Signal line — Control line — Common DC line

COMPOSITE UNIT (RX) (X60-1320-01)

(X60-1320-01)

IC 1 : TA7302P
IC 2 : TA7761P
IC 3 : NJM4558C
IC 4 : AN612
IC 5 : μPC78M08H

Q1,2,3,24 : 3SK73(GR)
Q4 : 2SK125
Q5,18,19 : 2SC2714(Y)
Q6,8,9,12,13,20,31,36 : 2SC2712(Y)
Q7,11,17,21,23,28,29,35 : DTC114EK
Q10,22 : DTA114EK
Q14,15 : 2SK208(O)
Q16,33 : 2SA1162(Y)
Q25~27 : 2SC3324(G,B)
Q30 : 2SA1115(E)
Q32 : 2SA1307(Y)
Q34 : 2SC3419(Y)

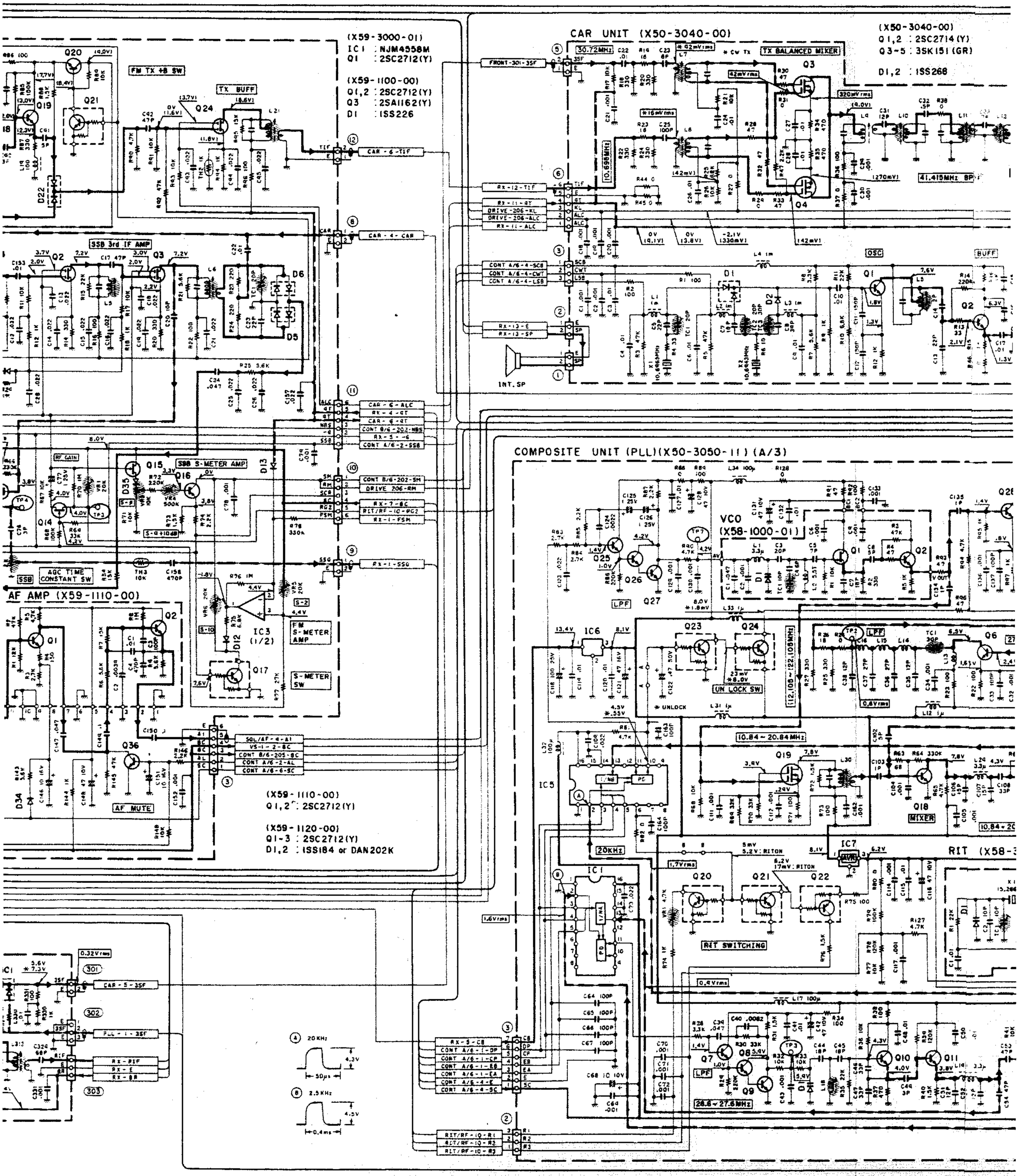
D1,24 : 1SS272
D3,4,12~15,17,22 26,33,34 : 1SS184
D5,6,32 : HSM88AS
D9,18,23 28,31,35 : 1SS181
D10,11 : 1SS106
D16,20 : 1SS133
D19,27 : 1SS226
D21 : 1SS2208
D29 : MTZ11JC
D30 : MTZ6.2JA

COMPOSITE UNIT (FRONT) (X50-3050-11) (C/3)

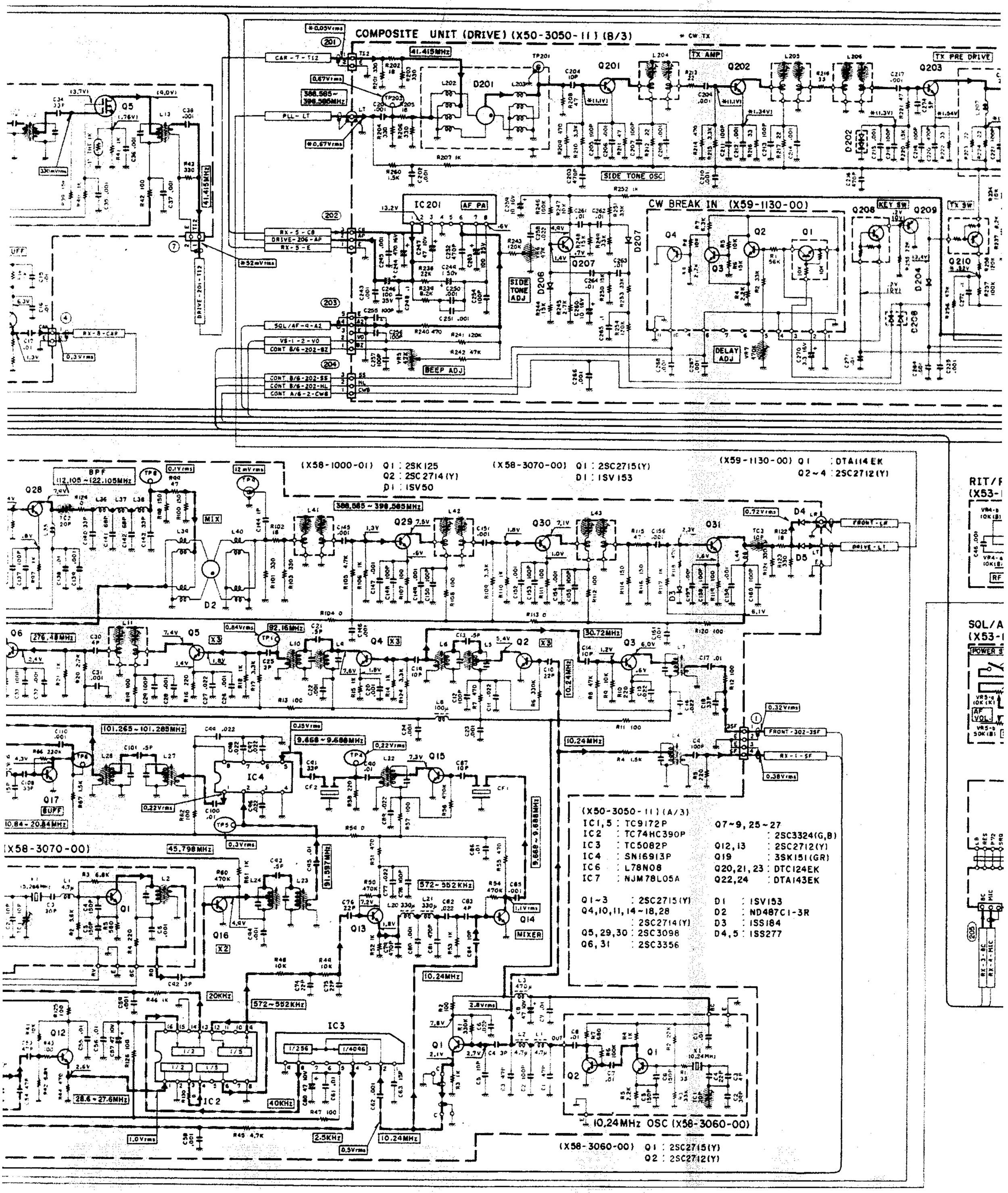
(X50-3050-11) (C/3)

Q301,303 : 3SK184(S)
Q302 : 2SK125
Q304 : 3SK179(L)
Q305 : DTA114EK
Q306 : DTC114EK
D301 : 1SS268

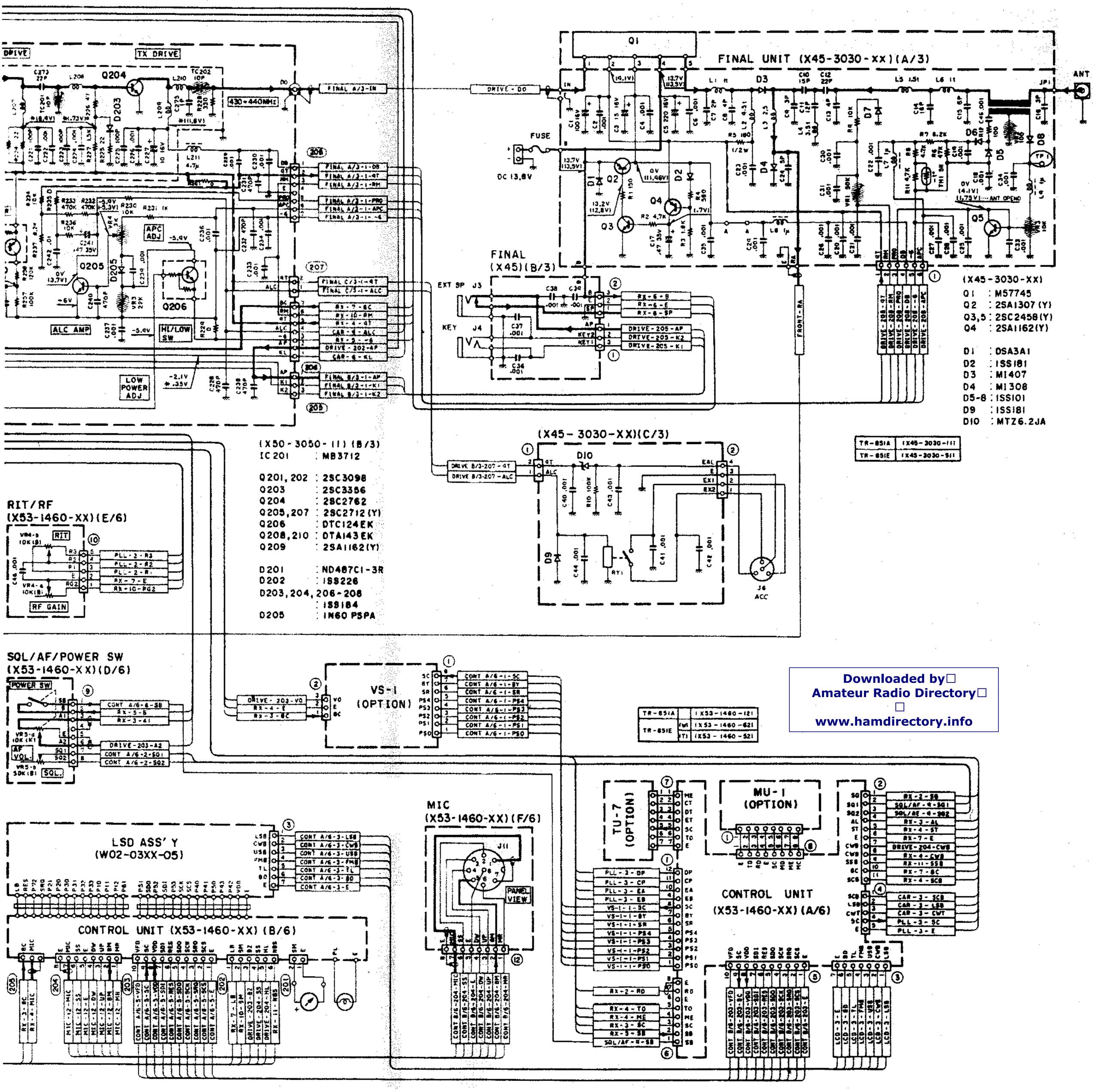
SCHEMATI


(X59-3000-01)
IC1 : NJM4558M
Q1 : 2SC2712(Y)
(X59-1100-00)
Q1,2 : 2SC2712(Y)
Q3 : 2SA1162(Y)
D1 : 1SS226
FM TX +B SW
TX BUFF
Q20
Q21
Q19
Q24
D22
TIF
CAR - 6 - TIF
CAR
CAR - 4 - CAR
SSB 3rd IF AMP
Q2
Q3
D6
D5
SSB S-METER AMP
Q15
Q16
D13
D35
RF GAIN
Q14
S-9
S-9+10dB
CONT B/6-202-SM
DRIVE 206-RM
RX-7-BC
RIT/RF-IO-RC2
RX-1-FSM
RX-1-SSG
SSB
AGC TIME CONSTANT SW
AF AMP (X59-1110-00)
Q1
Q2
IC3 (1/2)
Q17
S-METER SW
FM S-METER AMP
S-1
S-2
S-10
SQL/AF-4-A1
VS-1-2-BC
CONT B/6-205-BC
CONT A/6-2-AL
CONT A/6-6-SC
Q36
D34
AF MUTE
(X59-1110-00)
Q1,2 : 2SC2712(Y)
(X59-1120-00)
Q1-3 : 2SC2712(Y)
D1,2 : 1SS184 or DAN202K
CAR UNIT (X50-3040-00)
(X50-3040-00)
Q1,2 : 2SC2714(Y)
Q3-5 : 3SK151(GR)
D1,2 : 1SS268
30.72MHz
FRONT-301-35F
TX BALANCED MIXER
Q3
Q4
41.415MHz
Rx-12-TIF
Rx-11-GT
DRIVE-206-KL
DRIVE-206-ALC
Rx-11-ALC
CONT A/6-4-SCB
CONT A/6-4-CWT
CONT A/6-4-LSB
Rx-13-E
Rx-13-SP
INT. SP
OSC
BUFF
Q1
Q2
D1
D2
COMPOSITE UNIT (PLL)(X50-3050-11)(A/3)
VCO
(X58-1000-01)
Q25
Q26
Q27
LPF
IC6
UN LOCK SW
10.84~20.84MHz
IC5
Q19
Q18
MIXER
IC7
RIT (X58-3
Q20
Q21
Q22
RIT SWITCHING
Q7
Q8
Q9
Q10
Q11
26.6~27.6MHz
IC1
0.32Vrms
301
302
303
CAR - 5 - 35F
PLL - 1 - 35F
RX - RIF
RX - E
RX - BR
RX-5-CB
CONT A/6-1-DP
CONT A/6-1-CP
CONT A/6-1-EB
CONT A/6-1-EA
CONT A/6-4-E
CONT A/6-4-SC
RIT/RF-IO-R1
RIT/RF-IO-R2
RIT/RF-IO-R3
20KHz
2.5KHz
50μs
0.4ms

TIC DIAGRAM

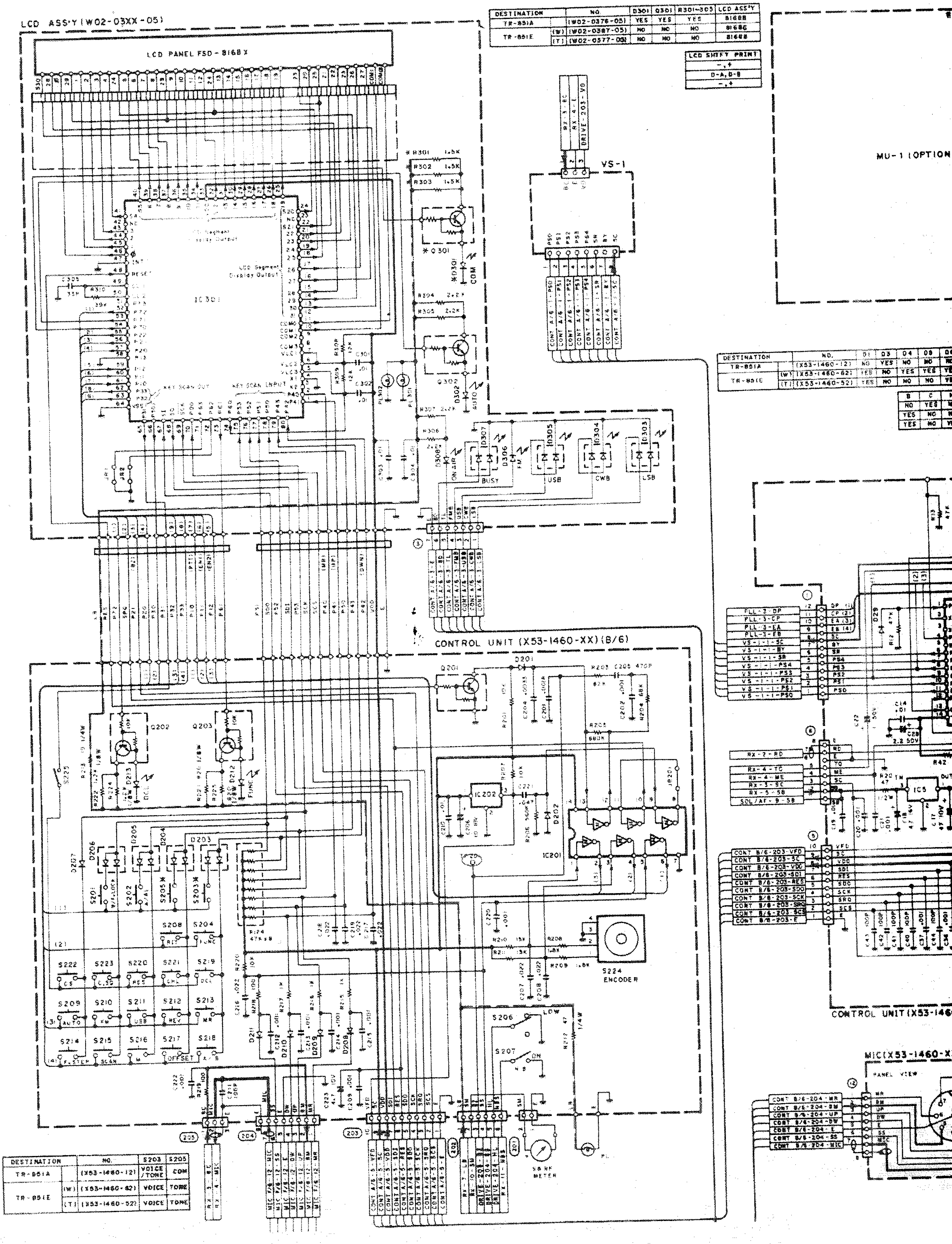

COMPOSITE UNIT (DRIVE) (X50-3050-11) (8/3)
* CW TX
CAR-7-T12
PLL-LT
DRIVE-206-AP
RX-5-E
RX-5-CB
DRIVE-201-T12
RX-8-CAR
SQL/AF-9-A2
VS-1-2-VO
CONT B/6-202-BZ
CONT B/6-202-SS
CONT B/6-202-HL
CONT A/6-2-CWB
41.415MHz
388.585~398.585MHz
IC201
AF PA
SIDE TONE OSC
SIDE TONE ADJ
BEEP ADJ
CW BREAK IN (X59-1130-00)
KEY SW
TX SW
DELAY ADJ
TX AMP
TX PRE DRIVE
MIX
BPF
112.105~122.105MHz
388.585~398.585MHz
276.48MHz
92.16MHz
30.72MHz
10.24MHz
101.265~101.265MHz
9.668~9.688MHz
10.84~20.84MHz
45.798MHz
91.597MHz
572~552KHz
20KHz
40KHz
2.5KHz
28.6~27.6MHz
FRONT-1F
DRIVE-1T
FRONT-302-3SF
RX-1-5F
RX-3-BC
RX-4-MIC
(X58-1000-01) Q1 : 2SK125
Q2 : 2SC2714(Y)
D1 : 1SV50
(X58-3070-00) Q1 : 2SC2715(Y)
D1 : 1SV153
(X59-1130-00) Q1 : DTA114EK
Q2~4 : 2SC2712(Y)
(X50-3050-11) (A/3)
IC1,5 : TC9172P
IC2 : TC74HC390P
IC3 : TC5082P
IC4 : SN16913P
IC6 : L78N08
IC7 : NJM78L05A
Q1~3 : 2SC2715(Y)
Q4,10,11,14~18,28 : 2SC2714(Y)
Q5,29,30 : 2SC3098
Q6,31 : 2SC3356
Q7~9,25~27 : 2SC3324(G,B)
Q12,13 : 2SC2712(Y)
Q19 : 3SK151(GR)
Q20,21,23 : DTC124EK
Q22,24 : DTA143EK
D1 : 1SV153
D2 : ND487C1-3R
D3 : 1SS184
D4,5 : 1SS277
10.24MHz OSC (X58-3060-00)
(X58-3060-00) Q1 : 2SC2715(Y)
Q2 : 2SC2712(Y)

Voltage measurement conditions f=435.00MHz,RX no signal,( ) : TX.



TR-851A	(X45-3030-11)
TR-851E	(X45-3030-51)

TR-851A		(X53-1460-12)
TR-851E	(W)	(X53-1460-62)
	(T)	(X53-1460-52)



DESTINATION		NO.	D301	Q301	R301~303	LCD ASS'Y
TR-851A		(W02-0376-05)	YES	YES	YES	8168B
TR-851E	(W)	(W02-0387-05)	NO	NO	NO	8168G
	(T)	(W02-0377-05)	NO	NO	NO	8168B

LCD SHIFT PRINT
-,+
D-A,D-B
-,+

DESTINATION		NO.	D1	D3	D4	D8
TR-851A		(X53-1460-12)	NO	YES	NO	NO
TR-851E	(W)	(X53-1460-62)	YES	NO	YES	YES
	(T)	(X53-1460-52)	YES	NO	NO	NO

B	C
NO	YES
YES	NO
YES	NO

DESTINATION		NO.	S203	S205
TR-851A		(X53-1460-12)	VOICE /TONE	COM
TR-851E	(W)	(X53-1460-62)	VOICE	TONE
	(T)	(X53-1460-52)	VOICE	TONE

CIRCUIT DIAGRAM TR-851A/E

Q4,6,201~203,301,302	DTC114EK
Q5	DTA114TK
Q7,8	DTA114EK

IC1	μPD7508HG-564-22	
IC2	DTSC124E	
IC3	DTSA143E	
IC4	μPD7507SCT-226	
IC5	NJM2930L-06	
IC6	NE555P	
IC201	BU4584B	
IC202	PST523C	
IC301	μPD75146-145-12	

D1~9,11,14,16~18,22~24,207~211	1SS133
D10,20,25,26,30,31,33	1SS184 or DAN202K
D21,27,201~206	1SS181 or DAP202K
D29	1SS106
D212	LN327GP
D213	LN422YP
D301,306	MP-7AA001
D302,308	MP-18K001
D303~305,307	MP-28G001

MU-1 (OPTION)

TU-7 (OPTION)

ATTON		NO.	D1	D3	D4	D5	D6	D8	D14	D30
BIK		(X53-1460-12)	NO	YES	NO	NO	NO	NO	YES	NO
BIE	(W)	(X53-1460-62)	YES	NO	YES	YES	YES	YES	NO	YES
	(T)	(X53-1460-52)	YES	NO	NO	NO	YES	YES	NO	YES

B	C	H	JR2	JR3~5	J7
NO	YES	NO	NO	NO	YES
YES	NO	NO	YES	YES	NO
YES	NO	YES	YES	NO	NO

CONTROL UNIT (X53-1460-XX) (A/6)

MIC (X53-1460-XX) (F/6)

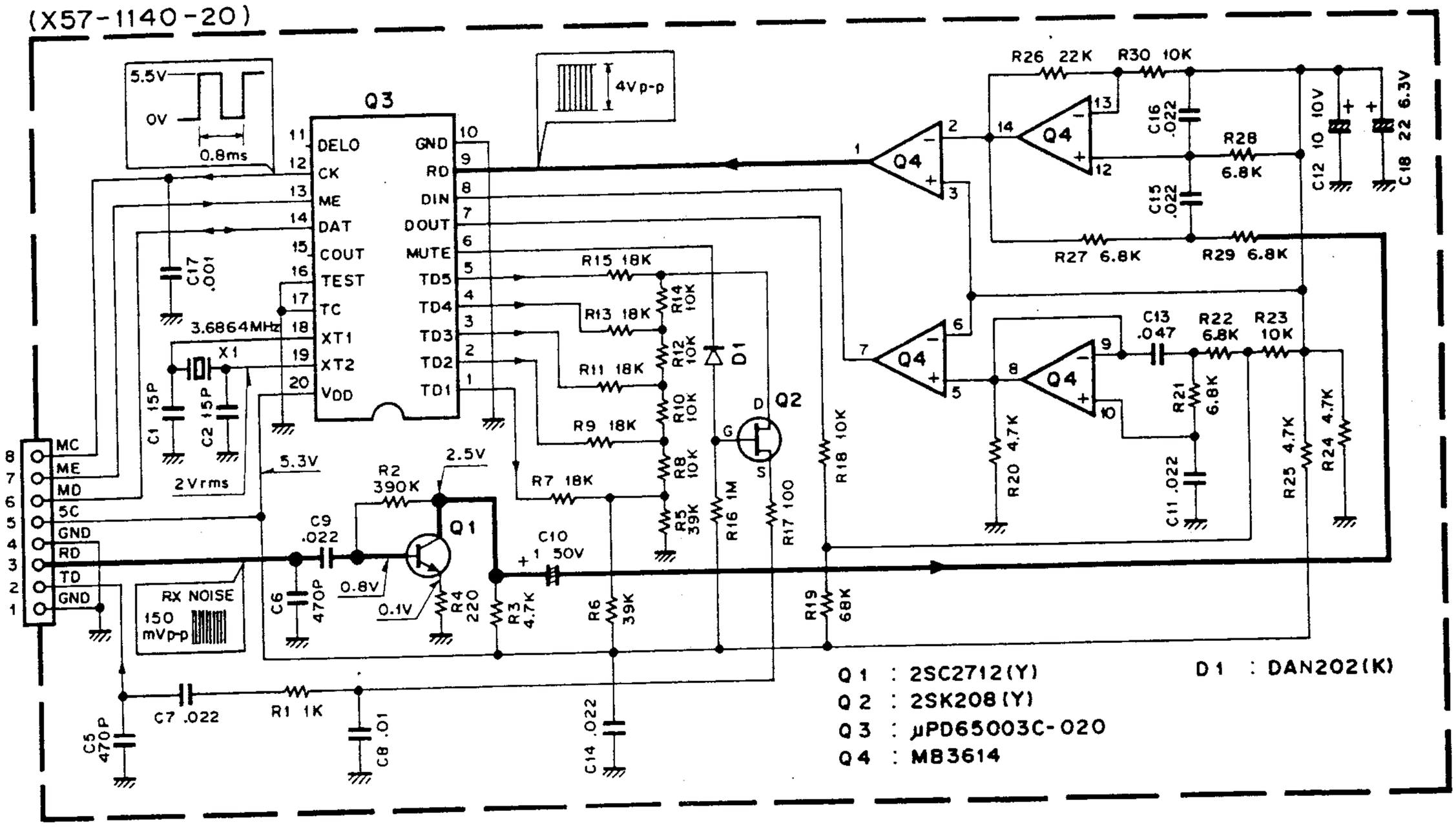
PANEL VIEW

TR-851A/E (M.T W) (2/2)

MU-1 (MODEM UNIT)

MU-1 SCHEMATIC DIAGRAM

(X57-1140-20)



- **Modulation output (TD terminal output on MODEM unit)**

Condition		TD terminal output	
ME	MD	Frequency (Hz)	Output voltage (V)
5V	5V	1.200	1.3 ± 0.15
5V	0V	1.800	1.1 ± 0.15

- **Demodulation output**

Operation condition (RD terminal) : 40mV±3dB
(Confirm DAT terminal voltage by receiving a 60dBμ signal from SSG)

SSG MOD. frequency	DAT terminal voltage
1.200Hz	5V
1.800Hz	0V