AUDIO-VIDEO STEREO RECEIVER

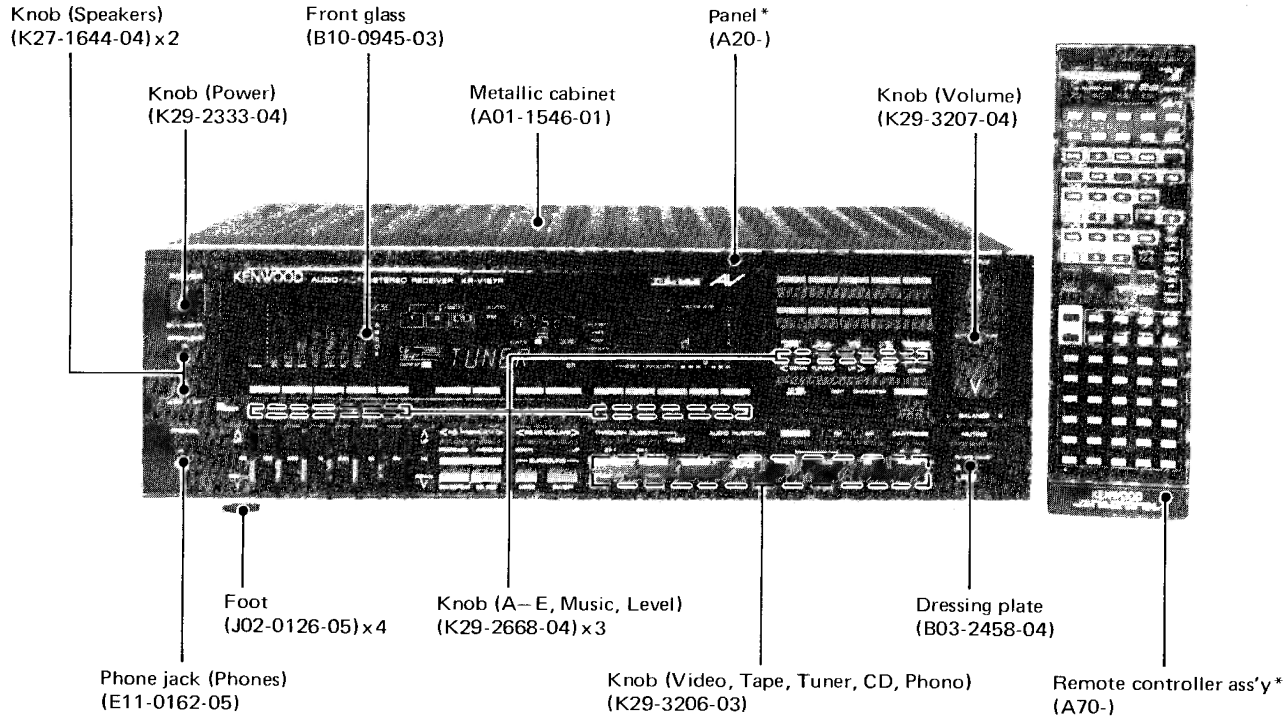
KR-V127R

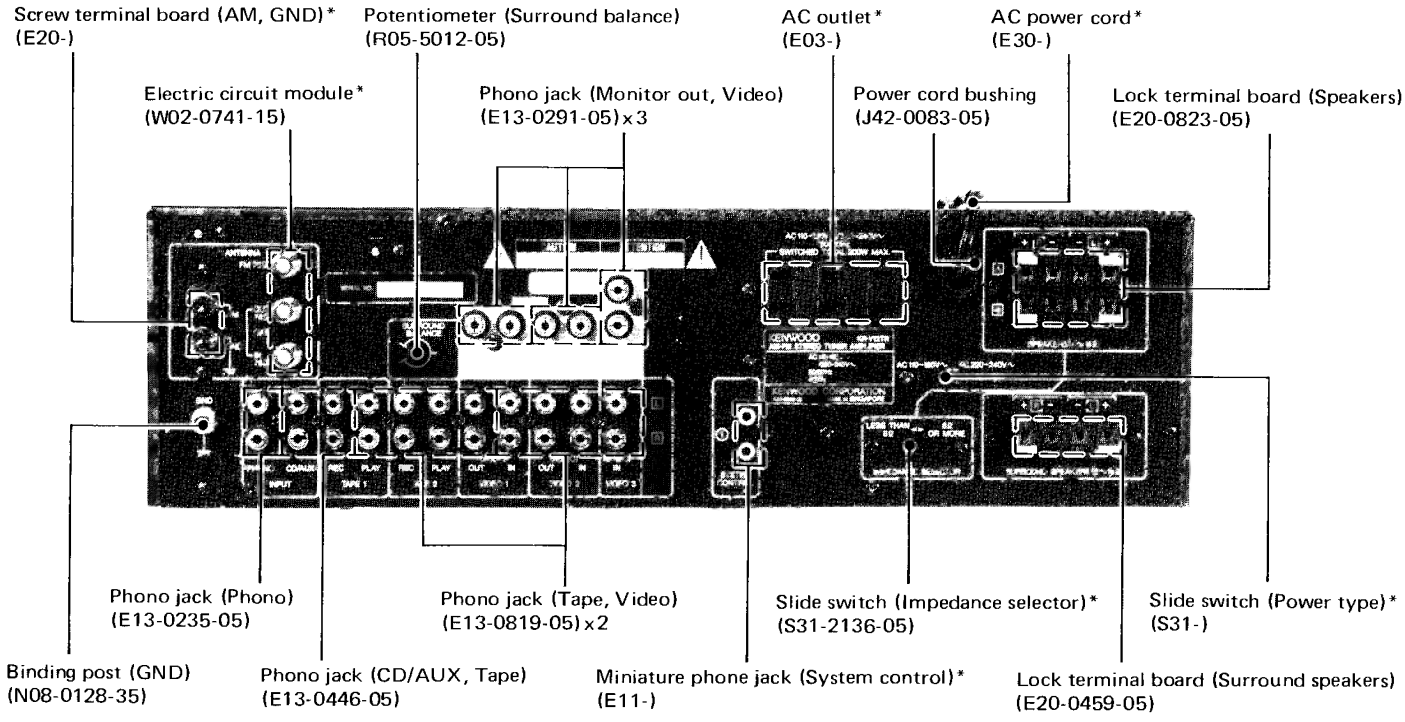
SERVICE MANUAL

KENWOOD

B51-3572-00 (O) 2424

Rx 2-3





* Refer to parts list on page 51.

KR-V127R

SPECIFICATIONS

AUDIO SECTION

Power Output

(Front)

130 watts per channel minimum RMS, both channel driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.008% total harmonic distortion

(Rear)

10 watts per channel minimum RMS, both channel driven at 8 ohms from 70 Hz to 10 kHz with no more than 0.9 % total harmonic distortion

(Front)

140 watts per channel minimum RMS, both channel driven into 8 ohms at 1kHz with no more than 0.008 % total harmonic distortion

Total Harmonic Distortion	
(1 kHz, 8 ohms)	0.002% at 130 W
Intermodulation Distortion	0.008 % at 130 W
Input Sensitivity/Impedance	
PHONO (MM)	3.0 mV/47 kohms
PHONO (MC)	0.3 mV/100 ohms
CD/AUX, TAPE	200 mV/47 kohms
VIDEO	250 mV/47 kohms
Frequency Response	
TAPE, CD/AUX, VIDEO	10 Hz – 200,000 Hz, +0 dB, –3 dB
Signal to Noise Ratio	
PHONO (MM)	82 dB
PHONO (MC)	63 dB
CD/AUX, TAPE	100 dB
VIDEO	90 dB
Graphic Equalizer	
Center Frequency	60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15kHz
Control Range	+12 dB

VIDEO SECTION

Inputs/Outputs VIDEO 1,2,3	1 Vp-p, 75 ohms unbalanced

FM TUNER SECTION

Tuning Frequency Range	87.5 MHz – 108 MHz
Antenna Impedance	75 ohms unbalanced
Usable Sensitivity	10.8 dBf (0.95 μV)
50 dB Quieting Sensitivity	
MONO	14.2 dBf (1.4 μV)
STEREO	37.2 dBf (20 μV)
Signal to Noise Ratio at 65 dBf	
MONO	80 dB
STEREO	74 dB
Total Harmonic Distortion at 1,000 Hz	
MONO	0.07%
STEREO	0.1%
Frequency Response	30 Hz – 15,000 Hz +0.5 dB, –2 dB
Stereo Separation	50 dB at 1,000 Hz
Selectivity	55 dB at 400 kHz
Capture Ratio	1.0 dB
Image Rejection Ratio	43 dB
IF Rejection Ratio	86 dB
Spurious Rejection Ratio	83 dB
AM Suppression Ratio	62 dB

AM TUNER SECTION

Tuning Frequency Range	
530 kHz – 1,610 kHz	
(with the AM tuning interval set at 10 kHz)	
531 kHz – 1,602 kHz	
(with the AM tuning interval set at 9 kHz)	
Usable Sensitivity	10 μV (400 μV/m)
Signal to Noise Ratio	50 dB
Total Harmonic Distortion	0.3 %
Selectivity	25 dB

GENERAL

Power Consumption	4.8A... USA Model/400 W... others
Dimensions	420(W) × 133(H) × 369(D) mm (16-9/16" × 5-1/4" × 14-1/2")
Weight (Net)	11.5kg (25.4 lb)

Note:

We follow 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.

KENWOOD CORPORATION

Shinonogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150 Japan

KENWOOD U.S.A. CORPORATION
2201 East Dominguez Street, Long Beach, CA 90810
550 Clark Drive, Mount Olive, NJ 07828, U.S.A.

KENWOOD ELECTRONICS CANADA INC.
P.O. Box 1075 959 Gana Court, Mississauga, Ontario, Canada L4T 4C2

KENWOOD ELECTRONICS BENELUX N.V.
Mechelsesteenweg 418 B-1930 Zaventem, Belgium

KENWOOD ELECTRONICS DEUTSCHLAND GMBH
Rembrucker-Str. 15, 6056 Heusenstamm, West Germany

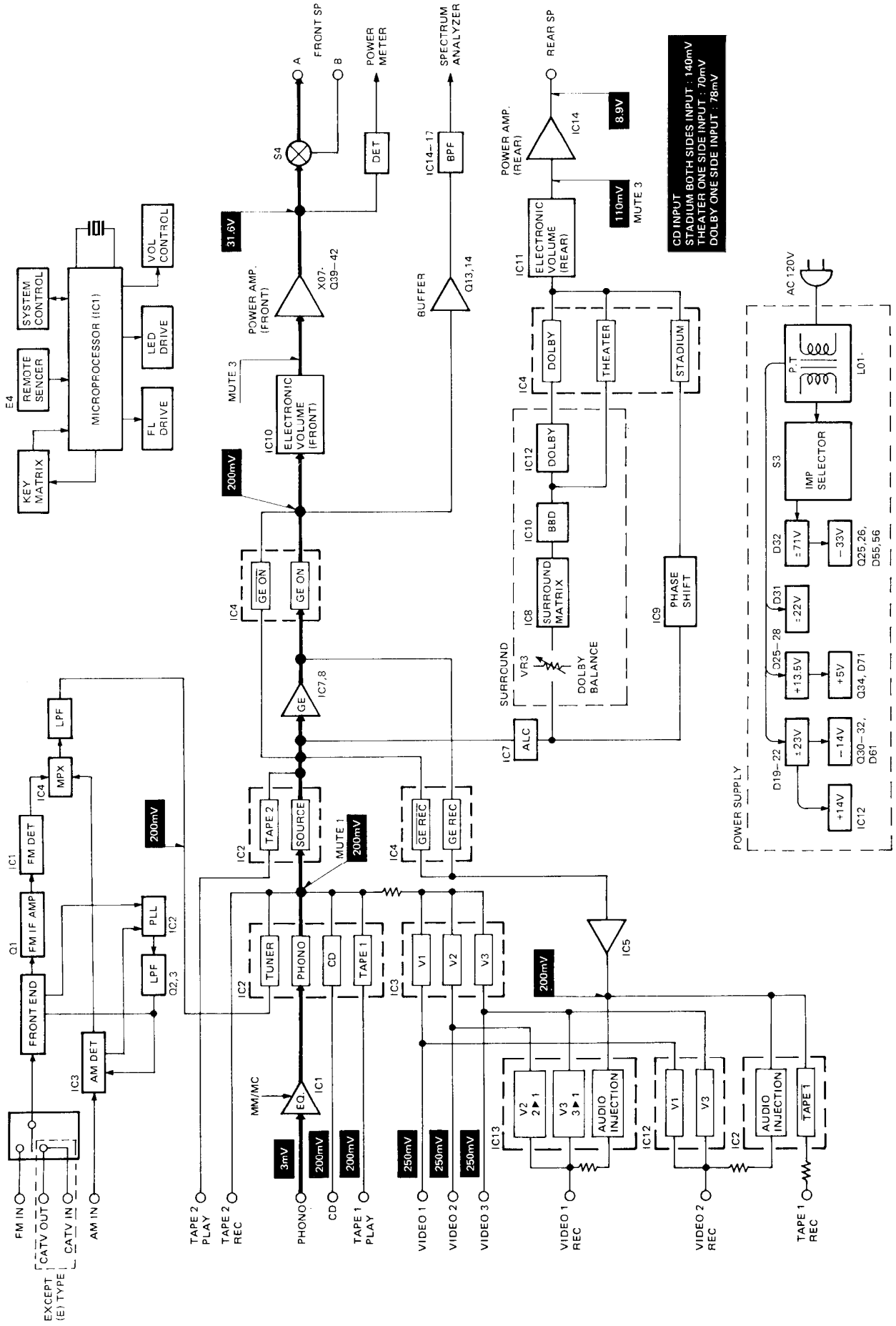
TRIO-KENWOOD FRANCE S.A.
Hi-Fi·VIDEO·CAR Hi-Fi
13, Boulevard Ney 75018 Paris, France

TRIO-KENWOOD U.K. LTD.
17 Bristol Road The Metropolitan Centre, Greenford, Middx. UB6 8UP England

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD.
4F Woodcock Place, Lane Cove, N.S.W. 2066, Australia

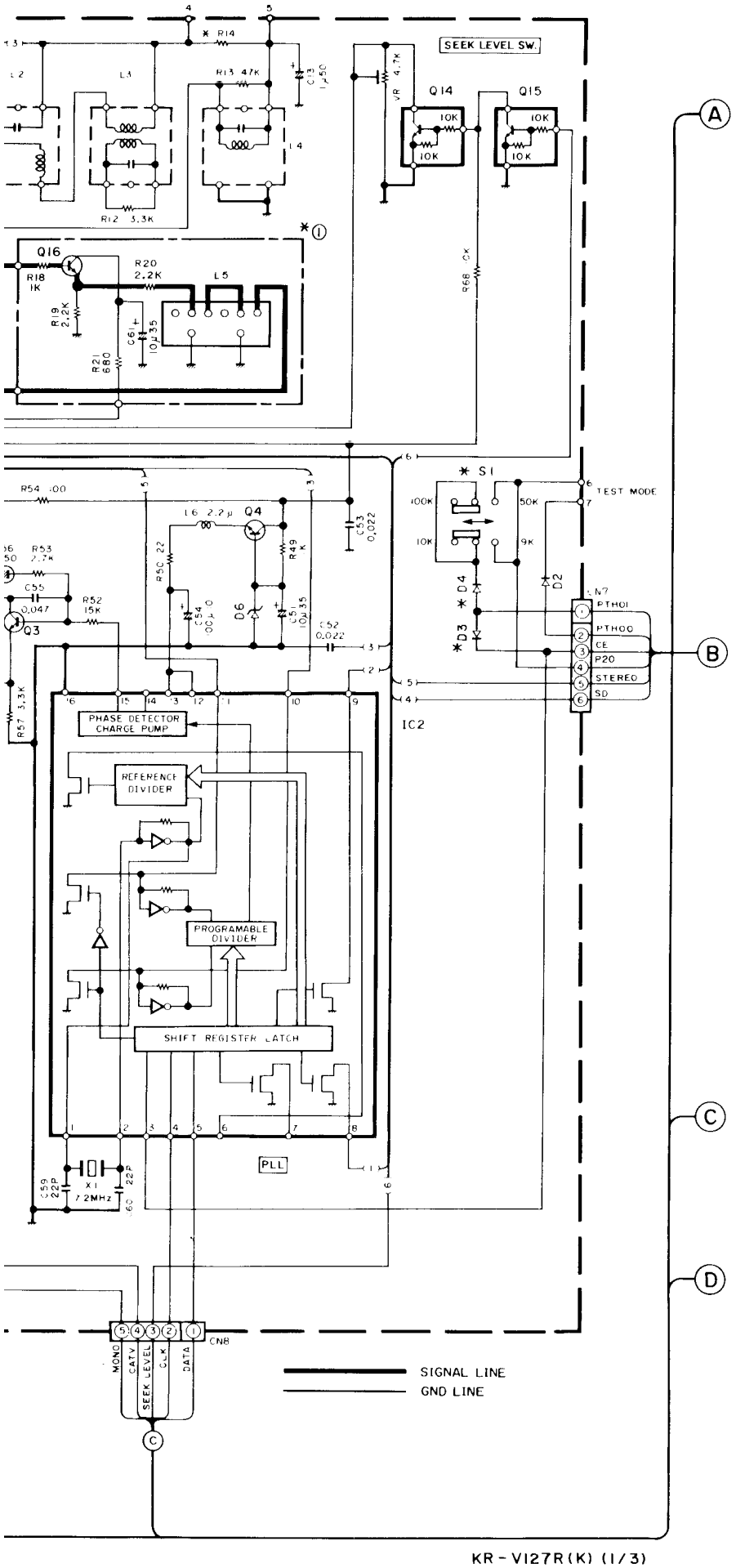
KENWOOD & LEE ELECTRONICS, LTD.
Wang Kee Building, 4th Floor 34-37, Connaught Road, Central, Hong Kong

BLOCK LEVEL DIAGRAM



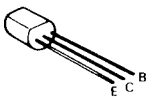
ADJUSTMENT

No	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	RECEIVER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION		INPUT SELECTOR: FM MODE: STEREO					
1	DISCRIMINATOR (1)	(A) 98.0MHz 1kHz, ±75kHz dev 60dBμ(ANT input)	Connect a DC voltmeter between TP4 and 5.	MONO 98.0MHz	L2 (X05-)	0V	(a)
2	DISCRIMINATOR (2)	(A) 98.0MHz 1kHz, ±75kHz dev 60dBμ(ANT input)	(B)	MONO 98.0MHz	L3 (X05-)	Minimum distortion.	
Repeat alignments 1 and 2 several times.							
3	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, ±68.25kHz dev Selector:L or R Pilot: ±6.75kHz dev 60dBμ(ANT input)	(B)	98.0MHz	IFT (Front end)	Minimum distortion.	
4	SEPARATION	(C) 98.0MHz 1kHz, ±68.25kHz dev Selector:L or R Pilot: ±6.75kHz dev 60dBμ(ANT input)	(B)	98.0MHz	VR2 (X05-)	Minimum crosstalk. A compromise adjustment may be required if left to right and right to left separations are unequal.	
5	TUNING LEVEL	(A) 98.0MHz 0 dev 13dBμ(ANT input)	-	AUTO or MONO 98.0MHz	VR1 (X05-)	Adjust VR1 and stop at the point where FL1(TUNED) goes on.	
AM SECTION		Keep the loop antenna installed.		INPUT SELECTOR:AM			
(1)	BAND EDGE (1)	-	Connect a DC voltmeter to TP3.	530kHz (531kHz)	L9 (X05-)	1.5V	(b)
(2)	BAND EDGE (2)	-	Connect a DC voltmeter to TP3.	1610kHz (1602kHz)	TC2 (X05-)	8.0V	(b)
Repeat alignments (1) and (2) several times.							
(3)	RF ALIGNMENT (1)	(D) 600(603)kHz 400Hz, 30% mod	(B)	600kHz (603kHz)	L8 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
(4)	RF ALIGNMENT (2)	(D) 1400(1404)kHz 400Hz, 30% mod	(B)	1400kHz (1404kHz)	TC1 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
Repeat alignments (3) and (4) several times.							
(5)	IF TRANSFORMER	(D) 1000(999)kHz 400Hz, 30% mod	(B)	1000kHz (999kHz)	L10 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
AUDIO SECTION							
[1]	IDLE CURRENT	-	(E) Connect a DC voltmeter across CP1(L) CP2(R)	Main volume: 0	VR1(L) VR2(R) (X07-)	10mV	(c)
[2]	DOLBY SURROUND CENTER ADJUSTMENT	(F) Connect an AG(1kHz) to CD/AUX jack(L or R).	Connect an oscilloscope between TP8 and GND.	Main volume:0 Increase the input level until the waveform clips.	VR4 (X05-)	Adjust so that the upper and lower waveform clips becomes symmetrical.	(d)
[3]	DOLBY SURROUND CLOCK LEAKAGE ADJUSTMENT	(F) Cut off the input signal level.	Connect an oscilloscope between TP8 and GND.	-	VR5 (X05-)	Adjust so that the height of the clock frequency(several 10kHz) becomes minimum.	(d)
Perform adjustment [3] after completion of adjustment [2].							
[4]	SPECTRUM ANALYZER SENSITIVITY ADJUSTMENT	(F) Connect an AG(12mV, 1kHz) to CD/AUX jack(L & R).		-	VR1 (X14-)	To the position so that the lowest level of the spectrum analyzer lights.	

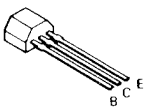


KR-V127R(K) (1/3)

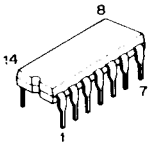
2SA999
2SC945(A)
2SC1845
2SC1923
2SC2003



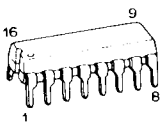
DTA124ES
DTC114ES
2SC1740S



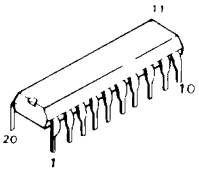
μPD4066BC



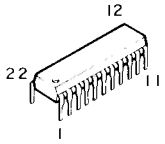
LA1235
LM7001



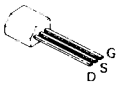
LA1245



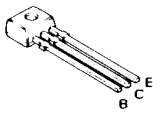
LA3401



2SK439

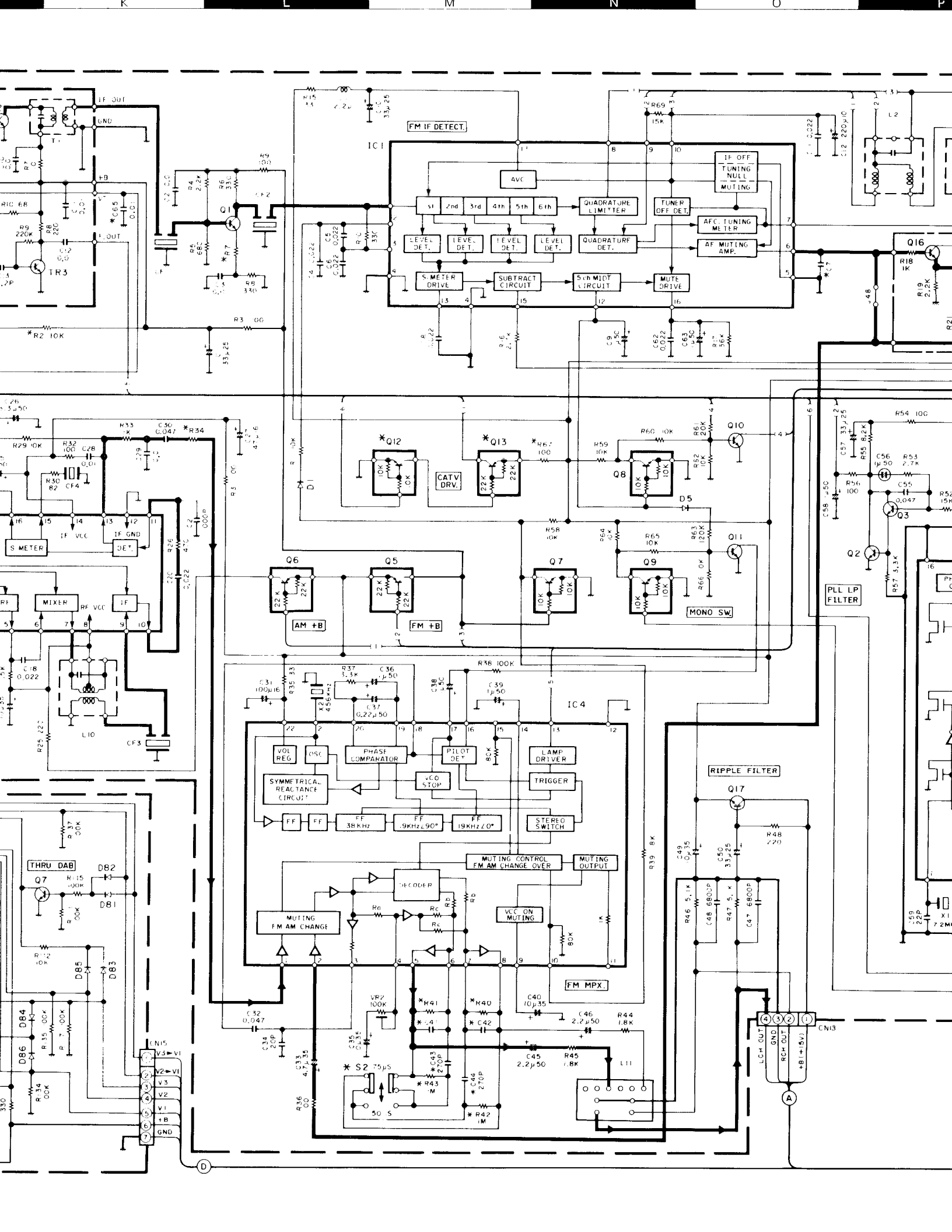


2SC3391
2SC3494



KR-V127R

KENWOOD


FM IF DETECT.
IC1
AVC
IF OFF
TUNING NULL
MUTING
QUADRATURE LIMITTER
TUNER OFF DET.
AFC TUNING METER
AF MUTING AMP.
LEVEL DET.
QUADRATURE DET.
S METER DRIVE
SUBTRACT CIRCUIT
5ch MIDT CIRCUIT
MUTE DRIVE
CATV DRV.
AM +B
FM +B
MONO SW.
PLL LP FILTER
RIPPLE FILTER
IC4
VOL REG
OSC
PHASE COMPARATOR
PILOT DET
LAMP DRIVER
SYMMETRICAL REACTANCE CIRCUIT
VCO STOP
TRIGGER
STEREO SWITCH
MUTING CONTROL FM AM CHANGE OVER
MUTING OUTPUT
DECODER
MUTING FM AM CHANGE
VCC ON MUTING
FM MPX.
THRU DAB
IF OUT
GND
+B
IF VCC
IF GND
S METER
MIXER
RF VCC
IF
LCH OUT
GND
RCH OUT
+B (+5V)
CN13
CN15

(X05-352X-**)(A/6)

DESTINATION \ No		C7	C41,42	C43,44	C65	R1,2	R7	R14	R34
K	0-10	330P	820P	NO	NO	NO	22	12K	22K
P	1-01	330P	820P	NO	NO	NO	22	12K	22K
U,UE	0-81	330P	560P	YES	NO	NO	22	22K	22K
E	2-71	560P	470P	NO	YES	YES	10	22K	15K

DESTINATION \ No		R40,41	R42,43	R67	R140	R1,2	D3	D4	Q12,13	
K	0-10	91K	NO	YES	YES	NO	NO	NO	YES	NO
P	1-01	91K	NO	YES	YES	NO	NO	NO	YES	NO
U,UE	0-81	91K	YES	YES	NO	YES	NO	YES	YES	NO
E	2-71	100K	NO	NO	NO	NO	YES	NO	NO	YES

(X05-333*-**)(A/5)

IC1	LA1235
IC2	LM7001
IC3	LA1245
IC4	LA3401
Q1	2SC1923(R,O)
Q2,3	2SC1845(F,E)
Q4,17	2SC2003(L,K)
Q5,6,13	DTA124ES
Q7~9,12,14,15	DTC114ES
Q10,11,16	2SC945(A)(Q,P) or 2SC1740S(Q,R)
D1~5,7,8	ISS176 or ISS133
D6	RD6.2ES(B2) or HZS6.2N(B2)
D9	KV1236(Z2)

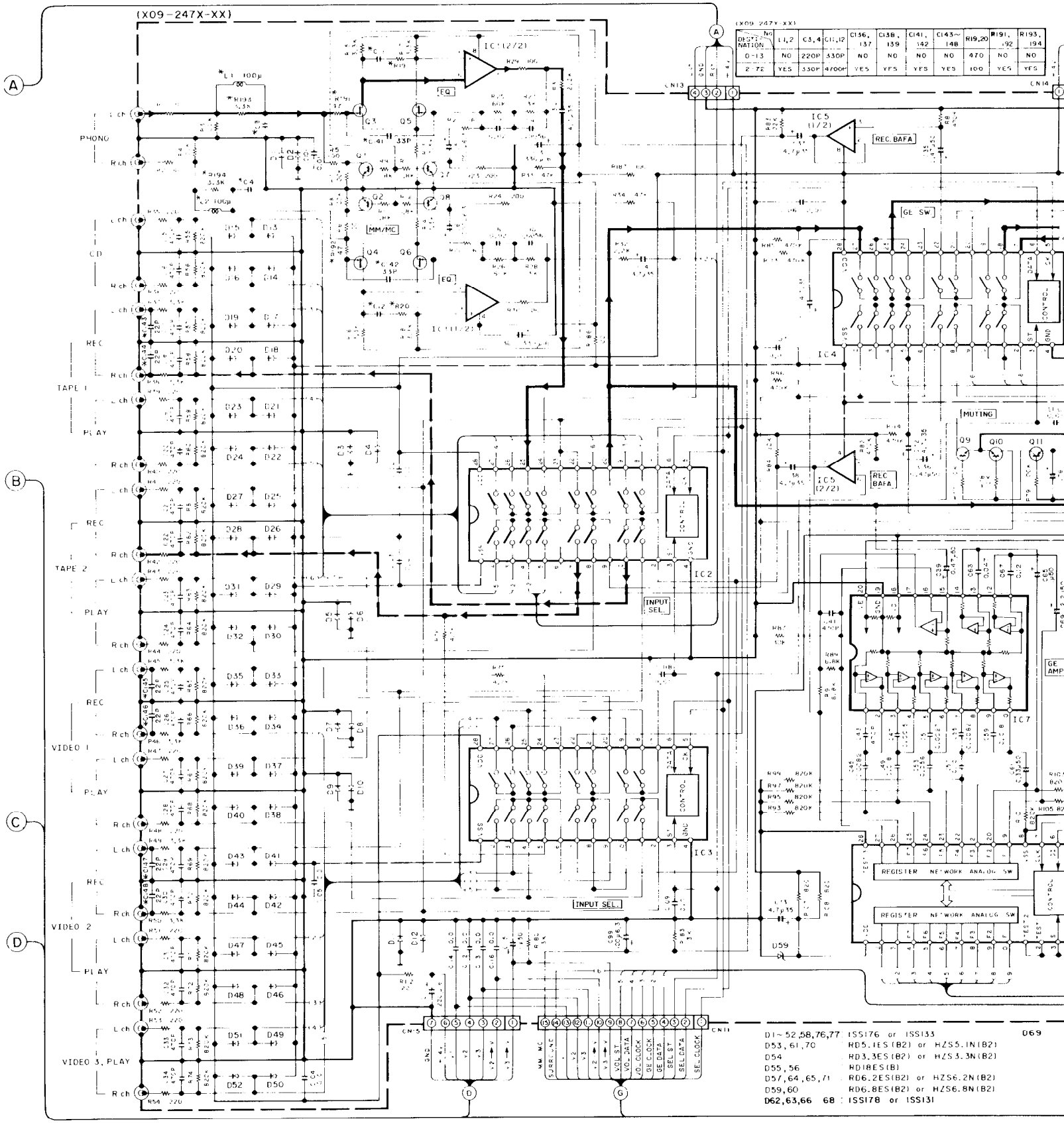
(X14-213*-**)(F/6)

IC12,13	μPD4066BC
Q7	2SC945(A)(Q,P)
Q8~10	2SA999(E,F)
D81~98	ISS176 or ISS133
D99	RD5.6ES(B2) or HZS5.6N(B2)
D100	RD2.7ES(B2) or HZS2.7N(B2)

TUNER
(X05-352X-XX)(A/6)
(W02-0699-05)

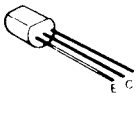
TR1: 2SK439
TR2,3: 2SC3391
TR4: 2SC3494
D1~3: 1SV110

(X14-213*-**)(F/6)

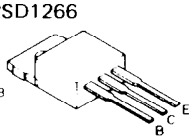


2SA733(A)
2SA992
2SA1123
2SC945(A)
2SC1845
2SC2003

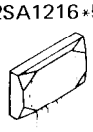
2SC2631
2SC2878
2SD1929



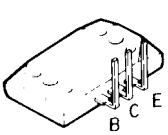
2SD1266



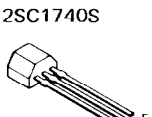
2SA1216*5



2SC2922*5



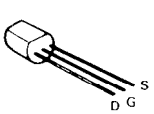
2SA933S
2SC1740S



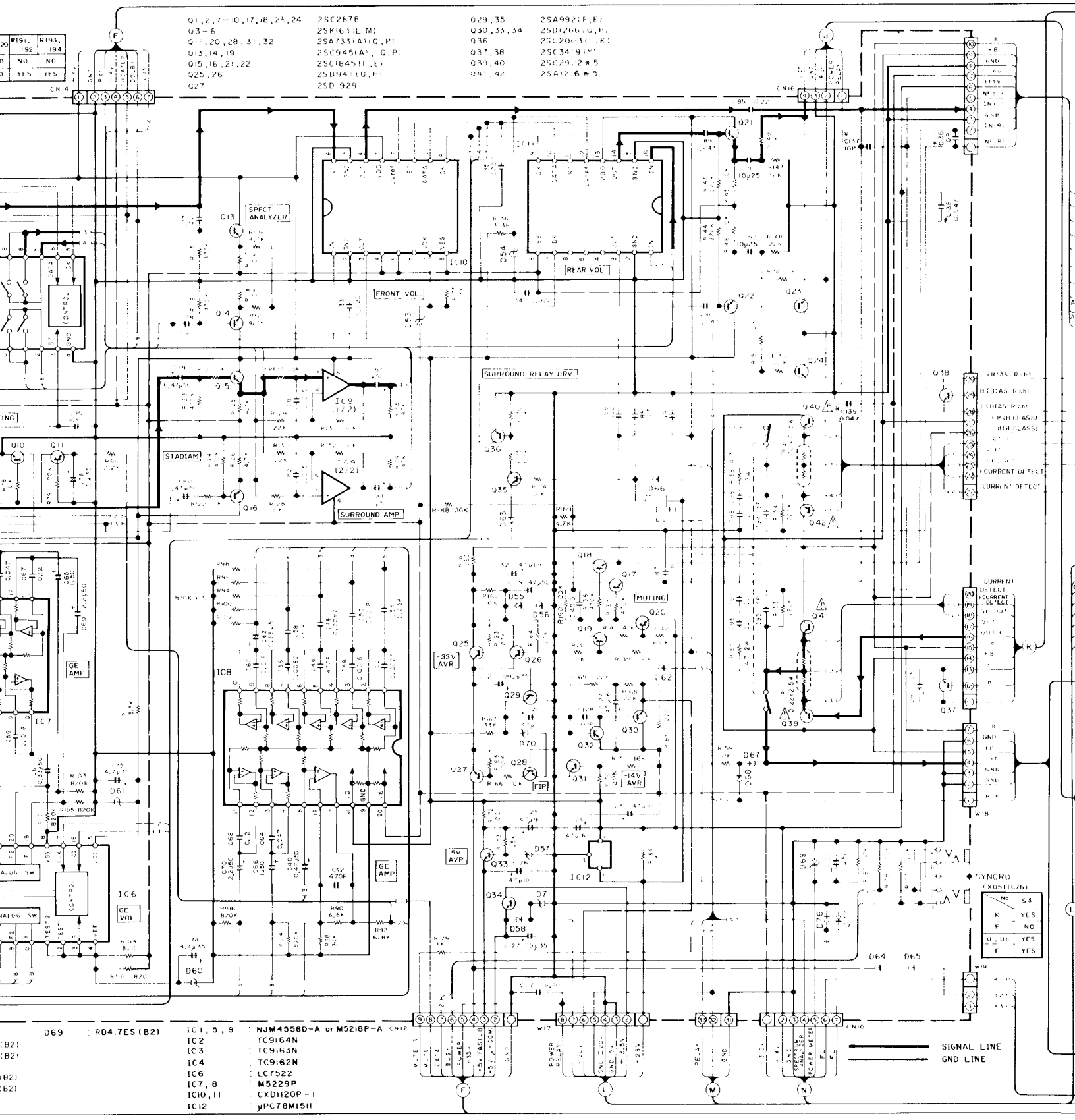
2SC3419

2SA1535
2SB941
2SC3944

2SK163



N

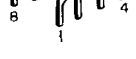


NJM4558D-A

CXD1120P-1

M5229P

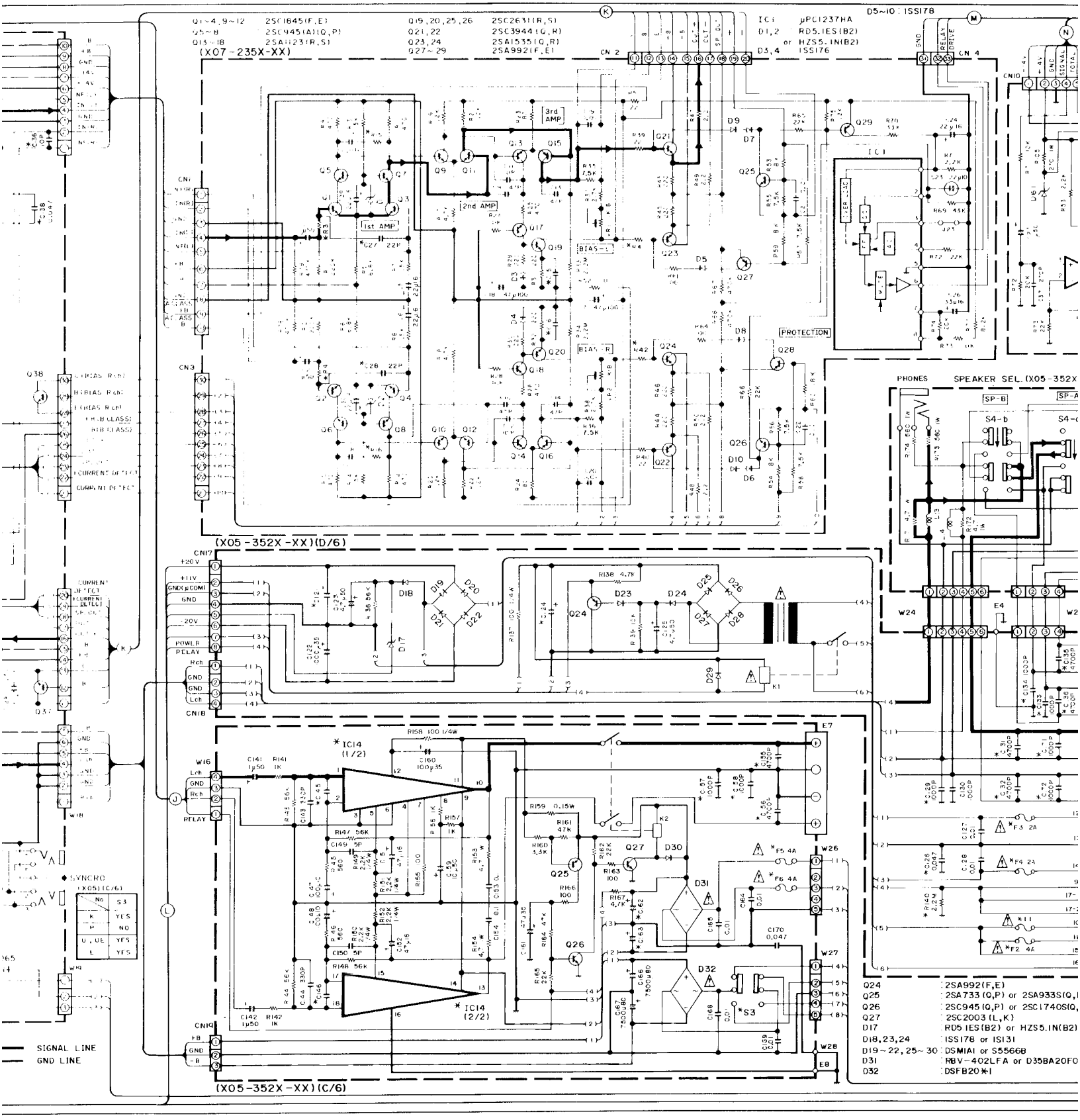
AN6556
M5218P-A



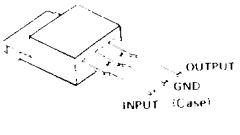
μPC1237HA

LC7522

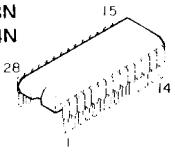
μPC78M15H

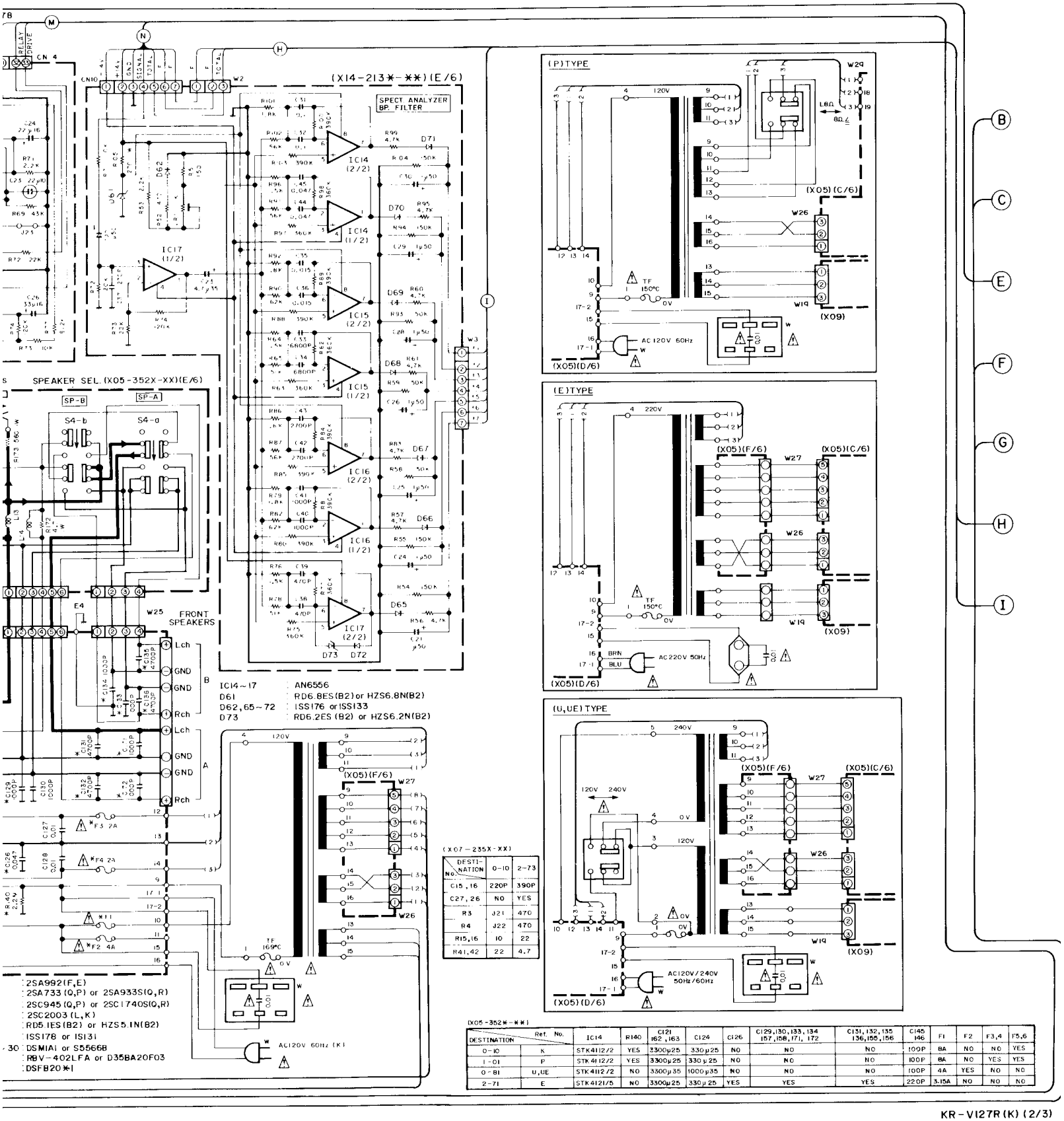


PC78M15H



TC9162N
TC9163N
TC9164N





(X07-235X-XX)

DESTINATION / No.	0-10	2-73
C15,16	220P	390P
C27,26	NO	YES
R3	J21	470
R4	J22	470
R15,16	10	22
R41,42	22	4.7

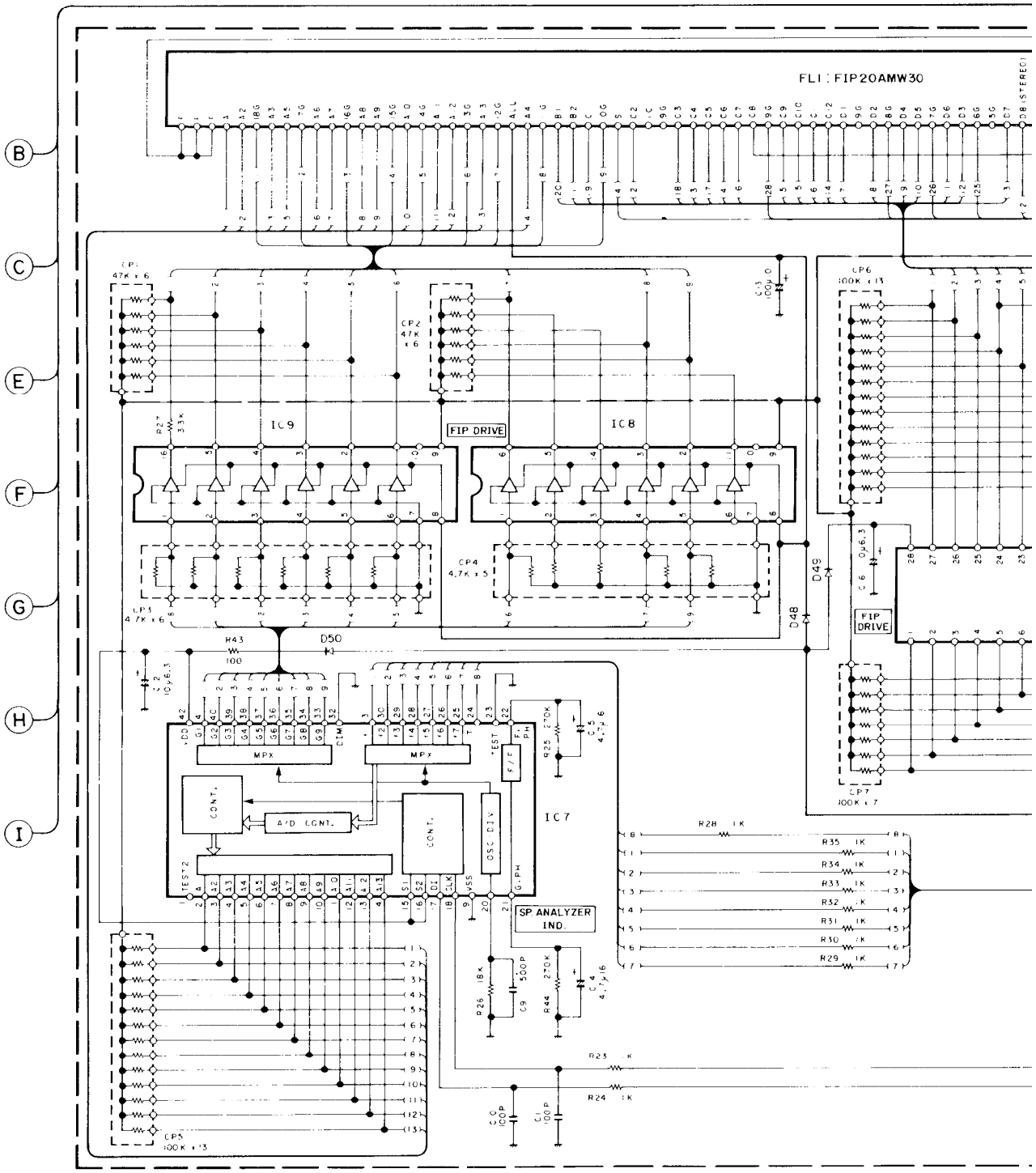
(X05-352*-**)

DESTINATION	Ref. No.	IC14	R140	C121 162,163	C124	C126	C129,130,133,134 157,158,171,172	C131,132,135 136,155,156	C145 146	F1	F2	F3,4	F5,6
0-10	K	STK4112/2	YES	3300μ25	330μ25	NO	NO	NO	100P	8A	NO	NO	YES
1-01	P	STK4112/2	YES	3300μ25	330μ25	NO	NO	NO	100P	8A	NO	YES	YES
0-81	U,UE	STK4112/2	NO	3300μ35	1000μ35	NO	NO	NO	100P	4A	YES	NO	NO
2-71	E	STK4121/5	NO	3300μ25	330μ25	YES	YES	YES	220P	3.15A	NO	NO	NO

KR-V127R(K)(2/3)

KR-V127R

KENWOOD



(X14-213X-XX)(A/6)

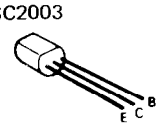
(X14-213X-XX)(A/6)	
IC1	μPD75108CW-041
IC2~5	μPA80C
IC6	μPD6300C
IC7	LC7565
IC8,9	LB1294
Q1~4	DTA143EFF
D9~12,15,17~37,48~54	ISS176 or ISS133
D38~47	ISS178 or ISS131

(X14-213X-XX)(C/6)	
D1~7	ISS176 or ISS133
D8	B30-0431-05

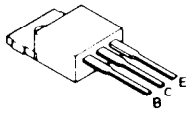
(X14-213X-	
IC10,11	
Q12,14	
Q13	
D111~118	

(X14-213X-	
DESTINATION	
0-10 , 0-	
2-72	

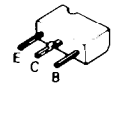
2SC945(A)
2SC2003



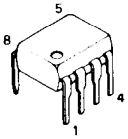
2SD1266



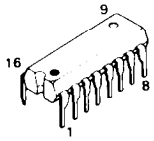
DTA143EFF



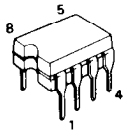
NJM4558D-A



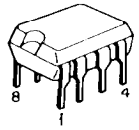
NE645N



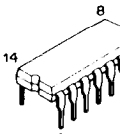
MN3101



M5218P



μPD4001BC



FIP

FIP DRIVE

IC1 IC3 IC4 IC5 IC6

μ-COM.

X1 4.194 MHz

(X14-213X-XX)(D/6)
IC10,11 : μPD4001BC

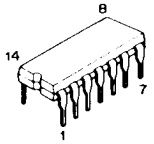
Q12,14 : 2SC945(A)(Q,P)
Q13 : *

D111~118 : 1SS176 or 1SS133

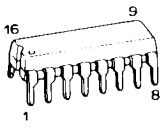
(X14-213*-**)(A/6)

DESTINATION \ No.	R21	D40
0-10 , 0-81	YES	YES
2-72	NO	NO

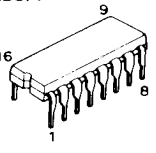
μPD4001BC



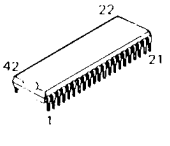
LB1294



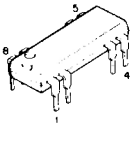
μPA80A



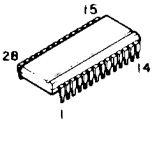
LC7565



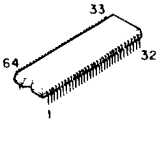
MN3008

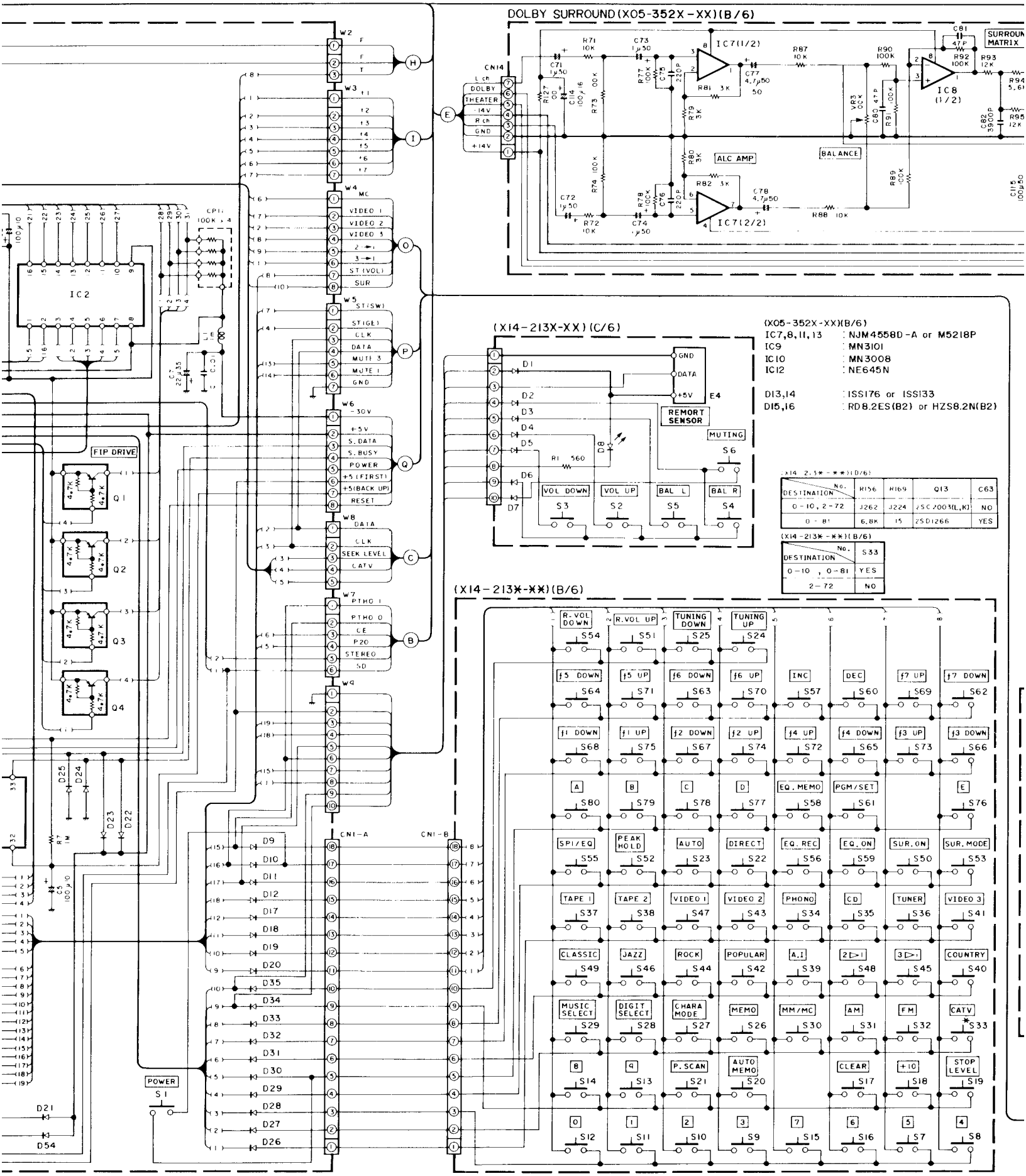


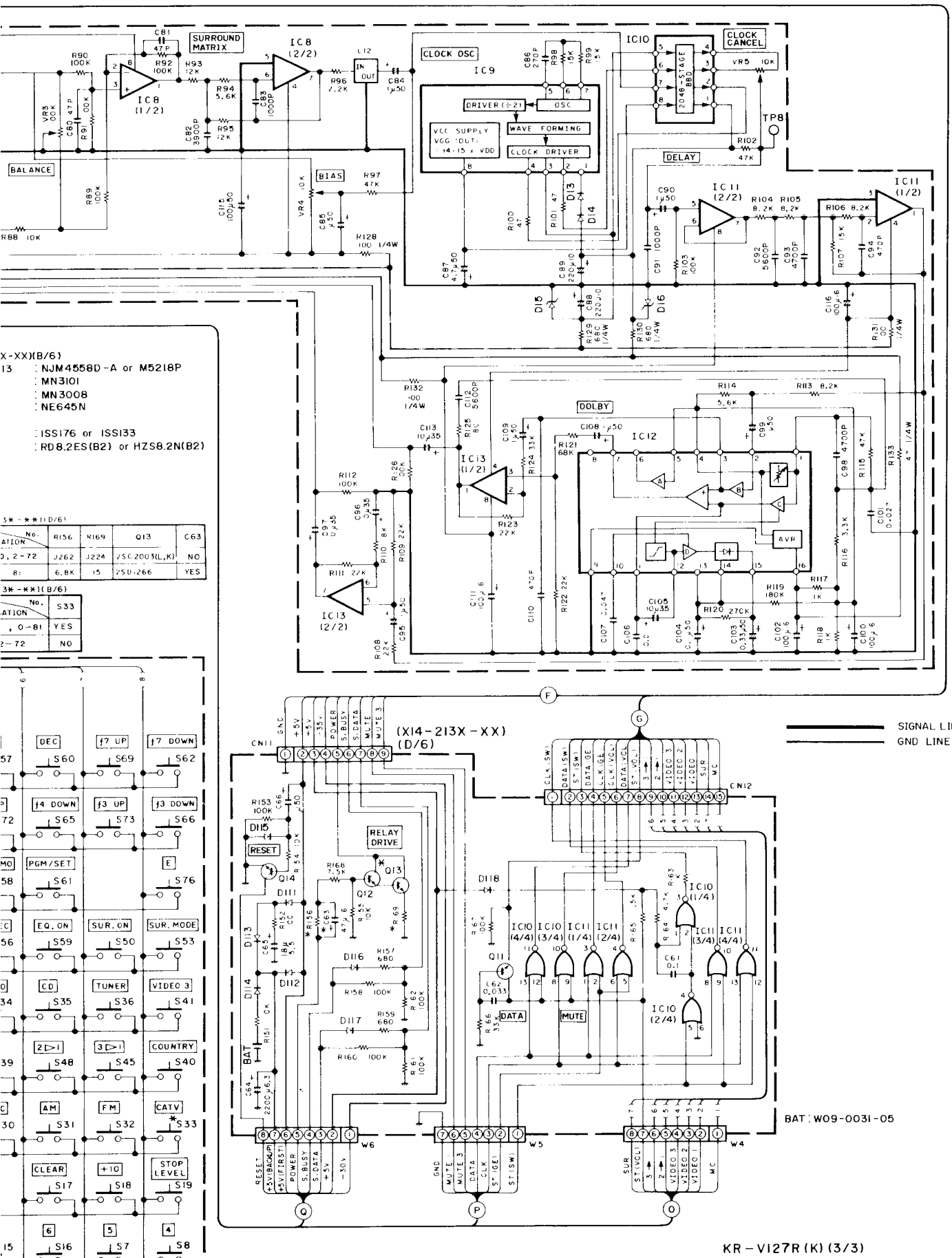
μPD6300C



μPD75108CW-041




DOLBY SURROUND (X05-352X-XX) (B/6)
IC7 (1/2)
IC7 (2/2)
IC8 (1/2)
ALC AMP
BALANCE
SURROUND MATRIX
CN14
L ch
DOLBY THEATER -14V
R ch
GND
+14V
(X14-213X-XX) (C/6)
GND
DATA
+5V
E4
REMORT SENSOR
MUTING
D1
D2
D3
D4
D5
D6
D7
D8
R1 560
S6
VOL DOWN
VOL UP
BAL L
BAL R
S3
S2
S5
S4
(X05-352X-XX) (B/6)
IC7,8,11,13 : NJM4558D-A or M5218P
IC9 : MN3101
IC10 : MN3008
IC12 : NE645N
D13,14 : 1SS176 or 1SS133
D15,16 : RD8.2ES(B2) or HZS8.2N(B2)
(X14-213X-XX) (B/6)
(X14-213X-XX) (C/6)
DESTINATION / No. | R156 | R169 | Q13 | C63
0-10, 2-72 | 3262 | 3224 | 2SC2003(L,K) | NO
0-81 | 6.8K | 15 | 2SD1266 | YES
(X14-213X-XX) (B/6)
DESTINATION / No. | S33
0-10 , 0-81 | YES
2-72 | NO
(X14-213X-XX) (B/6)
R-VOL DOWN S54
R.VOL UP S51
TUNING DOWN S25
TUNING UP S24
f5 DOWN S64
f5 UP S71
f6 DOWN S63
f6 UP S70
INC S57
DEC S60
f7 UP S69
f7 DOWN S62
f1 DOWN S68
f1 UP S75
f2 DOWN S67
f2 UP S74
f4 UP S72
f4 DOWN S65
f3 UP S73
f3 DOWN S66
A S80
B S79
C S78
D S77
EQ.MEMO S58
PGM/SET S61
E S76
SPI/EQ S55
PEAK HOLD S52
AUTO S23
DIRECT S22
EQ.REC S56
EQ.ON S59
SUR.ON S50
SUR.MODE S53
TAPE 1 S37
TAPE 2 S38
VIDEO 1 S47
VIDEO 2 S43
PHONO S34
CD S35
TUNER S36
VIDEO 3 S41
CLASSIC S49
JAZZ S46
ROCK S44
POPULAR S42
A.I S39
2▷I S48
3▷I S45
COUNTRY S40
MUSIC SELECT S29
DIGIT SELECT S28
CHARA MODE S27
MEMO S26
MM/MC S30
AM S31
FM S32
CATV S33
B S14
Q S13
P.SCAN S21
AUTO MEMO S20
CLEAR S17
+10 S18
STOP LEVEL S19
0 S12
1 S11
2 S10
3 S9
7 S15
6 S16
5 S7
4 S8
W2 F H
W3 I
W4 MC O
W5 ST(SW) P
W6 -30V Q
W8 C
W7 PTHO 1 B
W9
CN1-A
CN1-B
D9 D10 D11 D12 D17 D18 D19 D20 D35 D34 D33 D32 D31 D30 D29 D28 D27 D26
POWER S1
D21
D54
FIP DRIVE
IC2
Q1 Q2 Q3 Q4



X-XX)(B/6)

13	: NJM4558D-A or M5218P
	: MN3101
	: MN3008
	: NE645N
	: ISS176 or ISSI33
	: RD8.2ES(B2) or HZS8.2N(B2)

3* - **)(D/6)

No. / ATION	R156	R169	Q13	C63
0, 2 - 72	J262	J224	2SC2003(L,K)	NO
8:	6.8K	15	2SJ266	YES

3* - **)(B/6)

No. / ATION	S33
, 0 - 81	YES
2 - 72	NO

KR-V127R(K)(3/3)

KR-V127R

KENWOOD