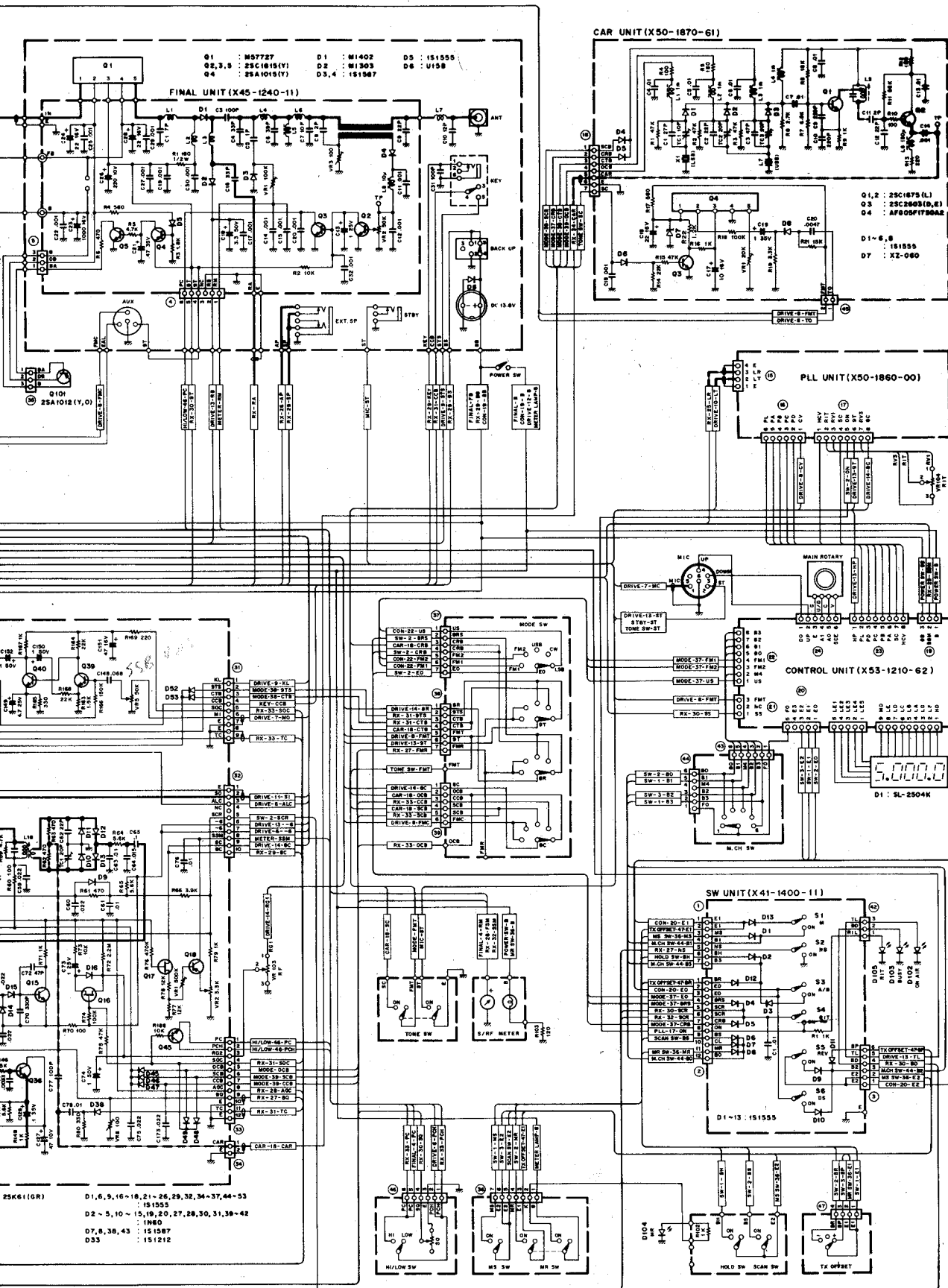
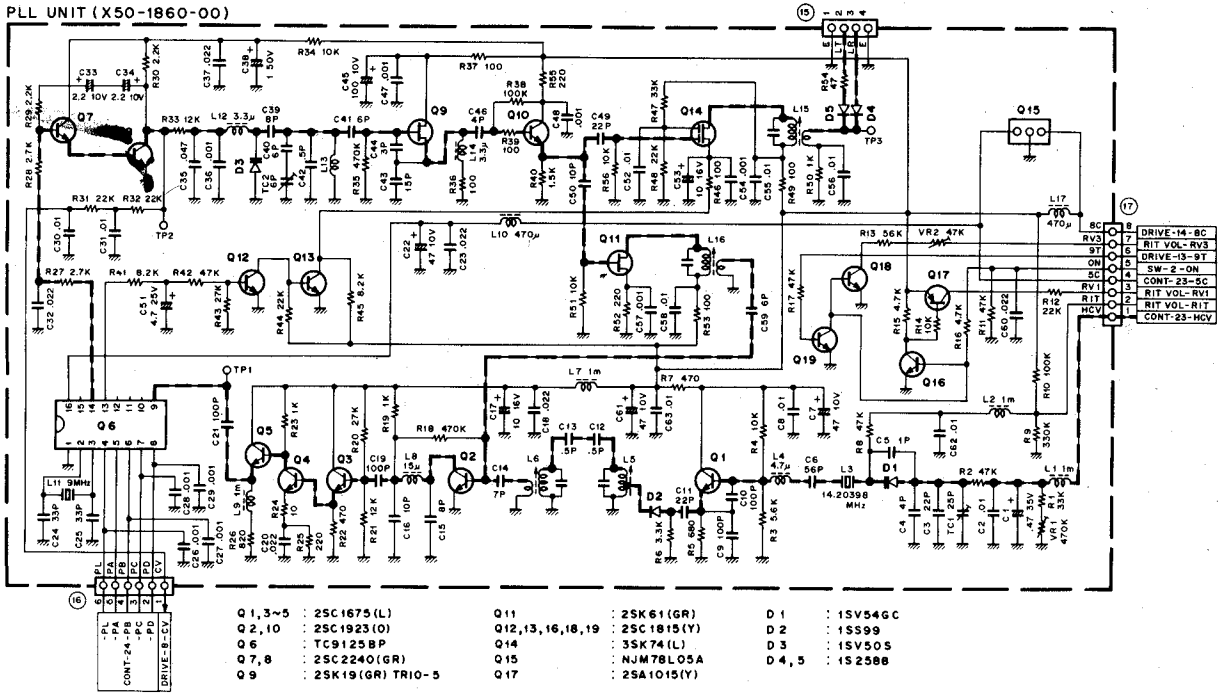
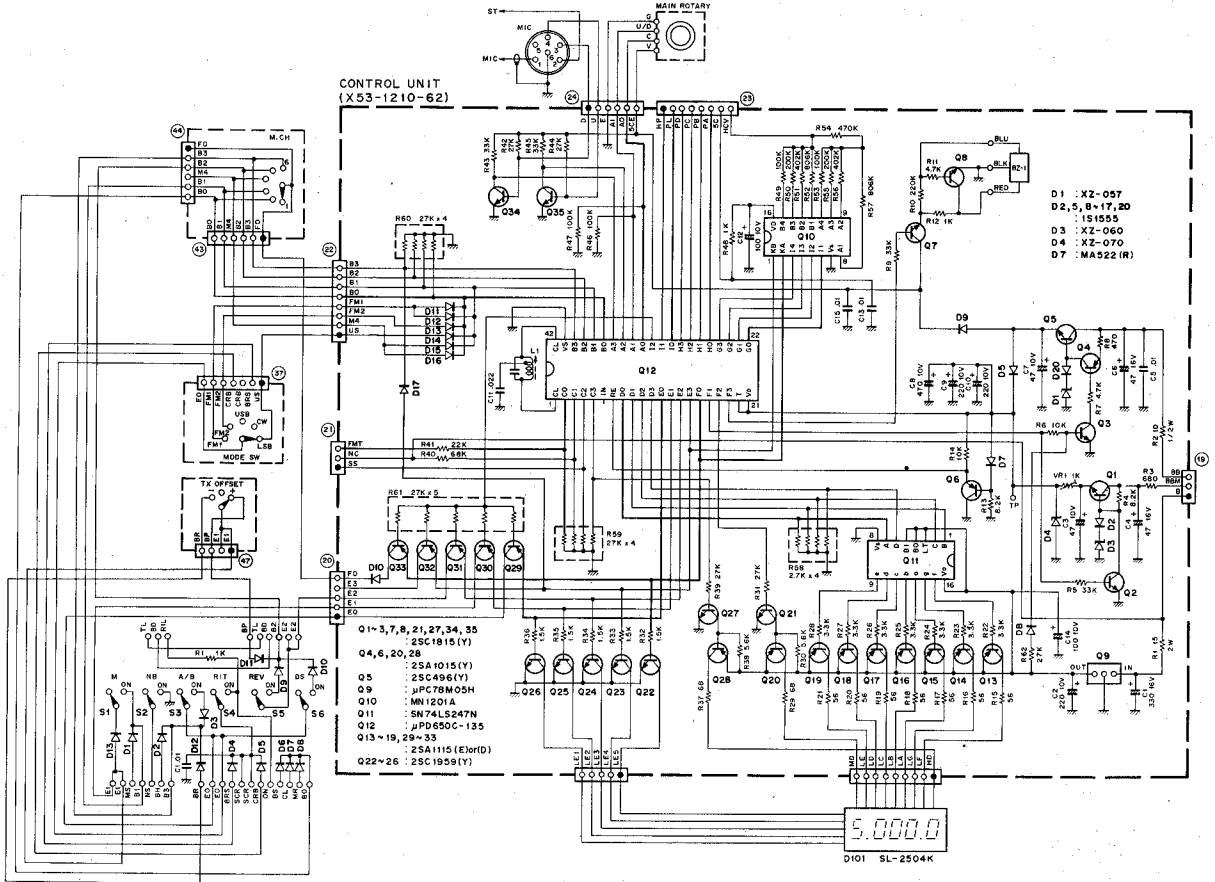


# DIAGRAM



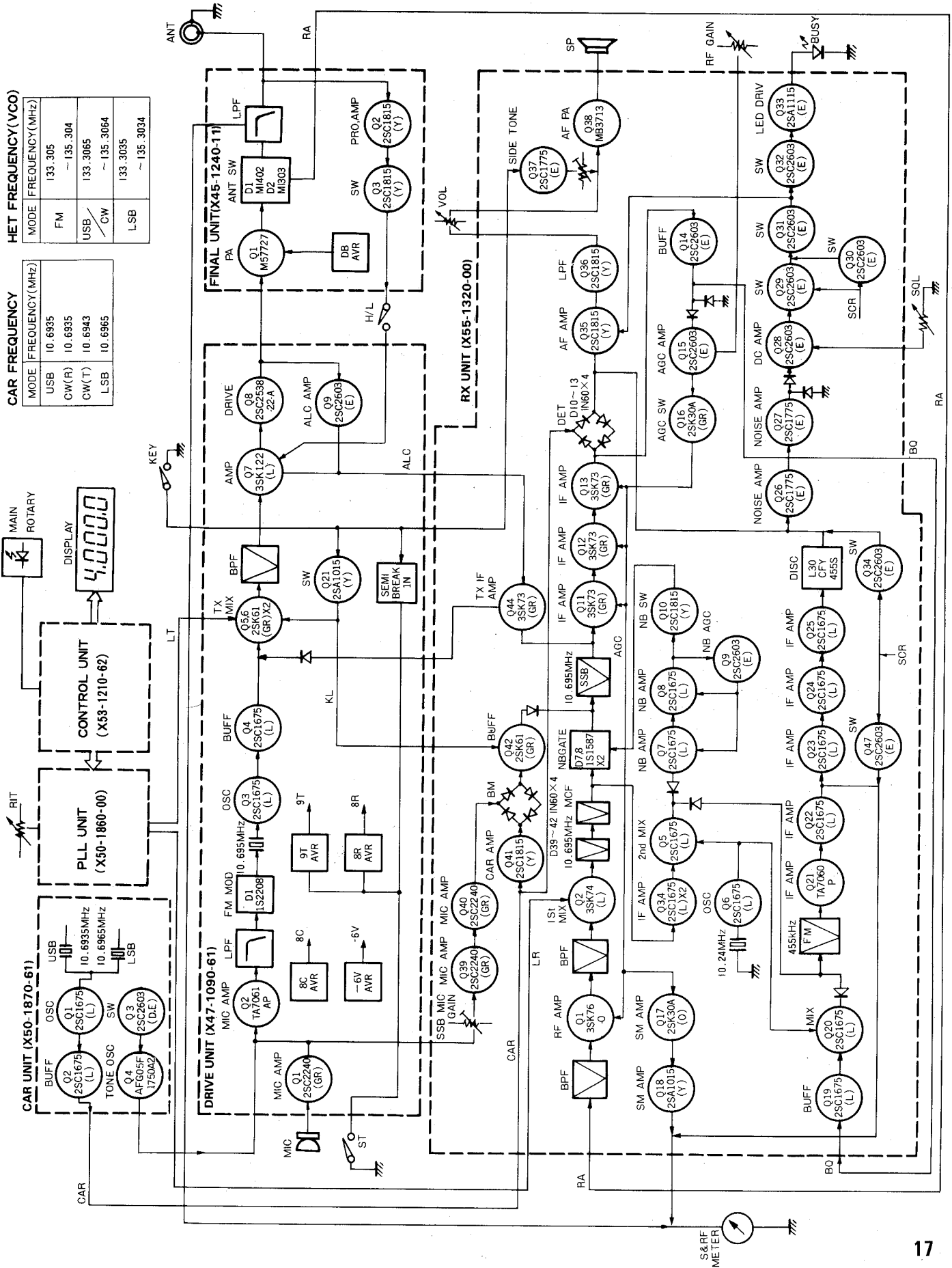
# SCHEMATIC DIAGRAM



# BLOCK DIAGRAM

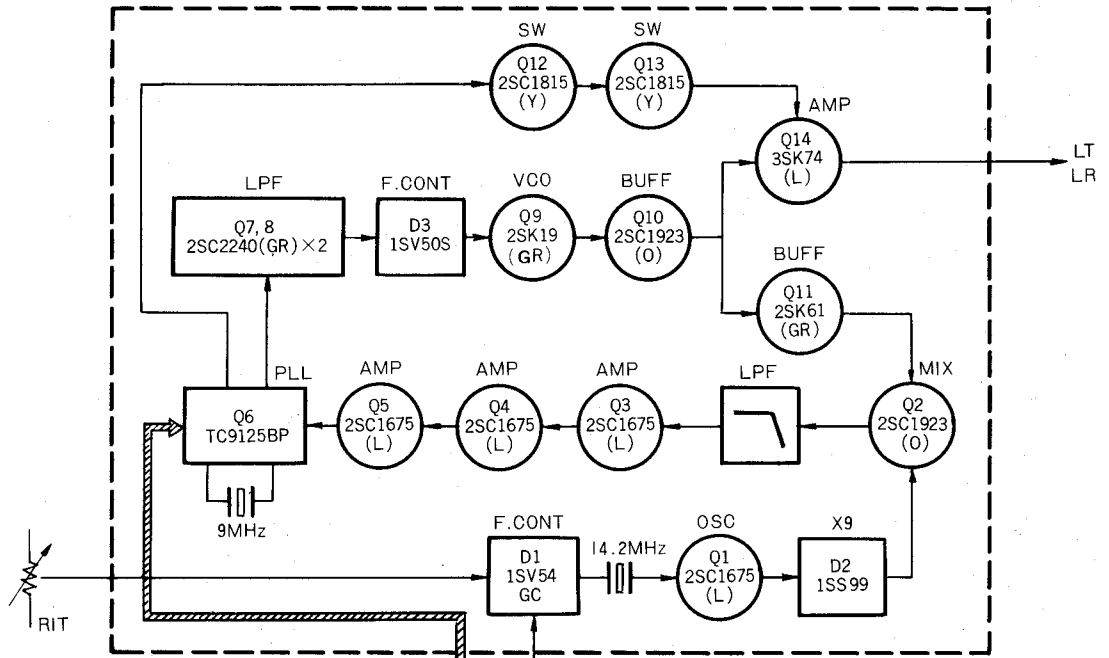
HET FREQUENCY (VCO)	
MODE	FREQUENCY (MHZ)
USB	133.305
FM	~135.304
USB	133.3065
CW	~135.3064
LSB	133.3035
	~135.3034

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

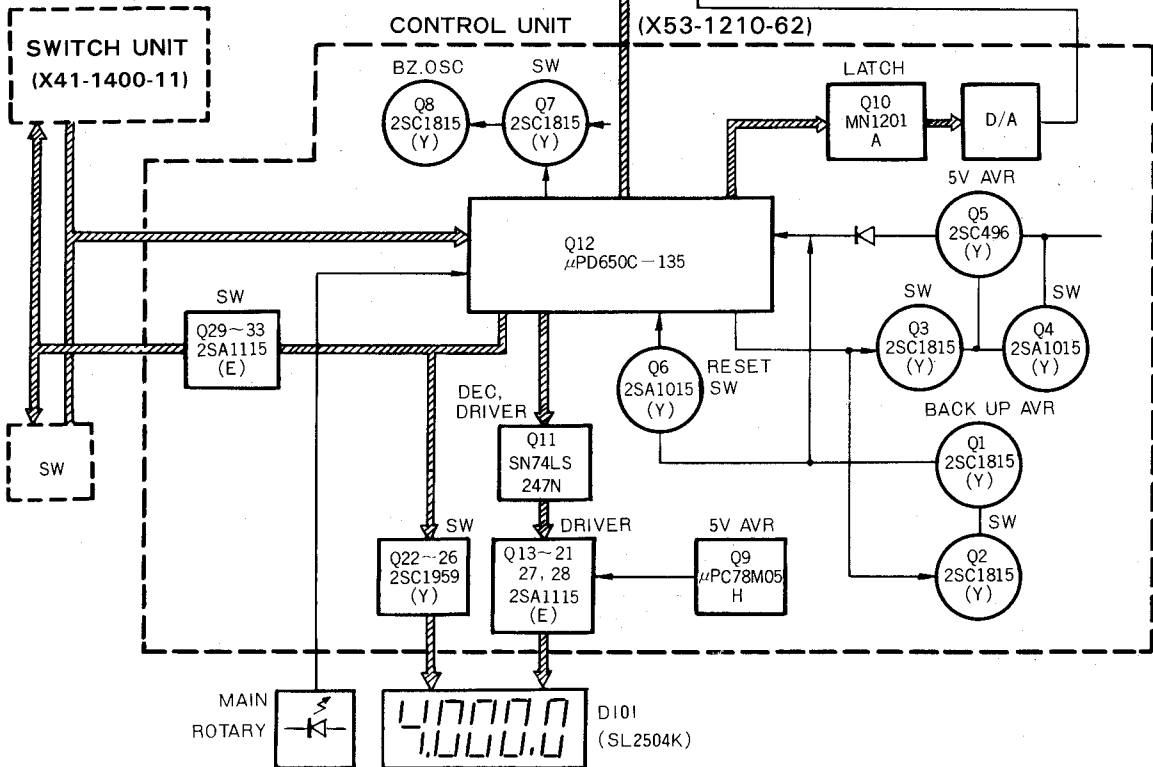


# BLOCK DIAGRAM

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 $\pm 500$ 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 $\Omega$ 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) .....	$\pm 5$ kHz	
Microphone .....	Dynamic microphone with PTT switch, 500 $\Omega$	

## [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 $\mu$ V for 30dB S/N Better than 0.2 $\mu$ V for 12dB SINAD
	SSB, CW	0.2 $\mu$ 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 $\mu$ V (Threshold)	
Auto scan stop level .....	Less than 0.2 $\mu$ 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.