CERAMIC 0.010UF Z		
CN301			E41-1435-05	FLAT CABLE CONNECTOR		
J61 ,62			E63-1384-05	PIN JACK		
J63	*		E63-1383-05	PIN JACK	89	
J65 -67	*		E56-0059-05	CYLINDRICAL RECEPTACLE		
J101			E63-1385-05	PIN JACK		
J102			E63-1386-05	PIN JACK	6789	
J103			E63-1386-05	PIN JACK		
J201	*		E11-0995-05	3.5D PHONE JACK(1P LF)	89	
J202	*		E11-0991-05	3.5D PHONE JACK(2P LF)	89	
J302			E63-1364-05	PIN JACK	89	
J303	*		E63-1382-05	PIN JACK	89	
J305	*		E63-1359-05	PIN JACK	4567	
J502	*		E70-1011-05	SCREW TERMINAL BOARD		
L201			L40-1011-58	SMALL FIXED INDUCTOR(100UH,K)	89	
L202			L92-0017-05	FERRITE CORE	89	
L502			L76-0018-05	DELAY LINE	6789	
L702	*		L39-1631-05	PHASE COMPENSATION COIL		
R1 -10			RK73GB2A000JK	CHIP R 0 J 1/10W	6789	
R70 -77			RK73GB2A000JK	CHIP R 0 J 1/10W	6789	
R72			RK73GB2A000JK	CHIP R 0 J 1/10W	45	
R77 -79			RK73GB2A000JK	CHIP R 0 J 1/10W	45	
R80			RK73GB2A000JK	CHIP R 0 J 1/10W		
Δ R205			RD14BB2C101J	RD 100 J 1/6W	89	
R213,214			RD14NB2E471J	RD 470 J 1/4W	89	
R217			RD14NB2E471J	RD 470 J 1/4W	89	
R403,404			RK73GB2A223J	CHIP R 22K J 1/10W		
R409,410			RK73GB2A622J	CHIP R 6.2K J 1/10W	89	
R415,416			RK73GB2A473J	CHIP R 47K J 1/10W		
R421,422			RK73GB2A220J	CHIP R 22 J 1/10W		
Δ R425			RD14NB2E561J	RD 560 J 1/4W		
R426,427			RK73GB2A102J	CHIP R 1.0K J 1/10W	89	
R428			RK73GB2A102J	CHIP R 1.0K J 1/10W		
R429			RK73GB2A103J	CHIP R 10K J 1/10W		
R430,431			RK73GB2A103J	CHIP R 10K J 1/10W	89	
R432			RK73GB2A102J	CHIP R 1.0K J 1/10W	89	
R434	Δ		RD14NB2E150J	RD 15 J 1/4W		
R443,444			RK73GB2A183J	CHIP R 18K J 1/10W		
Δ R450			RD14NB2E561J	RD 560 J 1/4W	89	
R451	Δ		RD14NB2E102J	RD 1.0K J 1/4W	89	
R452			RD14NB2E150J	RD 15 J 1/4W		
R466,467			RK73GB2A100J	CHIP R 10 J 1/10W		
R529			RK73GB2A103J	CHIP R 10K J 1/10W	6789	
R530			RK73GB2A223J	CHIP R 22K J 1/10W	6789	
R532			RK73GB2A332J	CHIP R 3.3K J 1/10W	6789	
R534			RK73GB2A562J	CHIP R 5.6K J 1/10W	6789	

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Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks
R536			RK73GB2A103J	CHIP R 10K J 1/10W	6789	
R539			RK73GB2A223J	CHIP R 22K J 1/10W	6789	
R540			RK73GB2A103J	CHIP R 10K J 1/10W	6789	
R542			RK73GB2A104J	CHIP R 100K J 1/10W	6789	
R545			RK73GB2A101J	CHIP R 100 J 1/10W	6789	
R546			RK73GB2A474J	CHIP R 470K J 1/10W	6789	
R549			RK73GB2A183J	CHIP R 18K J 1/10W	6789	
R550			RK73GB2A103J	CHIP R 10K J 1/10W	6789	
R552			RK73GB2A363J	CHIP R 36K J 1/10W	6789	
R554			RK73GB2A103J	CHIP R 10K J 1/10W	6789	
R556			RK73GB2A472J	CHIP R 4.7K J 1/10W	6789	
R561,562			RK73GB2A104J	CHIP R 100K J 1/10W	6789	
R563,564			RK73GB2A102J	CHIP R 1.0K J 1/10W	6789	
R600			RK73GB2A101J	CHIP R 100 J 1/10W	6789	
R611,612			RK73GB2A101J	CHIP R 100 J 1/10W	6789	
R613			RK73GB2A105J	CHIP R 1.0M J 1/10W	6789	
R617			RS14KB3A150J	FL-PROOF RS 15 J 1W		
R621-623			RK73GB2A104J	CHIP R 100K J 1/10W	6789	
R624			RS14KB3A150J	FL-PROOF RS 15 J 1W		
R667			RK73GB2A104J	CHIP R 100K J 1/10W		
Δ R671			RS14KB3A150J	FL-PROOF RS 15 J 1W		
R674			RS14KB3A470J	FL-PROOF RS 47 J 1W		
R695			RK73GB2A101J	CHIP R 100 J 1/10W	6789	
R699			RK73GB2A105J	CHIP R 1.0M J 1/10W	6789	
R723,724			RD14NB2E221J	RD 220 J 1/4W		
R725,726			RD14NB2E562J	RD 5.6K J 1/4W		
R727,728			RD14NB2E331J	RD 330 J 1/4W		
R729,730			RD14NB2E221J	RD 220 J 1/4W		
R746			RD14NB2E330J	RD 33 J 1/4W		
R748			RS14KB3D4R7J	FL-PROOF RS 4.7 J 2W		
R752			RS14KB3D182J	FL-PROOF RS 1.8K J 2W		
R756			RD14NB2E470J	RD 47 J 1/4W		
R758			RD14NB2E470J	RD 47 J 1/4W		
R760			RD14NB2E221J	RD 220 J 1/4W		
VR702			R32-0118-05	SEMI FIXED VARIABLE RESISTOR		
K702			S76-0098-05	MAGNETIC RELAY		
D101			MTZJ10(B)	ZENER DIODE		
D155-157			MTZJ7.5(B)	ZENER DIODE		
D201-206			1SS133	DIODE	89	
D401			MTZJ3.9(B)	ZENER DIODE		
D402			MTZJ5.1(B)	ZENER DIODE	89	
D503			DA204U	DIODE	6789	
D652			1SS133	DIODE		
D655,656			MTZJ5.6(B)	ZENER DIODE		
D701-704			1SS133	DIODE		
D706			1SS244	DIODE		
D708			1SS133	DIODE		
D710			1SS133	DIODE		
IC3			BU4066BC	ANALOGUE IC		
IC6	*		RC4580IP	ANALOGUE IC		
IC11			NJM2585M	ANALOGUE IC		
IC65	*		LA79510M-E	ANALOGUE IC		
IC66			NJM2284V	ANALOGUE IC	6789	
IC68,69			NJM2575	ANALOGUE IC	6789	

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
Δ IC201		*	BA05T	ANALOGUE IC	89	
Δ IC401-404			RC4580IP	ANALOGUE IC		
IC507			BA4560F	ANALOGUE IC	6789	
IC508			BA7623F	ANALOGUE IC	6789	
Δ Q65			2SD2525	TRANSISTOR		
Δ Q66			2SB1640	TRANSISTOR		
Q101			2SC2003(L,K)	TRANSISTOR		
Q158,159			KRC103M	DIGITAL TRANSISTOR		
Q201			KRC103M	DIGITAL TRANSISTOR	89	
Q202,203			2SC1740S(Q,R)	TRANSISTOR	89	
Q204			2SA933AS(Q,R)	TRANSISTOR	89	
Q301-309			2SC2878(B)-F	TRANSISTOR	89	
Q310			2SC2878(B)-F	TRANSISTOR		
Q311-319			2SC2878(B)-F	TRANSISTOR	89	
Q320			2SC2878(B)-F	TRANSISTOR		
Q401,402			DTA124EUA	DIGITAL TRANSISTOR	89	
Q403-408			2SC2878(B)-F	TRANSISTOR	89	
Q409			KRA103M	DIGITAL TRANSISTOR	89	
Q410			DTA124EUA	DIGITAL TRANSISTOR		
Q411,412			2SC2878(B)-F	TRANSISTOR	89	
Q501,502			2SC4213(B)	TRANSISTOR	6789	
Q512			2SC4081(R,S)	TRANSISTOR	6789	
Q701,702			2SC2878(B)-F	TRANSISTOR		
Q703-706			2SA992(F,E)	TRANSISTOR		
Q707,708			2SC2631(R,S)	TRANSISTOR		
Q709,710			2SA1123(R,S)	TRANSISTOR		
Q711,712			2SC2631(R,S)	TRANSISTOR		
Q714			2SC1845(F,E)	TRANSISTOR		
Q716			KTC3200	TRANSISTOR		
DISPLAY (X14-7900-10)						
D734			B30-2545-05	LED(RED3(160))		
D741-745			B30-2545-05	LED(RED3(160))	K4K5P4	
D741-745			B30-2545-05	LED(RED3(160))	P5X5	
D741-745			B30-2545-05	LED(RED3(160))	6789	
D741-752			B30-2651-05	LED(RED,D3,40DEG,)	E4E5	
D746-752			B30-2651-05	LED(RED,D3,40DEG,)	K4K5P4	
D746-752			B30-2651-05	LED(RED,D3,40DEG,)	P5X5	
D753			B30-2545-05	LED(RED3(160))		
D754			B30-2651-05	LED(RED,D3,40DEG,)	K4K5P4	
D754			B30-2651-05	LED(RED,D3,40DEG,)	P5X5	
D754,755			B30-2651-05	LED(RED,D3,40DEG,)	E4E5	
D755			B30-2545-05	LED(RED3(160))	K4K5P4	
D755			B30-2545-05	LED(RED3(160))	P5X5	
D755			B30-2545-05	LED(RED3(160))	6789	
C101			CC45FCH1H101J	CERAMIC	100PF	J
C103			CK73GB1H103K	CHIP C	0.010UF	J
C104			CC73GCH1H101J	CHIP C	100PF	K
C105			CC45FCH1H101J	CERAMIC	100PF	J
C401			CK45FE2H103P	CERAMIC	0.010UF	P
C402			CD04BJ1E222M	ELECTRO	2200UF	25WV
C403			CD04BJ1E102M	ELECTRO	1000UF	25WV
C404-407			CK73GB1H103K	CHIP C	0.010UF	K
C408,409			CD04BJ1E470M	ELECTRO	47UF	25WV
C410			CC73GCH1H680J	CHIP C	68PF	J

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C411			CC73GCH1H820J	CHIP C	82PF	J
C451			CK45FF1H103Z	CERAMIC	0.010UF	Z
C452			CQ93FMG1H104J	MYLAR	0.10UF	J
C452			CQ93FMG1H104J	MYLAR	0.10UF	J
C452			CQ93FMG1H104J	MYLAR	0.10UF	J
C452			CQ93FMG1H393J	MYLAR	0.039UF	J
C452			CQ93FMG1H473J	MYLAR	0.047UF	J
C453		*	CD04BJ1C332M	ELECTRO	3300UF	16WV
C453		*	CD04BJ1C332M	ELECTRO	3300UF	16WV
C453		*	CD04BJ1C332M	ELECTRO	3300UF	16WV
C453			CD04BJ1E332M	ELECTRO	3300UF	25WV
C454			CD04BJ1H100M	ELECTRO	10UF	50WV
C456,457			CK45FF1H103Z	CERAMIC	0.010UF	Z
C458			CD04BJ1H100M	ELECTRO	10UF	50WV
C459			CD04BJ1H010M	ELECTRO	1.0UF	50WV
C501-504			CC73GCH1H101J	CHIP C	100PF	J
C505,506			CK73GB1H102K	CHIP C	1000PF	K
C507,508			CC73GCH1H101J	CHIP C	100PF	J
C509			CC73GCH1H471J	CHIP C	470PF	J
C510,511			CC73GCH1H101J	CHIP C	100PF	J
C536			CK73GB1H182K	CHIP C	1800PF	K
C538			CK73GB1H102K	CHIP C	1000PF	K
C540			CD04BJ1H220M	ELECTRO	22UF	50WV
C544,545			CK73GB1H103K	CHIP C	0.010UF	K
C550			CK73GB1A105K	CHIP C	1.0UF	K
C701			CC73GCH1H221J	CHIP C	220PF	J
C702			CD04BJ1H101M	ELECTRO	100UF	50WV
C703,704			CK73GB1H102K	CHIP C	1000PF	K
C705			CC73GCH1H181J	CHIP C	180PF	J
C741			CK73EB1E105K	CHIP C	1.0UF	K
C761-766			CK73GB1H103K	CHIP C	0.010UF	K
C777			CK45FB1H102K	CERAMIC	1000PF	K
C778			CC45FCH1H101J	CERAMIC	100PF	J
C779			CD04BJ1A101M	ELECTRO	100UF	10WV
C780			CC73GCH1H270J	CHIP C	27PF	J
C791			CD04AT0J470M	ELECTRO	47UF	6.3WV
C792			CD04BJ1H220M	ELECTRO	22UF	50WV
C793,794			CK45FF1H103Z	CERAMIC	0.010UF	Z
C811			CK45FF1H103Z	CERAMIC	0.010UF	Z
C812,813			CC45FCH1H270J	CERAMIC	27PF	J
C814			CC45FCH1H101J	CERAMIC	100PF	J
C815			CD04BJ1E470M	ELECTRO	47UF	25WV
C816			CK45FB1H561K	CERAMIC	560PF	K
C817			CK45FF1H103Z	CERAMIC	0.010UF	Z
C818			CC73GCH1H271J	CHIP C	270PF	J
C819			CD04BJ1H2R2M	ELECTRO	2.2UF	50WV
C841			CD04BJ0J102M	ELECTRO	1000UF	6.3WV
C841			CD04BJ0J102M	ELECTRO	1000UF	6.3WV
C841			CD04BJ0J102M	ELECTRO	1000UF	6.3WV
C842			C90-5647-05	ELECTRO	0.047F	5.5WV
C843			CD04BJ1H010M	ELECTRO	1.0UF	50WV
C844			CK45FF1H103Z	CERAMIC	0.010UF	Z
C845			CK73GB1H103K	CHIP C	0.010UF	K
C851			CD04BJ1H100M	ELECTRO	10UF	50WV
C852			CC45FSL1H221J	CERAMIC	220PF	J

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KRF-V7090D/VR-9050/9060/9070
PARTS LIST

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C853-855 C856,857 C858 C907 C908			CC73GCH1H221J CK45FF1H103Z CD04BJ1A101M CK73GB1H103K CK45FF1H103Z	CHIP C 220PF J CERAMIC 0.010UF Z ELECTRO 100UF 10WV CHIP C 0.010UF K CERAMIC 0.010UF Z		
CN41 CN45 CN47 CN49 CN50			E41-0942-05 E41-0969-05 E41-0969-05 E41-0927-05 E41-1570-05	PIN ASSY PIN ASSY PIN ASSY PIN ASSY PIN ASSY		
CN70 CN80 CN90			E41-0942-05 E41-0942-05 E41-0928-05	PIN ASSY PIN ASSY PIN ASSY		
Δ J2 Δ J2		*	E03-0515-05 E03-0515-05	AC OUTLET AC OUTLET	K4K5P4 P5	
Δ J2 Δ J3 Δ J5 Δ J20 Δ J21		*	E03-0515-05 E03-0398-05 E03-0325-05 E63-1388-05 E56-0060-05	AC OUTLET AC OUTLET AC OUTLET PIN JACK CYLINDRICAL RECEPTACLE	6789 E4E5 X5	
Δ F1 Δ F1 Δ F1 Δ F1 Δ F2			F05-4025-05 F50-0078-05 F50-0078-05 F50-0078-05 F06-1022-05	FUSE (SEMKO) (250V T4A L) FUSE(5X20) FUSE(5X20) FUSE(5X20) FUSE (SEMKO) (250V T1AL)	X5E4E5 K4K5P4 P5 6789 X5E4E5	
CN11,12 CN21,22 E702,703			J13-0075-05 J13-0075-05 J11-0898-05	FUSE CLIP FUSE CLIP WIRE CLAMPER	X5E4E5	
Δ T1 Δ T1 Δ T1 Δ T1 Δ T1			L07-2758-05 L07-2761-05 L07-2809-05 L07-2809-05 L07-2809-05	POWER TRANSFORMER POWER TRANSFORMER POWER TRANSFORMER POWER TRANSFORMER POWER TRANSFORMER	X5 E4E5 K4K5P4 P5 6789	
X701 X811			L78-0725-05 L77-2002-05	RESONATOR (8.38MHZ) CRYSTAL RESONATOR(4.332MHZ)	X5E4E5	
R1 ,2 R11 ,12 R51 R120 Δ R410			RK73GB2A000JK RK73EB2E000JK RK73GB2A000JK RK73GB2A102J RS14KB3D181J	CHIP R 0 J 1/10W CHIP R 0 J 1/4W CHIP R 0 J 1/10W CHIP R 1.0K J 1/10W FL-PROOF RS 180 J 2W		
Δ R453 Δ R454 Δ R457 Δ R457 Δ R457			RD14NB2E1R0J RD14NB2E270J R92-1844-05 R92-1844-05 R92-1844-05	RD 1 J 1/4W RD 27 J 1/4W CARBON 3.3M J 1/2W CARBON 3.3M J 1/2W CARBON 3.3M J 1/2W	K4K5P4 P5 6789	
R501,502 R503,504 R505 R506 R507,508			RK73GB2A101J RK73GB2A104J RK73GB2A750J RK73GB2A101J RK73GB2A750J	CHIP R 100 J 1/10W CHIP R 100K J 1/10W CHIP R 75 J 1/10W CHIP R 100 J 1/10W CHIP R 75 J 1/10W		
R509,510 R530 R531-533 R534			RK73GB2A101J RK73GB2A1R0J RK73GB2A103J RK73GB2A223J	CHIP R 100 J 1/10W CHIP R 1 J 1/10W CHIP R 10K J 1/10W CHIP R 22K J 1/10W		

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R535 R536,537 R538 R539 R540			RK73GB2A562J RK73GB2A103J RK73GB2A223J RK73GB2A104J RK73GB2A101J	CHIP R 5.6K J 1/10W CHIP R 10K J 1/10W CHIP R 22K J 1/10W CHIP R 100K J 1/10W CHIP R 100 J 1/10W		
R541 R542 R543,544 R545 R776			RK73GB2A474J RK73GB2A183J RK73GB2A103J RK73GB2A222J RD14NB2E100J	CHIP R 470K J 1/10W CHIP R 18K J 1/10W CHIP R 10K J 1/10W CHIP R 2.2K J 1/10W RD 10 J 1/4W		
R779 R780 R782 R801,802 R803			RK73GB2A333J RD14NB2E100J RK73GB2A303J RK73GB2A331J RK73GB2A104J	CHIP R 33K J 1/10W RD 10 J 1/4W CHIP R 30K J 1/10W CHIP R 330 J 1/10W CHIP R 100K J 1/10W		
R805 R807,808 R847 R894 R896-898			RK73GB2A104J RK73GB2A103J RK73GB2A101J RK73GB2A101J RK73GB2A101J	CHIP R 100K J 1/10W CHIP R 10K J 1/10W CHIP R 100 J 1/10W CHIP R 100 J 1/10W CHIP R 100 J 1/10W		
R910,911 R922-924 R926 R935 R938,939			RK73GB2A104J RK73GB2A101J RK73GB2A101J RK73GB2A101J RK73GB2A101J	CHIP R 100K J 1/10W CHIP R 100 J 1/10W CHIP R 100 J 1/10W CHIP R 100 J 1/10W CHIP R 100 J 1/10W		
R941-945 R951,952 R954 R955,956 R967-969			RK73GB2A101J RK73GB2A104J RK73GB2A103J RK73GB2A101J RK73GB2A104J	CHIP R 100 J 1/10W CHIP R 100K J 1/10W CHIP R 10K J 1/10W CHIP R 100 J 1/10W CHIP R 100K J 1/10W		
R970 R971,972 R974,975 R977 R993			RK73GB2A153J RK73GB2A104J RK73GB2A104J RK73GB2A273J RK73GB2A101J	CHIP R 15K J 1/10W CHIP R 100K J 1/10W CHIP R 100K J 1/10W CHIP R 27K J 1/10W CHIP R 100 J 1/10W	X5E4E5	
Δ R997			RD14NB2E1R0J	RD 1 J 1/4W		
Δ K451 Δ K451 Δ K451 Δ K451 S701-708			S76-0107-05 S76-0107-05 S76-0107-05 S76-0110-05 S70-0086-05	MAGNETIC RELAY MAGNETIC RELAY MAGNETIC RELAY MAGNETIC RELAY TACT SWITCH	K4K5P4 P5 6789 X5E4E5	
S709-715 S716-725 S731-733			S70-0086-05 S70-0086-05 S70-0086-05	TACT SWITCH TACT SWITCH TACT SWITCH	45	
S761,762 S763			T99-0663-05 T99-0664-05	ROTARY ENCODER ROTARY ENCODER		
Δ D401 D451,452 D453 D454 D455			D2SBA207009F01 1SS133 S1ZB20(7101) 1SS133 RB721Q	DIODE DIODE DIODE DIODE DIODE		
D500 D501-504			1SS302 1SS133	DIODE DIODE		

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PARTS LIST

KRF-V7090D/VR-9050/9060/9070

HOW TO READ THE PARTS LIST
ABBREVIATION OF MODEL AND MASS PRODUCTION'S DESTINATIONS

MODEL	ABB.	Australia	Canada	Europe	USA
		X	P	E	K
KRF-V7090D	4	-	-	E4	-
KRF-V7090D-S	5	X5	-	E5	-
VR-9050	4	-	P4	-	K4
VR-9050-S	5	-	P5	-	K5
VR-9060	6	-	P6	-	K6
VR-9060-S	7	-	P7	-	K7
VR-9070	8	-	P8	-	K8
VR-9070-S	9	-	P9	-	K9

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D776			MTZJ5.1(B)	ZENER DIODE		
D791			1SS133	DIODE		
D801-806			1SS133	DIODE		
D841			RB721Q	DIODE		
D842			1SS133	DIODE		
Δ D843			RB721Q	DIODE		
D844			1SS133	DIODE		
D846			1SS133	DIODE		
D961-964			1SS133	DIODE		
ED78		*	HNA-16MM55T	FLUORESCENT INDICATOR TUBE		
Δ IC45			BA05T	ANALOGUE IC		
IC74			BU2090	ANALOGUE IC		
IC78		*	LC75711NED-E	MOS-IC		
Δ IC79			XC6202P502PR	ANALOGUE IC		
IC81			BU1924F	ANALOGUE IC	X5E4E5	
IC84			S-80840CNY-GZ	ANALOGUE IC		
IC90		*	MN101C49HYC	MICROPROCESSOR IC	89	
IC90		*	MN101C49HYD	MICROPROCESSOR IC	4567	
Δ IC401			KIA7812API-UP	ANALOGUE IC		
Δ IC402			KIA7912API-UP	ANALOGUE IC		
IC502			BA4560F	ANALOGUE IC		
Q451			2SC1740S(Q,R)	TRANSISTOR		
Q512			2SC4081(R,S)	TRANSISTOR		
Q731			DTC113ZSA	DIGITAL TRANSISTOR		
Q776			2SC1740S(Q,R)	TRANSISTOR		
Q777,778			DTC124ESA	DIGITAL TRANSISTOR		
Q841			2SC1740S(Q,R)	TRANSISTOR		
Q842			2SA933AS(Q,R)	TRANSISTOR		
Q843			DTC113ZSA	DIGITAL TRANSISTOR		
Δ TH1		*	MF-R090-99	THERMISTOR		
A791			W02-4599-05	ELECTRIC CIRCUIT MODULE		

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KRF-V7090D/VR-9050/9060/9070
PARTS LIST

KRF-V7090D/VR-9050/9060/9070

SPECIFICATIONS (KRF-V7090D)

AUDIO section

Rated power output during STEREO operation	
IEC (20 Hz ~ 20 kHz, 0.09% T.H.D., at 6 Ω)	100 W + 100 W
DIN (1 kHz at 6 Ω)	120 W + 120 W
Effective power output during STEREO operation	
RMS (1 kHz, 10% T.H.D., at 6 Ω)	150 W + 150 W
Effective power output during SURROUND operation	
FRONT	
(20 Hz ~ 20 kHz, 0.09 % T.H.D., at 6 Ω one channel driven)	100 W + 100 W
(1 kHz, 0.7 % T.H.D., at 6 Ω one channel driven) ..	120 W + 120 W
(1 kHz, 10 % T.H.D., at 6 Ω one channel driven) ...	150 W + 150 W
CENTER	
(20 Hz ~ 20 kHz, 0.09 % T.H.D., at 6 Ω one channel driven)	100 W
(1 kHz, 0.7 % T.H.D., at 6 Ω one channel driven) ..	120 W
(1 kHz, 10 % T.H.D., at 6 Ω one channel driven)	150 W
SURROUND	
(20 Hz ~ 20 kHz, 0.7 % T.H.D., at 6 Ω one channel driven)	100 W + 100 W
(1 kHz, 0.7 % T.H.D., at 6 Ω one channel driven) ..	120 W + 120 W
(1 kHz, 10 % T.H.D., at 6 Ω one channel driven) ...	150 W + 150 W
SURROUND BACK	
(20 Hz ~ 20 kHz, 0.7 % T.H.D., at 6 Ω one channel driven)	100 W + 100 W
(1 kHz, 0.7 % T.H.D., at 6 Ω one channel driven) ..	120 W + 120 W
(1 kHz, 10 % T.H.D., at 6 Ω one channel driven) ...	150 W + 150 W
Total harmonic distortion	0.009 % (1 kHz, 50 W, 6 Ω)
Frequency response	
CD/DVD	10 Hz ~ 100 kHz, +0 dB ~ -3.0 dB
PHONO 'RIAA' response.....	40 Hz ~ 20 kHz, +1.5 dB ~ -3.0 dB
Maximum input level	
PHONO (MM)	40 mV, 1 % T.H.D., at 1 kHz
Signal to noise ratio (IHF'66)	
PHONO (MM)	75 dB
CD/DVD	95 dB
Input sensitivity / impedance	
PHONO (MM)	6 mV / 47 kΩ
CD/DVD, MD/TAPE, AV AUX, VIDEO 1, VIDEO 2, VIDEO 3, DVD/6CH	500 mV / 47 kΩ
Output level / impedance	
MD/TAPE REC	500 mV / 1 kΩ
PRE OUT (SUBWOOFER).....	1 V / 1 kΩ
Tone control	
BASS.....	±10 dB (at 100 Hz)
TREBLE.....	±10 dB (at 10 kHz)
Loudness control	
VOLUME at -30 dB level	+6 dB (100 Hz)

DIGITAL AUDIO section

Sampling frequency	32 kHz, 44.1 kHz, 48 kHz, 96 kHz
Input level / impedance / wave length	
Optical	(-15 dBm ~ -24 dBm), 660 nm ±30 nm
Coaxial.....	0.5 Vp-p / 75 Ω

VIDEO section

VIDEO inputs / outputs	
VIDEO (composite)	1 Vp-p / 75 Ω
S VIDEO inputs / outputs	
S VIDEO (luminance signal).....	1 Vp-p / 75 Ω
S VIDEO (chrominance signal)	0.286 Vp-p / 75 Ω
COMPONENT VIDEO inputs/ outputs	
COMPONENT VIDEO (luminance signal).....	1 Vp-p / 75 Ω
COMPONENT VIDEO (CB/CR-signal).....	0.7 Vp-p / 75 Ω

FM tuner section

Tuning frequency range.....	87.5 MHz ~ 108.0 MHz
Usable sensitivity	
MONO	1.3 μV (75 Ω) / 13.2 dBf (40 kHz dev, S/N 26 dB)
STEREO.....	45 μV (75 Ω) / 42.1 dBf (40 + 6 kHz dev, S/N 46 dB)
Total harmonic distortion	
MONO (1 kHz, 40 kHz dev)	0.2% (65.2 dBf input)
STEREO (1 kHz, 40 + 6 kHz dev)	0.8% (65.2 dBf input)
Signal to noise ratio (DIN weighted at 1 kHz)	
MONO	65 dB (65.2 dBf input)
STEREO	60 dB (65.2 dBf input)
Stereo separation (1 kHz)	36 dB
Selectivity (DIN ±300 kHz)	64 dB
Frequency response (30 Hz ~ 15 kHz).....	+0.5 dB, -3.0 dB

AM tuner section

Tuning frequency range.....	531 kHz ~ 1,602 kHz
Usable sensitivity (30% mod, S/N 20 dB)	16 μV / (600 μV/m)
Signal to noise ratio (30% mod, 400 Hz)	50 dB (60 dBμV EMF input)

GENERAL

Power consumption	300 W
Standby Power consumption	Less than 1.5 W
AC outlet	
SWITCHED.....	(total 90 W max.)
Dimensions.....	W : 440 mm (17-5/16")
	H : 159 mm (6-1/4")
	D : 392 mm (15-7/16")
Weight (Net)	11.9 kg (26.2 lb)

Notes

1. KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without no tice.
2. The full performance may not be exhibited in an extremely cold location (under a water-freezing temperature).

KRF-V7090D/VR-9050/9060/9070

SPECIFICATIONS (VR-9050)

AUDIO section

Rated power output during STEREO operation

100 watts per channel minimum RMS, both channels driven, at 8 Ω from 20 Hz to 20 kHz with no more than 0.09% total harmonic distortion. (FTC)

Effective power output during SURROUND operation

FRONT (20 ~ 20 kHz, 0.09 % T.H.D., at 8 Ω one channel driven)

..... 100 W + 100 W

CENTER (20 ~ 20 kHz, 0.09 % T.H.D., at 8 Ω one channel driven)

..... 100 W

SURROUND (20 ~ 20 kHz, 0.7 % T.H.D., at 8 Ω one channel driven)

..... 100 W + 100 W

SURROUND BACK (20 ~ 20 kHz, 0.7 % T.H.D., at 8 Ω one channel driven)

..... 100 W + 100 W

Total harmonic distortion 0.009 % (1 kHz, 50 W, 8 Ω)

Frequency response

CD/DVD 10 Hz ~ 100 kHz, +0 dB ~ -3.0 dB

PHONO 'RIAA' response 40 Hz ~ 20 kHz, +1.5 dB ~ -3.0 dB

Maximum input level

PHONO (MM) 40 mV, 1 % T.H.D., at 1 kHz

Signal to noise ratio (IHF'66)

PHONO (MM) 75 dB

CD/DVD 95 dB

Input sensitivity / impedance

PHONO (MM) 7 mV / 47 k Ω

CD/DVD, MD/TAPE, AV AUX, VIDEO 1, VIDEO 2, VIDEO 3, DVD/6CH

..... 500 mV / 47 k Ω

Output level / impedance

MD/TAPE REC 500 mV / 1 k Ω

PRE OUT (SUBWOOFER) 1 V / 1 k Ω

Tone control

BASS ± 10 dB (at 100 Hz)

TREBLE ± 10 dB (at 10 kHz)

Loudness control

VOLUME at -30 dB level +6 dB (100 Hz)

DIGITAL AUDIO section

Sampling frequency 32 kHz, 44.1 kHz, 48 kHz, 96 kHz

Input level / impedance / wave length

Optical (-15 dBm ~ -24 dBm), 660 nm ± 30 nm

Coaxial 0.5 Vp-p / 75 Ω

VIDEO section

VIDEO inputs / outputs

VIDEO (composite) 1 Vp-p / 75 Ω

S VIDEO inputs / outputs

S VIDEO (luminance signal) 1 Vp-p / 75 Ω

S VIDEO (chrominance signal) 0.286 Vp-p / 75 Ω

COMPONENT VIDEO inputs / outputs

COMPONENT VIDEO (luminance signal) 1 Vp-p / 75 Ω

COMPONENT VIDEO (CB/CR-signal) 0.64 Vp-p / 75 Ω

FM tuner section

Tuning frequency range 87.5 MHz ~ 108.0 MHz

Usable sensitivity (MONO)

..... 1.3 μ V (75 Ω) / 13.2 dBf (75 kHz dev, SINAD 30 dB)

50 dB quieting sensitivity

STEREO 28 μ V (75 Ω) / 40.2 dBf (75 kHz dev)

Total harmonic distortion

MONO (1 kHz, 75 kHz dev) 0.5% (65 dBf input)

STEREO (1 kHz, 67.5 + 6.75 kHz dev) 0.7% (65 dBf input)

Signal to noise ratio

MONO (1 kHz, 75 kHz dev) 75 dB (65 dBf input)

STEREO (1 kHz, 67.5 + 6.75 kHz dev) 68 dB (65 dBf input)

Stereo separation (1 kHz) 40 dB

Selectivity (± 400 kHz) 70 dB

Frequency response (30 Hz ~ 15 kHz) +0.5 dB, -3.0 dB

AM tuner section

Tuning frequency range

..... 530 kHz ~ 1,700 kHz

Usable sensitivity (30% mod, S/N 20 dB)

..... 16 μ V / (600 μ V/m)

Signal to noise ratio (30% mod, 400 Hz)

..... 50 dB (60 dB μ V EMF input)

GENERAL

Power consumption 3.4 A

Standby Power consumption Less than 1 W

AC outlet

SWITCHED (total 150 W, 1.25 A max.)

Dimensions W : 440 mm (17-5/16")

H : 159 mm (6-1/4")

D : 392 mm (15-7/16")

Weight (Net) 11.7 kg (25.8 lb)

Notes

1. KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.
2. The full performance may not be exhibited in an extremely cold location (under a water-freezing temperature).

KRF-V7090D/VR-9050/9060/9070

SPECIFICATIONS (VR-9060)

AUDIO section

Rated power output during STEREO operation

100 watts per channel minimum RMS, both channels driven, at 8 Ω from 20 Hz to 20 kHz with no more than 0.09% total harmonic distortion. (FTC)

Effective power output during SURROUND operation

FRONT (20 ~ 20 kHz, 0.09 % T.H.D., at 8 Ω one channel driven)	100 W + 100 W
CENTER (20 ~ 20 kHz, 0.09 % T.H.D., at 8 Ω one channel driven)	100 W
SURROUND (20 ~ 20 kHz, 0.7 % T.H.D., at 8 Ω one channel driven)	100 W + 100 W
SURROUND BACK (20 ~ 20 kHz, 0.7 % T.H.D., at 8 Ω one channel driven)	100 W + 100 W
Total harmonic distortion	0.009 % (1 kHz, 50 W, 8 Ω)
Frequency response	
CD/DVD	10 Hz ~ 100 kHz, +0 dB ~ -3.0 dB
PHONO 'RIAA' response	40 Hz ~ 20 kHz, +1.5 dB ~ -3.0 dB
Maximum input level	
PHONO (MM)	40 mV, 1 % T.H.D., at 1 kHz
Signal to noise ratio (IHF'66)	
PHONO (MM)	75 dB
CD/DVD	95 dB
Input sensitivity / impedance	
PHONO (MM)	7 mV / 47 k Ω
CD/DVD, MD/TAPE, AV AUX, VIDEO 1, VIDEO 2, VIDEO 3, DVD/6CH	500 mV / 47 k Ω
Output level / impedance	
TAPE REC.	500 mV / 1 k Ω
PRE OUT (SUBWOOFER)	1 V / 1 k Ω
Tone control	
BASS	± 10 dB (at 100 Hz)
TREBLE	± 10 dB (at 10 kHz)
Loudness control	
VOLUME at -30 dB level	+6 dB (100 Hz)

DIGITAL AUDIO section

Sampling frequency	32 kHz, 44.1 kHz, 48 kHz, 96 kHz
Input level / impedance / wave length	
Optical	-15 dBm ~ -24 dBm, 660 nm ± 30 nm
Coaxial	0.5 Vp-p / 75 Ω
Output level / impedance / wave length	
Optical	-21 dBm ~ -15 dBm, 660 nm ± 30 nm

VIDEO section

VIDEO inputs / outputs	
VIDEO (composite)	1 Vp-p / 75 Ω
S VIDEO inputs / outputs	
S VIDEO (luminance signal)	1 Vp-p / 75 Ω
S VIDEO (chrominance signal)	0.286 Vp-p / 75 Ω
COMPONENT VIDEO inputs / outputs	
COMPONENT VIDEO (luminance signal)	1 Vp-p / 75 Ω
COMPONENT VIDEO (CB/CR-signal)	0.64 Vp-p / 75 Ω

FM tuner section

Tuning frequency range	87.5 MHz ~ 108.0 MHz
Usable sensitivity (MONO)	1.3 μ V (75 Ω) / 13.2 dBf (75 kHz dev, SINAD 30 dB)
50 dB quieting sensitivity	
STEREO	28 μ V (75 Ω) / 40.2 dBf (75 kHz dev)
Total harmonic distortion	
MONO (1 kHz, 75 kHz dev)	0.5% (65 dBf input)
STEREO (1 kHz, 67.5 + 67.5 kHz dev)	0.7% (65 dBf input)
Signal to noise ratio	
MONO (1 kHz, 75 kHz dev)	75 dB (65 dBf input)
STEREO (1 kHz, 67.5 + 67.5 kHz dev)	68 dB (65 dBf input)
Stereo separation (1 kHz)	40 dB
Selectivity (± 400 kHz)	70 dB
Frequency response (30 Hz ~ 15 kHz)	+0.5 dB, -3.0 dB

AM tuner section

Tuning frequency range	530 kHz ~ 1,700 kHz
Usable sensitivity (30% mod, S/N 20 dB)	16 μ V / (600 μ V/m)
Signal to noise ratio (30% mod, 400 Hz)	50 dB (60 dB μ V EMF input)

GENERAL

Power consumption	3.4 A
Standby Power consumption	Less than 1 W
AC outlet	
SWITCHED	(total 150 W, 1.25 A max.)
Dimensions	W : 440 mm (17-5/16")
	H : 166 mm (6-9/16")
	D : 396 mm (15-9/16")
Weight (Net)	12.0 kg (26.5 lb)

Notes

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KRF-V7090D/VR-9050/9060/9070

SPECIFICATIONS (VR-9070)

AUDIO section

Rated power output during STEREO operation

100 watts per channel minimum RMS, both channels driven, at 8 Ω from 20 Hz to 20 kHz with no more than 0.09% total harmonic distortion. (FTC)

Effective power output during SURROUND operation

FRONT (20 ~ 20 kHz, 0.09 % T.H.D., at 8 Ω one channel driven)	100 W + 100 W
CENTER (20 ~ 20 kHz, 0.09 % T.H.D., at 8 Ω one channel driven)	100 W
SURROUND (20 ~ 20 kHz, 0.7 % T.H.D., at 8 Ω one channel driven)	100 W + 100 W
SURROUND BACK (20 ~ 20 kHz, 0.7 % T.H.D., at 8 one channel driven)	100 W + 100 W
Total harmonic distortion	0.009 % (1 kHz, 50 W, 8 Ω)
Frequency response	
CD/DVD	10 Hz ~ 100 kHz, +0 dB ~ -3.0 dB
PHONO 'RIAA' response	40 Hz ~ 20 kHz, +1.5 dB ~ -3.0 dB
Maximum input level	
PHONO (MM)	40 mV, 1 % T.H.D., at 1 kHz
Signal to noise ratio (IHF'66)	
PHONO (MM)	75 dB
CD/DVD	95 dB
Input sensitivity / impedance	
PHONO (MM)	4 mV / 47 k Ω
CD/DVD, MD/TAPE, AV AUX, VIDEO 1, VIDEO 2, VIDEO 3, DVD/6CH	300 mV / 47 k Ω
Output level / impedance	
TAPE REC.	300 mV / 1 k Ω
PRE OUT (FRONT CHANNEL)	1 V / 500 Ω
PRE OUT (CENTERCHANNEL)	1 V / 500 Ω
PRE OUT (SURROUND CHANNEL)	1 V / 500 Ω
PRE OUT (SURROUND BACK CHANNEL)	1 V / 500 Ω
PRE OUT (SUBWOOFER)	1 V / 500 Ω
Tone control	
BASS	± 10 dB (at 100 Hz)
TREBLE	± 10 dB (at 10 kHz)
Loudness control	
VOLUME at -30 dB level	+6 dB (100 Hz)

DIGITAL AUDIO section

Sampling frequency	32 kHz, 44.1 kHz, 48 kHz, 96 kHz
Input level / impedance / wave length	
Optical	-15 dBm ~ -24 dBm, 660 nm ± 30 nm
Coaxial	0.5 Vp-p / 75 Ω
Output level / impedance / wave length	
Optical	-21 dBm ~ -15 dBm, 660 nm ± 30 nm

VIDEO section

VIDEO inputs / outputs	
VIDEO (composite)	1 Vp-p / 75 Ω
S VIDEO inputs / outputs	
S VIDEO (luminance signal)	1 Vp-p / 75 Ω
S VIDEO (chrominance signal)	0.286 Vp-p / 75 Ω
COMPONENT VIDEO inputs / outputs	
COMPONENT VIDEO (luminance signal)	1 Vp-p / 75 Ω
COMPONENT VIDEO (CB/CR-signal)	0.64 Vp-p / 75 Ω

FM tuner section

Tuning frequency range	87.5 MHz ~ 108.0 MHz
Usable sensitivity (MONO)	1.3 μ V (75 Ω) / 13.2 dBf (75 kHz dev, SINAD 30 dB)
50 dB quieting sensitivity	
STEREO	28 μ V (75 Ω) / 40.2 dBf (75 kHz dev)
Total harmonic distortion	
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Signal to noise ratio	
MONO (1 kHz, 75 kHz dev)	75 dB (65 dBf input)
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Stereo separation (1 kHz)	40 dB
Selectivity (± 400 kHz)	70 dB
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AM tuner section

Tuning frequency range	530 kHz ~ 1,700 kHz
Usable sensitivity (30% mod, S/N 20 dB)	16 μ V / (600 μ V/m)
Signal to noise ratio (30% mod, 400 Hz)	50 dB (60 dB μ V EMF input)

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Power consumption	3.4 A
Standby Power consumption	less than 1 W
AC outlet	
SWITCHED	(total 150 W, 1.25 A max.)
Dimensions	W : 440 mm (17-5/16") H : 166 mm (6-9/16") D : 396 mm (15-9/16")
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