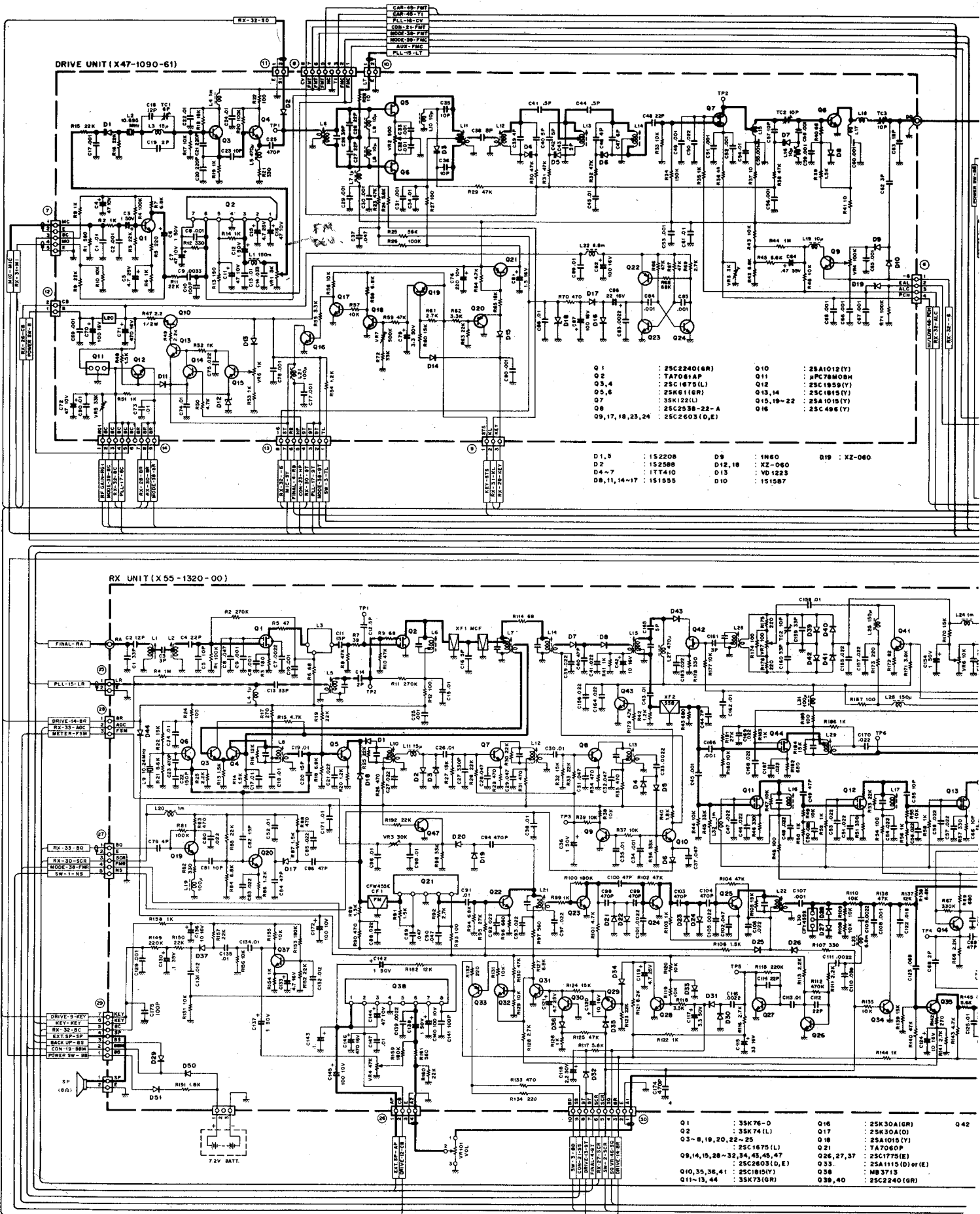
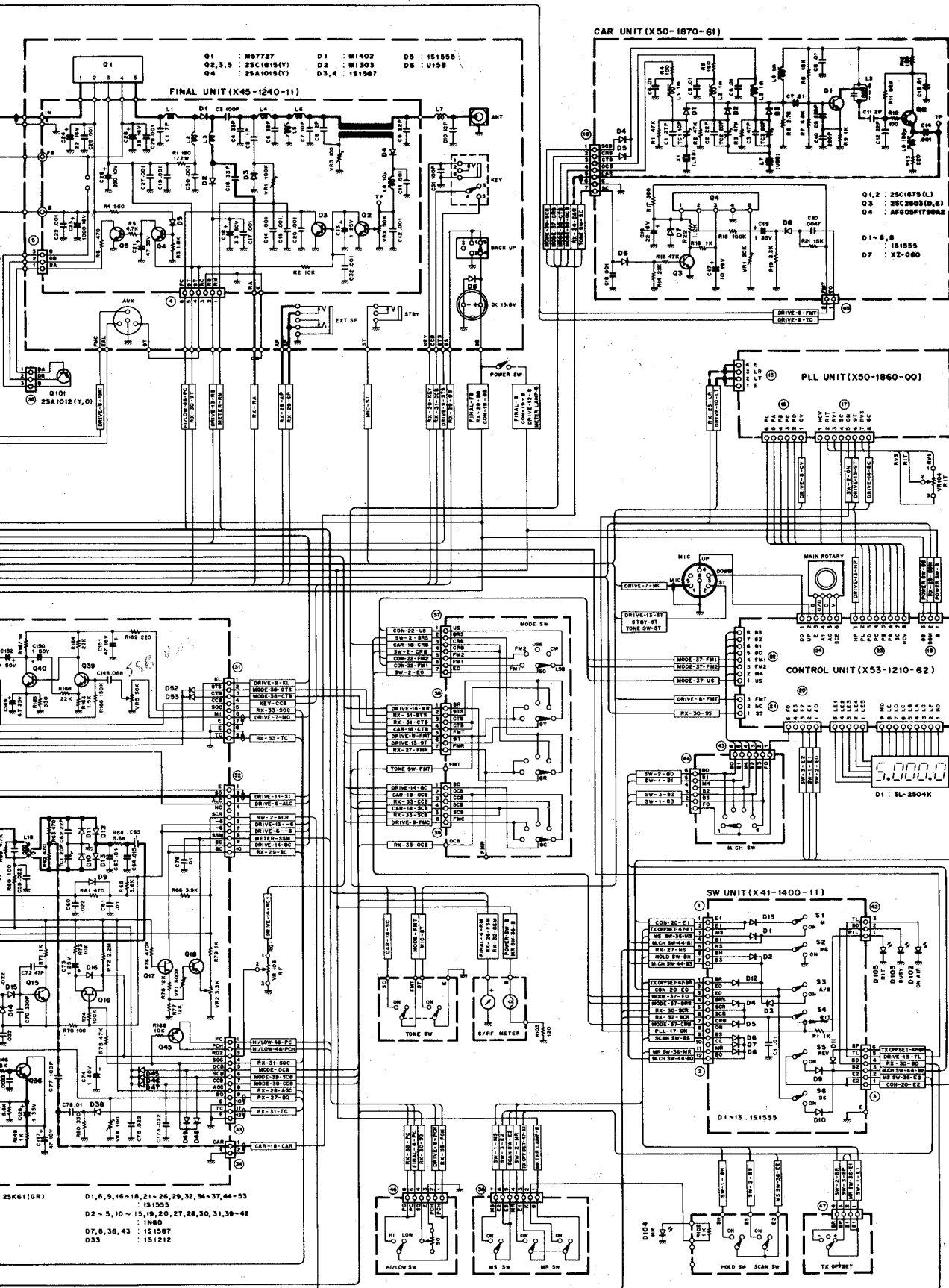


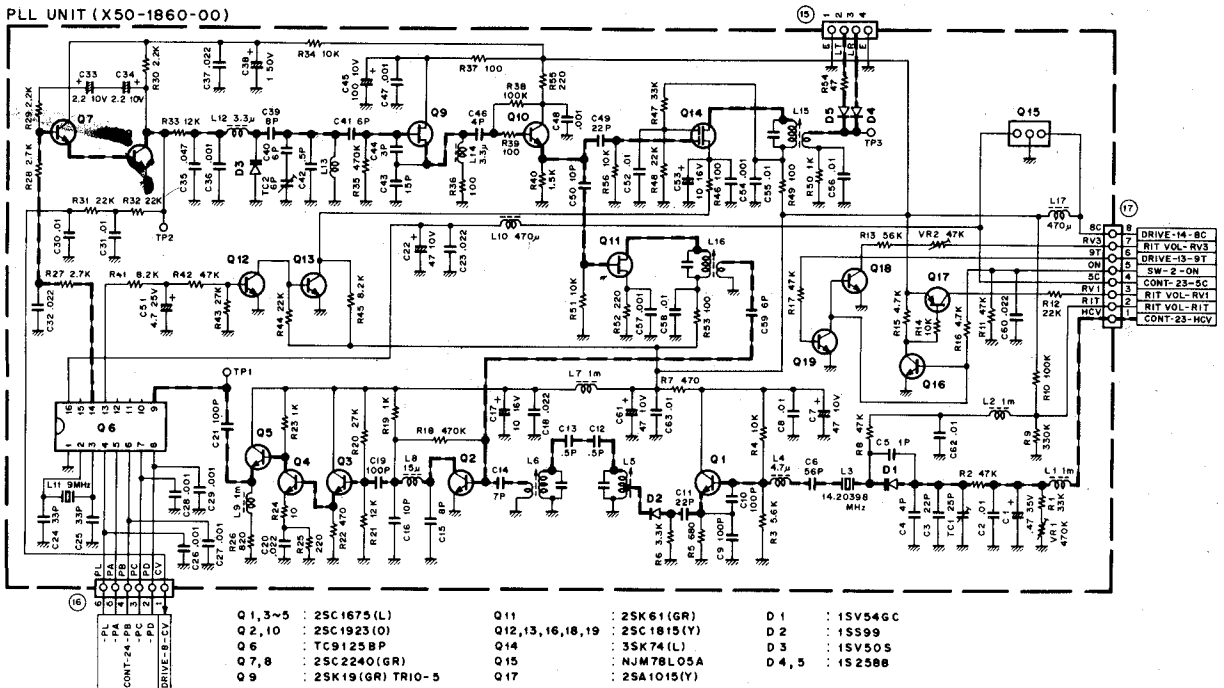
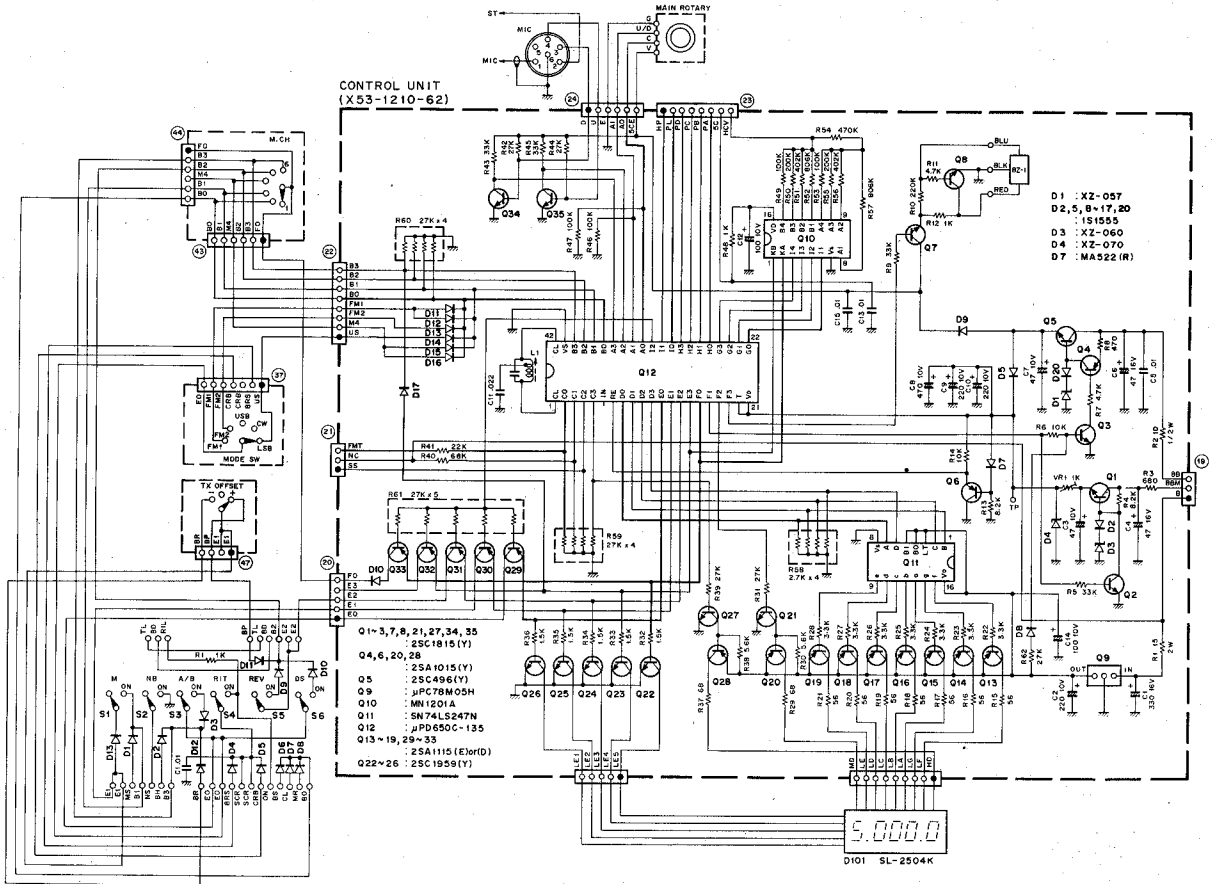
TR-9130 SCHEMATIC



DIAGRAM



SCHEMATIC DIAGRAM



BLOCK DIAGRAM

HET FREQUENCY (VCO)

MODE	FREQUENCY (MHZ)
USB	133.305
FM	~135.304
USB	133.3065
CW	~135.3064
LSB	133.3035
	~135.3034

CAR FREQUENCY

MODE	FREQUENCY (MHZ)
USB	10.6935
CW(R)	10.6935
CW(T)	10.6943
LSB	10.6965

CONTROL UNIT (X53-1210-62)

MAIN ROTARY

DISPLAY 4.0000

PLL UNIT (X50-1860-00)

RIT

CAR UNIT (X50-1870-61)

USB

LSB

OSC

10.6935MHZ

10.6965MHZ

DRIVE UNIT (X47-1090-61)

MIC AMP

LPF

FM MOD

D1 1S2208

10.695MHZ

OSC

O3 2SC1675 (L)

9T AVR

8R AVR

8C AVR

-6V AVR

FINAL UNIT (X45-1240-11)

PA

ANT SW

D1 MI402

D2 MI303

O1 M57727

LPF

DB AVR

SW

O3 2SC1815 (Y)

PRO. AMP

O2 2SC1815 (Y)

RX UNIT (X55-1320-00)

AMP

O7 3SK122 (L)

DRIVE

O8 2SC2538 (22A)

ALC AMP

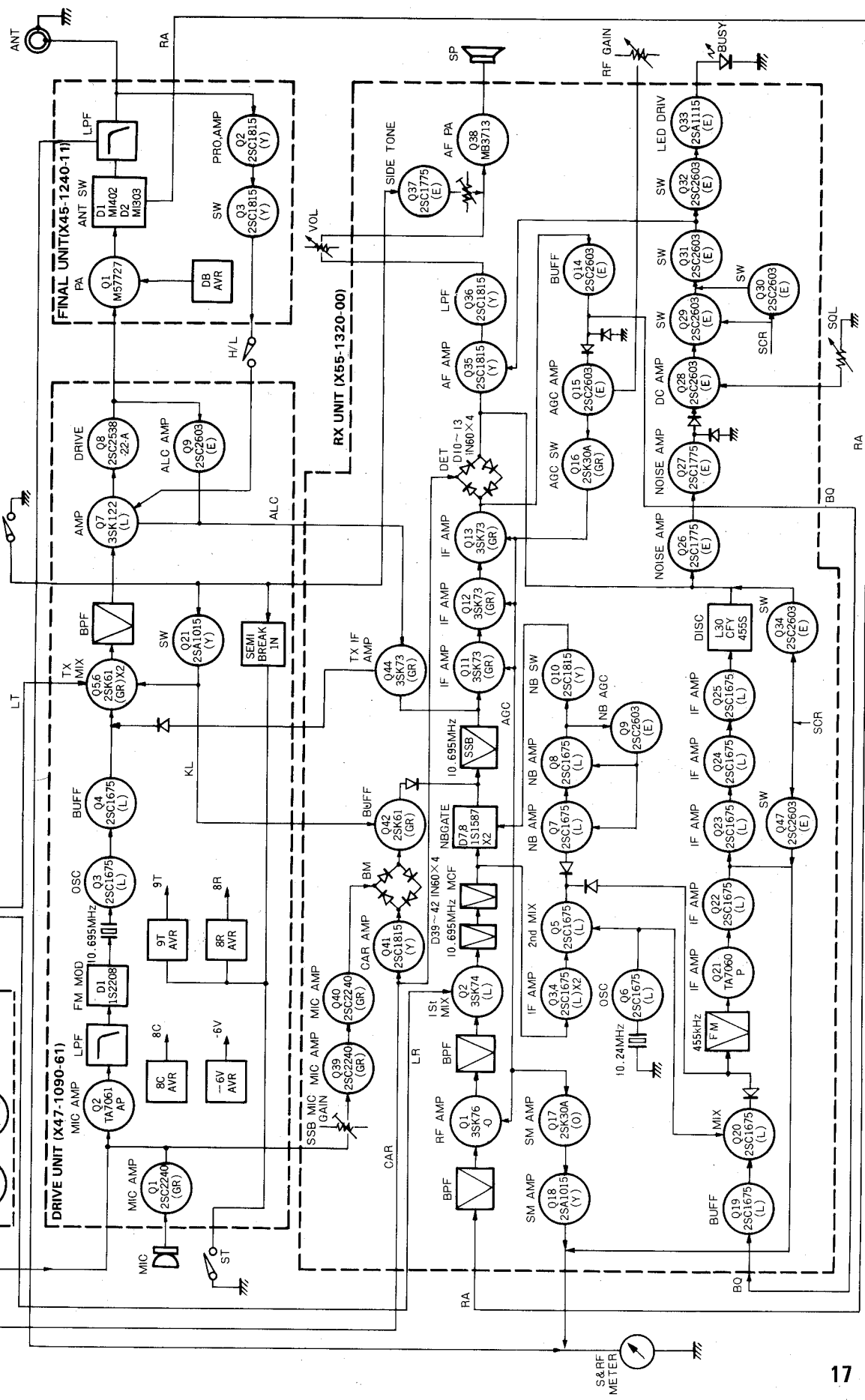
O9 2SC2603 (E)

H/L

ALC

TX IF AMP

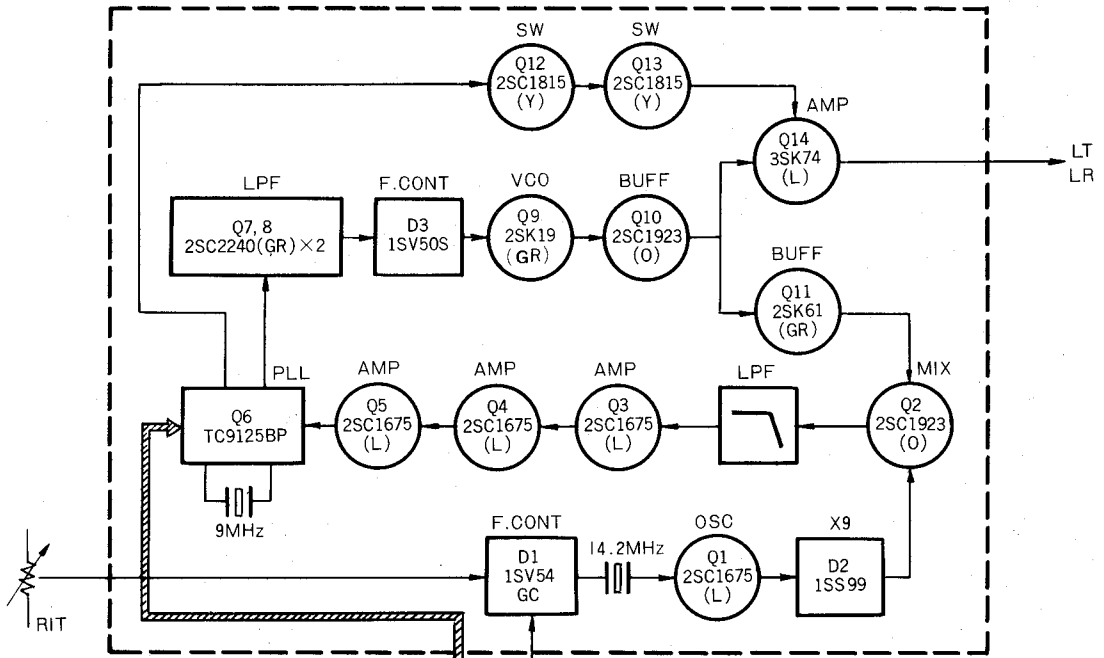
O44 3SK73 (GR)



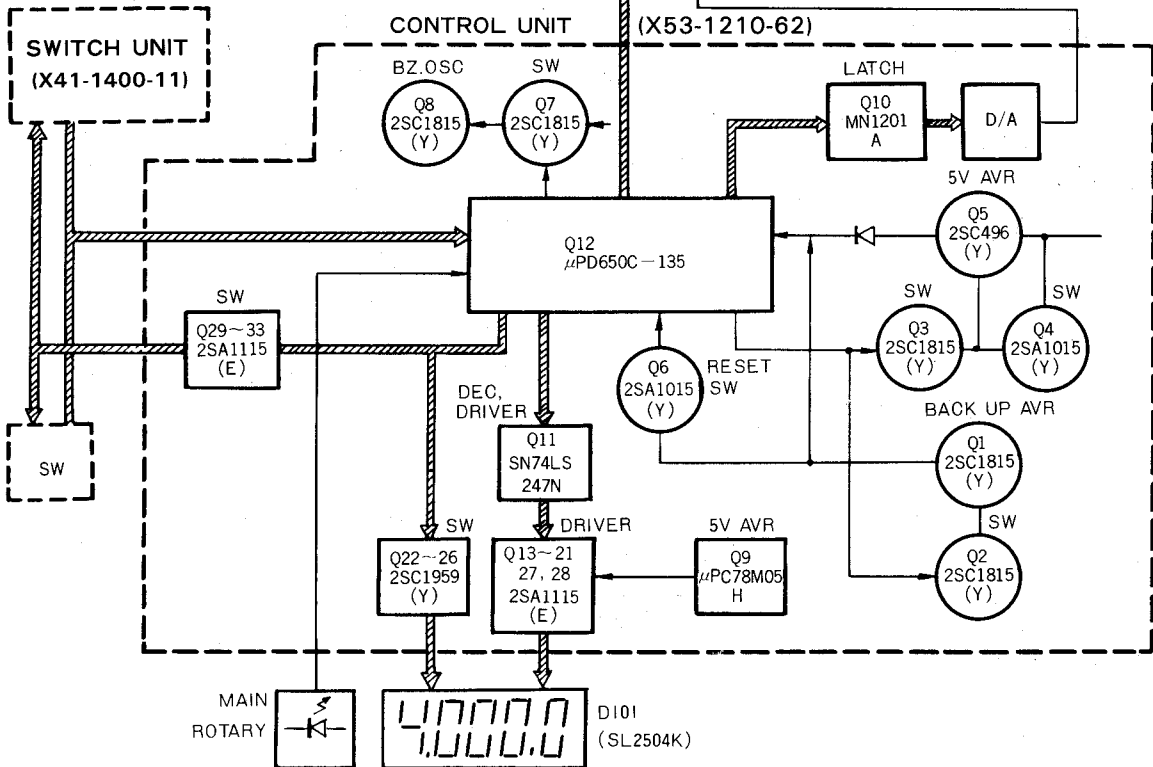
S&RF METER

BLOCK DIAGRAM

PLL UNIT (X50-1860-00)



CONTROL UNIT (X53-1210-62)



SPECIFICATIONS

[General]

Semiconductors	ICs	12
	FETs	15
	Transistors	105
	Diodes	126
Frequency range	144 to 146 MHz	
Frequency synthesizer	Digital control, phase locked VCO	
Mode	SSB (A3j), FM (F3), CW (A1)	
Frequency stability	Within ± 500 Hz during the first hour after 1 minute of warm up, and within 50Hz any 30 minutes thereafter at 25°C (constant).	
Power requirement	13.8V DC $\pm 15\%$	
Grounding	Negative	
Operating temperature	- 20°C to + 50°C	
Current drain	0.7A in receive mode with no input signal 6.0A in HI transmit mode (Approx.) 3.5A in LOW transmit mode (Approx.) Less than 3.0mA for memory back up	
Dimensions	170mm (6-11/16") wide 68mm (2-11/16") high 241mm (9-1/2") deep (projections not included)	
Weight	2.4kg (5.5lbs)	

[Transmitter Section]

RF output power (at 13.8V DC, 50 Ω load)	HI (SSB, FM, CW)	25W min.
	Low (FM, CW)	5W approx.
Modulation	FM	Variable reactance direct shift
	SSB	Balanced modulation
Tone frequency	1750Hz	
Frequency tolerance	SSB, CW	Less than $\pm 10 \times 10^{-6}$
	FM	Less than $\pm 20 \times 10^{-6}$
Spurious radiation	HI	Less than - 60dB
	LOW	Less than - 53dB
Carrier suppression	Better than 40dB	
Unwanted side band suppression	Better than 40dB	
Maximum frequency deviation (FM)	± 5 kHz	
Microphone	Dynamic microphone with PTT switch, 500 Ω	

[Receiver Section]

Circuitry	FM	Double conversion superheterodyne
	SSB, CW	Single conversion superheterodyne
Intermediate frequency	1st IF	10.695MHz
	2nd IF (FM)	455kHz
Receiver sensitivity	FM	Better than 0.5 μ V for 30dB S/N Better than 0.2 μ V for 12dB SINAD
	SSB, CW	0.2 μ V for 10dB S/N
Receiver selectivity	FM	More than 14kHz (- 6dB) Less than 30kHz (- 60dB)
	SSB, CW	More than 2.2kHz (- 6dB) Less than 4.8kHz (- 60dB)
Spurious interference	Better than 70dB	
Squelch sensitivity	0.16 μ V (Threshold)	
Auto scan stop level	Less than 0.2 μ V (Threshold)	
Audio output	More than 2.0 watts across 8ohms load (10% dist.)	

Note: Circuit and ratings are subject to change without notice due to developments in technology.