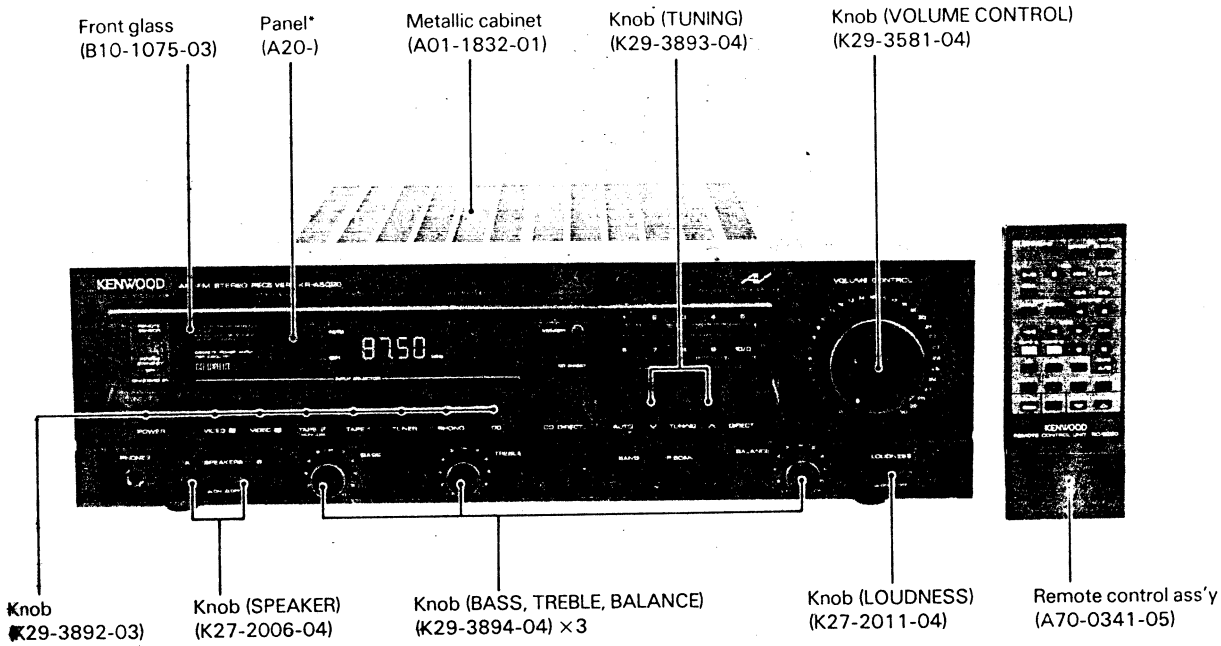
AUDIO STEREO RECEIVER

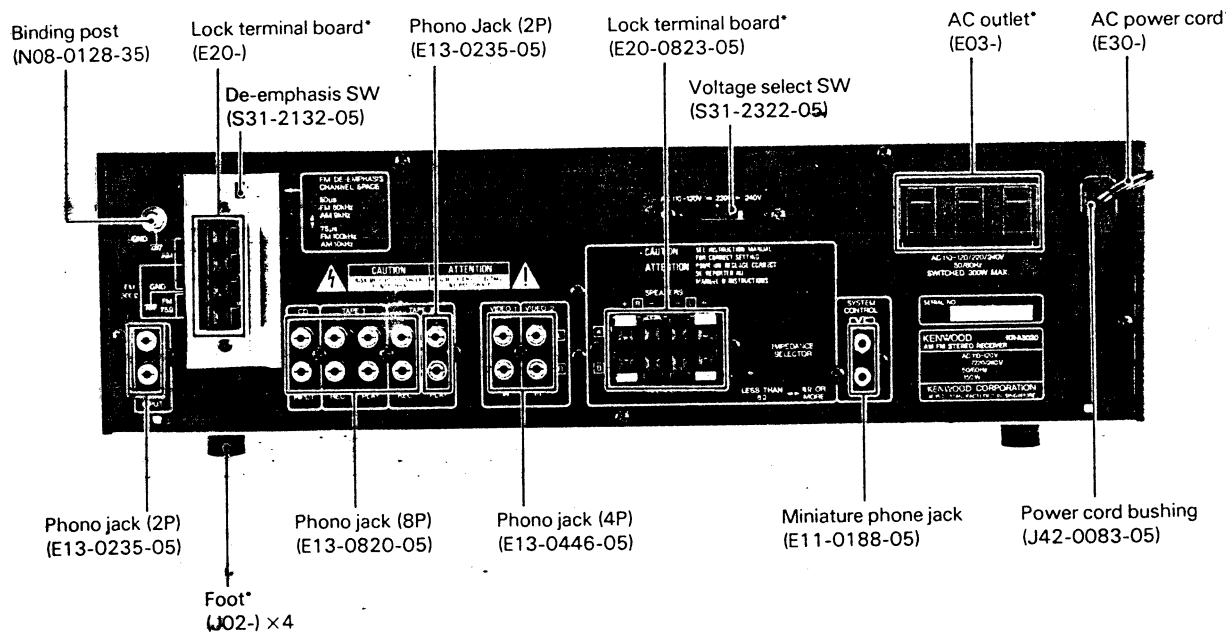
KR-A5020

SERVICE MANUAL

KENWOOD

B51-4137-00(S)3223





Please refer to the KR-V6020 SERVICE MANUAL for CXP5016-520S receiver microprocessor.

* Refer to parts list on page 26.

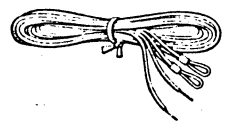
KR-A5020

CONTENTS

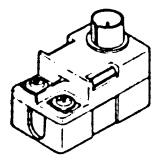
ACCESSORIES

Accessories

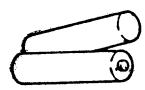
FM indoor antenna 1
(T90-0175-05)



75 ohm/300 ohm antenna adaptor 1
(For Europe and U.K.)
(T90-0177-05)

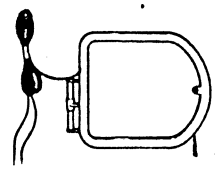


Batteries ("AA" or "R6") 2



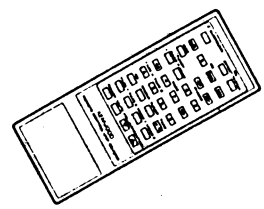
System control cord ... 3
(For Europe and U.K.)
(E30-0977-05)
(E30-1392-05)

AM loop antenna 1
(T90-0174-05)

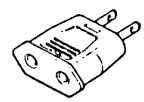


Loop antenna holder .. 1
(J19-2815-04)

Remote control unit ... 1
(A70-0341-05)



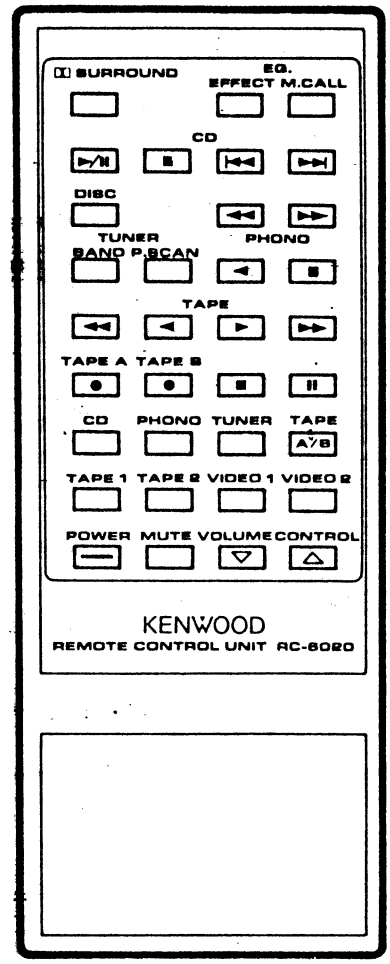
AC plug adaptor 1
(Except for some areas)
(E03-0115-05)



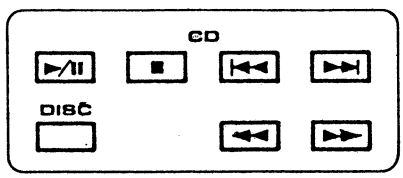
CONTROLS AND INDICATORS

Caution in remote control

- In case any of the following models is used, the CD manual search cannot be operated from this remote control unit:
  DP-M97, DP-57, DP-47
- If the CD player is not equipped with the System control jack, it cannot be operated properly from this remote control unit.
  In such a case, please use the remote control unit provided with the CD player.



■ CD player control keys



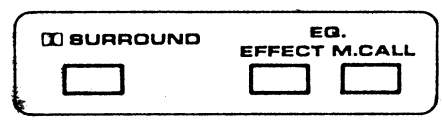
These keys allow the same operations as the keys with the same names on the CD player.

The DISC key is for use exclusively with a multiple CD player. Pressing the DISC key allows one of DISC 1 to DISC 6 to be selected in the following cycle.

DISC 1 → 2 → 3 → 4 → 5 (→6) → P ←

(DP-M6010 only / DP-M6620)

■ Equalizer/Surround key



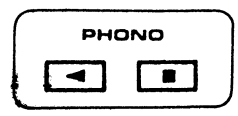
The EQ. keys allow the same operations as the keys with the Graphic equalizer.

M1 → M2 → M3 → M4 → M5 → R5 ← R4 ← R3 ← R2 ← R1 ←

- Each press of the M.CALL key changes the contents as shown above.

The main body is not equipped with the SURROUND function.
Therefore, the SURROUND key causes no effect even when it is pressed.

■ Turntable (PHONO) control keys



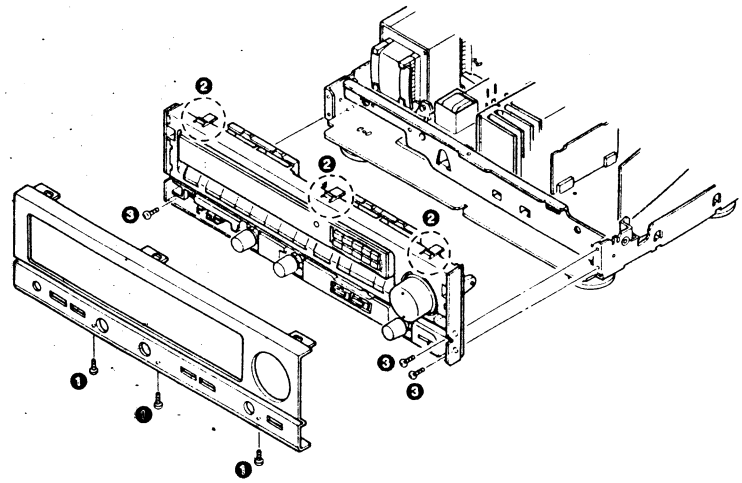
The play (◄) and Stop (■) keys are provided.

DISASSEMBLY FOR REPAIR

Note: Remove the case before starting.

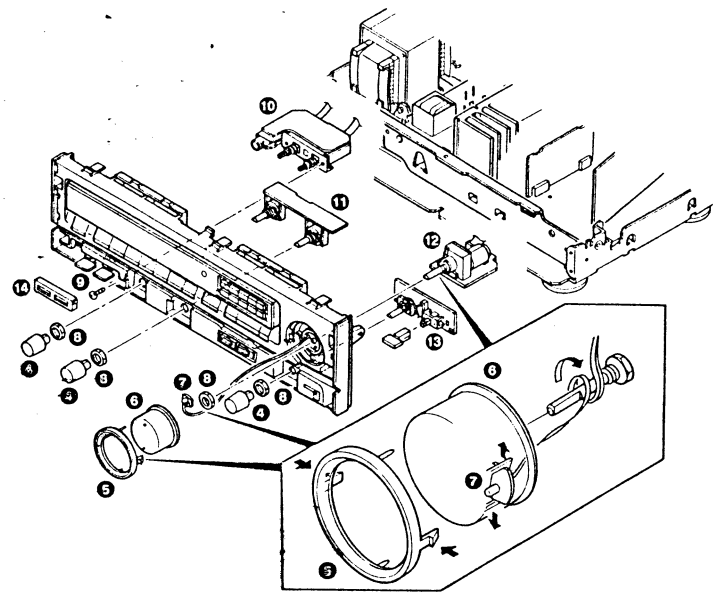
Removing the front panel and sub-panel

1. Remove the three screws ❶ and three claws ❷ at the bottom, then remove the front panel.
2. Remove the three screws ❸ at the front, then remove the sub-panel.



3. Remove the TONE, VOL, and BALANCE knobs ❹.
4. Remove the MAIN VR ring ❺ by pressing the claw.
5. Remove the MIN VR ❻, then remove the LED PC board ❼ inside the MIN VR.
6. Remove the nut ❽ and screw ❾, then remove the SP switch ❿ and the TONE VR ⓫, MAIN VR ⓬, and BALANCE VR ⓭ PC boards.

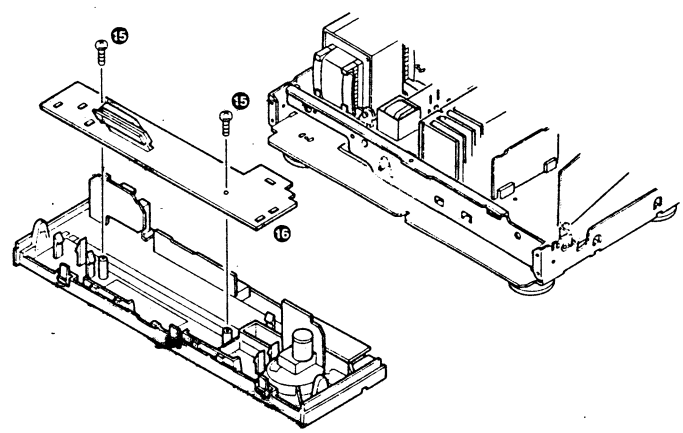
Note: To remove the SP changeover switch, remove the small mold ⓮, then remove the screw ❾.



7. With the front panel hold as shown in the figure, remove the screw ⓯, then remove the display PC board ⓰.

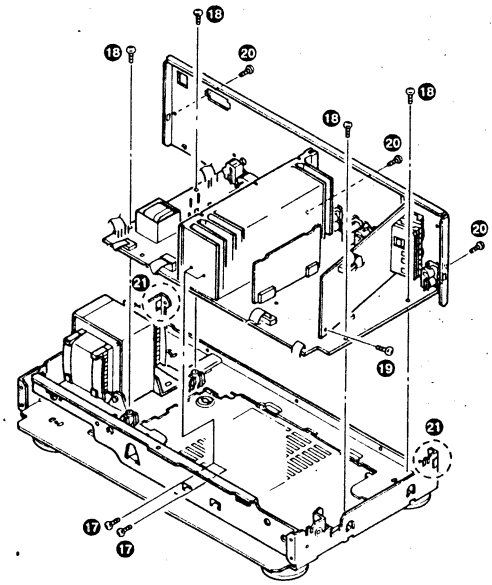
Removing the main PC board

Remove the sub-panel, then remove the main PC board.
Remove the screw ⓱ holding the front frame and heat sink.



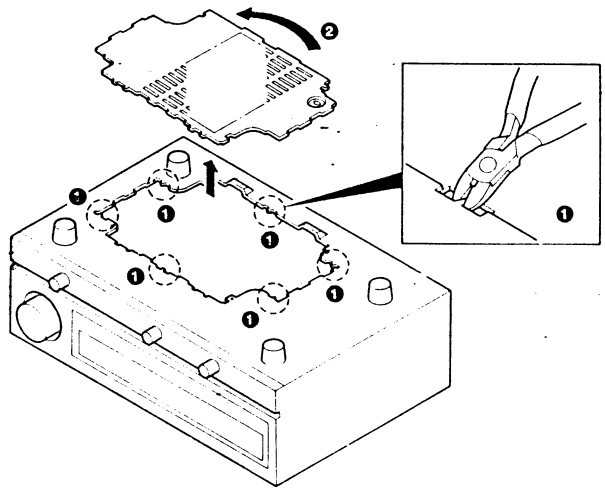
DISASSEMBLY FOR REPAIR

1. Remove the four screws (18) holding the X09 PC board and the one screw (19) holding the tuner PC board.
2. Remove the three screws ((20); two at the sides and one at the center) from the rear panel.
3. Remove the rear panel with the X09 board while holding the claw (21) at the side of the rear panel with a flat-bladed screwdriver.



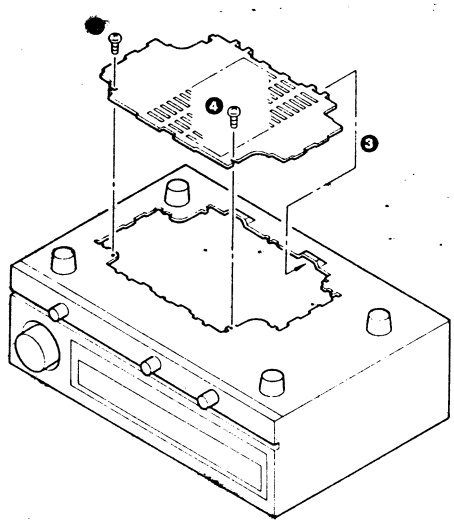
How to remove the repairing chassis

1 Cut the 6 parts (1) of the repairing chassis. Remove the repairing chassis from main chassis.



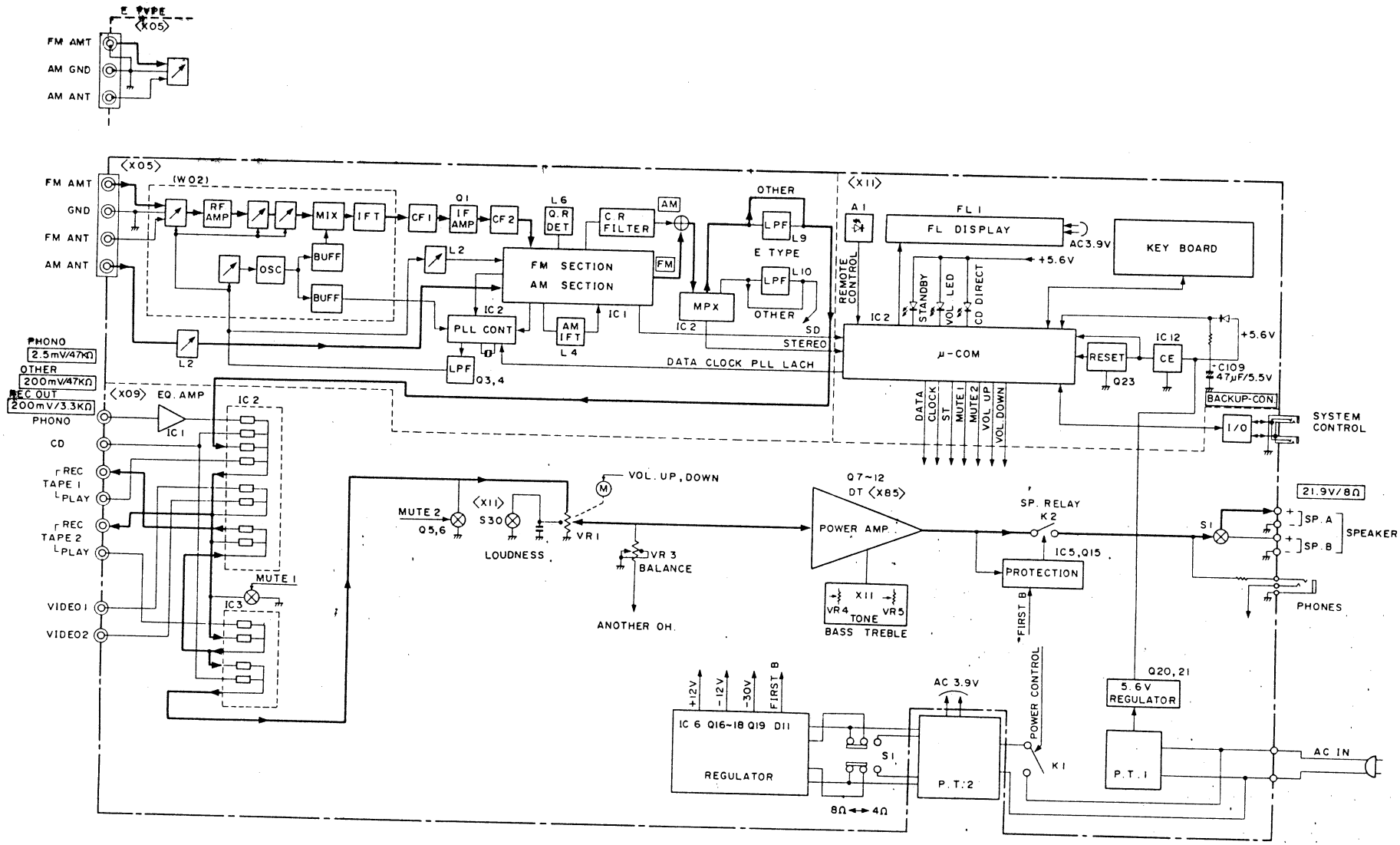
After repair

2 Turn the repairing chassis 180 degrees in the arrow direction (2).
3 Insert the 2 claws (3) into main chassis.
4 Lock to the main chassis by 8 screws (M3 × 6) (4).



KR-A5020

BLOCK DIAGRAM



CIRCUIT DESCRIPTION

TUNER UNIT (X05-3900-10)

Ref. No.	Parts No.	Use/Function	Operation/Condition/Compatibility
IC1	LA1255	FM/AM system IC	FM IF amplification/detection/control, AM mixing IF amplification/detection
IC2	AN7470	PLL synthesizer IC	PLL electronic tuning
IC3	LM7001	MPX IC	MPX demodulation
Q1	2SC1923 (R, Q)	FM IF Amp	10.7 MHz amplification
Q3	2SC945(A) (Q, P) 2SC1740S (QO, R)	LPF	PLL low-pass filter
Q4	2SC1845 (F, E)	LPF	PLL low-pass filter
Q7	2SC845(A) (Q, P) 2SC1740S (Q, R)	Buffer	L6 buffer E type only
Q8	2SA733(A) (Q, P) 2SA933 (Q, R)	FM +B control	Electronic swtich
Q9	2SA733(A) (Q, P) 2SA933 (Q, R)	AM +B control	Electronic swtich
Q11, 12	2SC945(A) (Q, P) 2SC1740S (Q, R)	Emphasis switch	On: 75 µs; off 50 µs M, Y type

AUDIO UNIT (X09-3070-10)

Ref. No.	Parts No.	Use/Function	Operation/Condition/Compatibility
IC1	NJM45580-A	PHONO EQ Amp	
IC2	TC9164N	Input selector	Switches the input according to data from microprocessor IC2 pins 19, 20 and 21.
IC3	TC9162N		
IC4	TA8409S	Potentiometer motor driver	Drives the motor forward or backward according to the signals from microprocessor IC2 pins 1 and 63.
IC5	µPC1237HA	Protection	Deenergizes the output relay when the center voltage is shifted by DC when an excessive load is applied.
IC6	µPC7512HF	+12 V regulator	+12 V constant-voltage circuit
Q1, Q2	2SC2878(B)	Selector mute	Turns on to prevent shock noise when the selector is switched.
Q3	2SA733(A) (Q, P) 2SA933S (Q, R)	Mute drive	Turned on by the signal from, <X11> microprocessor IC2 pin 25 (MUTE1) to drive Q1 and Q2.
Q4	2SA733(A) (Q, P) 2SA933S (Q, R)	Mute drive	Turned on by the signal from microprocessor IC2 pin 26 (MUTE2) to drive Q5 and Q6.
Q5, 6	2SC2878(B)	Main amplifier MUTE	Turns on when the selector is switched, CD DIRECT and TAPE2 are switched, and muting is effective.
Q7, 8	2SC4137 (V, W)	Class B stage temperature compensation	Temperature compensation of the quiescent current of the final transistor
Q9, 10	2SB1490*5, 2SB1492*5	Final stage	
Q11, 12	2SO2250*5, 2SO225*5		
Q13, 14	2SC1845 (F, E)	Current detection transistor	Detects the final stage current and drives the protection circuit if an excessive load is applied.
Q15	2SA992 (F, E)	Protection drive	Turned on by the signal from Q13 and Q14; drives IC5.
Q16, 17, 18	2SA733(A) (Q, P) 2SA933S (Q, P)	−12 V regulator	−12 V constant-voltage circuit
Q19	2SB941	−30 V regulator	−30 V constant-voltage circuit
Q20, 21	2SD1266	+5 V regulator	+5 V constant-voltage circuit
Q22	2SC2320 (F, E)	Power relay drive	Turned on by the signal from microprocessor IC2 pin 24 (POWER); activates the relay

CIRCUIT DESCRIPTION

DT1 (X85-1170-00) OF AUDIO UNIT (X09)

Q1~4	2SA992 (F, E)	Differential amplifier, first stage	
Q5~8	2SC1845 (F, E)	Differential amplifier, second stage	
Q9, 10	2SA992 (F, E)	Current mirror	
Q11	2SC945(A) (Q, P) 2SC1740S (Q, R)	+12 V constant voltage	
Q12, 13	2SC945(A) (Q, P) 2SC1740S (Q, R)	Protection	

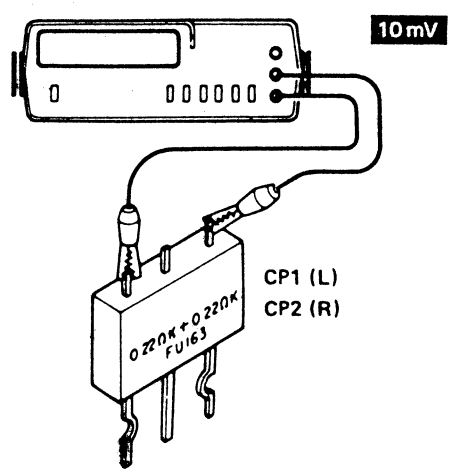
DISPLAY UNIT (X11-2830-10)

Ref. No.	Parts No.	Use/Function	Operation/Condition/Compatibility
IC1	RST529C	μ-Com reset signal	Goes low momentarily when the power is switched on.
IC2	CXP5016-520S	μ-Com	
Q1	2SC945(A) (Q, P) 2SC1740S (Q, R)	μ-Com reset	Outputs a low when the IC1 output goes high.
Q2	2SA733(A) (Q, P) 2SA933 (Q, R)	Ch-SPACE SW	Off (B-High): Ch-SPACE (FM) 100 kHz, (AM) 10 kHz On (B-Low): Ch-Space (FM) 50 kHz, (AM) 9 kHz (M, Y type)

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION	SELECTOR: FM						
1	DETECTOR	(A) 98.0 MHz 1kHz, ±75 kHz dev 60 dBμ (ANT input)	Connect a DC voltmeter between TP3 and TP4.	AUTO or MONO 98.0 MHz	L6 (X05-)	0 V	(a)
2	VCO	(A) 98.0 MHz 0 dev 60 dBμ (ANT input)	Connect a frequency counter between TP6 (VCO) and TP5 (GND).	AUTO 98.0 MHz	VR 2 (X05-)	19.00 kHz	(b)
3	DISTORTION (STEREO)	(C) 98.0 MHz 1 kHz, ±68.25 kHz dev Selector: L or R Pilot: ±6.75 kHz dev 60 dBμ (ANT input)	(B)	98.0 MHz	IFT (Front end)	Minimum distortion (L or R)	
4	SEPARATION (E type)	(C) 98.0 MHz Stereo signal 60 dBμ (ANT input)	(B)	AUTO 98.0 MHz	VR3 (X05-)	Minimum crosstalk	
5	TUNING LEVEL	(A) 98.0 MHz 0 dev 18 dBμ (ANT input)	(B)	AUTO or MONO 98.0 MHz	VR1 (X05-)	Adjust VR1 and stop at the point where FL1 (TUNED) goes on.	
AM SECTION	Keep the AM loop antenna installed. SELECTORL: AM						
(1)	TUNING LEVEL	(D) 1000 (999) kHz 26 dBμ (ANT input)	(B)	—	VR4 (X05-)	Adjust VR4 and stop at the point where FL1 (TUNED) goes on.	
AUDIO SECTION							
(1)	IDLE CURRENT	—	(E) Connect a DC voltmeter across CP1(L) CP2 (R)	Volume: 0	VR7 (L) VR8 (R) VR6 (REAR) (X09)	10 mV	(d)

DC voltmeter
Voltmètre de CC
Gleichspannungsmesser



REGLAGE

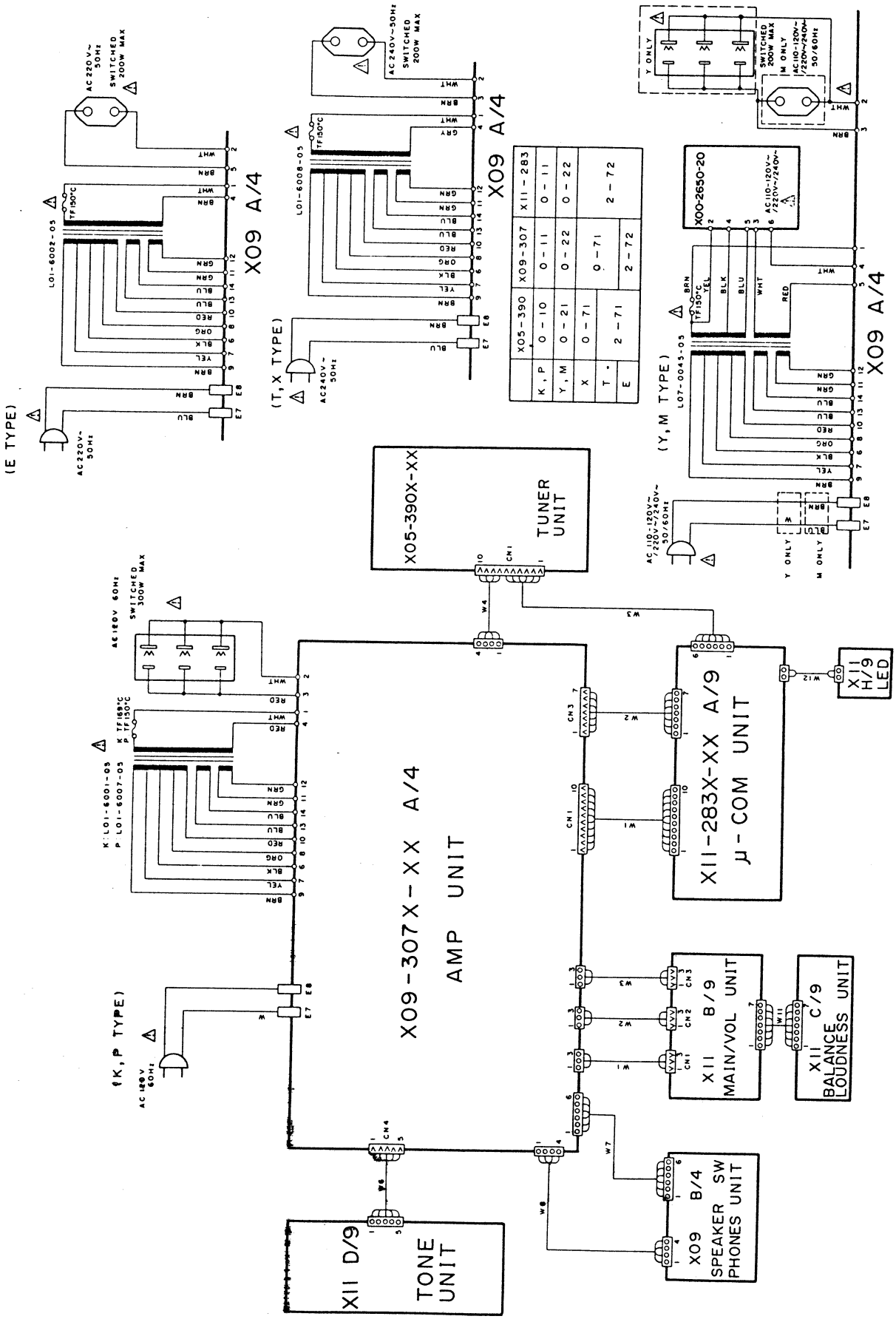
N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION MF			SELECTEUR : FM				
1	DETECTEUR	(A) 98.0MHz 1kHz.±75kHz dév 60dBμ(Entrée ANT)	Relier un voltmètre CC entre les TP3 et TP4.	AUTO ou MONO 98.0MHz	L4 (X05-)	0V	(a)
2	OSCILLATEUR CONTROLE PAR LA TENSION	(A) 98.0MHz 0 dév 60dBμ(Entrée ANT)	Relier un compteur de fréquence entre les TP6(VCO) et TP5(GND)	AUTO 98.0MHz	VR2 (X05-)	19.00kHz	(b)
3	DISTORSION (STEREO)	(C) 98.0MHz 1kHz.68.25kHz dév Selection:l ou R Signal pilote: ±6.75kHz dév 60dBμ(Entrée ANT)	(B)	98.0MHz	Tête H.F. IFT	Distorsion minimale.	
4	SEPARATION (E type)	(C) 98.0MHz Signal stéréo 60dBμ(Entrée ANT)	(B)	AUTO 98.0MHz	VR3 (X05-)	Diaphonie minimale.	
5	NIVEAU D'ACCORDER	(A) 98.0MHz 0 dév – 18dBμ(Entrée ANT) 75Ω	(B)	AUTO ou MONO 98.0MHz	VR1 (X05-)	Ajuster VR1 et arrêter le mouvement de VR1 au moment où le FL1(TUNED)s'allume.	
SECTION MA			Laisser l'antenne bouche MA installée.		SELECTEUR: AM		
(1)	NIVEAU D'ACCORDER	(A) 1000kHz 26dBμ(Entrée ANT)	–	–	VR4 (X05-)	Ajuster VR4 et arrêter le mouvement de VR4 au moment où le FL1(TUNED)s'allume.	
SECTION AUDIO							
[1]	COURANA DE POLARISATION	–	(E) Connecter un voltmètre CC sur CP1(L) CP2(R)	Volume: 0	VR7(G) VR8(D) (X09-)	10mV	(d)

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-EMPFANGSABTEILUNG			WÄHLER: FM				
1	DETEKTOR	(A) 98,0MHz 1kHz,±75kHz Hub 60dBμ(ANT-Eingang)	Einen Gleichspannungs-messer zwischen TP3 und TP4 anschließen.	AUTO oder MONO 98,0MHz	L4 (X05-)	0V	(a)
2	SPANNUNGS-GEREGELTER OSZILLATOR	(A) 98,0MHz 0 Hub 60dBμ(ANT-Eingang)	Einen Frequenzzähler zwischen TP6(VCO) und TP5(GND) anschließen.	AUTO 98,0MHz	VR2 (X05-)	19,00kHz	(b)
3	KLIRRFAKTOR (STEREO)	(C) 98,0MHz 1kHz,±68,25kHz Hub Wähler: L oder R Pilotten: ±6,75kHz Hub 60dBμ(ANT-Eingang)	(B)	98,0MHz	Frontend IFT	Minimal Klirrfaktor.	
4	STEREO KANAL TRENNUNG (E Type)	(C) 98,0MHz Stereo Signal 60dBμ(ANT-Eingang)	(B)	AUTO 98,0MHz	VR3 (X05-)	Minimal Klirrfaktor.	
5	ABSTIMM PEGEL	(A) 98,0MHz 0 Hub – 18dBμ(ANT-Eingang) 75Ω	(B)	AUTO oder MONO 98,0MHz	VR1 (X05-)	Den Pegel wiederstand aufdrehen, und dem VR1 Halt geben wobei den FL1(TUNED) anzeiger leuchtet wird.	
MW-EMPFANGSABTEILUNG			Die MW-Rahmenantenne angebracht lassen.		WÄHLER: AM		
(1)	ABSTIMM PEGEL	(A) 1000kHz 26dBμ(ANT-Eingang)	–	–	VR4 (X05-)	Den Pegel wiederstand aufdrehen, und dem VR4 Halt geben wobei den FL1(TUNED) anzeiger leuchtet wird.	
AUDIO-ABTEILUNG							
[1]	LEERLAUFSTROM	–	(E) Einen Gleichspannungs-messer über CP1(L) CP2(R) anschließen.	Volume: 0	VR7(L) VR8(R) (X09-)	10mV	(d)

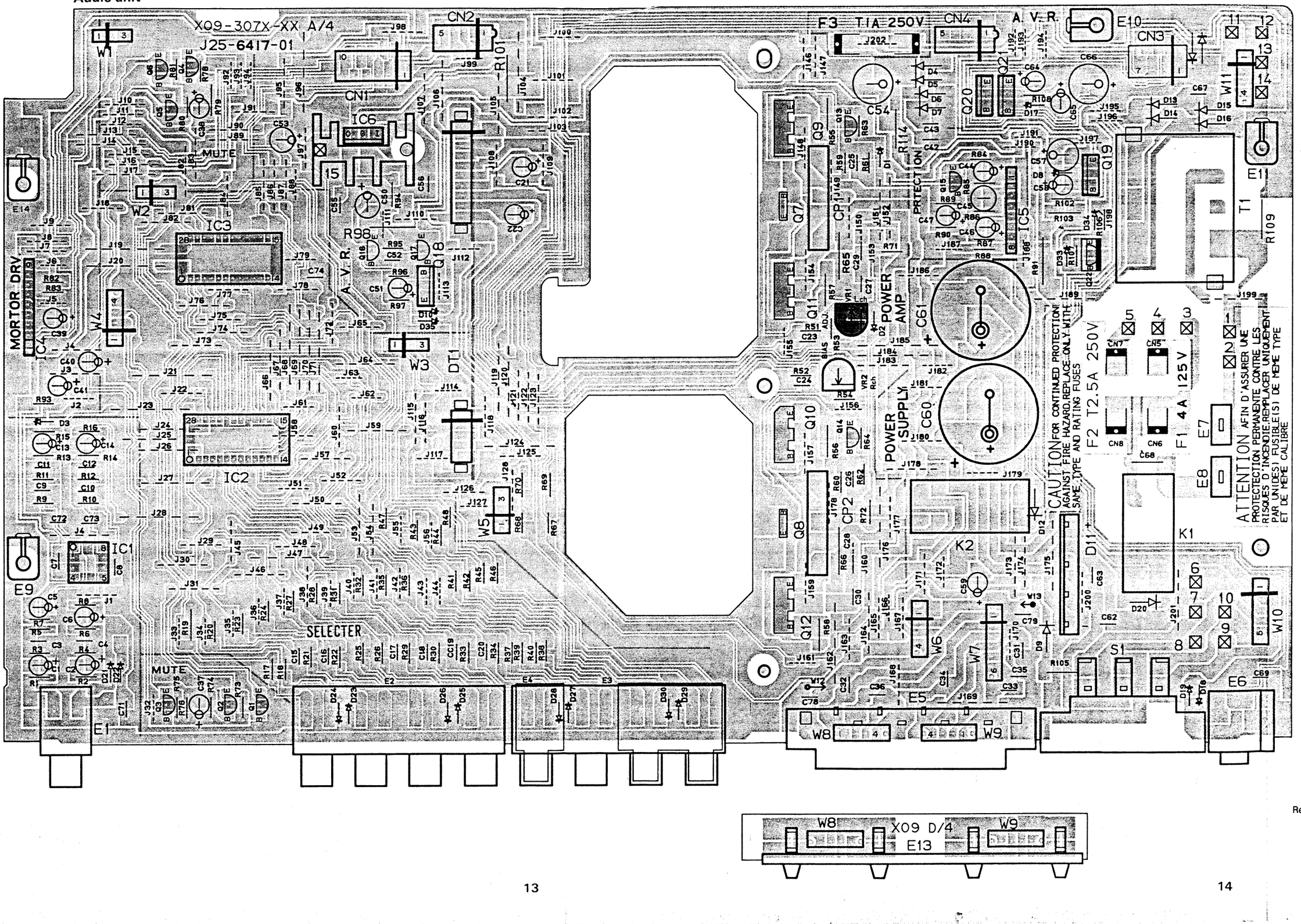
KR-A5020

WIRING DIAGRAM



PC BOARD (Component Side View)

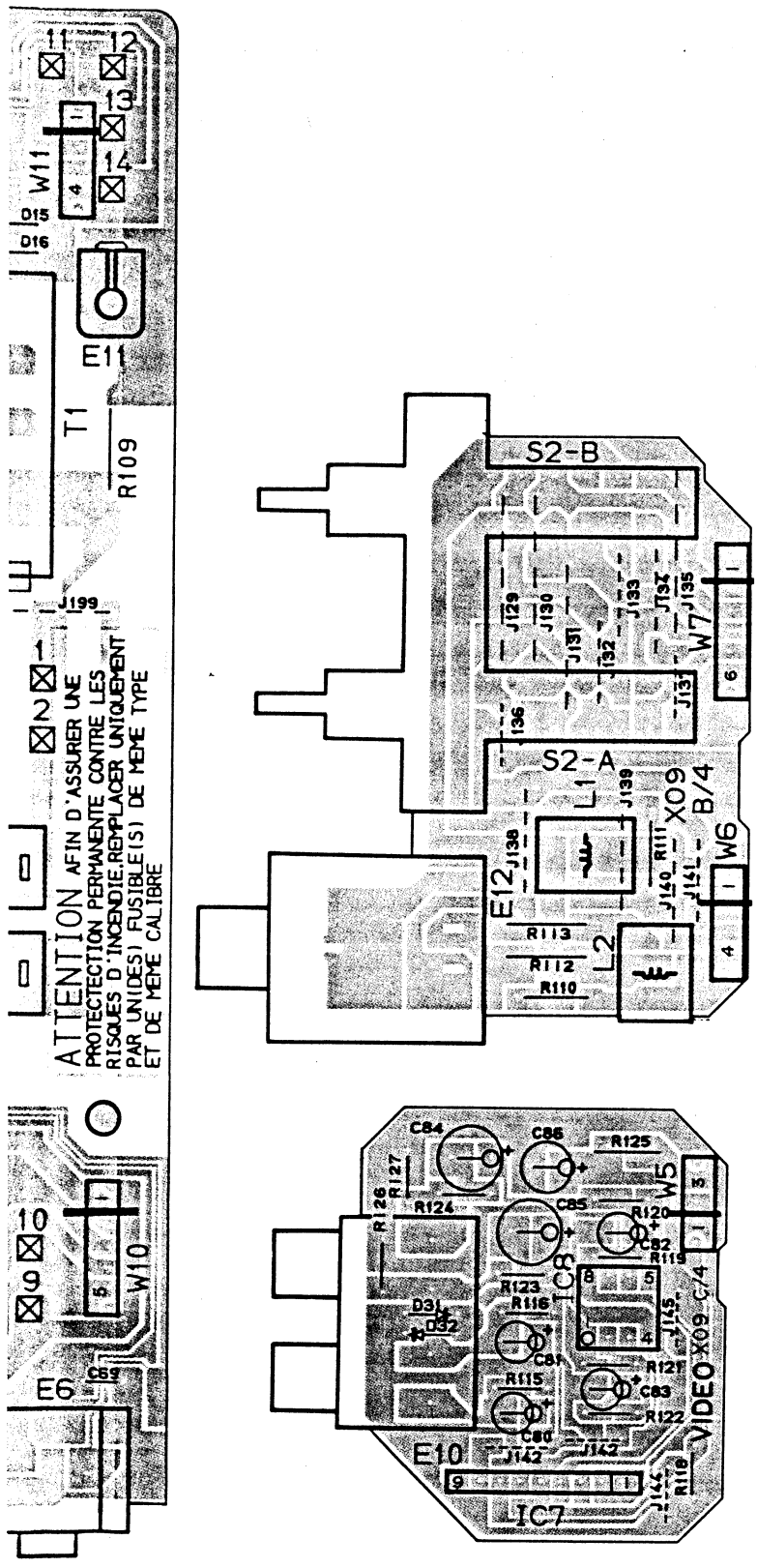
Audio unit



Refer to the s

X09-307X-XX

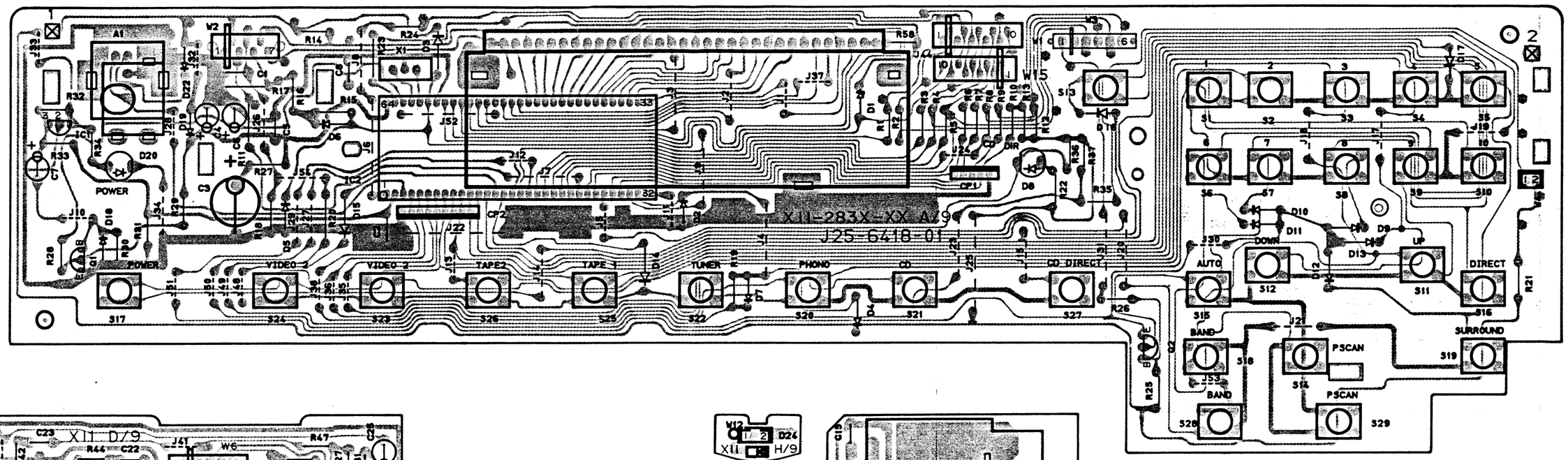
Ref. No. IC	Ref. No. Q	Address
	1	6D
	2	6D
	3	6C
	4	1C
	5	2C
	6	1C
	7	2H
	8	5H
	9	2H
	10	4H
	11	3H
	12	5H
	13	2H
	14	4H
	15	2I
	19	2J
	20	2I
	21	2I
	22	3J
1		5C
2		4C
3		3C
4		3B
5		2I
6		2D

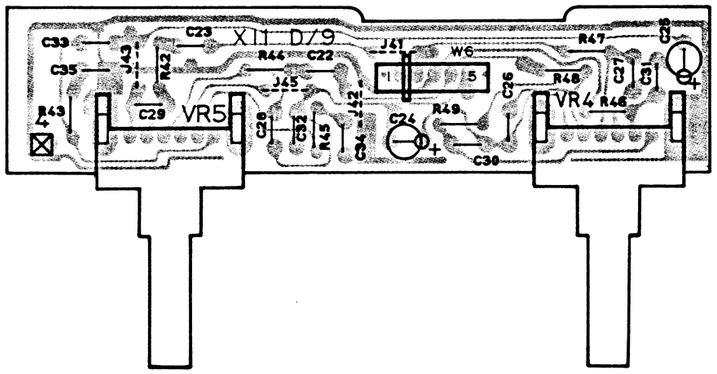


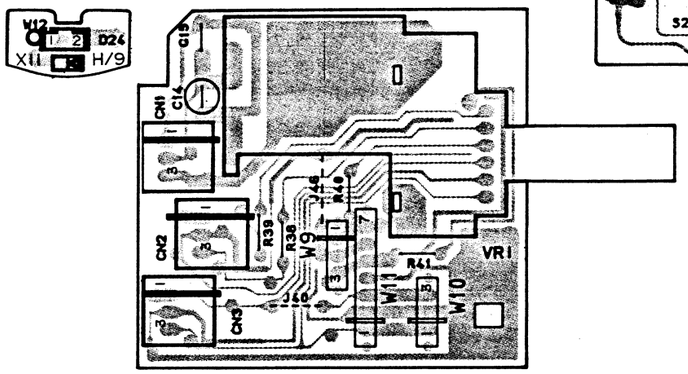
Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (Component side view)

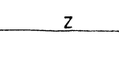
Control unit





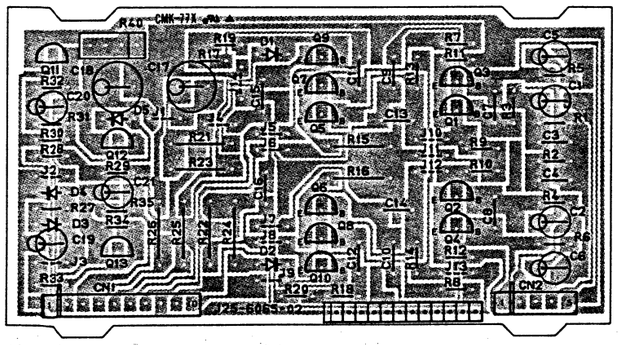


b) VCO:
19.00 kHz

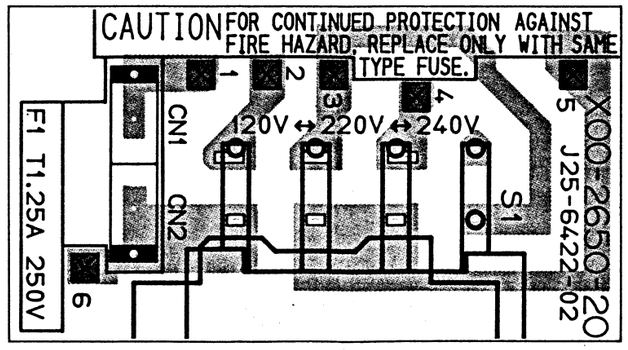


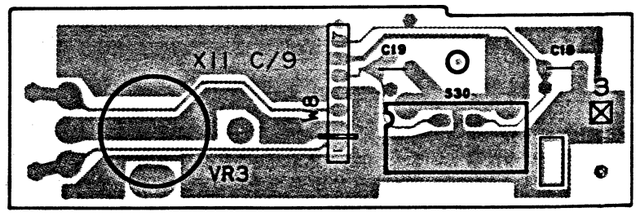
Frequency cou

Main amplifier unit



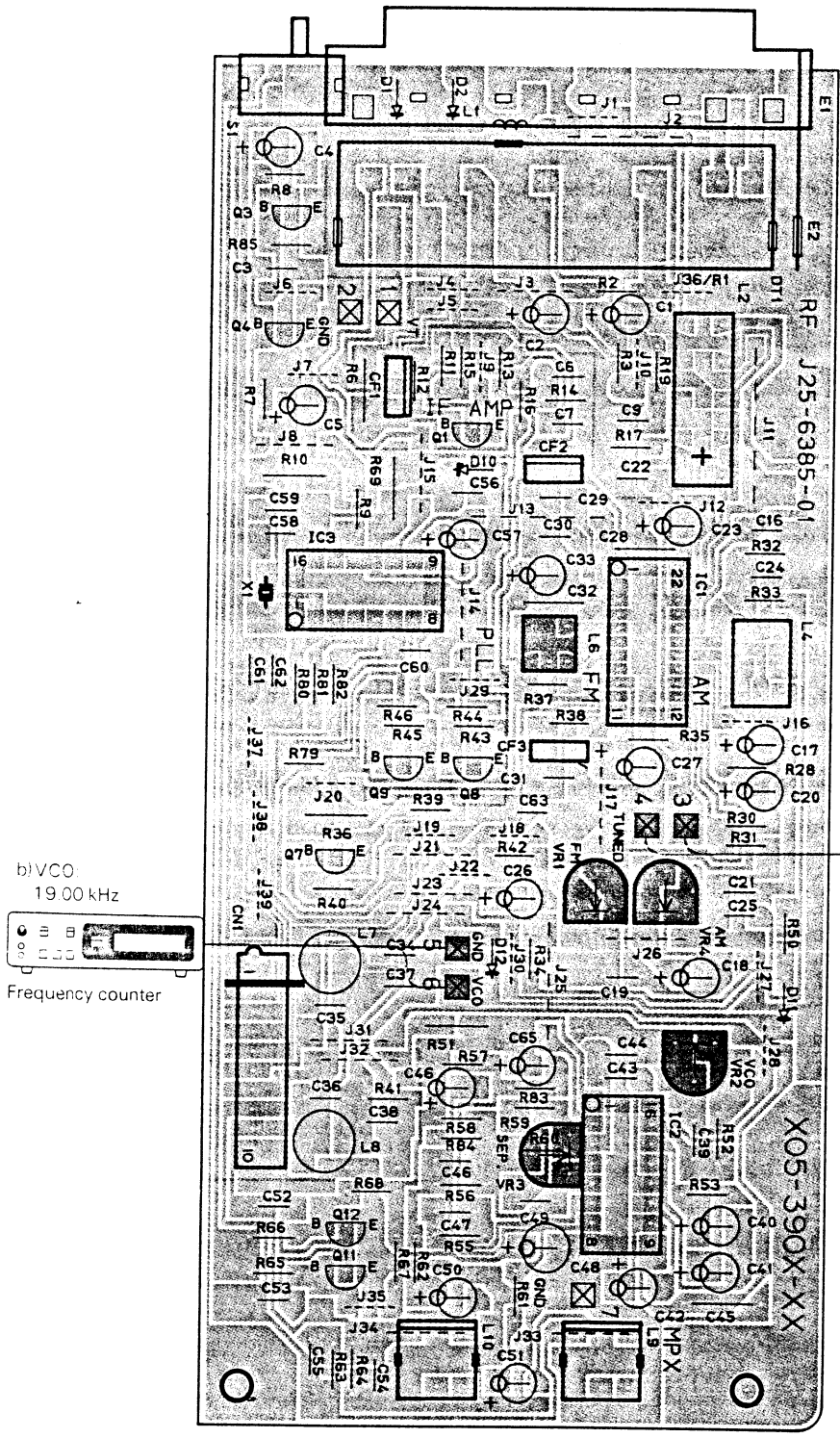
Power supply unit





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

Tuner unit



(a) DETECTOR: 0 V

DC Volt meter

b) VCO
19.00 kHz

Frequency counter

X05-390X-XX

Ref. No. IC	Q	Address
	1	3AA
	3	2AA
	4	2AA
	7	4AA
	8	4AA
	9	4AA
	11	6AA
	12	6AA
1		3AB
2		5AB
3		3AA

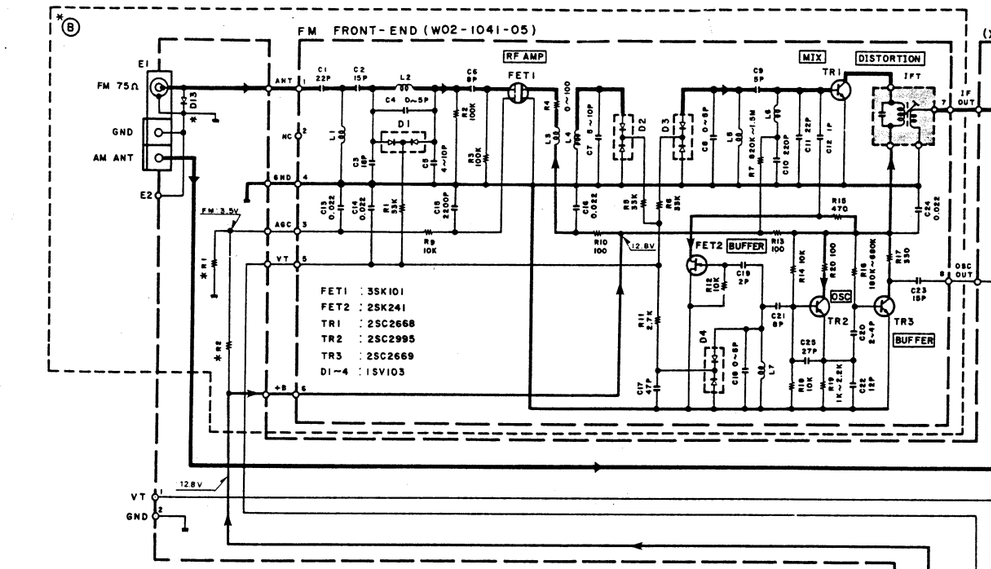
X11-283X-XX

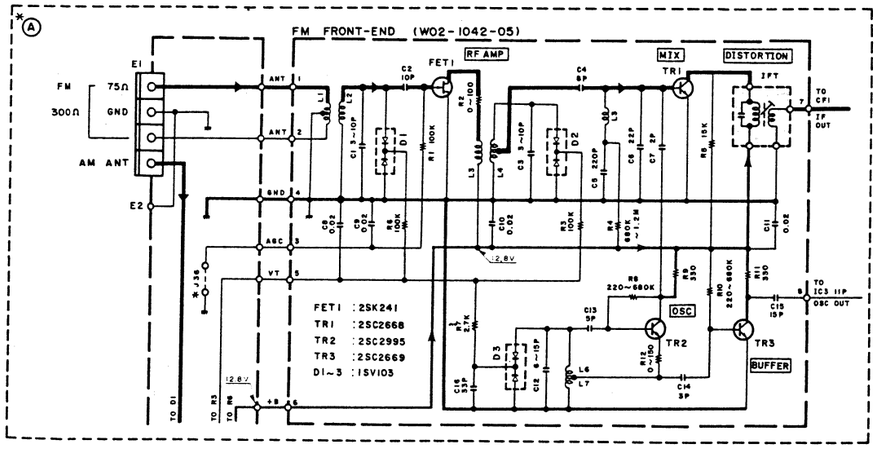
Ref. No. IC	Q	Address
	1	3Q
	2	3W
1		2Q
2		2S

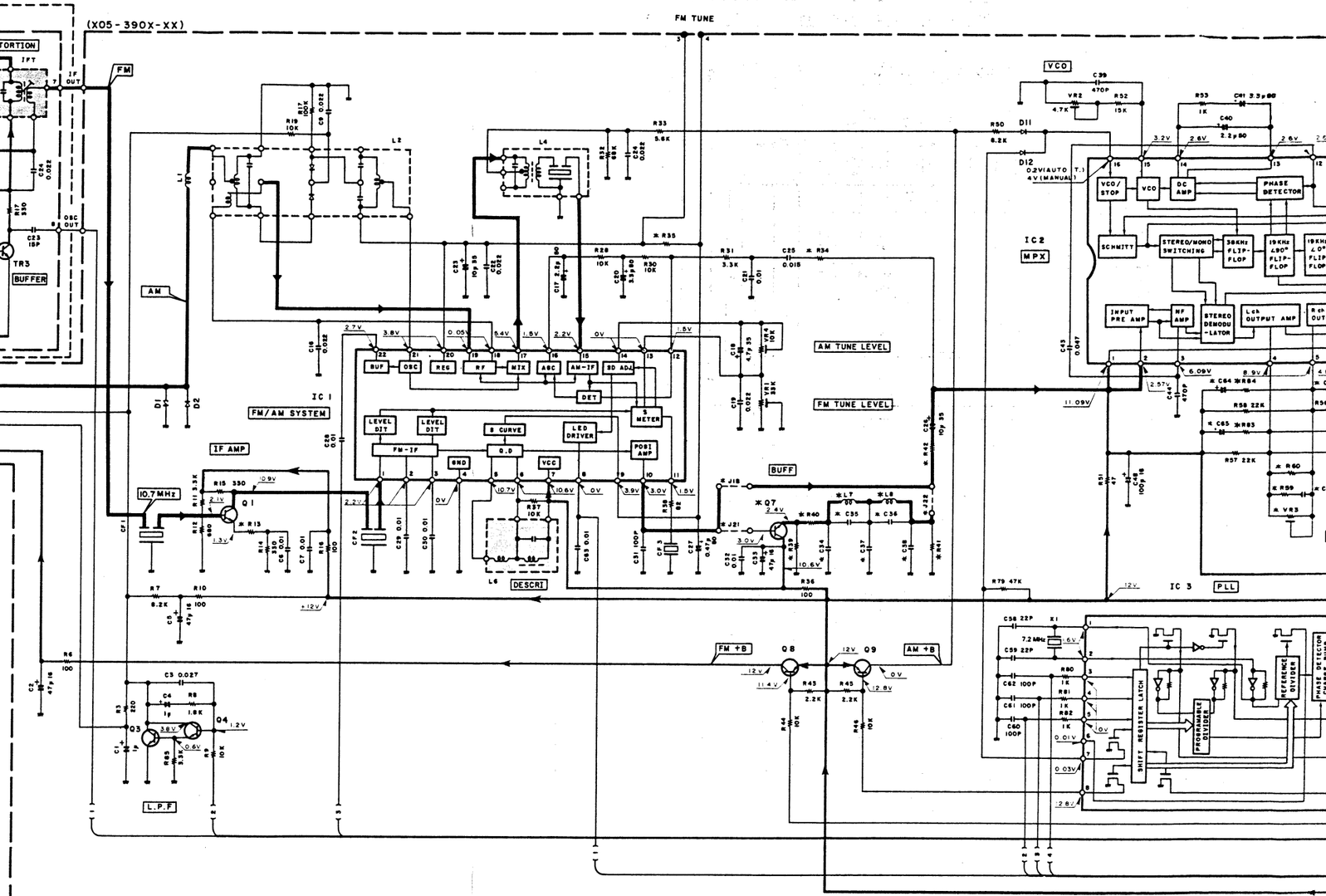
X85-1170-06

Ref. No. IC	Q	Address
	1	6R
	2	6R
	3	6R
	4	7R
	5	6Q
	6	6Q
	7	6Q
	8	7Q
	9	6Q
	10	7Q

rs and capacitors.



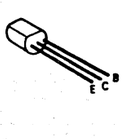




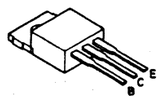
(X05-390X-XX)

Ref. NO. / DESTINATION		BLOCK Ⓐ	BLOCK Ⓑ	R1	R2	R13	R34	R35	R39	R40	R41	R42	R59	R60	R61, 62	R63, 64	R65, 66	R67, 68	R83, 84	C34	C35	C36	C37	C38	C46, 47	C49	C50, 51	C52, 53	C54, 55	C64, 65	Q7	Q11, 12	VR3	S1	DI3	L7	L8	L9, 10	U1, 18, 33, 34
0 - 10	K, P	YES	NO	J36	NO	56	36K	15K	NO	NO	NO	39K	NO	330K	3.6K	39K	NO	NO	NO	NO	NO	NO	NO	NO	150p	NO	1.0 μ 50	NO	0.022 μ	NO	NO	NO	NO	NO	NO	NO	NO	YES
0 - 21	Y, M	YES	NO	J36	NO	56	36K	39K	NO	NO	NO	39K	NO	330K	3.6K	39K	1.0K	47K	NO	NO	NO	NO	NO	NO	150p	NO	1.0 μ 50	7500p	0.015 μ	NO	NO	2SC945 or 2SC1740S	NO	YES	NO	NO	NO	NO
0 - 71	X	YES	NO	J36	NO	56	36K	39K	NO	NO	NO	39K	NO	330K	3.6K	39K	NO	NO	NO	NO	NO	NO	NO	NO	150p	NO	1.0 μ 50	NO	0.015 μ	NO	NO	NO	NO	NO	NO	NO	NO	YES
2 - 71	T, E	NO	YES	4.7k	10K	22	47K	39K	3.3K	2.2K	47K	47K	470	NO	3.3K	3.3K	NO	NO	12K	470p	120p	270p	1500p	1300p	1000p	220p	2.2 μ 50	NO	4700p	22 μ 16	2SC1740S or 2SC945	NO	220K	NO	YES	5.6mH	6.8mH	YES	NO

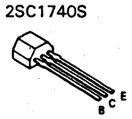
2SA733(A)
2SA992
2SC1845
2SC1923
2SC2320
2SC2878
2SC945(A)



2SD1266



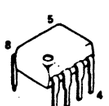
2SA933S
2SC1740S



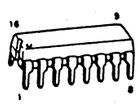
2SC4137

2SB941

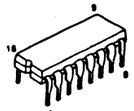
NJM4558D-A



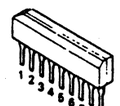
LM7001



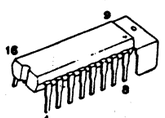
AN7470



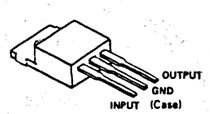
TA8409S



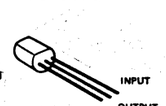
UPC1237HA



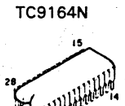
UPC7812HF



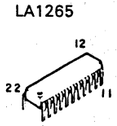
PST529C



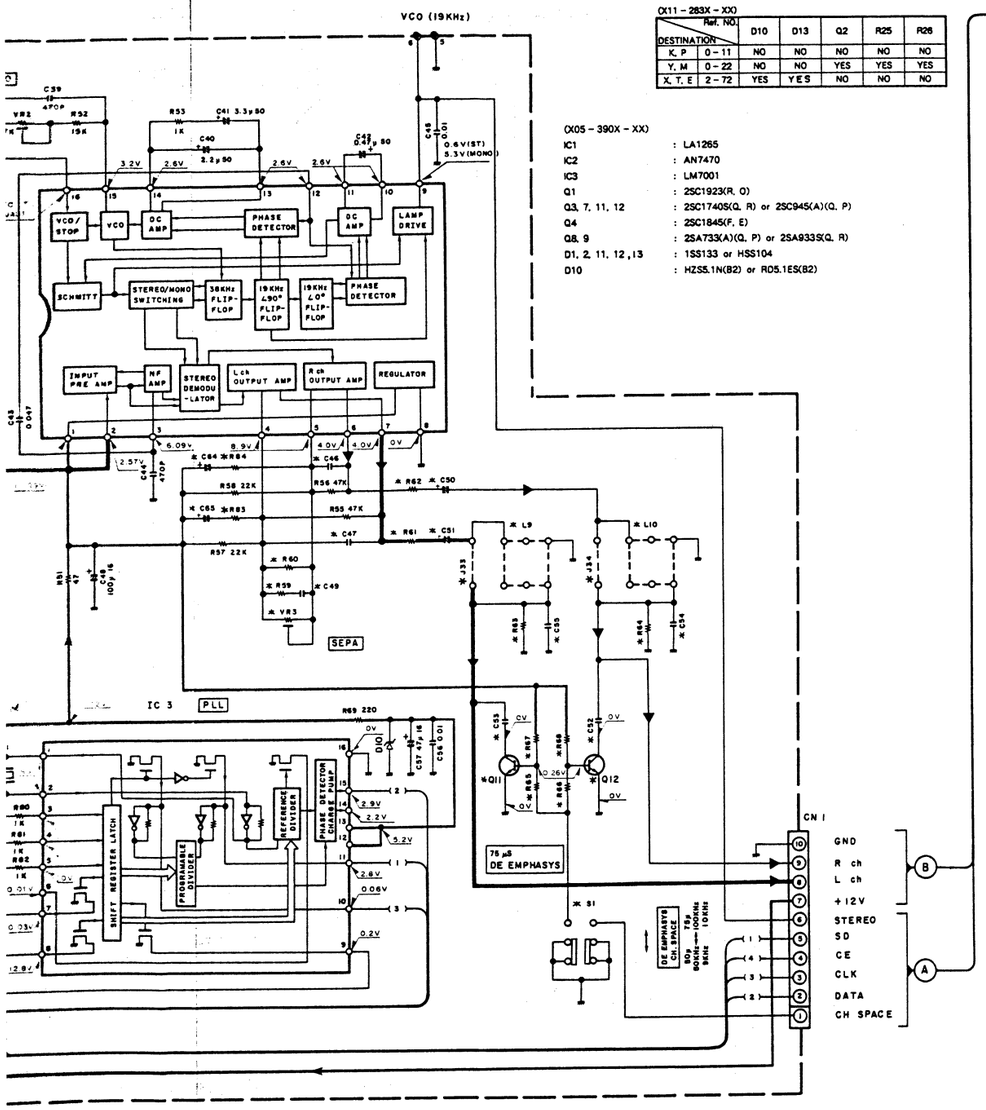
TC9162N
TC9164N



LA1265



CXP5016-520S



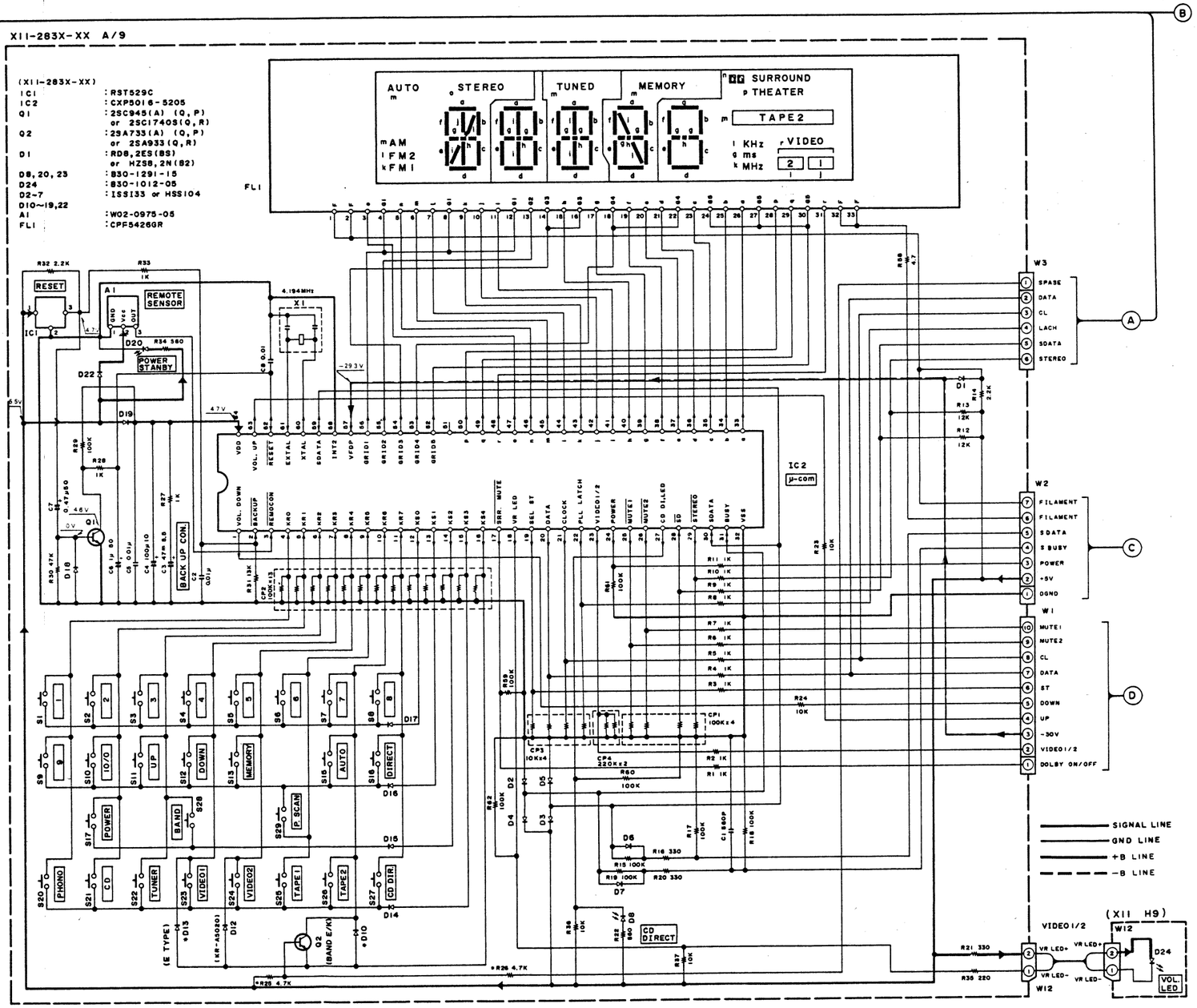
(X11-283X-XX)

DESTINATION \ Ref. NO.		D10	D13	Q2	R25	R26
K, P	0-11	NO	NO	NO	NO	NO
Y, M	0-22	NO	NO	YES	YES	YES
X, T, E	2-72	YES	YES	NO	NO	NO

(X05-390X-XX)

IC1	: LA1265
IC2	: AN7470
IC3	: LM7001
Q1	: 2SC1923(R, O)
Q3, 7, 11, 12	: 2SC1740S(Q, R) or 2SC945(A)(Q, P)
Q4	: 2SC1845(F, E)
Q8, 9	: 2SA733(A)(Q, P) or 2SA933S(Q, R)
D1, 2, 11, 12, 13	: 1SS133 or HSS104
D10	: HZS5.1N(B2) or RD5.1ES(B2)

	Q11, 12	VR3	S1	D13	L7	L8	L9, 10	J1, 18, 33, 34, 36	J3, 21, 22	J35
	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
2SC945 or 2SC1740S		NO	YES	NO	NO	NO	NO	YES	NO	YES
	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
	NO	220K	NO	YES	5.6mH	6.8mH	YES	NO	YES	NO



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. 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.

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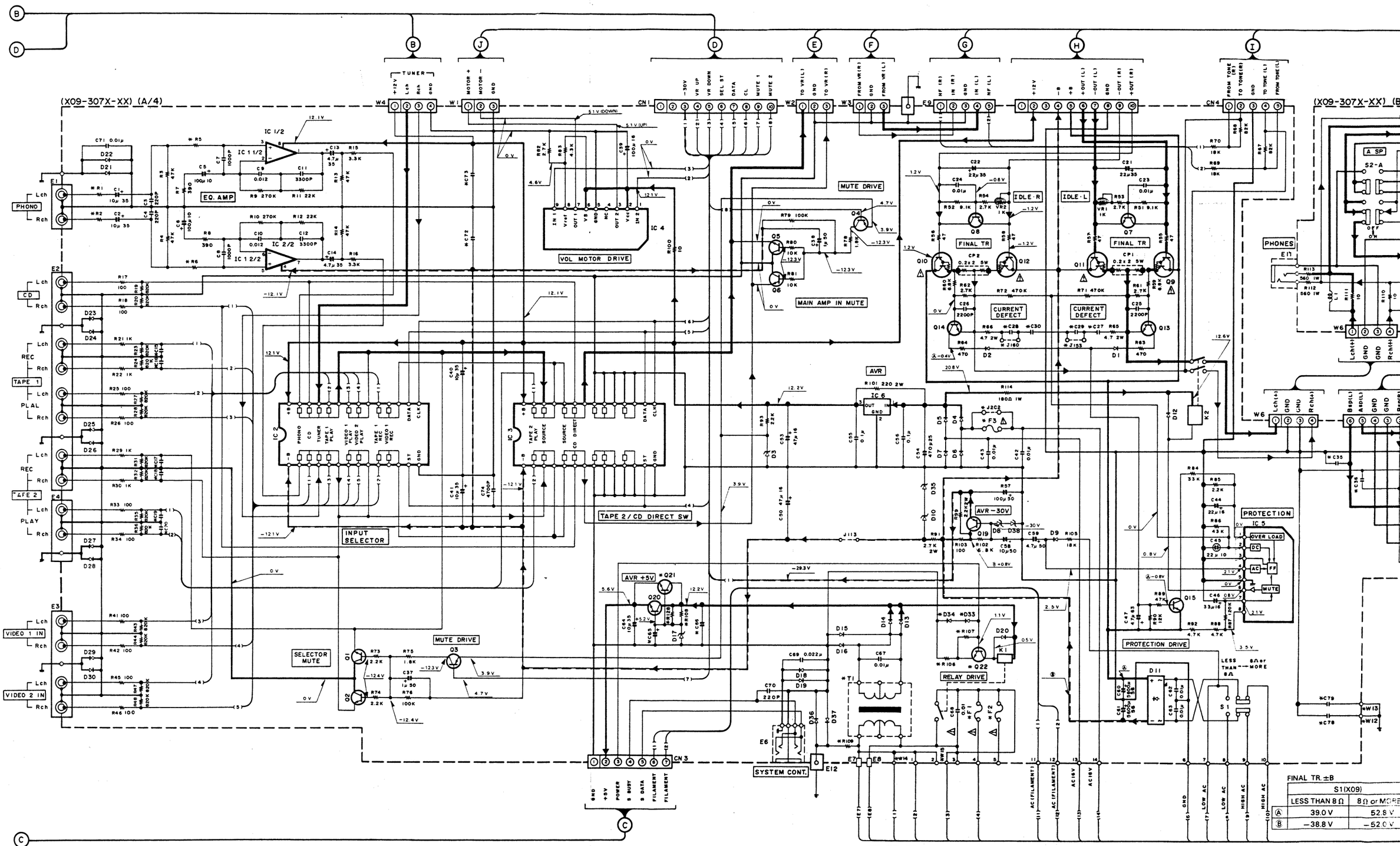
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

Y05-2470-10

KR-A5020

KENWOOD



FINAL TR. ±B

	S1(X09)	
	LESS THAN 8 Ω	8 Ω or MORE
Ⓐ	39.0 V	52.8 V
Ⓑ	−38.8 V	−52.0 V

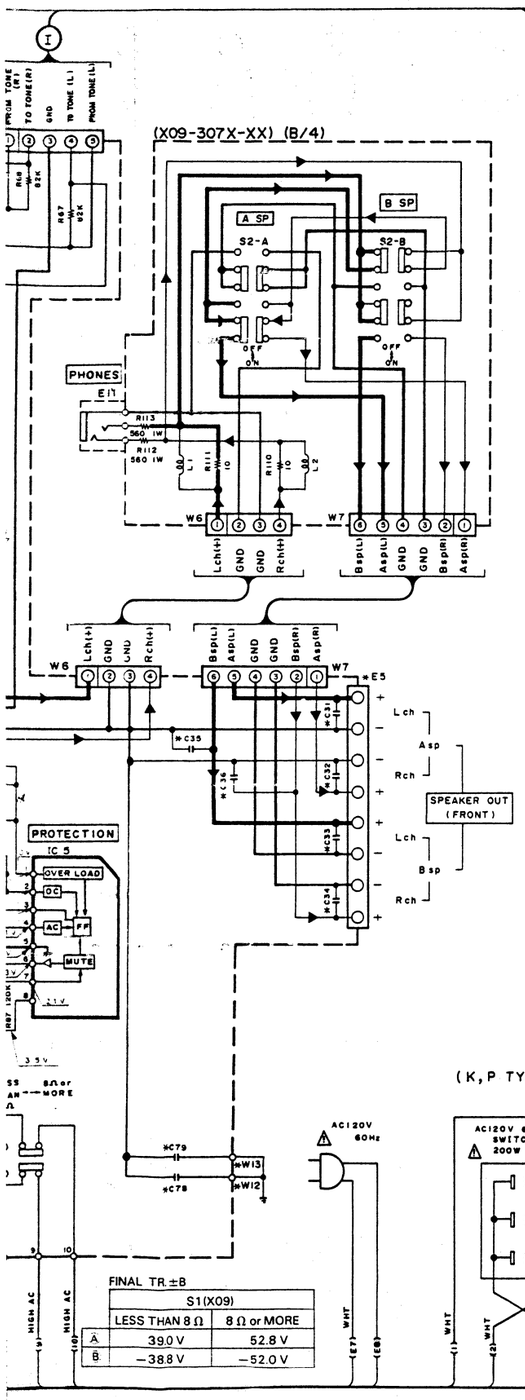
(X09 − 307X − XX)

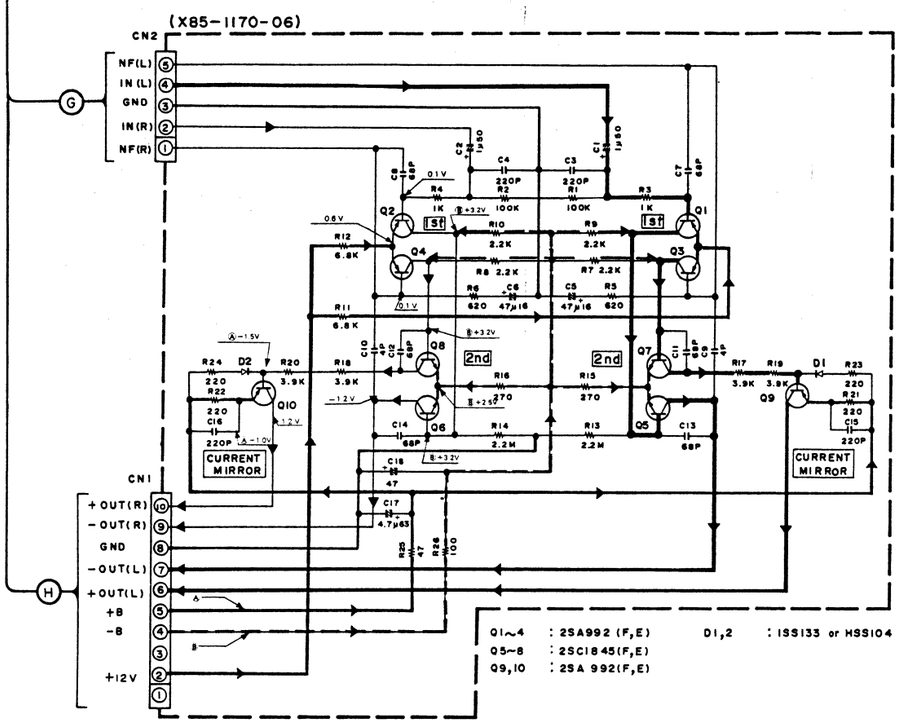
Ref. NO. / DESTINATION	C15~20	C27, 30	C28, 29	C31~36	C65	C66	C68	C72, 73	C78, 79	D33, 34	E5	F1	F2	F3	Q9, 10	Q11, 12	Q21	Q22	R1, 2	R5, 6	R106	R107	R108	R109	R128	T1	W8, 9, 12, 13	W14, 15
0 − 11 K, P	NO	0.047 μ	J153, 160	NO	10 μ 35V	470 μ 25	0.01 μ 250	NO	NO	NO	YES	4A 125V	NO	J202	2SD2254 ∗ 5	2SB1492 ∗ 5	NO	2SC2320 (E, F)	100	1K	J198	10K	470	2.2M	NO	L01-7651-05	NO	YES
0 − 22 M, Y	NO	0.047 μ	J153, 160	NO	220 μ 63V	470 μ 35	0.01 μ	NO	NO	YES	YES	T2A 250V	T2A 250V	T1A250V	2SD2254 ∗ 5	2SB1492 ∗ 5	2SD1266	2SD1266	100	1K	J198	10K	470	NO	2.2K1W	L01-7656-05	NO	NO
0 − 71 T, X	NO	0.047 μ	J153, 160	NO	10 μ 35V	470 μ 25	0.01 μ	NO	NO	NO	YES	T2A 250V	NO	T1A250V	2SD2254 ∗ 5	2SB1492 ∗ 5	NO	2SC2320 (E, F)	100	1K	J198	10K	470	NO	NO	L01-7657-05	NO	NO
2 − 72 E	220p	0.1 μ	0.1 μ	1000p	10 μ 35V	470 μ 25	0.01 μ	0.01 μ	1000P	NO	NO	T2A 250V	T2.5A 250V	T1A250V	2SD2250 ∗ 5	2SB1490 ∗ 5	NO	2SC2320 (E, F)	1K	100	J198	10K	470	NO	NO	L01-7652-05	YES	NO

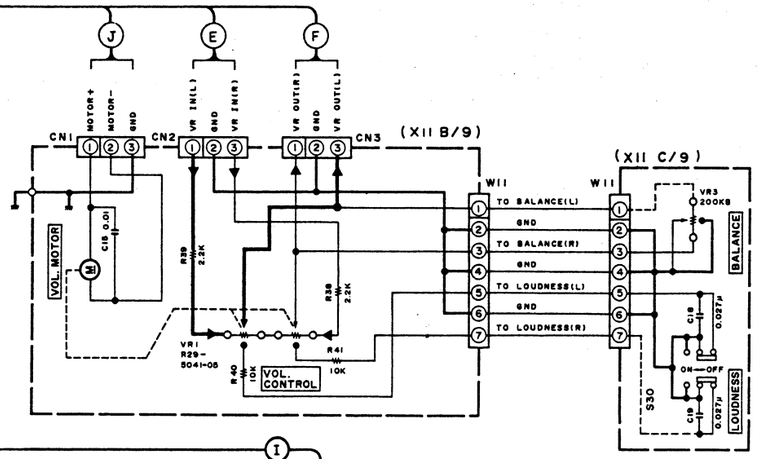
(X09 − 307X − XX)

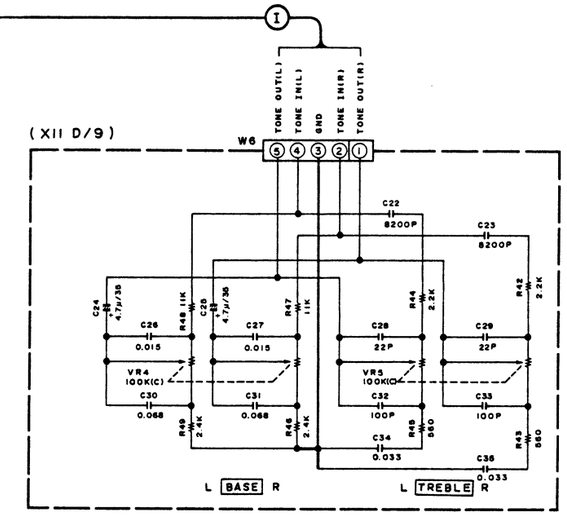
IC1	: NJM4558D-A	Q1, 2, 5, 6	: 2SC2878(B)
IC2	: TC9164N	Q3, 4, 16, 17	: 2SA733(A)(Q, P) or 2SA933S(Q, R)
IC3	: TC9182N	Q7, 8	: 2SC4137(V, W)
IC4	: TA8409S	Q9, 10	: 2SD2250 ∗ 5/E and 2SD2254 ∗ 5/KPYMXT
IC5	: μ PC1237HA	Q11, 12	: 2SB1490 ∗ 5/E and 2SB1492 ∗ 5/KPYMXT
IC6	: μ PC7812HF	Q13, 14	: 2SC1845(E, F)
		Q15	: 2SA992(E, F)
		Q19	: 2SB941
		Q20, 21	: 2SD1266
		Q22	: 2SD1266/MY and 2SC2320(E, F)/KPXTE

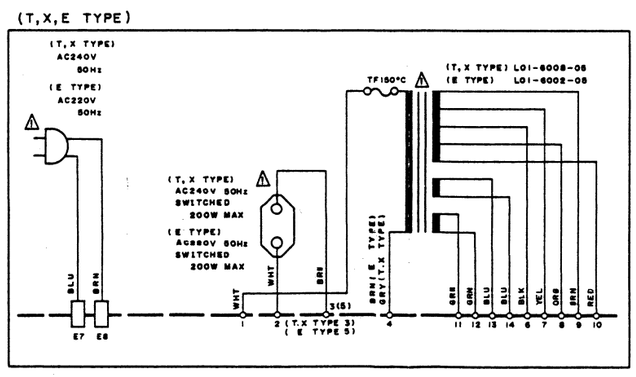
D1, 2	
D3	
D4~7, 9, 12~16, 20	
D8	
D10, 17, 35	
D11	
D18, 19, 21, 22	
D38	

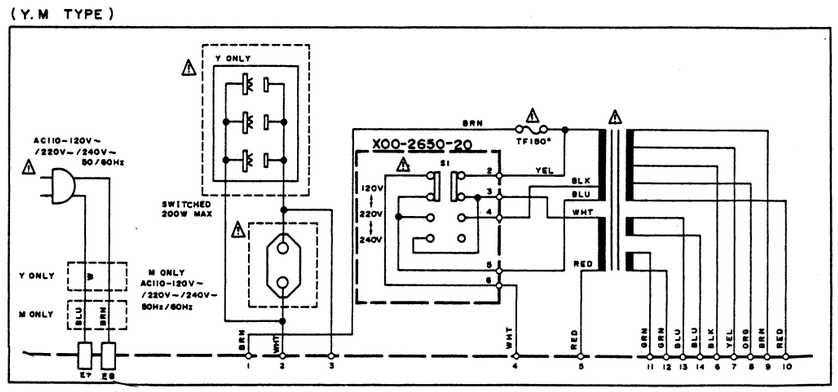












D1, 2	:	1SS131 or HSS104A
D3	:	RD3.9ES(B2) or HZS3.9N(B2)
D4~7, 9, 12~16, 20	:	S5568
D8	:	RD16ES(B2) or HZS16N(B2)
D10, 17, 35	:	RD6.2ES(B2) or HZS6.2N(B2)
D11	:	RBV-802LFA
D18, 19, 21, 22	:	1SS133 or HSS104
D38	:	RD11ES(B2)

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- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

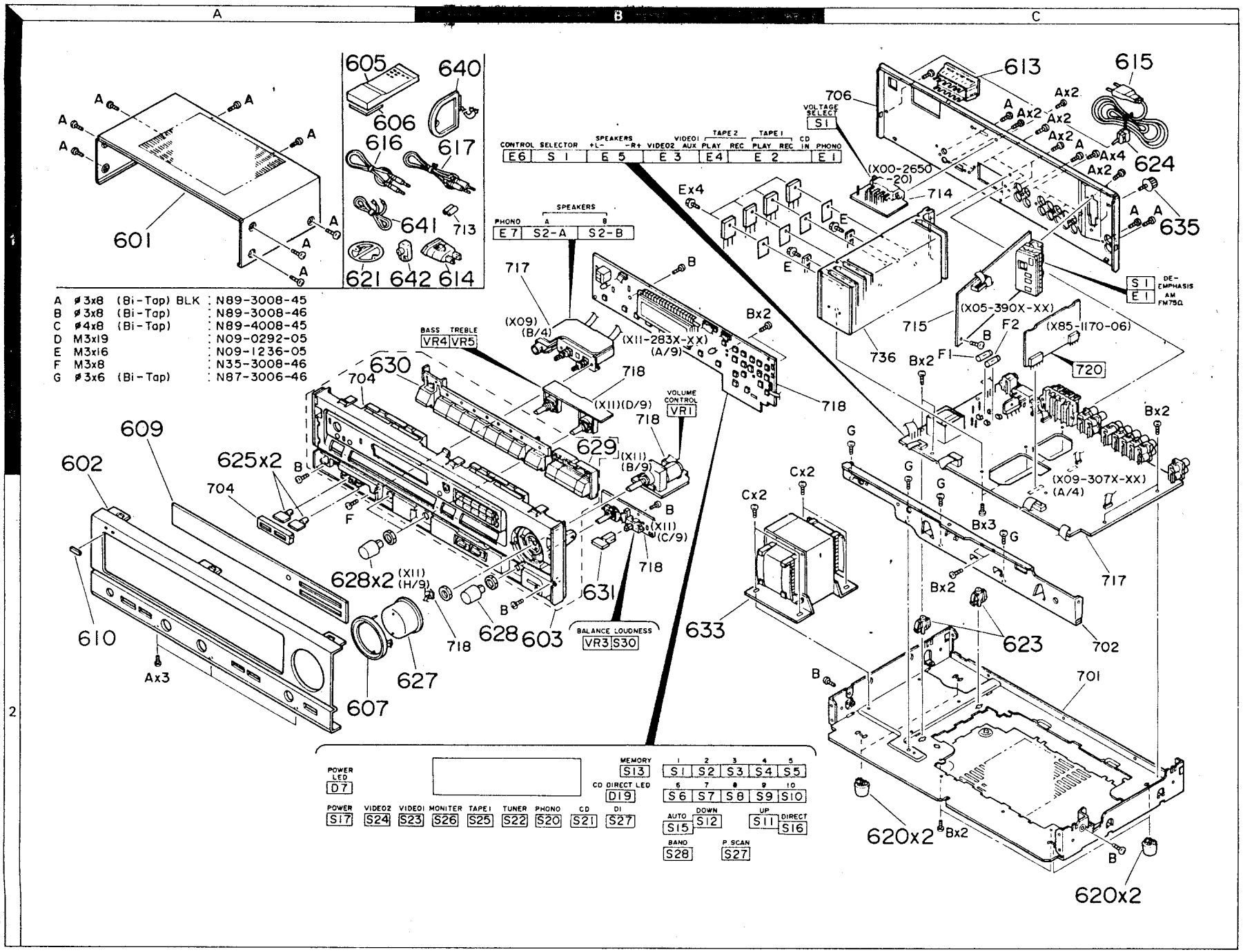
+B LINE
−B LINE
SIGNAL LINE
GND LINE

Y05-2470-10

KR-A5020

KENWOOD

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

KR-A5020

PARTS LIST

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

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
			KR-A5020			
601	1A	*	A01-1832-01	METALLIC CABINET		
602	1A,2A	*	A20-5987-02	PANEL	KPYMX	
602	1A,2A	*	A20-5988-02	PANEL	TE	
603	1A,2B	*	A22-1190-02	SUB PANEL ASSY		
605	1A	*	A70-0341-05	REMOTE CONTROLLER ASSY		
606	1A		A09-0087-08	BATTERY COVER		
607	2A		B07-1889-04	ESCUTCHEON		
609	1A,2A	*	B10-1075-03	FRONT GLASS		
610	2A		B43-0287-04	KENWOOD BADGE	TE	
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	Y	
-			B46-0095-03	WARRANTY CARD	Y	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-			B46-0122-13	WARRANTY CARD	E	
-			B46-0143-13	WARRANTY CARD	T	
-		*	B50-7892-00	INSTRUCTION MANUAL (ENGLISH)		
-		*	B50-7893-00	INSTRUCTION MANUAL (FRENCH)	PM	
-		*	B50-7894-00	INSTRUCTION MANUAL (FR,GE,DU)	E	
-		*	B50-7895-00	INSTRUCTION MANUAL (SPANISH)	M	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	Y	
-			B58-0803-13	CAUTION CARD	E	
⚠ 613	1C		E03-0055-05	AC OUTLET	ME	
⚠ 613	1C		E03-0085-05	AC OUTLET	T	
⚠ 613	1C		E03-0086-05	AC OUTLET	KPY	
⚠ 613	1C		E03-0114-05	AC OUTLET	X	
⚠ 614	1A,1B		E03-0115-05	AC PLUG ADAPTER	M	
⚠ 615	1C		E30-0459-05	AC POWER CORD	ME	
⚠ 615	1C		E30-0812-05	AC POWER CORD	Y	
⚠ 615	1C		E30-1341-05	AC POWER CORD	X	
⚠ 615	1C		E30-1416-05	AC POWER CORD	T	
⚠ 615	1C		E30-2209-05	AC POWER CORD	KP	
616	1A		E30-0977-05	CORD WITH PLUG	TE	
617	1A,1B		E30-1392-05	CORD WITH PLUG	TE	
-		*	H01-8728-04	ITEM CARTON CASE	KPYMX	
-		*	H01-8730-04	ITEM CARTON CASE	TE	
-		*	H10-3953-02	POLYSTYRENE FOAMED FIXTURE		
-		*	H10-3954-02	POLYSTYRENE FOAMED FIXTURE		
-			H25-0223-04	PROTECTION BAG (750X350X0.03)		
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
620	2C		J02-1013-05	FOOT	KPYMX	
620	2C		J02-1034-05	FOOT	TE	
621	1A		J19-2815-04	ANTENNA HOLDER		
623	2C	*	J19-3179-05	UNIT HOLDER		
624	1C		J42-0083-05	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		
625	1A,2A	*	K27-2006-04	KNOB (BUTTON)(SPEAKER)		
627	2A		K29-3581-04	KNOB ASSY(VOLUME CONTROL)		
628	2A	*	K29-3894-04	KNOB (BASS,TREBLE,BALANCE)		
629	1B,2B	*	K29-3893-04	KNOB (TUNING)		

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630	1A,1B	*	K29-3892-03	KNOB (INPUT SELECTOR)				
631	2B	*	K27-2011-04	KNOB (BUTTON)(LOUDNES)				
⚠ 633	2B,2C		L01-6001-05	POWER TRANSFORMER			K	
⚠ 633	2B,2C		L01-6002-05	POWER TRANSFORMER			E	
⚠ 633	2B,2C		L01-6007-05	POWER TRANSFORMER			P	
⚠ 633	2B,2C		L01-6008-05	POWER TRANSFORMER			XT	
⚠ 633	2B,2C	*	L07-0045-05	POWER TRANSFORMER			YM	
635	1C		N08-0128-35	BINDING POST (EARTH)				
A	1A,1C		N89-3008-45	BINDING HEAD TAPTITE SCREW				
B	1B,1C		N89-3008-46	BINDING HEAD TAPTITE SCREW				
C	2B		N89-4008-45	BINDING HEAD TAPTITE SCREW				
D	1C		N09-0292-05	STEPPED SCREW (3X19)				
F	2A		N35-3008-46	BINDING HEAD MACHINE SCREW				
G	1C,2C		N87-3006-46	BRAZIER HEAD TAPTITE SCREW				
640	1B		T90-0174-05	LOOP ANTENNA				
641	1A		T90-0175-05	T TYPE ANTENNA				
642	1A		T90-0177-05	ANTENNA ADAPTOR			TE	
POWER SUPPLY UNIT (X00-2650-20)								
⚠ S1		*	S31-2322-05	SLIDE SWITCH (VOLTAGE SELECT)			YM	
TUNER UNIT (X05-3900-10: K, P, 0-21: Y, M, 0-71: X, 2-71: T, E)								
C1			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C2			CE04LW1C470M	ELECTRO	47UF	16WV		
C3			CF92FV1H273J	MF	0.027UF	J		
C4			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C5			CE04LW1C470M	ELECTRO	47UF	16WV		
C6 ,7			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C9			CK45FF1H223Z	CERAMIC	0.022UF	Z		
C16			CK45FF1H223Z	CERAMIC	0.022UF	Z		
C17			CE04LW1H2R2M	ELECTRO	2.2UF	50WV		
C18			CE04LW1V4R7M	ELECTRO	4.7UF	35WV		
C19			CK45FF1H223Z	CERAMIC	0.022UF	Z		
C20			CE04LW1H3R3M	ELECTRO	3.3UF	50WV		
C21			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C22			CK45FF1H223Z	CERAMIC	0.022UF	Z		
*C23			CE04LW1V100M	ELECTRO	10UF	35WV		
C24			CK45FF1H223Z	CERAMIC	0.022UF	Z		
C25			CF92FV1H153J	MF	0.015UF	J		
C26			CE04LW1V100M	ELECTRO	10UF	35WV		
C27			CE04LW1HR47M	ELECTRO	0.47UF	50WV		
C28			C91-0769-05	CERAMIC	0.01UF	M		
C29 ,30			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C31			CC45FSL1H101J	CERAMIC	100PF	J		
C32			C91-0769-05	CERAMIC	0.01UF	M		
C33			CE04LW1C470M	ELECTRO	47UF	16WV		
C34			CK45FB1H471K	CERAMIC	470PF	K	TE	
C35			CC45FSL1H121J	CERAMIC	120PF	J	TE	
*C36			CC45FSL1H271J	CERAMIC	270PF	J	TE	
C37			CF92FV1H152J	MF	1500PF	J	TE	
C38			CF92FV1H132J	MF	1300PF	J	TE	
*C39			CC93FCH1H471J	CERAMIC	470PF	J		
*C40			CE04LW1H2R2M	ELECTRO	2.2UF	50WV		
*C41			CE04LW1H3R3M	ELECTRO	3.3UF	50WV		
*C42			CE04LW1HR47M	ELECTRO	0.47UF	50WV		

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C43			CF92FV1H473J	MF 0.047UF J		
C44			CK45FB1H471K	CERAMIC 470PF K		
C45			C91-0769-05	CERAMIC 0.01UF M		
C46 ,47			CC45FSL1H151J	CERAMIC 150PF J	KPYMX	
C46 ,47			CK45FB1H102K	CERAMIC 1000PF K	TE	
C48			CE04LW1C101M	ELECTRO 100UF 16WV		
C49			CC45FSL1H221J	CERAMIC 220PF J	TE	
C50 ,51			CE04LW1H010M	ELECTRO 1.0UF 50WV	KPYMX	
C50 ,51			CE04LW1H2R2M	ELECTRO 2.2UF 50WV	TE	
C52 ,53			CF92FV1H752J	MF 7500PF J	YM	
C54 ,55			CF92FV1H153J	MF 0.015UF J	YMX	
C54 ,55			CF92FV1H223J	MF 0.022UF J	KP	
C54 ,55			CF92FV1H472J	MF 4700PF J	TE	
C56			CK45FF1H103Z	CERAMIC 0.010UF Z		
C57			CE04LW1C470M	ELECTRO 47UF 16WV		
C58 ,59			CC45FCH1H220J	CERAMIC 22PF J		
C60 -62			CC45FSL1H101J	CERAMIC 100PF J		
C63			CK45FF1H103Z	CERAMIC 0.010UF Z		
C64 ,65			CE04LW1C220M	ELECTRO 22UF 16WV	TE	
E1			E20-0321-05	LOCK TERMINAL BOARD (ANTENNA)	TE	
E1			E20-0476-05	LOCK TERMINAL BOARD (ANTENNA)	KPYMX	
CF1 ,2			L72-0531-05	CERAMIC FILTER	KPYMX	
CF1 ,2			L72-0536-05	CERAMIC FILTER	TE	
CF3			L72-0096-05	CERAMIC FILTER		
L1			L40-1091-17	SMALL FIXED INDUCTOR		
L2			L39-0189-05	COMBINATION COIL		
L4			L30-0454-15	AM IFT		
L6			L30-0439-25	FM IFT		
L7			L40-5625-29	SMALL FIXED INDUCTOR(5.6MH,J)	TE	
L8			L40-6825-29	SMALL FIXED INDUCTOR(6.8MH,J)	TE	
L9 ,10			L79-0790-05	LC FILTER	TE	
X1			L77-1122-05	CRYSTAL RESONATOR		
R6			RD14NB2E101J	RD 100 J 1/4W		
R10			RD14NB2E101J	RD 100 J 1/4W		
*R36			RD14NB2E101J	RD 100 J 1/4W		
R51			RD14NB2E101J	RD 100 J 1/4W		
R69			RD14NB2E221J	RD 220 J 1/4W		
VR1			R12-3130-05	TRIMMING POT.(33K)		
VR2			R12-1089-05	TRIM POT. 4.7K		
VR3			R12-5060-05	TRIMMING POT.(220K)	TE	
VR4			R12-3126-05	TRIM POT. 10K		
S1			S31-2132-05	SLIDE SWITCH (DE-EMPHASIS)	YM	
D1 ,2			HSS104	DIODE		
D1 ,2			1SS133	DIODE		
D10			HZS5.1N(B2)	ZENER DIODE		
D10			RD5.1ES(B2)	ZENER DIODE		
D11 ,12			HSS104	DIODE		
D11 ,12			1SS133	DIODE		
IC1			LA1265	IC(FM/AM TUNER)		
IC2			AN7470	IC(FM MPX)		
IC3			LM7001	IC(PLL FREQUENCY SYNTHESIZER)		
Q1			2SC1923(R,O)	TRANSISTOR		

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Q3			2SC1740S(Q,R)	TRANSISTOR		
Q3			2SC945(A)(Q,P)	TRANSISTOR		
Q4			2SC1845(F,E)	TRANSISTOR		
Q7			2SC1740S(Q,R)	TRANSISTOR	TE	
Q7			2SC945(A)(Q,P)	TRANSISTOR	TE	
Q8 ,9			2SA733(A)(Q,P)	TRANSISTOR		
Q8 ,9			2SA933S(Q,R)	TRANSISTOR		
Q11 ,12			2SC1740S(Q,R)	TRANSISTOR	YM	
Q11 ,12			2SC945(A)(Q,P)	TRANSISTOR	YM	
			W02-1041-05	FM FRONT-END ASSY	TE	
			W02-1042-05	FM FRONT-END ASSY	KPYMX	
AUDIO UNIT (X09-3070-11: K, P, 0-22: Y, M, 0-71: X, T, 2-72: E)						
C1 ,2			CE04LW1V100M	ELECTRO 10UF 35WV		
C3 ,4			CC45FSL1H221J	CERAMIC 220PF J		
C5 ,6			CE04LW1A101M	ELECTRO 100UF 10WV		
C7 ,8			CK45FB1H102K	CERAMIC 1000PF K		
C9 ,10			CF92FV1H123J	MF 0.012UF J		
C11 ,12			CF92FV1H332J	MF 3300PF J		
C13 ,14			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C15 -20			CC45FSL1H221J	CERAMIC 220PF J	E	
C21 ,22			CE04LW1V220M	ELECTRO 22UF 35WV		
C23 ,24			CK45FF1H103Z	CERAMIC 0.010UF Z		
C25 ,26			CK45FB1H222K	CERAMIC 2200PF K		
C27			CF92FV1H473J	MF 0.047UF J	KPYMXT	
C27 -30			CF92FV1H104J	MF 0.10UF J	E	
C30 .			CF92FV1H473J	MF 0.047UF J	KPYMXT	
C31 -36			CK45FF1H472Z	CERAMIC 4700PF Z	E	
C37 ,38			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C39			CE04LW1C101M	ELECTRO 100UF 16WV		
C40 ,41			CE04LW1V100M	ELECTRO 10UF 35WV		
C42 ,43			CK45FF1H103Z	CERAMIC 0.010UF Z		
C44			CE04LW1C220M	ELECTRO 22UF 16WV		
C45			C90-1333-05	NP-ELEC 22UF 10WV		
C46			CE04LW1C330M	ELECTRO 33UF 16WV		
C47		*	CE04LW1J4R7M	ELECTRO 4.7UF 63WV		
C50			CE04LW1C470M	ELECTRO 47UF 16WV		
C53			CE04LW1C470M	ELECTRO 47UF 16WV		
C54			CE04LW1E102M	ELECTRO 1000UF 25WV		
C55 ,56			CF92FV1H104J	MF 0.10UF J		
C57			CE04LW1H101M	ELECTRO 100UF 50WV		
C58			CE04LW1H100M	ELECTRO 10UF 50WV		
C59			CE04LW1H4R7M	ELECTRO 4.7UF 50WV		
C60 ,61			C90-1777-05	ELECTRO 5600UF 56WV		
C62 ,63			CK45FF1H103Z	CERAMIC 0.010UF Z		
C64 ,65			CE04LW1V100M	ELECTRO 10UF 35WV		
C66			CE04EW1E471M	ELECTRO 470UF 25WV	KPXTE	
C66			CE04LW1V471M	ELECTRO 470UF 35WV	YM	
C67			CK45FF1H103Z	CERAMIC 0.010UF Z		
⚠ C68			C91-0647-05	CERAMIC 0.01UF P	YMXTE	
⚠ C68			C91-0971-05	FILM 0.01UF 250WV	KP	
C69			CK45FF1H223Z	CERAMIC 0.022UF Z		
C71			CK45FF1H103Z	CERAMIC 0.010UF Z	KPYMXT	
C71 -73			CK45FF1H103Z	CERAMIC 0.010UF Z	E	
C74			CK45FF1H472Z	CERAMIC 4700PF Z		

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KR-A5020

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C78 ,79			CK45FB1H102K	CERAMIC 1000PF K	E	
E1			E13-0235-05	PHONO JACK(2P)(PHONO)		
E2			E13-0820-05	PHONO JACK(8P)(CD,TAPE1/2 REC)		
E3			E13-0446-05	PHONO JACK(4P) (VIDEO)		
E4			E13-0235-05	PHONO JACK(2P) (TAPE2 PLAY)		
E5			E20-0823-05	LOCK TERMINAL BOARD(5P)		
E6			E11-0188-05	MINIATURE PHONE JACK		
E11			E11-0162-05	PHONE JACK (3P)	KPYMXT	
E11			E11-0189-05	PHONE JACK	E	
⚠ F1			F05-4028-05	FUSE (UL)	KP	
⚠ F1			F06-2021-05	FUSE (SEMKO) (250V T2A)	XTE	
⚠ F1 ,2			F06-2021-05	FUSE (SEMKO) (250V T2A)	YM	
⚠ F2			F05-2525-05	FUSE (SEMKO) (250V T2.5A)	E	
⚠ F3			F06-1022-05	FUSE (SEMKO) (250V T1A)	YMXTE	
CN5 -10			J13-0075-05	FUSE CLIP	YME	
CN5 ,6			J13-0075-05	FUSE CLIP	KPXT	
CN9 ,10			J13-0075-05	FUSE CLIP	XT	
L1 ,2			L39-0085-05	PHASE-COMPENSATION COIL		
⚠ T1			L01-7651-05	POWER TRANSFORMER	KP	
⚠ T1			L01-7652-05	POWER TRANSFORMER	E	
⚠ T1			L01-7657-05	POWER TRANSFORMER	XT	
⚠ T1			L01-7658-05	POWER TRANSFORMER	YM	
A	1C		N89-3008-45	BINDING HEAD TAPTITE SCREW		
E	1B,1C		N09-1236-05	TAPPING SCREW (3X16)		
CP1 ,2			R90-0187-05	MULTI-COMP 0.22X2 K 5W		
R55 -58			RD14NB2E470J	RD 47 J 1/4W		
R65 ,66			RS14KB3D4R7J	FL-PROOF RS 4.7 J 2W		
R91			RS14KB3D272J	FL-PROOF RS 2.7K J 2W		
R99			RS14KB3A222J	FL-PROOF RS 2.2K J 1W		
R100			RD14NB2E100J	RD 10 J 1/4W		
R101			RS14KB3D221J	FL-PROOF RS 220 J 2W		
R103			RD14NB2E101J	RD 100 J 1/4W		
R109			R92-0173-05	RC 2.2M M 1/2W	KP	
*R112,113			RS14KB3A561J	FL-PROOF RS 560 J 1W		
R114			RS14KB3A181J	FL-PROOF RS 180 J 1W		
VR1 ,2			R12-1083-05	TRIM POT. 1K		
⚠ K1			S51-1052-05	MAGNETIC RELAY		
K2			S51-2093-05	MAGNETIC RELAY		
S1			S31-2136-05	SLIDE SWITCH (POWER TYPE)		
S2			S42-2175-05	MULTIPLE PUSH SWITCH		
D1 ,2			HSS104A	DIODE		
D1 ,2			1SS131	DIODE		
D3			HZS3.9N(B2)	ZENER DIODE		
D3			RD3.9ES(B2)	ZENER DIODE		
D4 -7			S5566B	DIODE		
D8			HZS30N(B)	ZENER DIODE		
D8			RD30ES(B)	ZENER DIODE		
*D9			S5566B	DIODE		
*D10			HZS6.2N(B2)	ZENER DIODE		
*D10			RD6.2ES(B2)	ZENER DIODE		
D11			RBV-602LFA	DIODE		
D12 -16			S5566B	DIODE		

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D17			HZS6.2N(B2)	ZENER DIODE		
D17			RD6.2ES(B2)	ZENER DIODE		
D18 ,19			HSS104	DIODE		
D18 ,19			1SS133	DIODE		
D20			S5566B	DIODE		
D21 -30			HSS104	DIODE		
D21 -30			1SS133	DIODE		
D33 ,34			HSS104	DIODE	YM	
D33 ,34			1SS133	DIODE	YM	
D35			HZS6.2N(B2)	ZENER DIODE		
D35			RD6.2ES(B2)	ZENER DIODE		
IC1			NJM4558D-A	IC(OP AMP X2)		
IC2			TC9164N	IC(16CH-BILATERAL SELECTOR SW)		
IC3			TC9162N	IC(ANALOG SWITCH ARRAY)		
IC4			TA8409S	IC(MOTOR CONTROL)		
IC5			UPC1237HA	IC(POWER AMP)		
IC6			UPC7812HF	IC(VOLTAGE REGULATOR/ +12V)		
Q1 ,2			2SC2878(B)	TRANSISTOR		
Q3 ,4			2SA733(A)(Q,P)	TRANSISTOR		
Q3 ,4			2SA933S(Q,R)	TRANSISTOR		
Q5 ,6			2SC2878(B)	TRANSISTOR		
Q7 ,8			2SC4137(V,W)	TRANSISTOR		
Q9 ,10		*	2SB1490*5	TRANSISTOR	E	
Q9 ,10		*	2SB1492*5	TRANSISTOR	KPYMXT	
Q11 ,12		*	2SD2250*5	TRANSISTOR	E	
Q11 ,12		*	2SD2254*5	TRANSISTOR	KPYMXT	
Q13 ,14			2SC1845(F,E)	TRANSISTOR		
Q15			2SA992(F,E)	TRANSISTOR		
Q19			2SB941	TRANSISTOR		
Q20			2SD1266	TRANSISTOR	KPXTE	
Q20 -22			2SD1266	TRANSISTOR	YM	
Q22			2SC2320(E,F)	TRANSISTOR	KPXTE	
CONTROL UNIT (X11-2830-11: K, P, 0-22: Y, M, 2-72: X, T, E)						
D8		*	B30-1291-05	LED		
D20		*	B30-1291-05	LED		
D24			B30-1012-05	LED(SLP-981C-50)		
C1			CK45FB1H561K	CERAMIC 560PF K		
C2			C91-0769-05	CERAMIC 0.01UF M		
C3		*	C90-1827-05	BACKUP 0.047F 5.5WV		
C4			CE04LW1A101M	ELECTRO 100UF 10WV		
C5			CK45FF1H103Z	CERAMIC 0.010UF Z		
C6			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C7			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C8			CK45FF1H103Z	CERAMIC 0.010UF Z		
C14			C90-1353-05	NP-ELEC 10UF 25WV		
C15			CF92FV1H104J	MF 0.10UF J		
C18 ,19			CF92FV1H273J	MF 0.027UF J		
C22 ,23			CF92FV1H822J	MF 8200PF J		
C24 ,25			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C26 ,27			CF92FV1H153J	MF 0.015UF J		
C28 ,29			CC45FSL1H220J	CERAMIC 22PF J		
C30 ,31			CF92FV1H683J	MF 0.068UF J		
C32 ,33			CC45FSL1H101J	CERAMIC 100PF J		
C34 ,35			CF92FV1H333J	MF 0.033UF J		

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X1			L78-0209-05	RESONATOR (4.194MHZ)		
CP1			R90-0482-05	MULTI-COMP 100KX4 J 1/6W		
CP2			R90-0492-05	MULTI-COMP 100KX8 J 1/6W		
VR1		*	R29-5041-05	POTENTIOMETER(100K X2)		
VR3			R01-5067-05	POTENTIOMETER		
VR4 ,5			R06-5138-05	POTENTIOMETER(100KX2)		
S1 -13			S40-1064-05	PUSH SWITCH		
S15 -17			S40-1064-05	PUSH SWITCH		
S20 -29			S40-1064-05	PUSH SWITCH		
S30			S40-2351-05	PUSH SWITCH		
D1			HZS8.2N(B2)	ZENER DIODE		
D1			RD8.2ES(B2)	ZENER DIODE		
D2 -7			HSS104	DIODE		
D2 -7			1SS133	DIODE		
D10			HSS104	DIODE	XTE	
D10			1SS133	DIODE	XTE	
D12			HSS104	DIODE	KPYM	
D12			1SS133	DIODE	KPYM	
D12 -19			HSS104	DIODE	XTE	
D12 -19			1SS133	DIODE	XTE	
D14 -19			HSS104	DIODE	KPYM	
D14 -19			1SS133	DIODE	KPYM	
D22			HSS104	DIODE		
D22			1SS133	DIODE		
FL1			CPF5426GR	FLUORESCENT INDICATOR TUBE		
IC1			PST529C	IC(SYSTEM RESET)		
IC2		*	CXP5016-520S	IC(4BIT MICROCONPUTER)		
Q1			2SC1740S(Q,R)	TRANSISTOR		
Q1			2SC945(A)(Q,P)	TRANSISTOR		
Q2			2SA733(A)(Q,P)	TRANSISTOR	YM	
Q2			2SA933S(Q,R)	TRANSISTOR	YM	
A1			W02-0975-05	ELECTRIC CIRCUIT MODULE		
A1			W02-1043-05	OPTIC RECEIVING MODULE		
MAIN AMPLIFIER UNIT (X85-1170-06)						
C1 ,2			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C3 ,4			CC45FSL1H221J	CERAMIC 220PF J		
C5 ,6			CE04LW1C470M	ELECTRO 47UF 16WV		
C7 ,8			CC45FSL1H680J	CERAMIC 68PF J		
C9 ,10			CC45FSL1H040C	CERAMIC 4.0PF C		
C11 -14			CC45FSL1H680J	CERAMIC 68PF J		
C15 ,16			CC45FSL1H221J	CERAMIC 220PF J		
C17		*	CE04LW1J4R7M	ELECTRO 4.7UF 63WV		
C18			CE04LW1J470M	ELECTRO 47UF 63WV		
R15 ,16			RD14GB2E271J	FL-PROOF RD 270 J 1/4W		
R21 -24			RD14GB2E221J	FL-PROOF RD 220 J 1/4W		
R25			RD14GB2E470J	FL-PROOF RD 47 J 1/4W		
R26			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
D1 ,2			HSS104	DIODE		
D1 ,2			1SS133	DIODE		
Q1 -4			2SA992(F,E)	TRANSISTOR		
Q5 -8			2SC1845(F,E)	TRANSISTOR		
Q9 ,10			2SA992(F,E)	TRANSISTOR		

E: Scandinavia & Europe K: USA P: Canada W:Europe
Y: PX(Far East, Hawaii) T: England M: Other Areas
Y: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

KR-A5020

SPECIFICATIONS

AUDIO SECTION

Rated Power Output (Except for Europe)

60 watts per channel minimum RMS, both channels driven at 8 ohms, from 20 Hz 20,000 Hz with no more than 0.09% total harmonic distortion. (FTC)

Maximum continuous output power (For Europe)
- **(IEC) from 63 Hz to 12,500 Hz 0.7% T.H.D. at 8 ohms** ..... 70 W+70 W
- **(DIN) 1,000 Hz at 8 ohms** ..... 70 W+70 W

Total Harmonic Distortion
- **(1 kHz 8 ohms)** 0.01%

Input Sensitivity/Impedance
- **PHONO (MM)** ..... 2.5 mV/47 kohms
- **CD, TAPE, VIDEO** ..... 150 mV/47 kohms

Frequency Response
- **CD** ..... 10 Hz~50 kHz +0 dB −3 dB

Signal-to-Noise Ratio (IHF-A)
- **PHONO (MM)** ..... 78 dB for 5 mV input (IHF-66)
- **CD, TAPE, VIDEO** ..... 100 dB for 150 mV input

Tone Controls
- **BASS** ..... ±10 dB/100 Hz
- **TREBLE** ..... ± 10 dB/10 kHz

FM TUNER SECTION

Tuning Frequency Range ..... 87.5 MHz~108 MHz
Antenna Impedance ..... 300 ohms balanced & 75 ohms unbalanced

Sensitivity
- **IHF** ..... 10.8 dBf (0.95 μV)
- **DIN (MONO)** ..... 1.1 μV
- **(STEREO)** ..... 40 μV

Signal-to-Noise Ratio at 65 dBf (IHF)
- **Mono** ..... 79 dB
- **Stereo** ..... 73 dB

Total Harmonic Distortion at 1,000 Hz (IHF)
- **Mono** 0.3%
- **Stereo** 0.5%

Total Harmonic Distortion at 1,000 Hz (DIN)
- **Mono** 0.3%
- **Stereo** 0.4%

Frequency Response ..... 30 Hz~15 kHz +0.5 dB −2 dB

Stereo Separation
- **(IHF)** ..... 45 dB at 1 kHz
- **(DIN)** ..... 40 dB at 1 kHz

AM TUNER SECTION

Tuning Range
530 kHz~1,610 kHz
(with the AM tuning interval set at 10 kHz)
531 kHz~1,602 kHz
(with AM tuning interval set at 9 kHz)

Usable Sensitivity ..... 12 μV (400 μV/m)
Signal-to-Noise Ratio ..... 50 dB
Total Harmonic Distortion 0.5%
Selectivity ..... 23 dB

GENERAL

Power Consumption .. 2.0 A ... USA and Canada Model/ 160 W . Others
Dimensions ..... 440 (W) × 133 (H) × 284 (D) mm (17-5/16" × 5-1/4" × 11-3/16")
Weight (Net) ..... 6.5 kg (14.3 lb)

Note:
KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note :
Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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