ORDER NO. KM49411912C1
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Service Manual

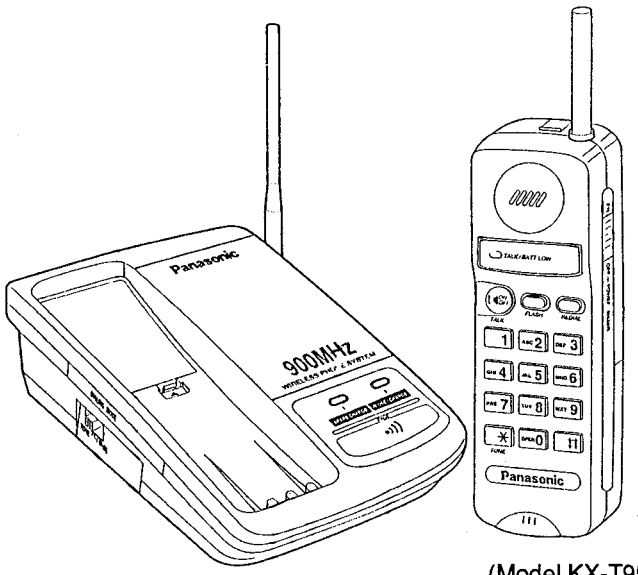
WIRELESS PHONE

and Technical Guide

Telephone Equipment

KX-T9500

(for U.S.A.)



(Model KX-T9500H) (Model KX-T9500R)

Panasonic

■ SPECIFICATIONS

	Base Unit (KX-T9500H)	Portable Unit (KX-T9500R)
Power Source:	AC Adaptor (KX-A11-5)	Rechargeable Ni-Cd battery
Receiving Frequency:	60 channels within 926.1~927.87 MHz	60 channels within 902.1~903.87 MHz
Receiving Method:	Double super heterodyne	Double super heterodyne
Transmitting Frequency:	60 channels within 902.1~903.87 MHz	60 channels within 926.1~927.87 MHz
Oscillation Method:	PLL synthesizer	PLL synthesizer
Detecting Method:	Quadrature Discriminator	Quadrature Discriminator
Tolerance of OSC Frequency:	±3.6 kHz	±3.6 kHz
Modulation Method:	F3 (frequency modulation)	F3 (frequency modulation)
ID Code:	20-bit written in ROM	20-bit written in ROM
Dial Mode:		Tone (DTMF)/Pulse
Redial:		Up to 30 digits
Save:		Up to 30 digits
Power Consumption:		20 hrs at Standby, 3 hrs at Talk
Dimension (H×W×D):	2⅛″×5$^{27}/_{32}$″×7$^{15}/_{32}$″ (54×148×190 mm)	7⅞″×2$^{25}/_{32}$″×1$^{13}/_{32}$″ (200×55×36 mm)
Weight	0.95 lbs. (430 g) with battery	0.51 lbs. (230 g) with battery

Design and specifications are subject to change without notice.

ADJUSTMENTS (KX-T9500H)

After servicing the RF unit, never make adjustments without assembling the upper RF unit cover and the lower RF unit cover with screws.

Adjustment Preparations

1. Connect the main P.C. Board to RF unit by the extension cord.
2. Connect a distortion meter (with AC voltmeter) to the telephone line output on the base unit.
3. Pressing SW1, connect the AC adaptor to the AC jack of base unit. After hearing "pi" sound, release SW1.
4. Press twice PAGE button (Test Mode on CH1 Talk).

If your unit have below symptom, adjust for each item as table of adjustment on pages 6, 7.

Symptom	Remedy
Does not link between base unit and portable handset.	Adjust the adjustment items (A), (B) and (E).
The sound quality is wrong.	Adjust the adjustment item (D).
Transmission sound for receiver is unstable.	Adjust the adjustment item (C).

Item	Adjustment Item	Procedure
(A)	RX VCO Voltage Adjustment	Place the voltmeter probe at RF unit TP5 and adjust the voltage to 1.8 V using VC203. **(When TP5 voltage is within 1.8 V±0.5 V, no need of adjusting.)**
(B)	TX VCO Voltage Adjustment	Place the voltmeter probe at TP6 and adjust the voltage to 1.8 V using VC202. **(When TP6 voltage is within 1.8 V±0.5 V, no need of adjusting.)**
(C)	TX Adjustment	Connect the signal generator (926.125 MHz, 1 kHz modulation frequency, 3 kHz modulation +60 dBμ emf output level) to the RF block section TP A and GND. Adjust VR1 so that Tel Line output (600Ω Load) is set to −16 dBm.
(D)	Modulation	Connect a modulation meter and signal generator (926.125 MHz, 60 dBμV, unmodulation) in TPA and GND. Connect the AF oscillator (f=1 kHz, −30 dBm) to the telephone line output. Adjust VR4 to set the modulation to +2.8 kHz.
(E)	Standard Frequency Adjustment	Adjust VC201 so that transmission frequency is set 902.125 MHz $^{+0}_{-1}$ kHz. Connect frequency counter between TP A and GND.

RF Unit

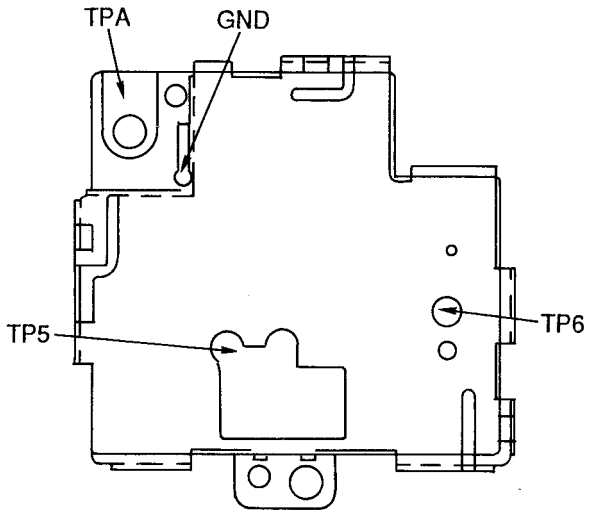


Fig. 12

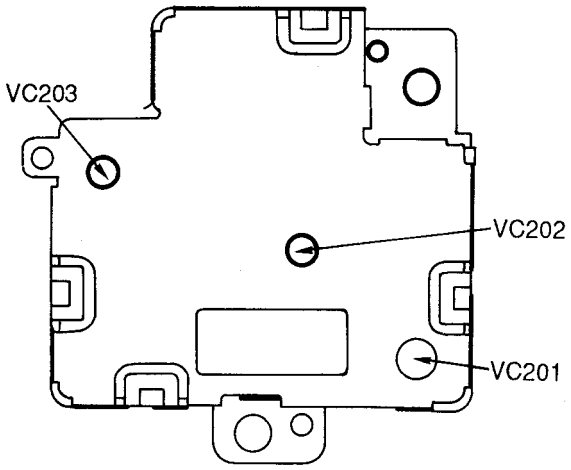
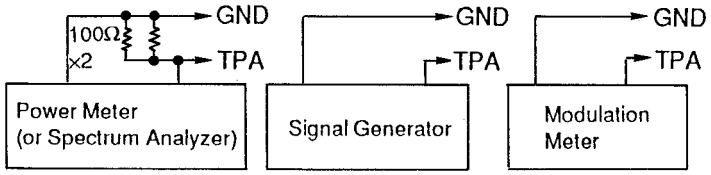


Fig. 13



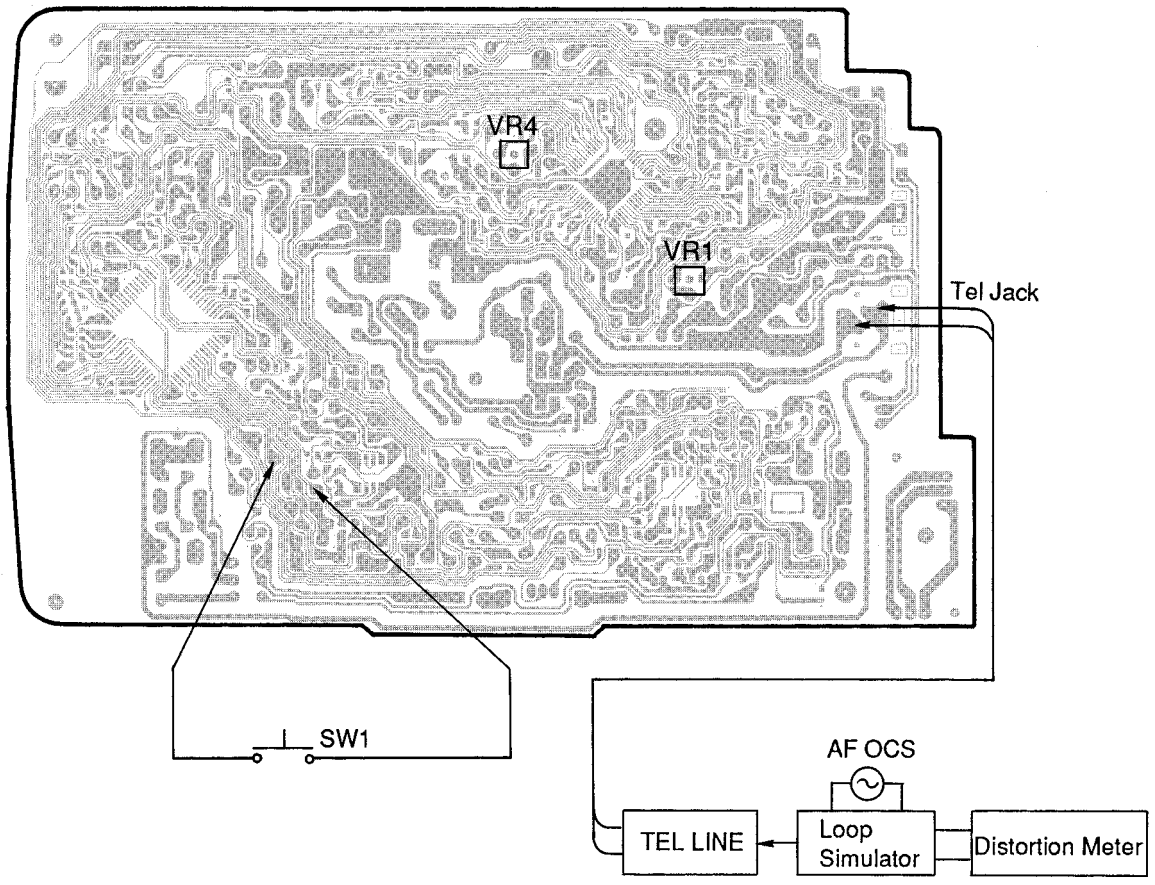


Fig. 14

ADJUSTMENTS (KX-T9500R)

After servicing the RF unit, never make adjustments without assembling the upper RF unit cover and the lower RF unit cover with screws.

Adjustment Preparations

1. Connect the main P.C. Board to RF unit by the extension cord.
2. Connect a distortion meter (with AC voltmeter) to the SPK terminals (TP3) on the portable handset.
3. Connect 3.9 V to the battery terminals.
4. After pressing [1], [9], [*] keys at the same time, turn Power SW on. After that, press Flash key (Test mode on standby).
5. Press Talk key (Test Mode on CH1 Talk).

If your unit have below symptom, adjust for each item as table of adjustment on pages 8, 9.

Symptom	Remedy
Does not link between base unit and portable handset.	Adjust the adjustment items (A), (B), (E) and (F).
Speaker level of portable handset is unstable.	Adjust the adjustment item (C).
Transmission sound for receiver is unstable.	Adjust the adjustment item (D).

Item	Adjustment Item	Procedure
(A)	RX VCO Voltage Adjustment	Place the voltmeter probe at TP5 and adjust the voltage to 1.5 V using VC203. **(When TP5 voltage is within 1.5 V±0.5 V, no need of adjusting.)**
(B)	TX VCO Voltage Adjustment	Place the voltmeter probe at TP6 and adjust the voltage to 1.5 V using VC202. **(When TP6 voltage is within 1.5 V±0.5 V, no need of adjusting.)**
(C)	SP Output Adjustment	Connect a signal generator (902. 125 MHz, 1 kHz modulation frequency, 2 kHz modulation, +60 dBμV emf output level) to the RF block section TP A. Adjust VR3 so that the speaker output is –30 dBm.
(D)	Modulation	Connect a modulation meter and signal generator (902.125 MHz, 60 dBμV, unmodulation) in TPA and GND. Connect an AF oscillator (f=1 kHz, –20 dBm level) to the MIC terminals (TP4) and V_{ss} on the portable handset. Adjust VR4 to set the modulation to 5.5 kHz Devi.
(E)	Standard Frequency Adjustment	Adjust VC210 so that transmission frequency is set 902.125 MHz $^{+0}_{-1}$ kHz. Connect frequency counter between TP A and GND.
(F)	Electric Detective Adjustment	Input S.S.G. (902.125 MHz, 60 dBμV, 3 kHz Devi) between TP A and GND. Adjust VR1 so that TP5 level is set to –15.5 dBm.

Note: When selecting optional channel, press [2] [3] keys after pressing Flash key of 4 item (ex. CH23). Next press Talk key (Test Mode on CH23 Talk).

RF Unit

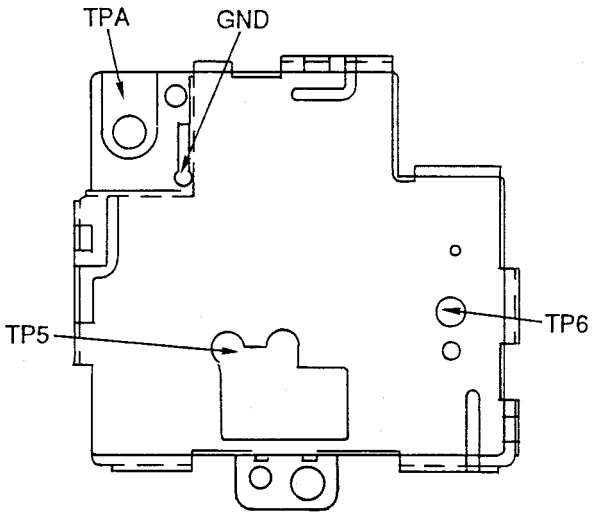


Fig. 15

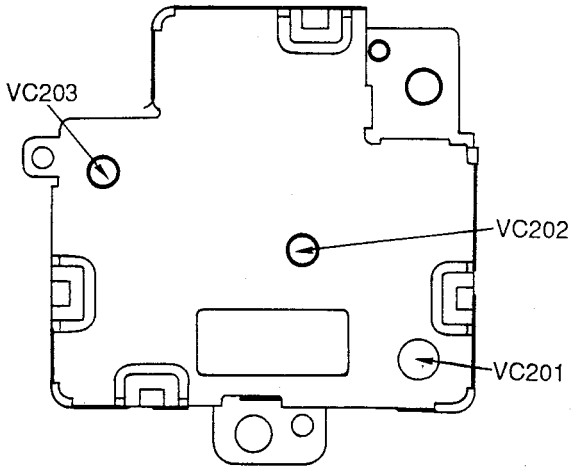
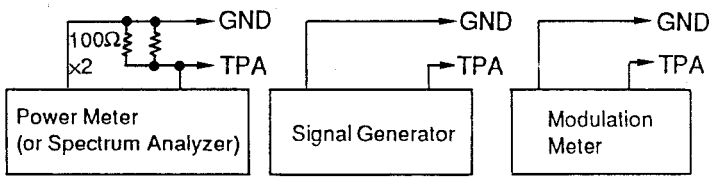


Fig. 16



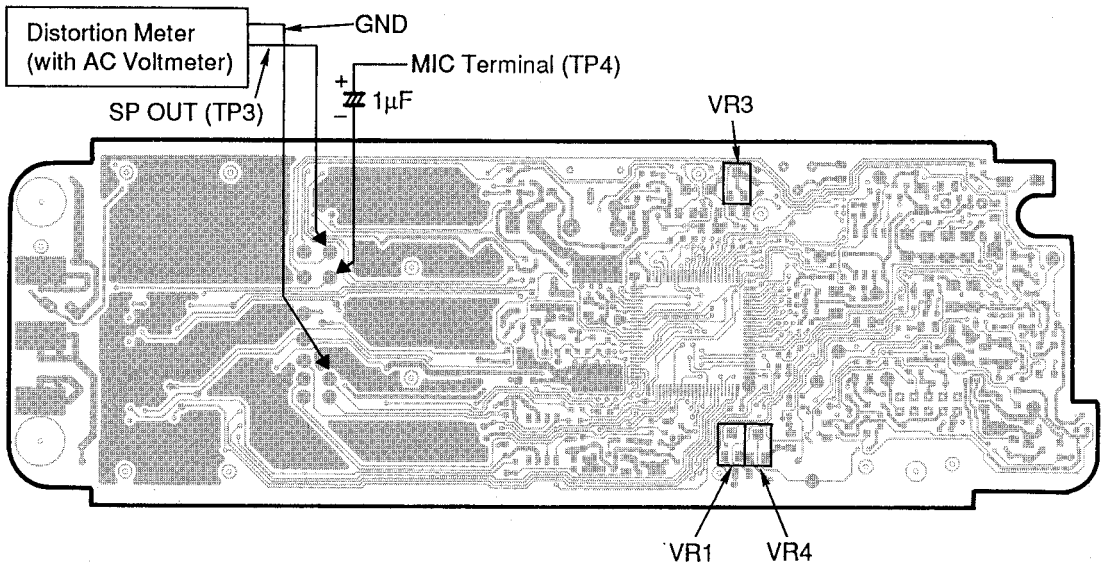


Fig. 17

CPU DATA KX-T9500H (Base Unit)

IC4 MN150808KJAG

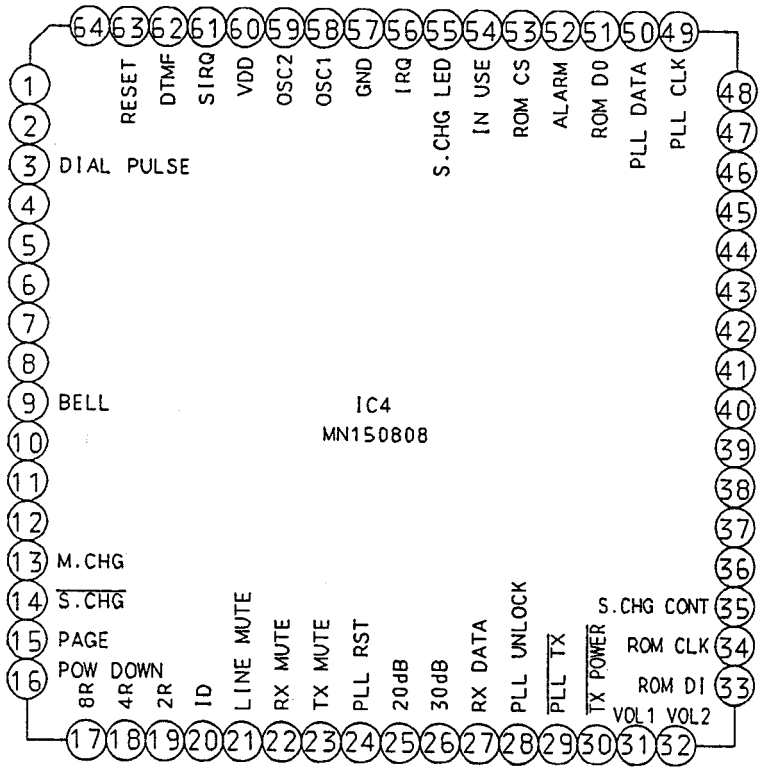


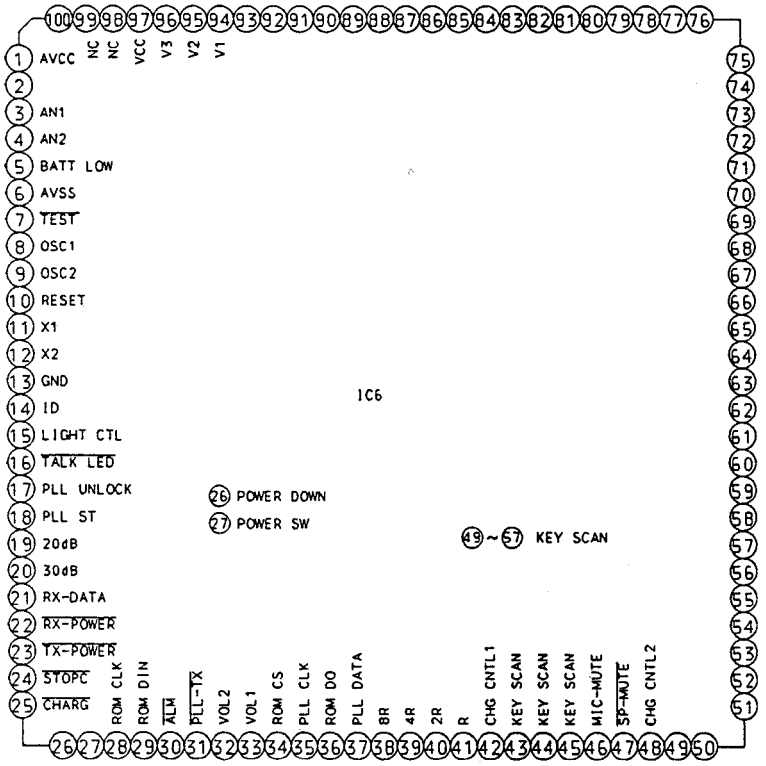
Fig. 18

Pin	Description	I/O	High	High-Z	Low	Pin	Description	I/O	High	High-Z	Low
1	(0.12 mA RLY)	O	ON			33	ROM_DIN	O			
2	HOOK RLY	O	ON			34	ROM_CLK	O			
3	DP	O	MAKE		BREAK	35					
4	NSA	O	ON			36					
5	EARTH RLY	O	ON			37	Strobe 2	O			Strobe
6	ALARM MUTE	O	ON			38	Strobe 3	O			Strobe
7	MIC MUTE	O	ON			39	Strobe 4	O			Strobe
8	SP MUTE	O	ON			40	Strobe 5	O			Strobe
9	BELL	I	BELL Reception			41	KEY DATA IN	I	Normal		Key IN
10	LINE VOL	I	Without VOL		With VOL	42	KEY DATA IN	I	Normal		Key IN
11	(DIAL TONE)	I	With TONE		Without TONE	43	KEY DATA IN	I	Normal		Key IN
12	GND		—	—	Normal	44	KEY DATA IN	I	Normal		Key IN
13	CHARGE	I			CHARGE	45	Indiv. LED	O	ON		
14	S_CHARGE	I			CHARGE	46	Indiv. LED	O	ON		
15	PAGE KEY	I			P.DOWN	47	Indiv. LED	O	ON		
16	POWER DOWN	I	Normal		P.DOWN	48	Indiv. LED	O	ON		
17	TX DATA 8R	O				49	PLL_CLK	O			
18	TX DATA 4R	O				50	PLL_DATA	O			
19	TX DATA 2R	O				51	ROM_DOUT	I			
20	TX DATA R	O				52	ALARM	O	ON		
21	LINE MUTE	O	ON		Normal	53	ROM_CS	O	Active		Normal
22	$\overline{\text{RX MUTE}}$	O	Normal		ON	54	IN USE LED	O	ON		
23	TX MUTE	O	ON		Normal	55	Spare CHARGE LED	O	ON		
24	$\overline{\text{PLL\_RST}}$	O	Normal		ON	56	External Interrupt Input	I	Normal	—	—
25	FLS1 (20)	I	Weak electric field		Input Sens.	57					
26	FLS2 (30)	I	Weak electric field		Input Sens.	58	CPU Clock	I			
27	RX DATA	I				59	(3.58 MHz)	O			
28	PLL_UNLOCK	I	UNLOCK		LOCK	60	Power Source		Normal	—	—
29	$\overline{\text{PLL\_TX}}$	O	—	Normal	ON	61	External Interrupt Input	I	Normal	—	—
30	$\overline{\text{TX POWER}}$	O	—	POW_OFF	POW_ON	62		O			
31	VOL. 1	O	—	OFF	ON	63	$\overline{\text{RESET}}$ Input	I	Normal		RESET
32	VOL. 2	O	—	OFF	ON	64					

■ MN150808KJAG (IC4) TERMINALS EXPLANATION

Pin No.	Pin Name	Classification	I/O	Description
60 57	V_{DD} V_{SS}	Power supply		For connection of +2.2~5.5 V to Vdd and 0 V to Vss.
58 59	OSC1 OSC2	Clock input Clock output	I O	Oscillation terminal for connection of an oscillator. Feedback resistance is built-in.
63	RST	Reset input	I	RESET mode is on when "L" level is input for 1 machine cycle or more. The pull-up resistance and the Schmitt input circuit are built in. After the RESET mode is off, the internal RESET is released after 2^{13} count of OSC input clock.
64	SYNC	Synchronous signal output	O	Internal timing signal is output at every 1 machine cycle.
56	IRQ	External interrupt input	I	For interrupt at a negative edge. The Schmitt input circuit is built in. The pull-up resistance can be designated by software option.
61	SIRQ	External Interrupt Input	I	For unconditional interrupt at a negative edge. The Schmitt input circuit is built in. The pull-up resistance can be designated by software option.
49	SBT (PCO)	Serial interface clock I/O	I/O (I)	I/O terminal for transmission and reception of serial interface clock. This can be used as the normal input port. The Schmitt input circuit is built in. The pull-up resistance can be designated by software option.
50	SBO (PC1)	Serial interface data output	O (I)	Output terminal for transmission of the serial interface data (8-bit serial data). This can also be used as the normal input port. The pull-up resistance can be designated by software option.
51	SBI (PC2)	Serial interface data intput	I (I)	Input terminal for reception of the serial interface data (8-bit serial data). This can also be used as the normal input port. The Schmitt input circuit is built in. The pull-up resistance can be designated by software option.
52	TC20 (PC3)	8-bit Presettable counter data output	O (I)	Output termnal of overflow signal of the built-in 8-bit presettable counter. This can also be used as the normal input port. The pull-up resistance can be designated by software option.
62	DTMF	DTMF signal output	O	Output terminal of the staircase signal in which two types of frequency signals are mixed. ON/OFF of output can be controlled by program.
45~48, 53~55	PA0~ PA3, PD0~ PD2	Large current or direct driving of LED	I/O	I/O ports of 4-bit parallel data. The output structure (Nch open drain/pushable) and the pull-up resistance can be designated by software option. The LED can be driven directly.
1~40	P00~ P93	Parallel data I/O	I/O	I/O ports of 4-bit parallel data. The output structure (Nch open drain/pushable) and the pull-up resistance can be designated by software option.
41~44	PB0~ PB3	Parallel data input	I	Input port of 4-bit parallel data. The Schmitt input circuit is built in. This can also be used as the interrupt port (negative edge) by software option. The pull-up resistance can be designated by software option.

CPU DATA KX-T9500R (Portable Unit)



IC6 PQVI4829B99H

Fig. 19

Pin	Description	I/O	High	High-Z	Low	Pin	Description	I/O	High	High-Z	Low
1			Normal	—	—	36	ID ROM_DOUT	I			
2			—	—	Normal	37	PLL_DATA	O			
3			—	—	Normal	38	TX DATA 8R	O			
4			—	—	Normal	39	TX DATA 4R	O			
5	BATT_LOW	I				40	TX DATA 2R	O			
6			—	—	Normal	41	TX DATA R	O			
7			Normal	—	—	42	CHGCTL1	O	Normal		Tricle
8	CPU Clock	I				43	SW DATA IN	I			
9	(4 MHz)	O				44	SW DATA IN	I			
10	RESET	I	RESET		Normal	45	SW DATA IN	I			
11	SUB Clock	I				46	MIC_MUTE	I	ON		Normal
12	(32.768 kHz)	O				47	SP_MUTE	O	Normal		ON
13	GND		—	—	Normal	48	(Not used)	O			Normal
14	CHARGE_ID	I	Normal		Base Unit CHARGE	49	Strobe	O			Strobe
15	LIGHT_CTL	O	—	—	Normal	50	Strobe	O			Strobe
16	TALK LED	O	—	—	Normal	51	Strobe	O			Strobe
17	PLL_UNLOCK	I	UNLOCK		LOCK	52	Strobe	O			Strobe
18	PLL_ST	O				53	Strobe	O			Strobe
19	FLS1 (20)	I	Weak electric field		Input Sens.	54	KEY DATA IN	I	Normal		Key IN
20	FLS2 (30)	I	Weak electric field		Input Sens.	55	KEY DATA IN	I	Normal		Key IN
21	RX DATA	I				56	KEY DATA IN	I	Normal		Key IN
22	$\overline{\text{RX\_POW}}$	O	—	Normal	ON	57	KEY DATA IN	I	Normal		Key IN
23	$\overline{\text{TX\_POW}}$	O	—	Normal	ON	58~89	SEG21~52	O			
24	$\overline{\text{STOPC}}$					90	COM1	O			
25	CHARGE	I	Normal		CHARGE	91	COM2	O			
26	POWER DOWN	I	Normal		P. DOWN	92	COM3	O			
27	$\overline{\text{POWER SW}}$	O	Normal		ON	93	COM4	O			
28	ID ROM_CLK	O				94			Normal	—	—
29	ID ROM_DIN	O				95					
30	ALARM	O		Normal		96					
31	$\overline{\text{PLL\_TX}}$	O	—	Normal	ON	97	Source		Normal	—	—
32	VOL1	O		—		98					
33	VOL2	O		—		99					
34	ID ROM_CS	O				100			—	—	Normal
35	PLL_CLK	O									

■ CPU TERMINAL EXPLANATION IC6 PQVI4829B99H

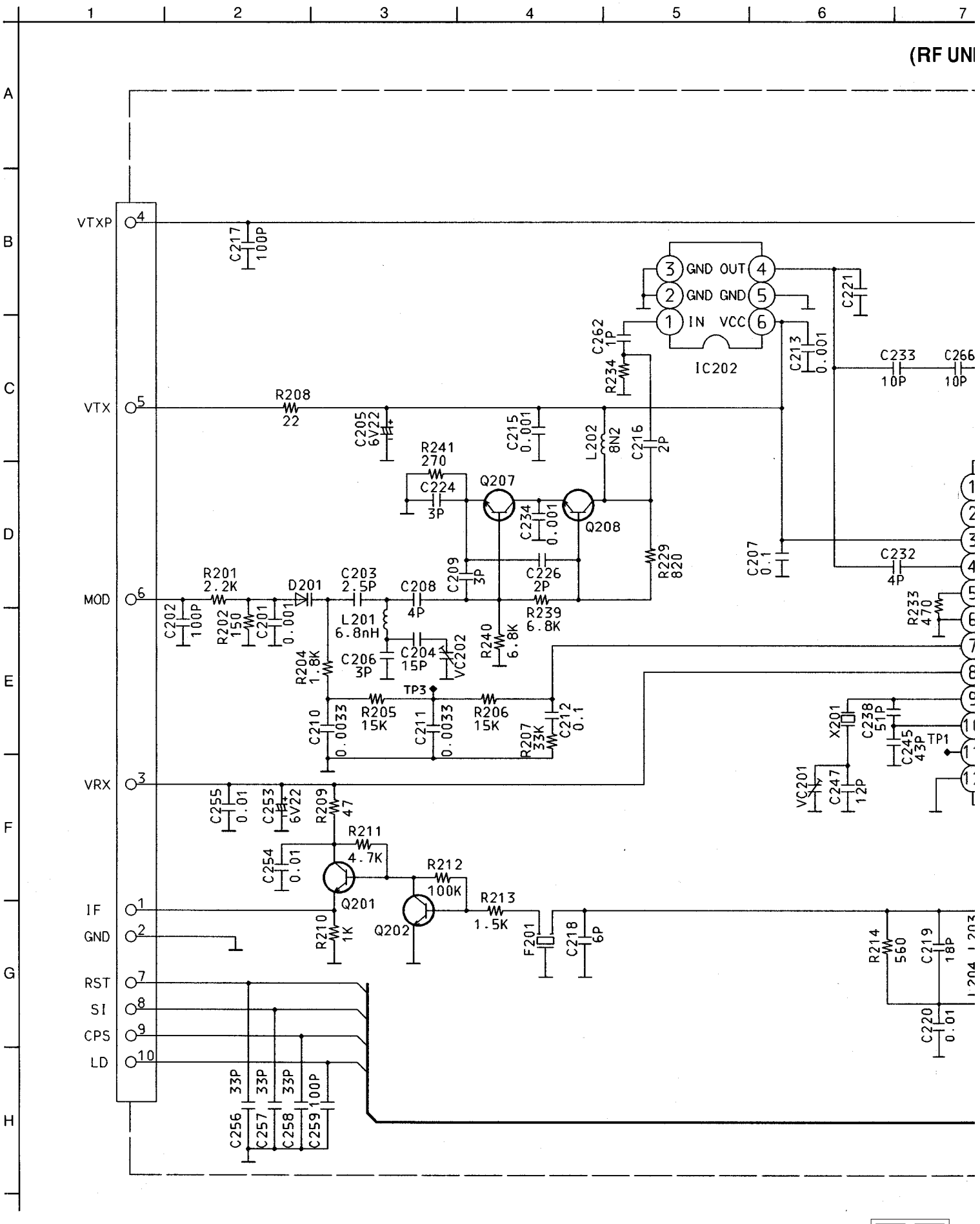
Classification	Symbol of pin	Pin No.	I/O	Description
Power source	V_{CC}	97		Apply the source voltage.
	GND	13		Ground this.
Test	$\overline{TEST}$	7	I	Not used for a user application. Connect to V_{CC} electric potential.
Reset	RESET	10	I	Used to reset the MCU.
Oscillation	OSC_1	8	I	I/O terminals for the system clock oscillator. Connect to the ceramic oscillator or external oscillating circuit.
	OSC_2	9	O	
	X1	11	I	I/O terminals for the oscillator used for clock. Connect the crystal oscillator of 32.768 kHz. If not, fix the X1 terminal to V_{CC} and open the X2 terminal.
	X2	12	O	
Port	D_8~D_9	14~23	I/O	I/O terminal used for access every 1 bit. D0~D9 are the large current output terminals that supply each terminal for 15 mA (max.).
	D_{10}, D_{11}	24, 25	I	Input terminals used for access every 1 bit.
	$R0_0$~$R7_3$	26~57	I/O	I/O terminals used for access every 4 bits.
Interrupt	$\overline{INT_0}$, $\overline{INT_1}$, INT_2~INT_4	25~29	I	Input terminal used for external interrupt input.
Stop clear	$\overline{STOPC}$	24	I	Input terminal used for the transition from the stop mode to the active mode.
Serial interface	$\overline{SCK}$	35	I/O	Clock I/O terminal of the serial interface.
	SI	36	I	Received data input terminal of the serial interface.
	SO	37	O	Transmitted data output terminal of the serial interface.
Timer	TOB, TOC, TOD	30~32	O	Timer output terminal.
	EVNB, EVND	33, 34	I	Event count input terminal.
LCD	V_1, V_2, V_3	94~96		Power source terminal for the LCD driver. The built-in power decomposition resistance is normally used in the open status. The voltage condition: $V_{CC} \geq V_1 \geq V_2 \geq V_3 \geq GND$
	COM1~COM4	90~93	O	Common signal terminal for the LCD.
	SEG1~SEG52	38~89	O	Segment signal terminal for the LCD.
A/D converter	AV_{CC}	1		Power source terminal for the A/D converter. Make connection so that this electric potential is equal to that of V_{CC} at the position as close as possible to V_{CC}.
	AV_{SS}	6		GND terminal to AV_{CC}. Make connection so that this electric potential is equal to that of V_{CC} at the position as close as possible to V_{CC}.
	AN_0~AN_3	2~5	I	Analog input terminal of the A/D converter.

FREQUENCY TABLE (MHz)

CH	Base Unit TX Portable Unit RX	Base Unit RX Portable Unit TX	CH	Base Unit TX Portable Unit RX	Base Unit RX Portable Unit TX
1	902.100 MHz	926.100 MHz	31	903.000 MHz	927.000 MHz
2	902.130 MHz	926.130 MHz	32	903.030 MHz	927.030 MHz
3	902.160 MHz	926.160 MHz	33	903.060 MHz	927.060 MHz
4	902.190 MHz	926.190 MHz	34	903.090 MHz	927.090 MHz
5	902.220 MHz	926.220 MHz	35	903.120 MHz	927.120 MHz
6	902.250 MHz	926.250 MHz	36	903.150 MHz	927.150 MHz
7	902.280 MHz	926.280 MHz	37	903.180 MHz	927.180 MHz
8	902.310 MHz	926.310 MHz	38	903.210 MHz	927.210 MHz
9	902.340 MHz	926.340 MHz	39	903.240 MHz	927.240 MHz
10	902.370 MHz	926.370 MHz	40	903.270 MHz	927.270 MHz
11	902.400 MHz	926.400 MHz	41	903.300 MHz	927.300 MHz
12	902.430 MHz	926.430 MHz	42	903.330 MHz	927.330 MHz
13	902.460 MHz	926.460 MHz	43	903.360 MHz	927.360 MHz
14	902.490 MHz	926.490 MHz	44	903.390 MHz	927.390 MHz
15	902.520 MHz	926.520 MHz	45	903.420 MHz	927.420 MHz
16	902.550 MHz	926.550 MHz	46	903.450 MHz	927.450 MHz
17	902.580 MHz	926.580 MHz	47	903.480 MHz	927.480 MHz
18	902.610 MHz	926.610 MHz	48	903.510 MHz	927.510 MHz
19	902.640 MHz	926.640 MHz	49	903.540 MHz	927.540 MHz
20	902.670 MHz	926.670 MHz	50	903.570 MHz	927.570 MHz
21	902.700 MHz	926.700 MHz	51	903.600 MHz	927.600 MHz
22	902.730 MHz	926.730 MHz	52	903.630 MHz	927.630 MHz
23	902.760 MHz	926.760 MHz	53	903.660 MHz	927.660 MHz
24	902.790 MHz	926.790 MHz	54	903.690 MHz	927.690 MHz
25	902.820 MHz	926.820 MHz	55	903.720 MHz	927.720 MHz
26	902.850 MHz	926.850 MHz	56	903.750 MHz	927.750 MHz
27	902.880 MHz	926.880 MHz	57	903.780 MHz	927.780 MHz
28	902.910 MHz	926.910 MHz	58	903.810 MHz	927.810 MHz
29	902.940 MHz	926.940 MHz	59	903.840 MHz	927.840 MHz
30	902.970 MHz	926.970 MHz	60	903.870 MHz	927.870 MHz

SCHEMATIC DIAGR

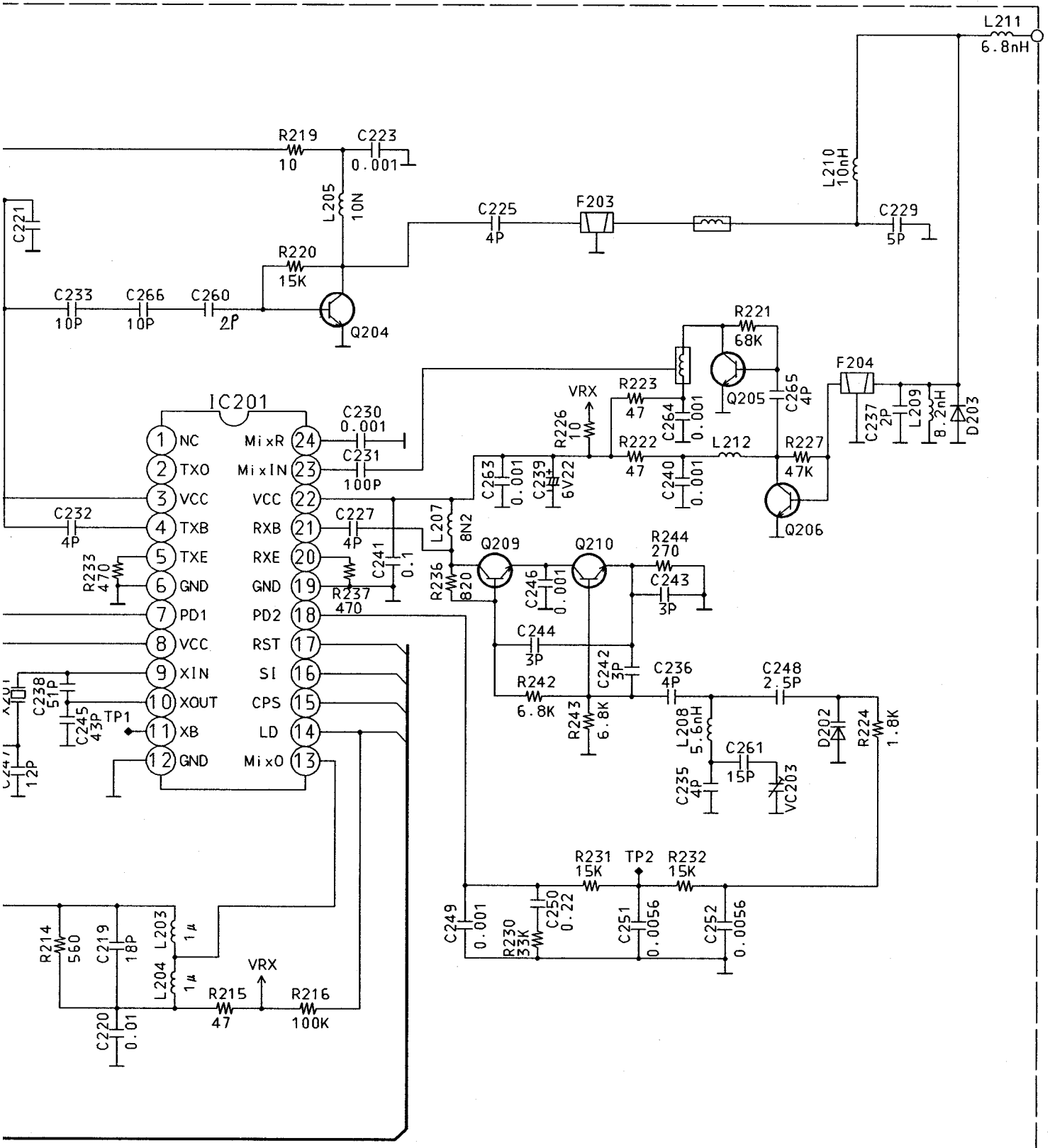
(RF UNI

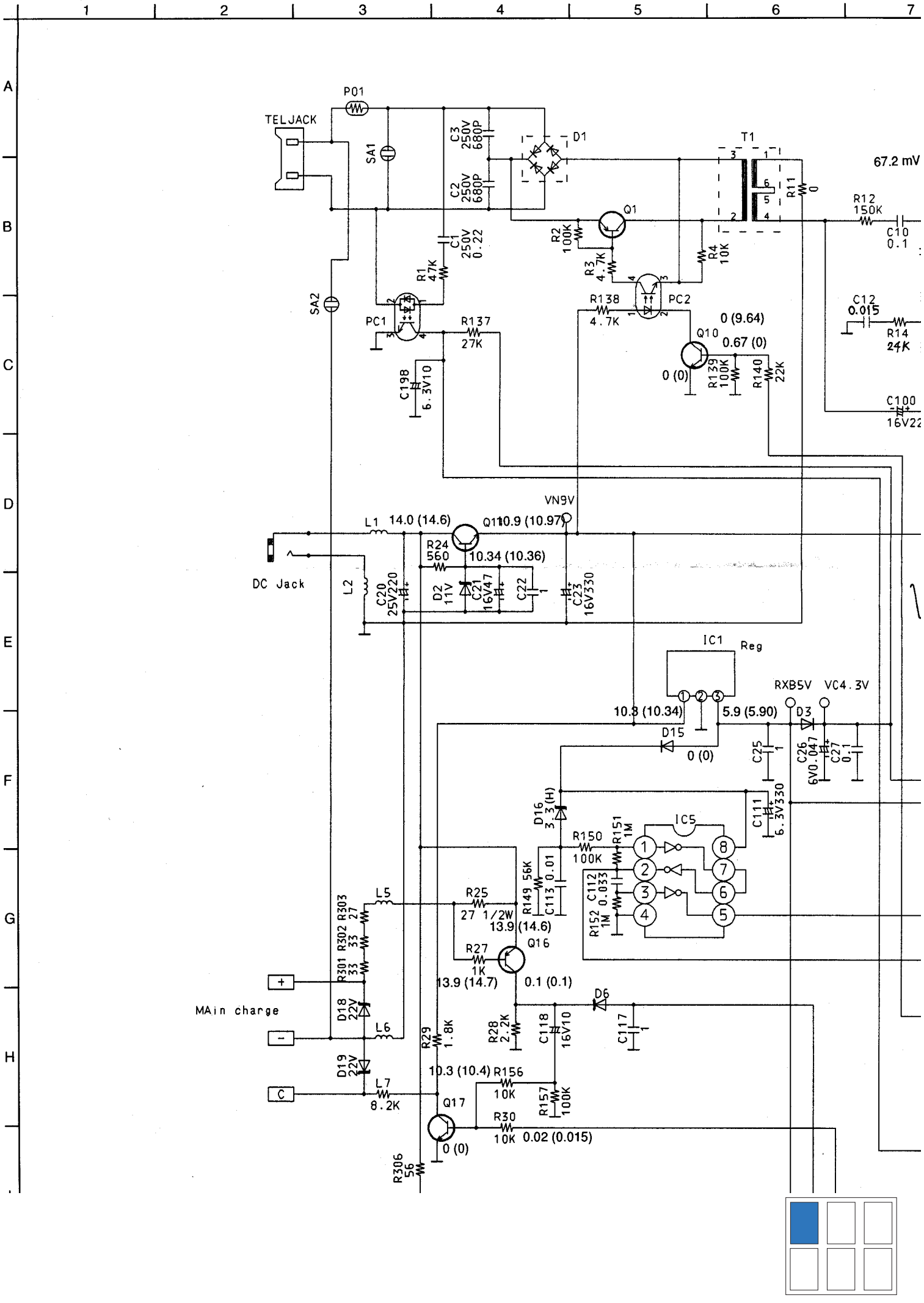


TIC DIAGRAM (KX-T9500H)

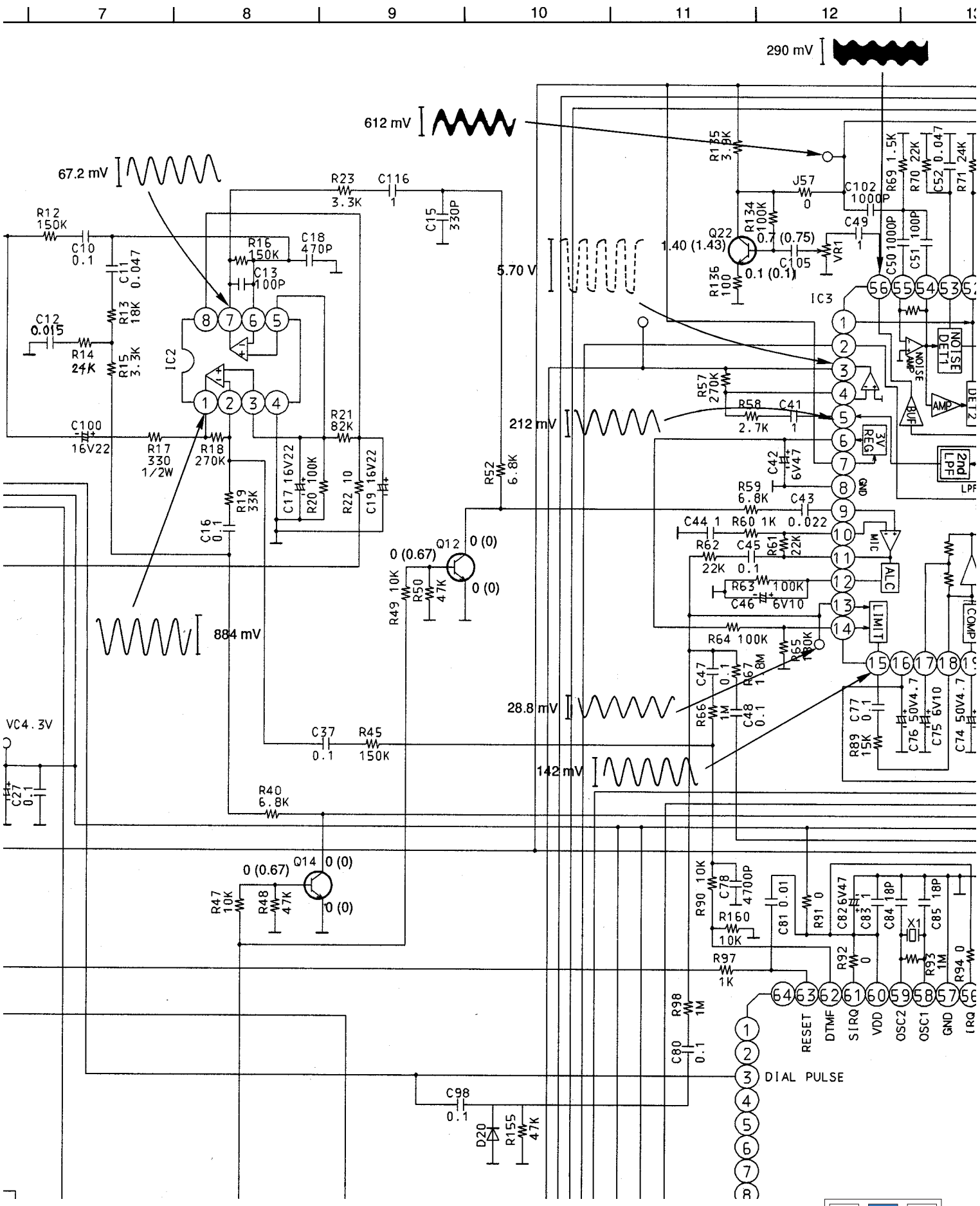
7 8 9 10 11 12

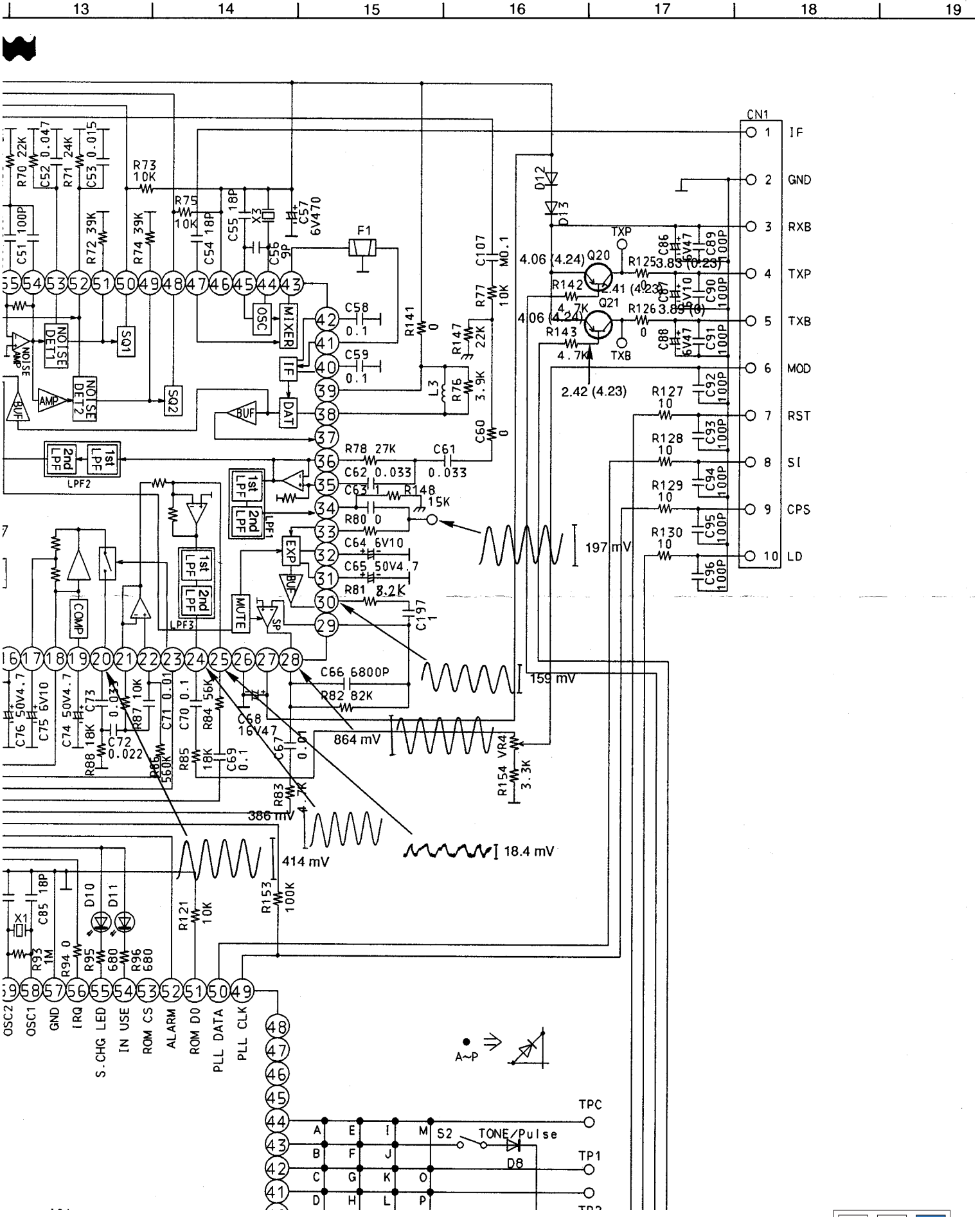
(RF UNIT)

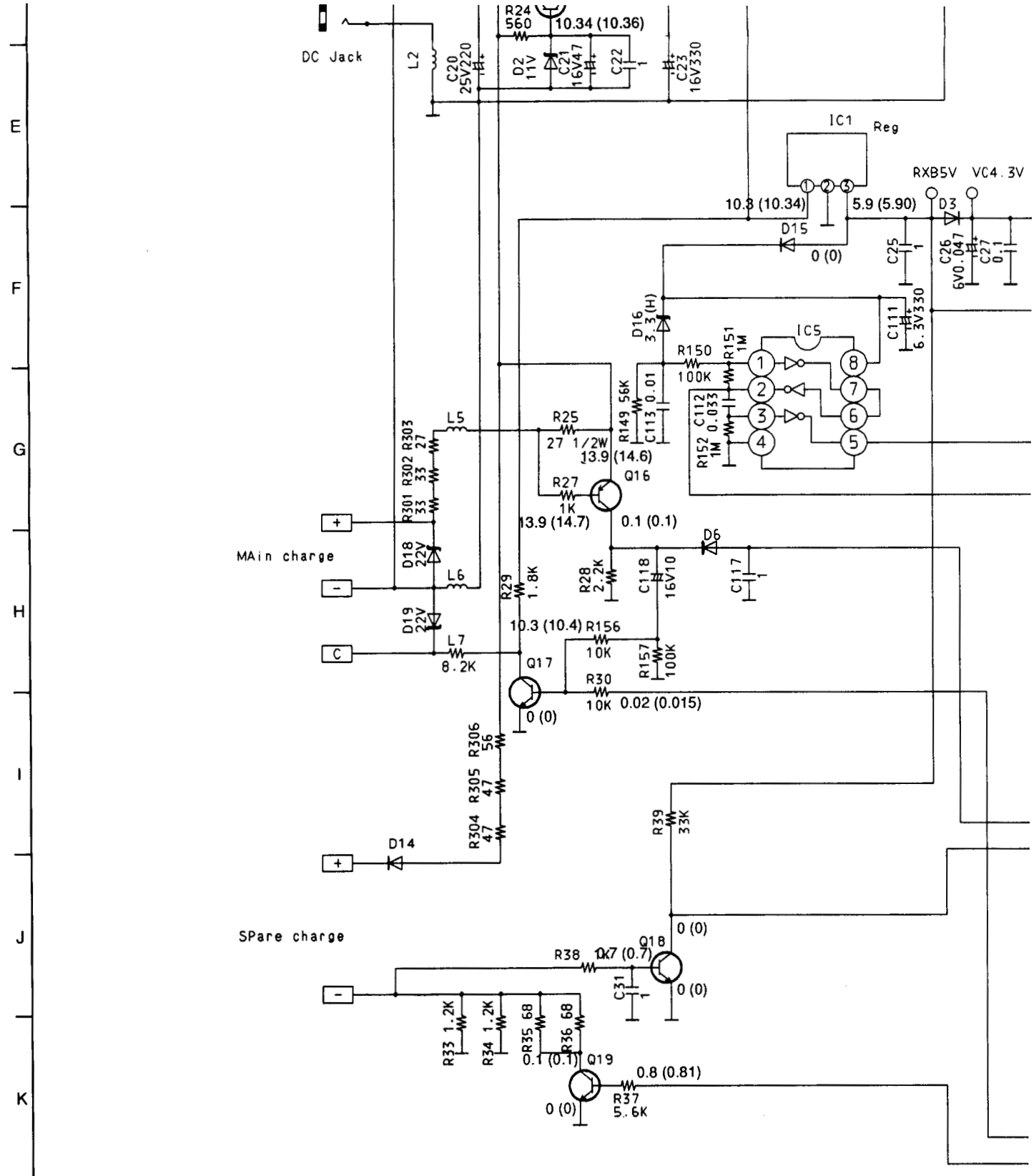



P01
TELJACK
SA1
SA2
C3 250V 680P
C2 250V 680P
C1 250V 0.22
D1
T1
67.2 mV
R11 0
R12 150K
C10 0.1
Q1
R2 100K
R3 4.7K
R4 10K
R1 47K
PC1
PC2
R138 4.7K
R137 27K
C198 6.3V10
0 (9.64)
Q10
0.67 (0)
0 (0)
R139 100K
R140 22K
C12 0.015
R14 24K
C100 16V22
VN9V
L1
14.0 (14.6)
Q11
10.9 (10.97)
R24 560
10.34 (10.36)
DC Jack
L2
C20 25V220
D2 11V
C21 16V47
C22 1
C23 16V330
IC1 Reg
RXB5V
VC4.3V
10.3 (10.34)
5.9 (5.90)
D3
D15
0 (0)
C25 1
C26 6V0.047
C27 0.1
D16 3.3(H)
C111 6.3V330
IC5
R150 100K
R151 1M
R149 56K
C113 0.01
C112 0.033
R152 1M
L5
R25 27 1/2W
13.9 (14.6)
Q16
R27 1K
13.9 (14.7)
0.1 (0.1)
D6
R303 27
R302 33
R301 33
D18 22V
L6
MAin charge
D19 22V
L7 8.2K
R29 1.8K
R28 2.2K
C118 16V10
C117 1
10.3 (10.4)
R156 10K
R157 100K
Q17
R30 10K
0.02 (0.015)
0 (0)
R306 56

SCHEMATIC DIAGRAM (KX-T9500H)



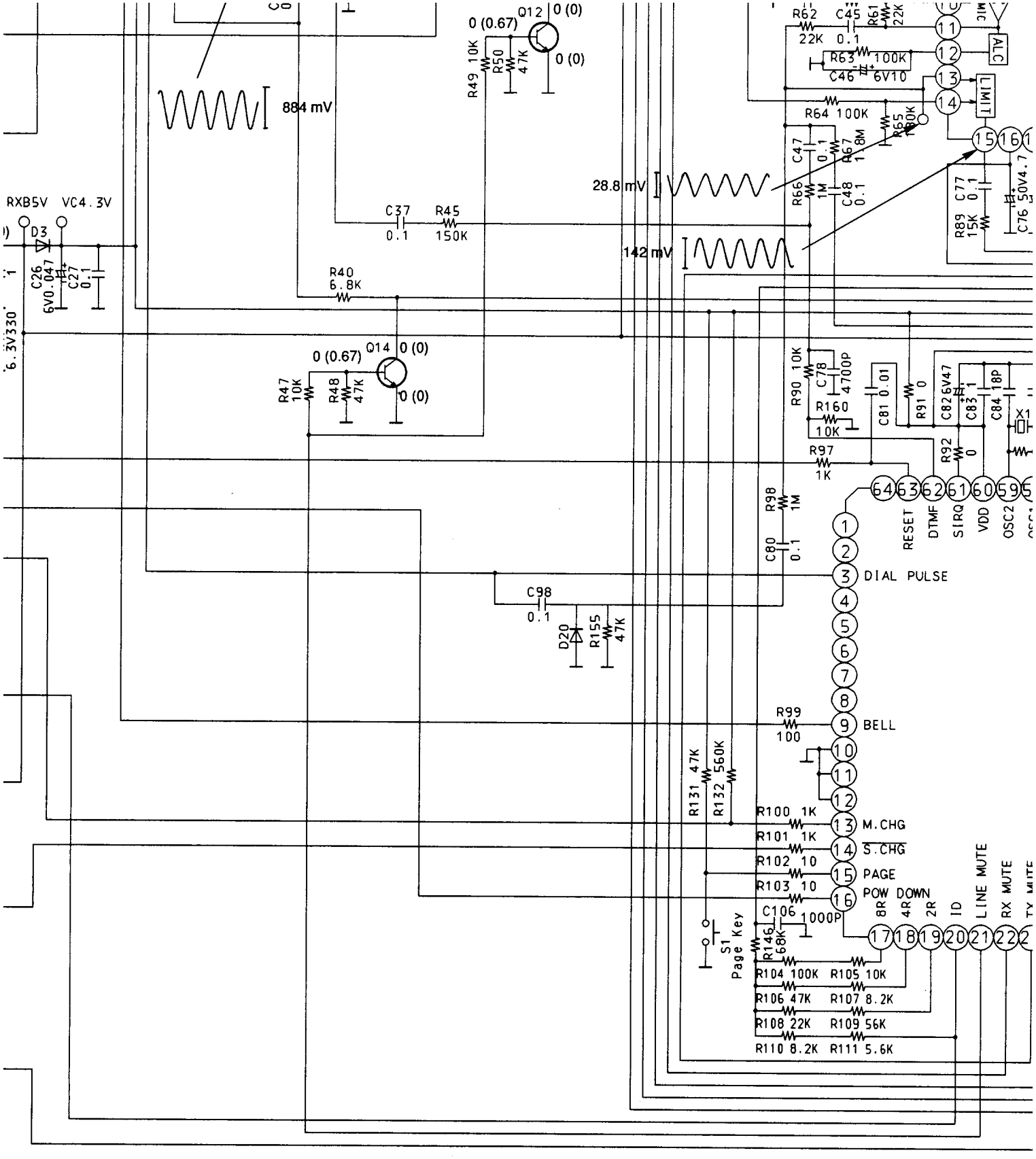

13
14
15
16
17
18
19
CN1
IF
GND
RXB
TXP
TXB
MOD
RST
SI
CPS
LD
TXP
TXB
Q20
Q21
4.06 (4.24)
2.42 (4.23)
197 mV
159 mV
864 mV
386 mV
414 mV
18.4 mV
TPC
TP1
S2
TONE/Pulse
D8
A~P
OSC2
OSC1
GND
IRQ
S.CHG LED
IN USE
ROM CS
ALARM
ROM DO
PLL DATA
PLL CLK
LPF1
LPF2
LPF3
VR4



IC3

Pin / Mode	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Talk	5.78	5.17	2.90	2.89	1.67	2.96	5.90	0	1.40	1.40	1.40	0.1	1.39	1.87	1.39
Stand-by	5.78	0	2.90	2.89	1.67	2.96	5.90	0	1.40	1.40	1.40	0.1	1.39	1.87	1.40

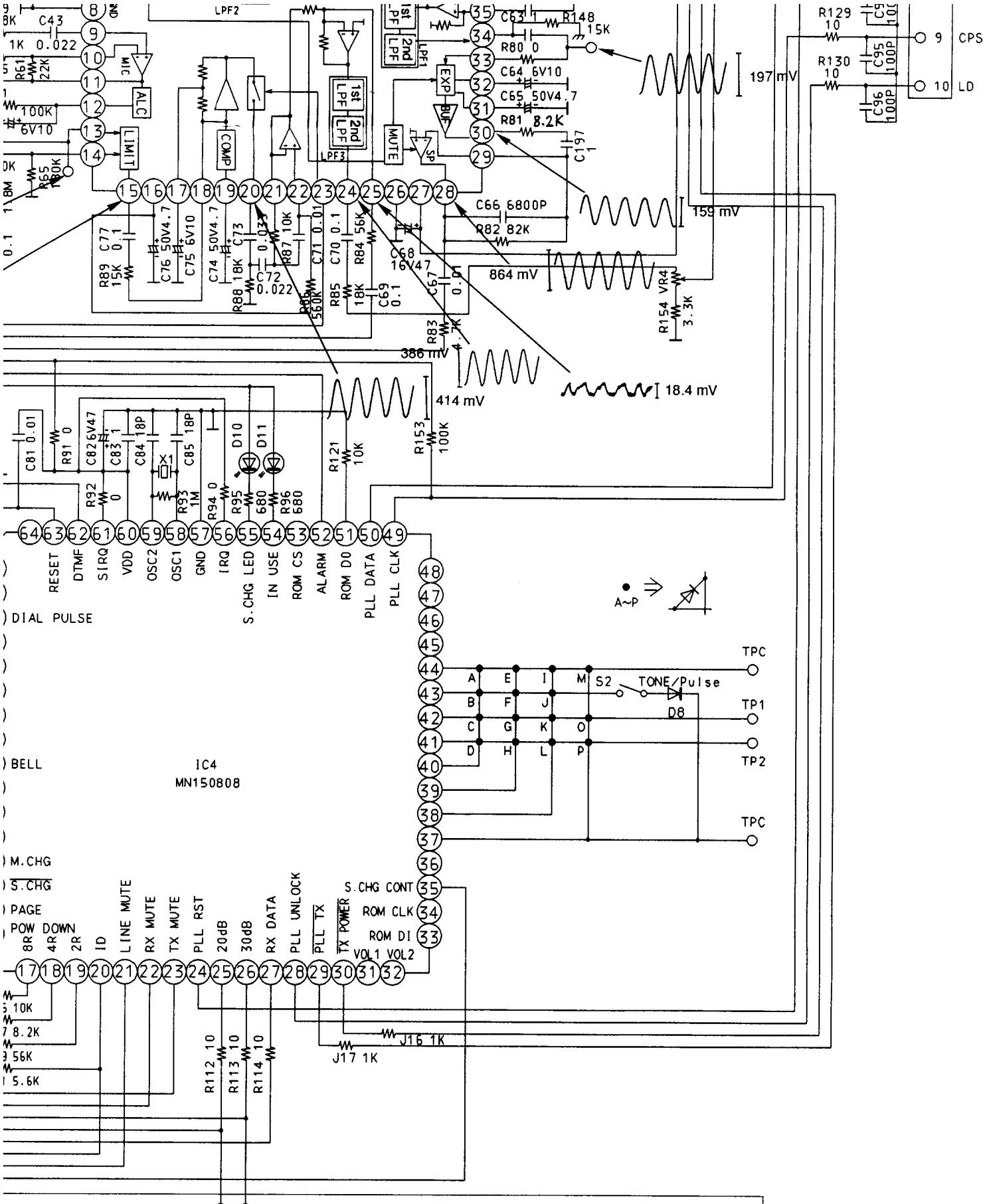
Notes: 1. S1: PAGE Switch
2. S2: DIALING MODE Selector
3. DC voltage measurements are taken with an electronic voltmeter from the negative voltage line.
Mic input: –50 dBm/1 kHz
Mode: Talk (Standby)



13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1.39	1.87	1.39	1.40	1.40	1.40	0.92	1.4	1.42	1.35	0	1.38	1.40	0	5.88	2.92	2.88	1.40	0.63	1.40	1.40	1.65	1.60	1.64	0.65	5.88	5.87	4.89
1.39	1.87	1.40	1.40	1.40	1.40	0.68	0.2	1.42	1.35	5.18	1.38	1.40	0	5.88	2.97	2.95	1.39	1.70	1.40	1.40	1.65	1.60	1.64	0.60	5.87	5.88	4.91

are taken
from the

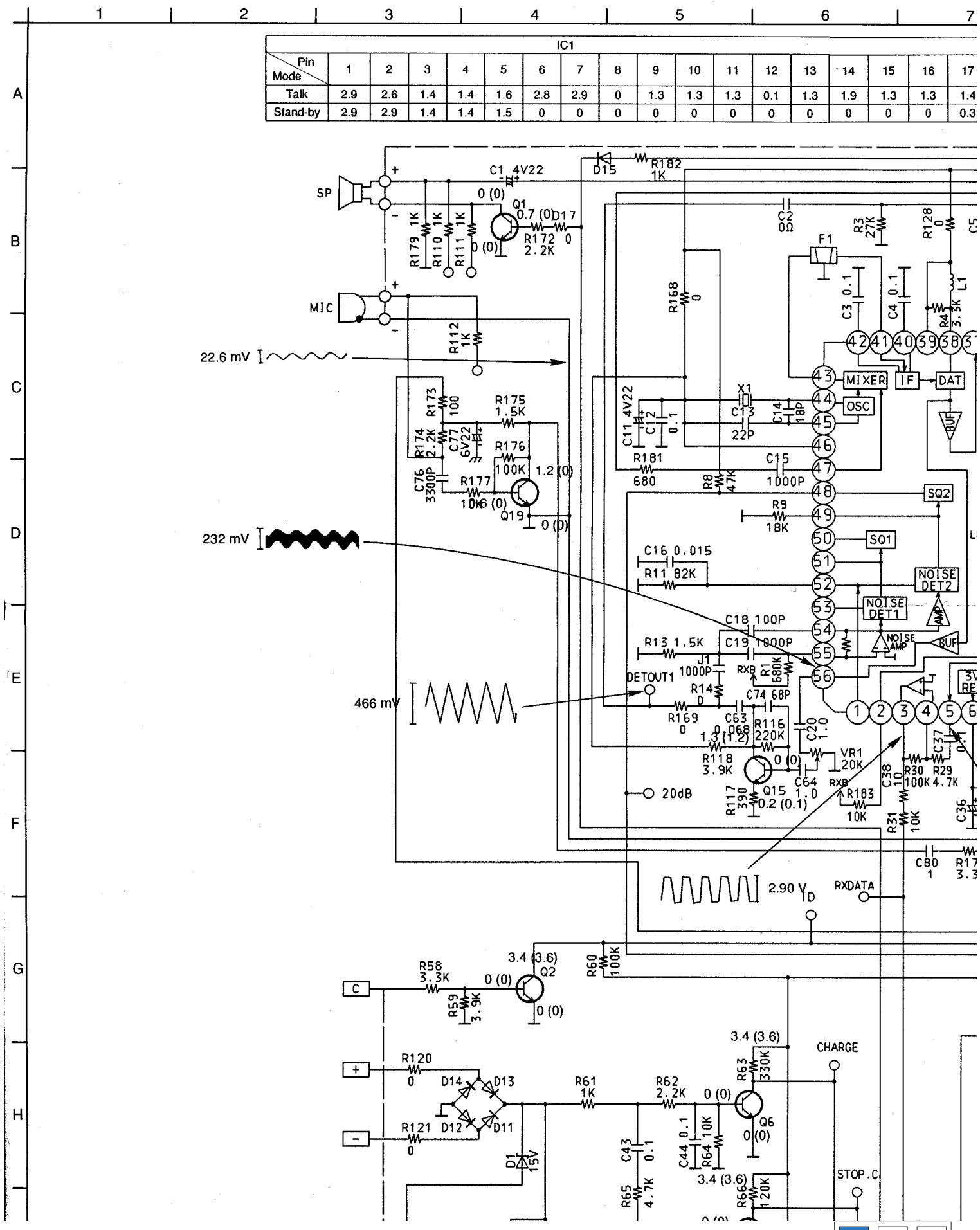
This schematic diagram may be modified at any time with development of new technology.



36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
1.64	0.65	5.88	5.87	4.89	4.89	4.89	5.52	5.70	5.25	5.87	1.24	0.21	1.35	0.1	1.35	0.12	0.49	1.84	1.86	0.73
1.64	0.60	5.87	5.88	4.91	4.92	4.92	5.52	5.72	5.27	5.90	1.24	5.70	1.35	5.72	1.35	1.24	1.22	1.80	1.86	0.65

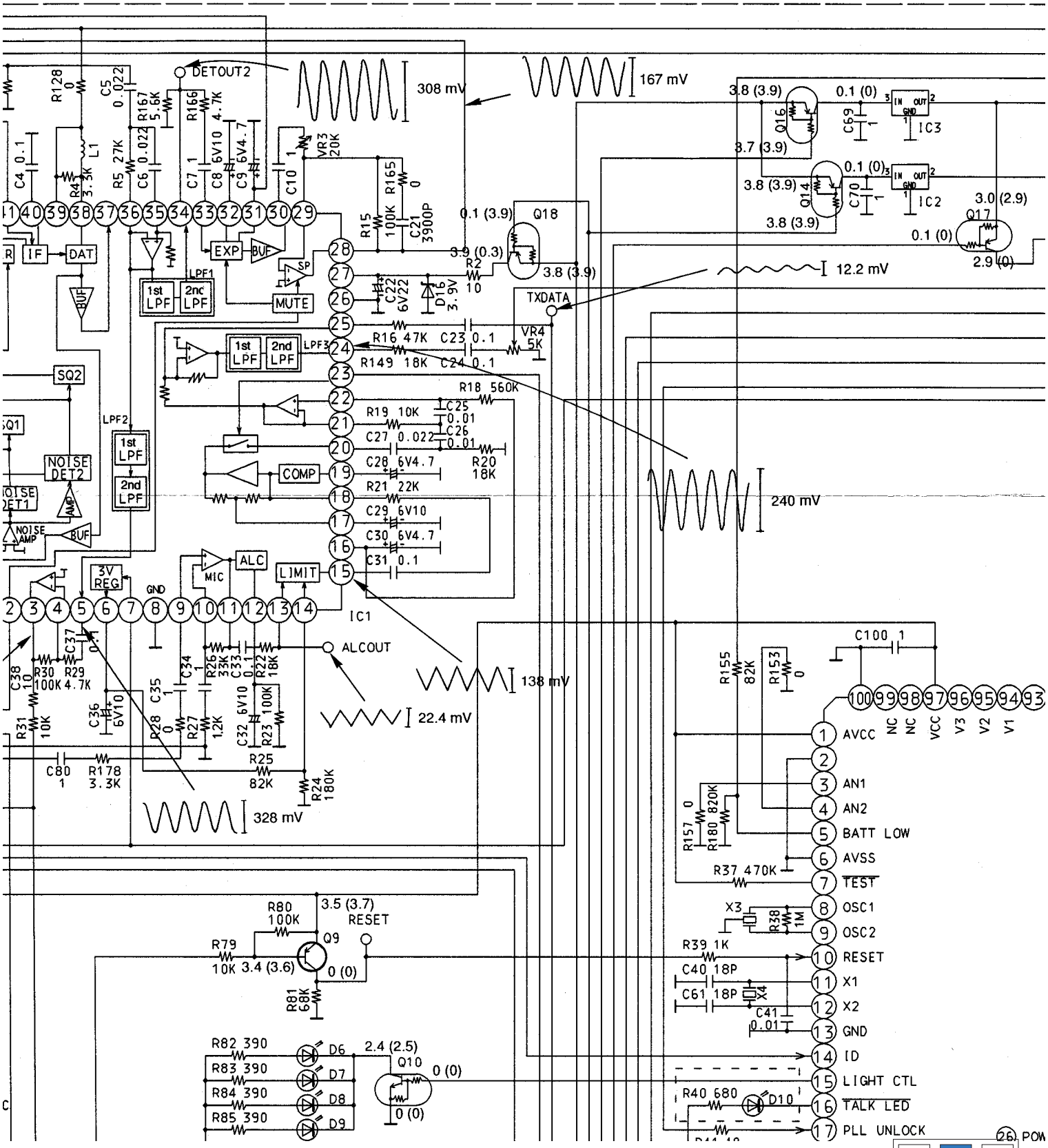
ay be modified
ent of new

IC1																	
Pin / Mode	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Talk	2.9	2.6	1.4	1.4	1.6	2.8	2.9	0	1.3	1.3	1.3	0.1	1.3	1.9	1.3	1.3	1.4
Stand-by	2.9	2.9	1.4	1.4	1.5	0	0	0	0	0	0	0	0	0	0	0	0.3



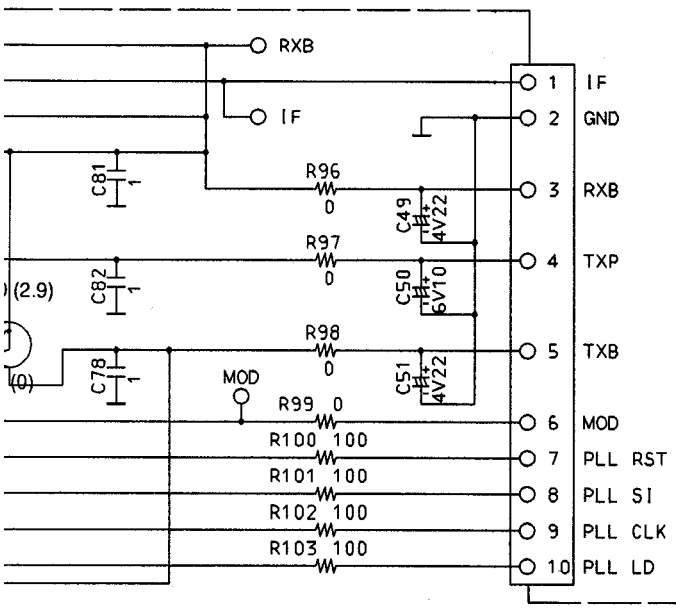
SCHEMATIC DIAGRAM (KX-T9500R)

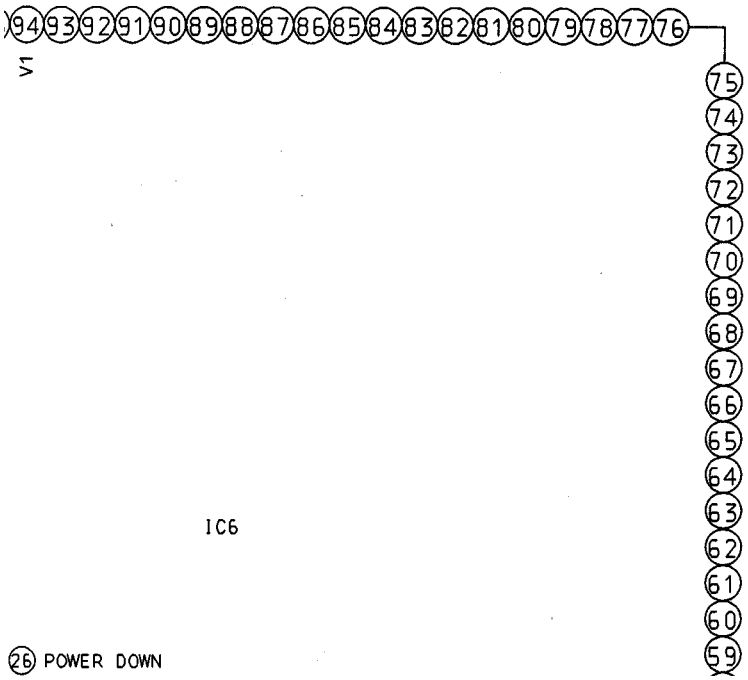
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
1.3	1.3	1.4	1.3	0.8	1.3	1.4	1.3	0	1.3	1.3	0	3.7	1.5	1.4	1.3	0.8	1.30	1.3	1.5	1.5	1.5	0.5	3.0	3.0
0	0	0.3	0.3	0.3	0	0	0	3.6	0	0	0	0.4	0	0	0	0	0	0	0	0	1.54	0.5	3.0	3.0

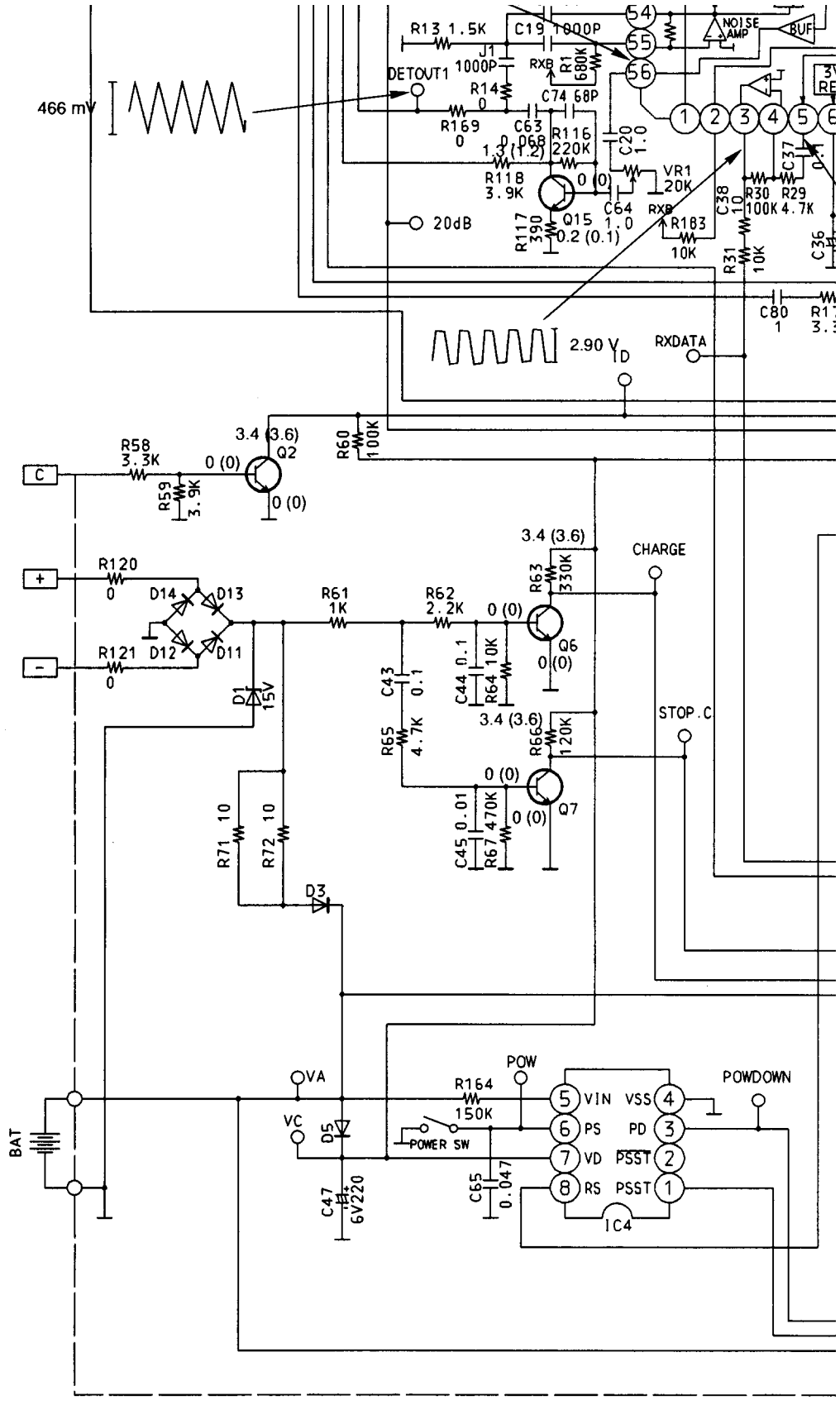


13 | 14 | 15 | 16 | 17 | 18 | 19

38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
3.0	3.0	2.0	2.0	2.0	2.7	2.8	2.4	3.0	1.2	0	1.3	3.0	1.3	0	0.7	1.2	1.8	0
3.0	3.0	2.0	2.0	2.0	2.7	2.8	2.4	3.0	1.2	3.0	1.3	3.0	1.3	1.2	0.8	1.2	1.8	0



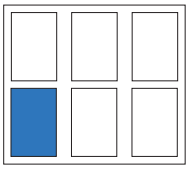


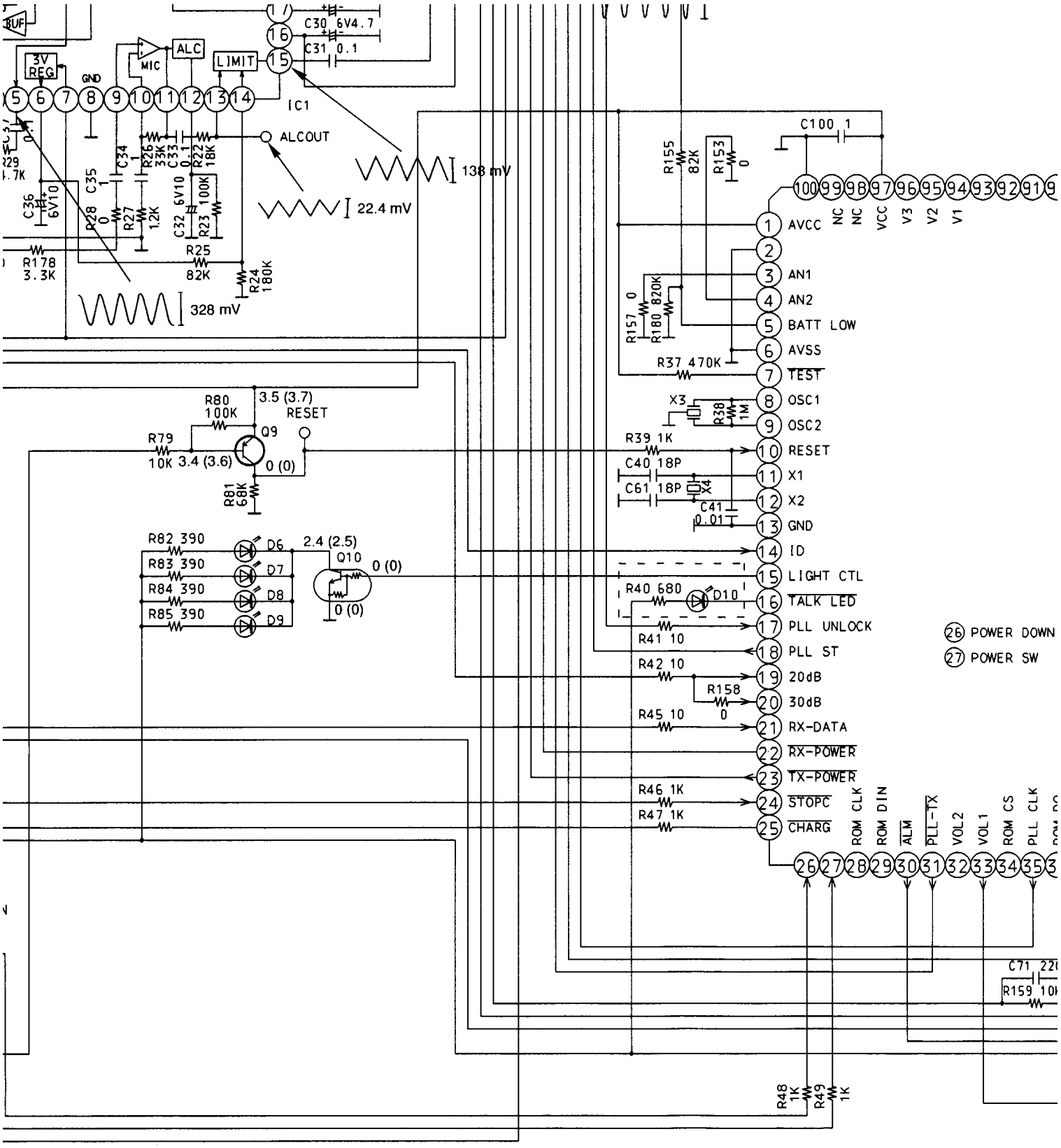


Notes: 1. S1: POWER/RINGER Switch
2. DC voltage measurements are taken with an electronic voltmeter from the negative voltage line.
Mic input: –50 dBm/1 kHz
Mode: Talk (Standby)

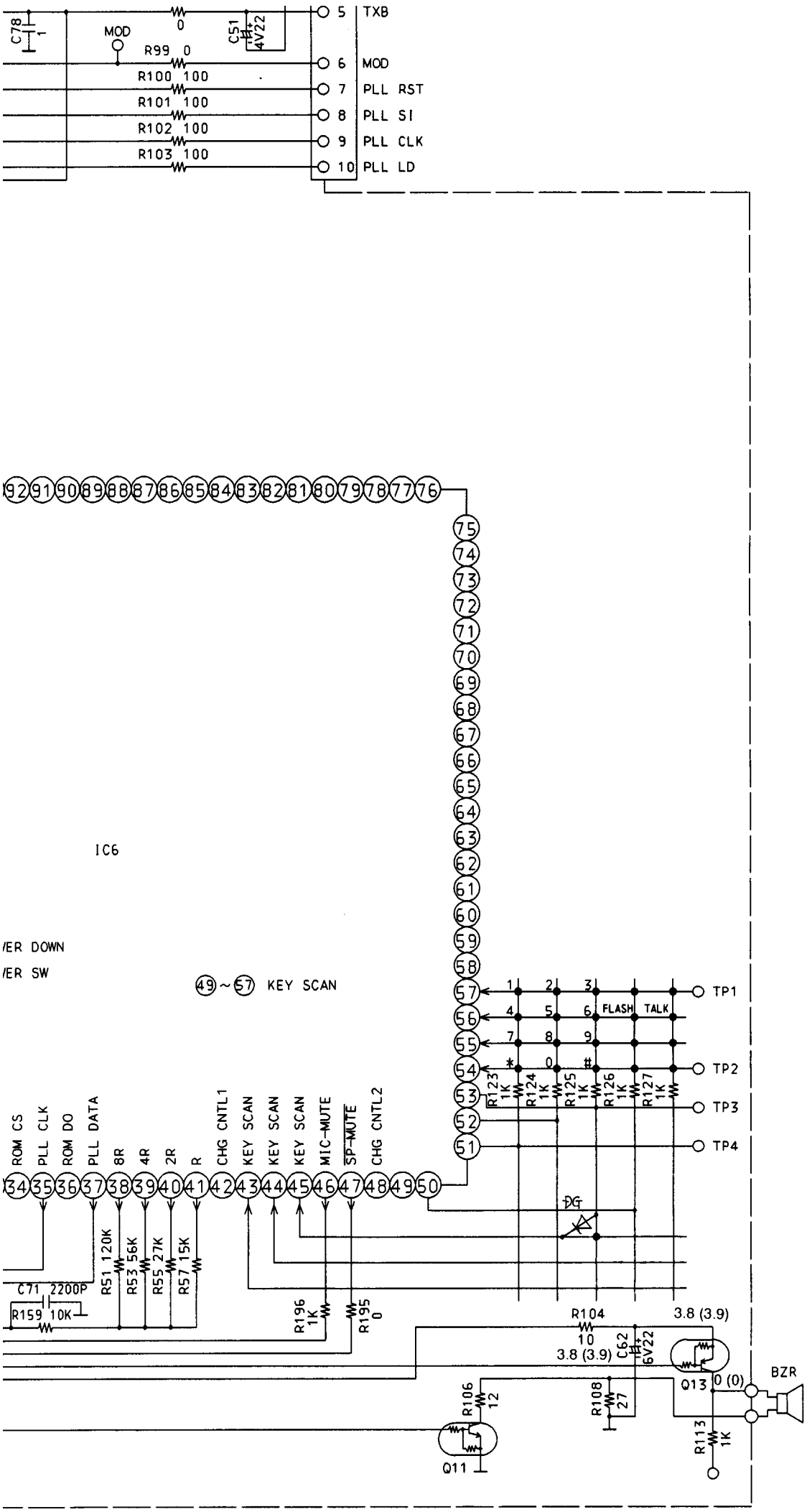
Important Safety Notice

The shaded area on this schematic diagra
incorporates special features important for
protection from fire and electrical shock ha
When servicing, it is essential that only
manufacturer's specified parts be used for
critical components in the shaded areas of
schematic.



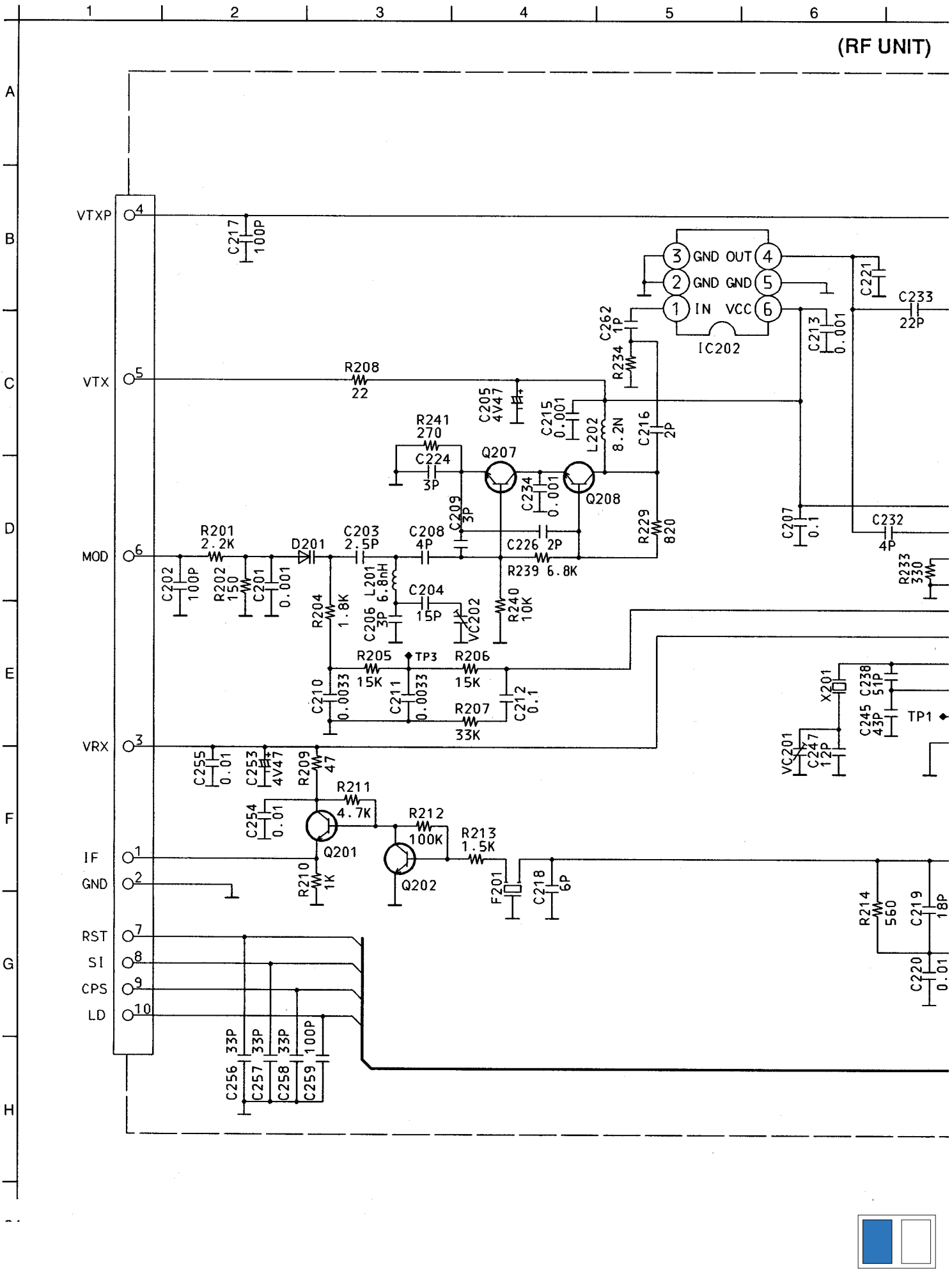


This schematic diagram may be modified at any time with development of new technology.


C78 1
MOD
0
R99 0
CS1 4V22
R100 100
R101 100
R102 100
R103 100
5 TXB
6 MOD
7 PLL RST
8 PLL SI
9 PLL CLK
10 PLL LD
IC6
/ER DOWN
/ER SW
49 ~ 57 KEY SCAN
TP1
TP2
TP3
TP4
FLASH
TALK
R123 1K
R124 1K
R125 1K
R126 1K
R127 1K
ROM CS
PLL CLK
ROM DO
PLL DATA
8R
4R
2R
R
CHG CNTL1
KEY SCAN
KEY SCAN
KEY SCAN
MIC-MUTE
SP-MUTE
CHG CNTL2
R51 120K
R53 56K
R55 27K
R57 15K
C71 2200P
R159 10K
R196 1K
R195 0
R104 10
3.8 (3.9)
C62 6V22
Q13
BZR
R106 12
R108 27
R113 1K
Q11

SCHEMATIC DIAGRAM

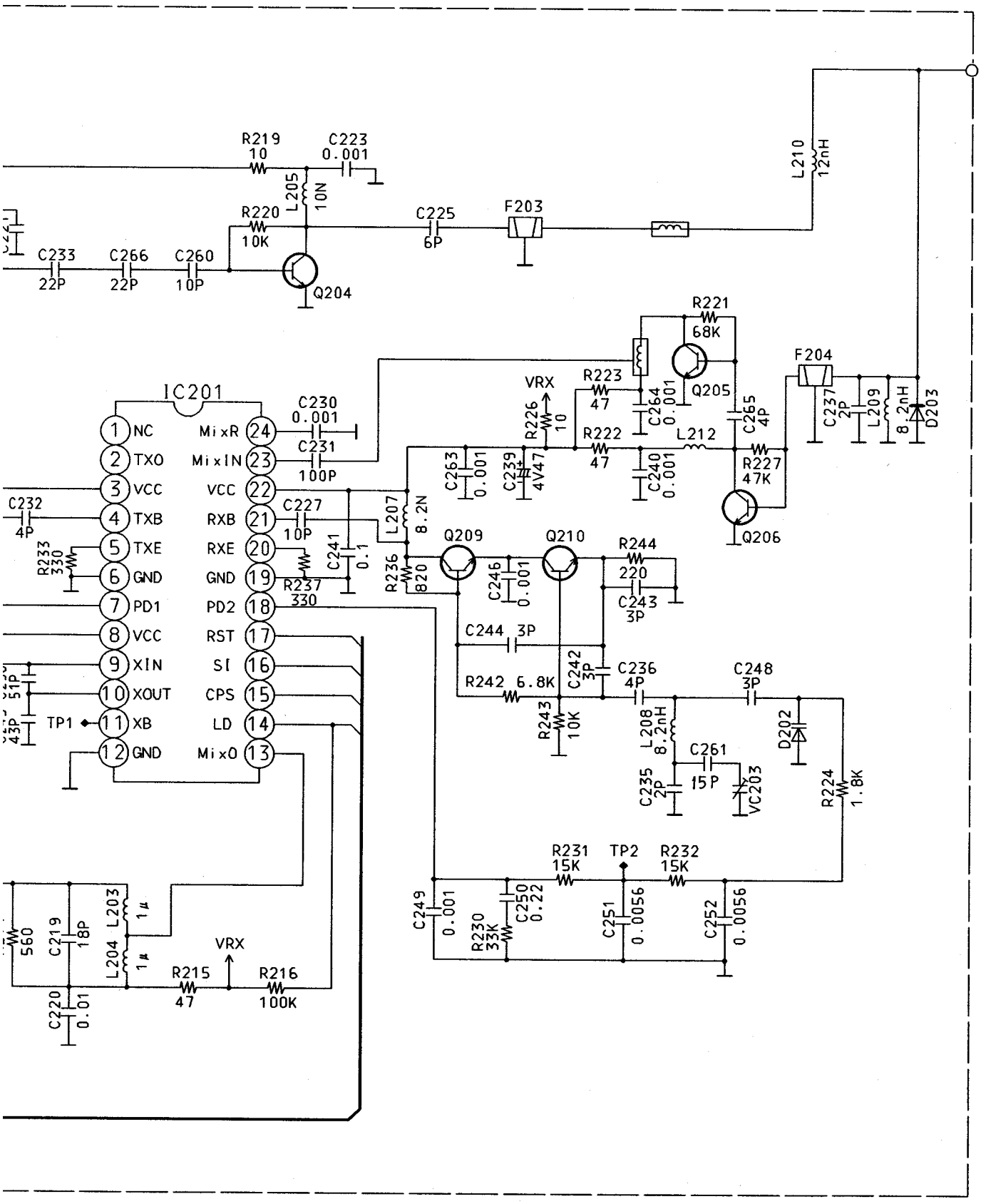
(RF UNIT)



GRAM (KX-T9500R)

7 8 9 10 11 12

= UNIT)



BLOCK DIAGRAM (KX-T9500H)

(Main P.C. Board)

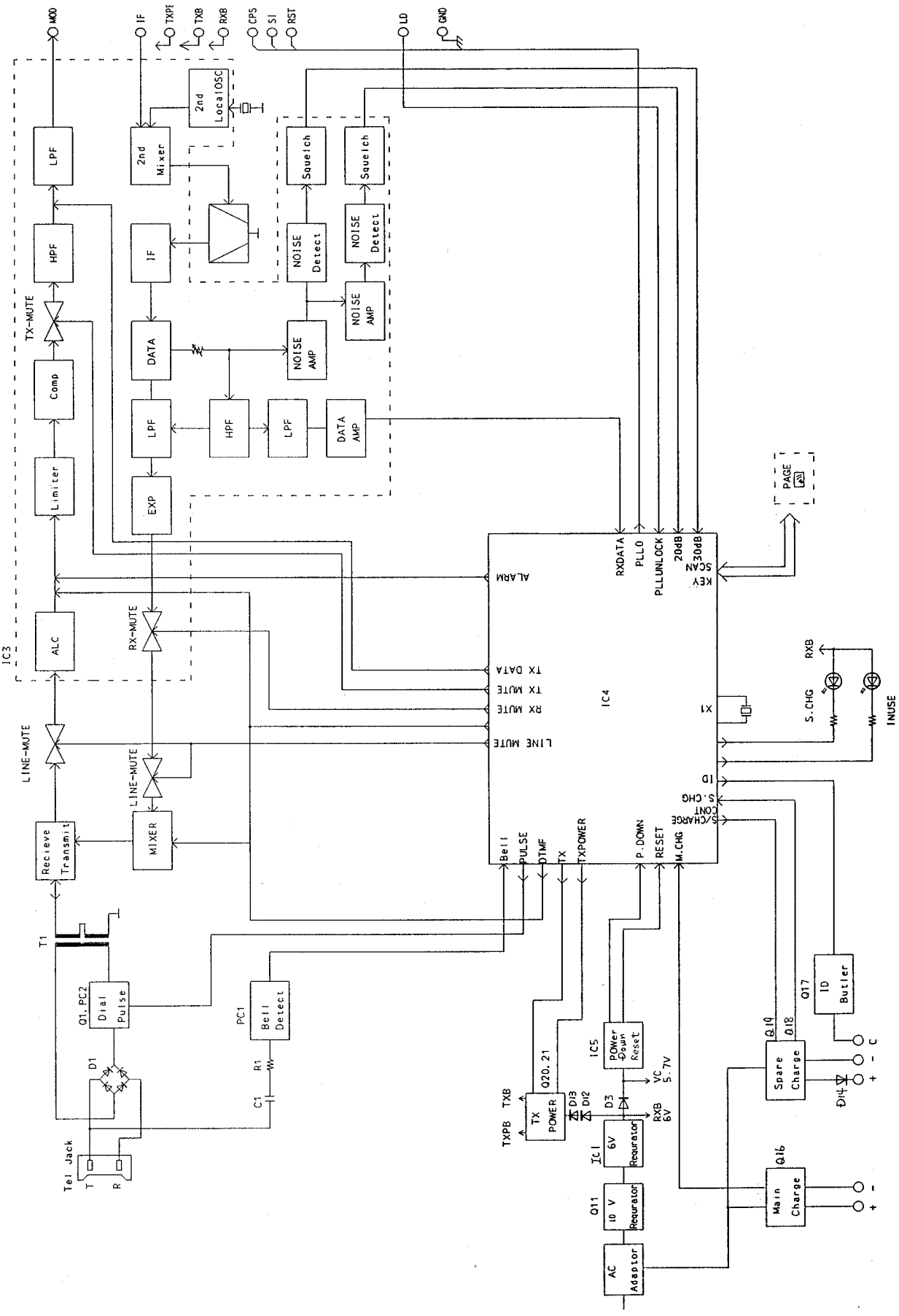


Fig. 27

Fig. 27

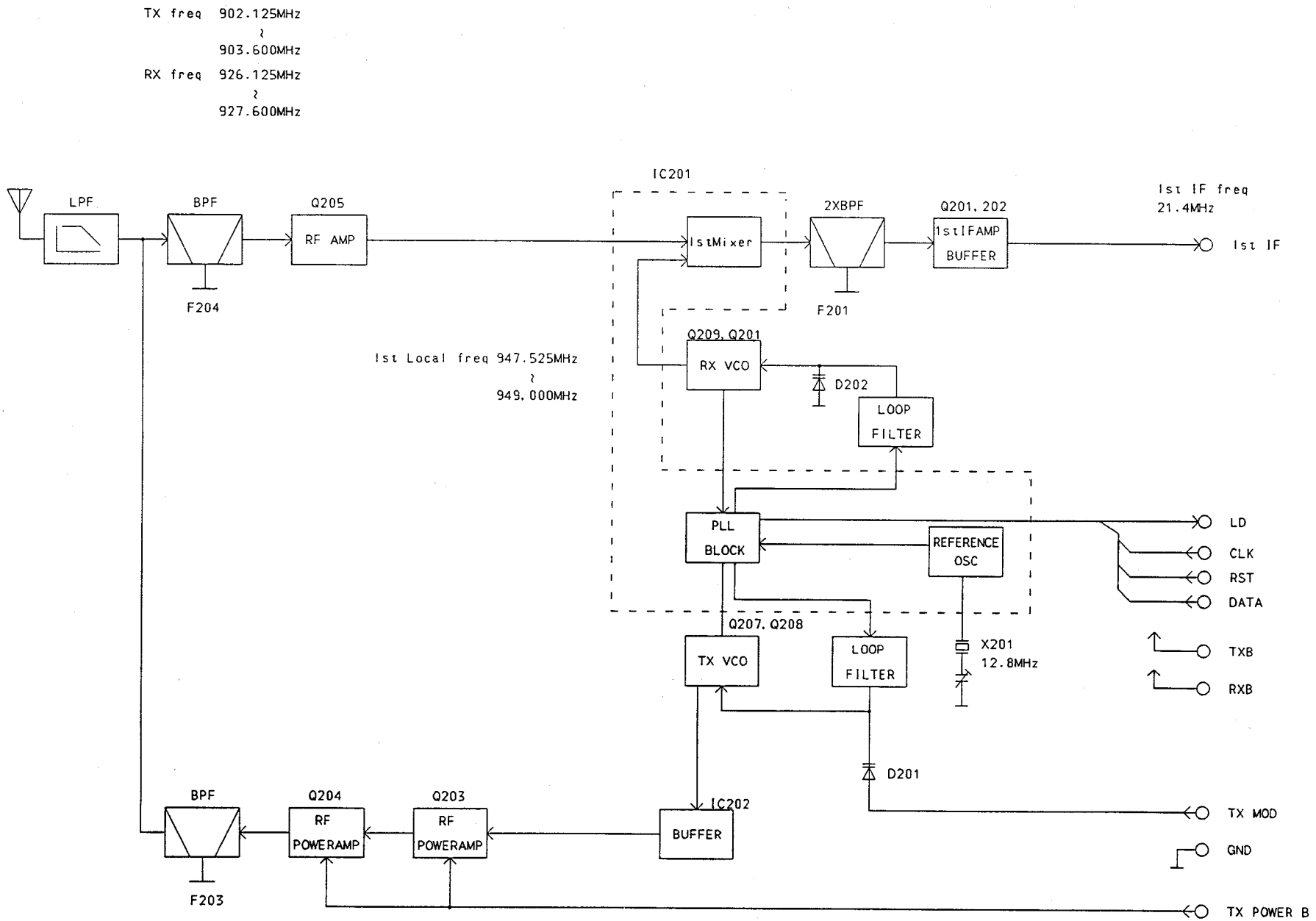

TX freq 902.125MHz
~
903.600MHz
RX freq 926.125MHz
~
927.600MHz
LPF
BPF
F204
Q205
RF AMP
IC201
1stMixer
2XBPF
F201
Q201, 202
1stIFAMP
BUFFER
1st IF freq
21.4MHz
1st IF
1st Local freq 947.525MHz
~
949.000MHz
Q209, Q201
RX VCO
D202
LOOP
FILTER
PLL
BLOCK
REFERENCE
OSC
LD
CLK
RST
DATA
Q207, Q208
TX VCO
LOOP
FILTER
X201
12.8MHz
TXB
RXB
D201
BPF
F203
Q204
RF
POWERAMP
Q203
RF
POWERAMP
IC202
BUFFER
TX MOD
GND
TX POWER B
(RF Unit)

Fig. 28

BLOCK DIAGRAM (KX-T9500R)
(Main P.C. Board)

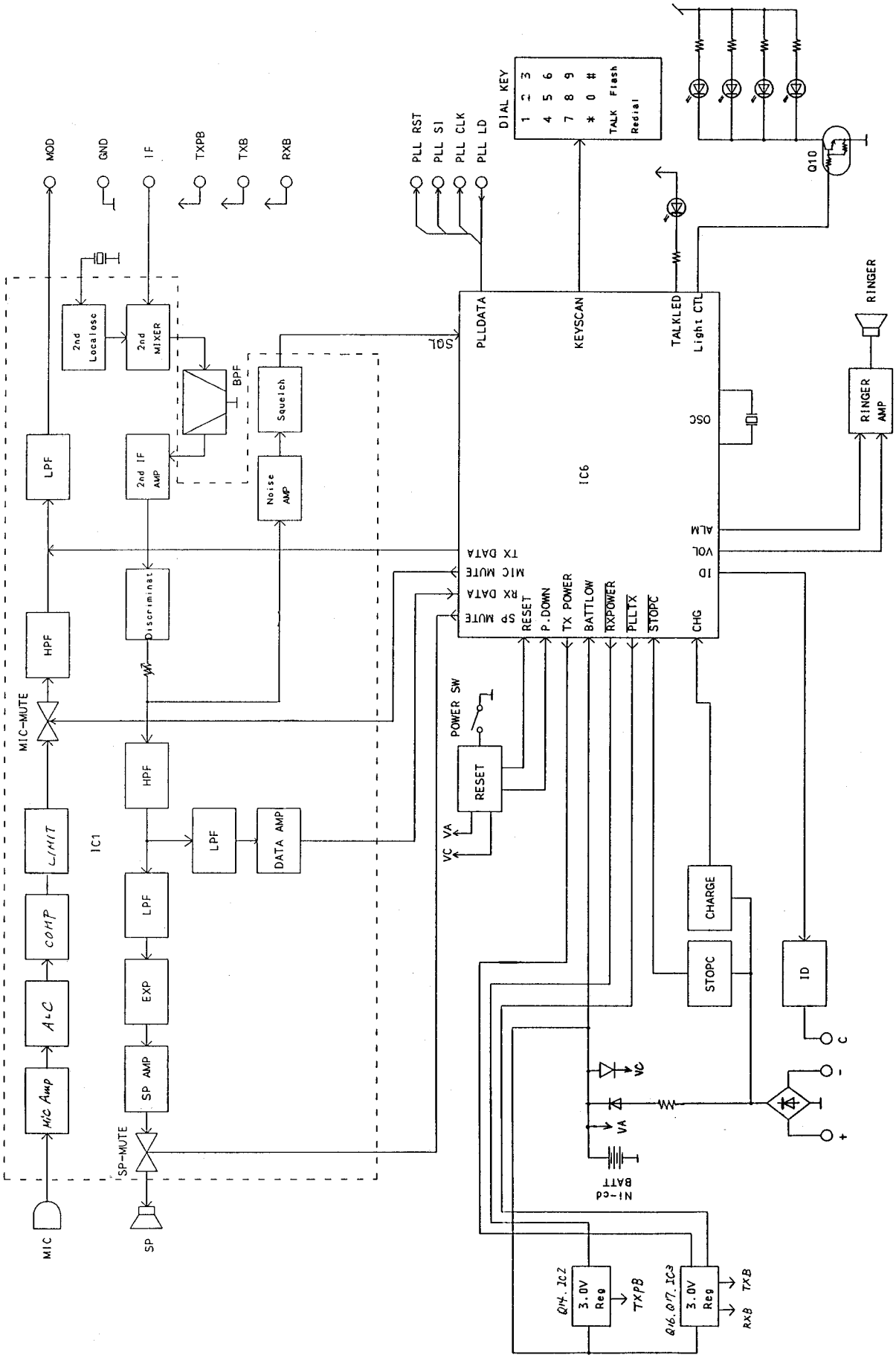


Fig. 29

Fig. 29

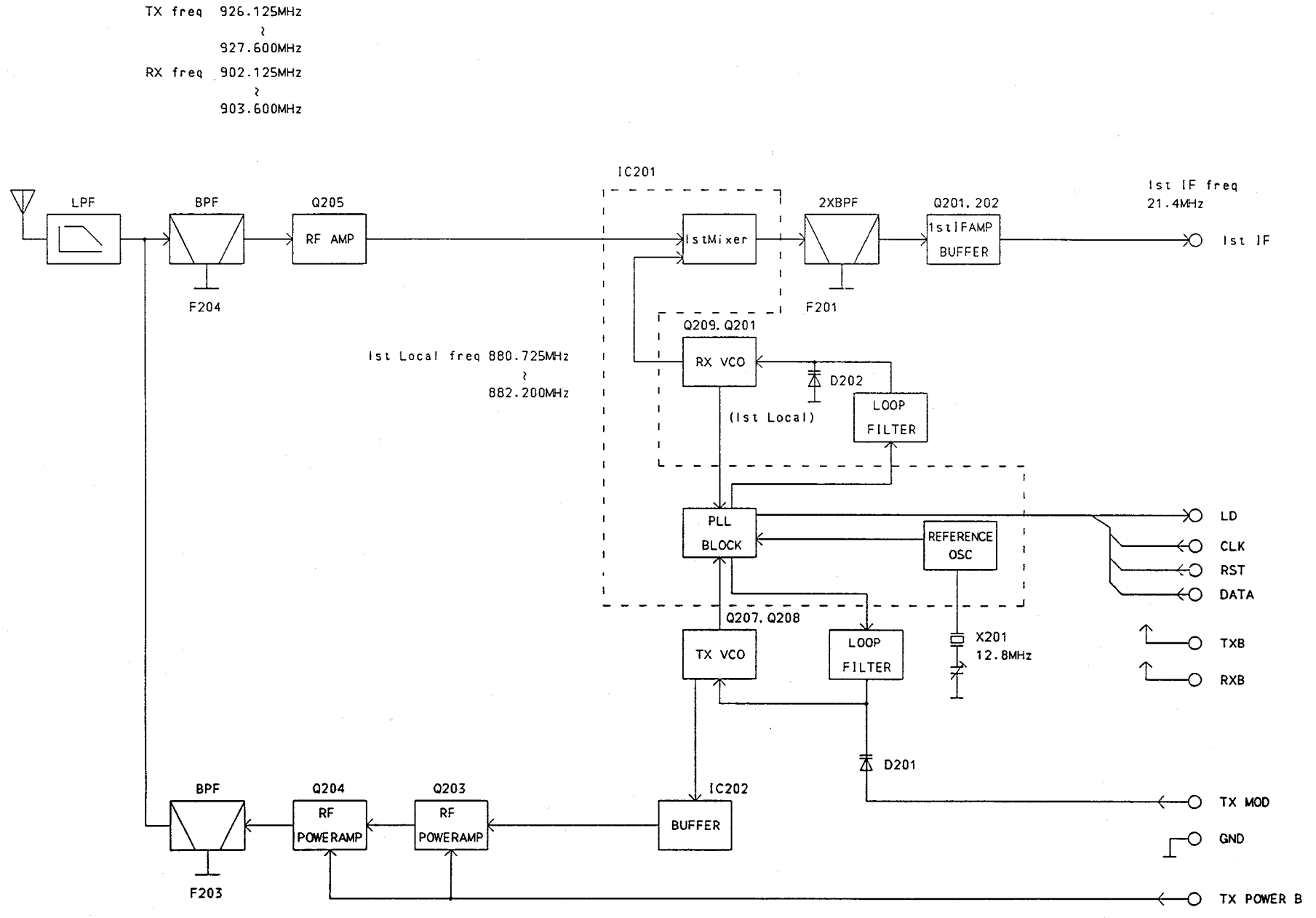
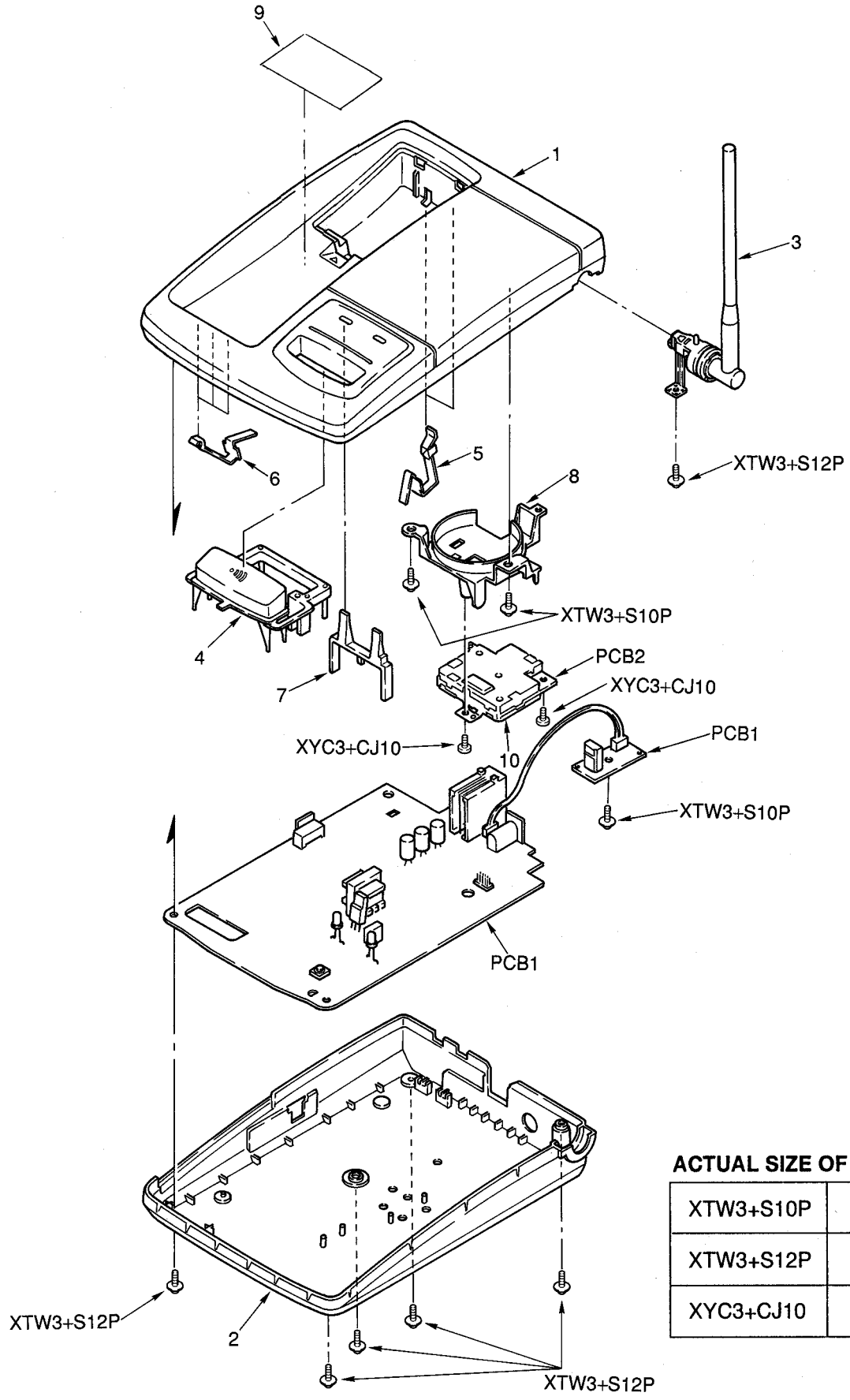

TX freq 926.125MHz
~
927.600MHz
RX freq 902.125MHz
~
903.600MHz
IC201
LPF
BPF
Q205
RF AMP
1stMixer
2XBPF
Q201, 202
1stIFAMP
BUFFER
1st IF freq
21.4MHz
1st IF
F204
F201
Q209, Q201
1st Local freq 880.725MHz
~
882.200MHz
RX VCO
D202
(1st Local)
LOOP
FILTER
PLL
BLOCK
REFERENCE
OSC
LD
CLK
RST
DATA
Q207, Q208
TX VCO
LOOP
FILTER
X201
12.8MHz
TXB
RXB
D201
BPF
Q204
Q203
IC202
RF
POWERAMP
RF
POWERAMP
BUFFER
TX MOD
GND
F203
TX POWER B
(RF Unit)

Fig. 30

CABINET AND ELECTRICAL PARTS LOCATION (KX-T9500H)

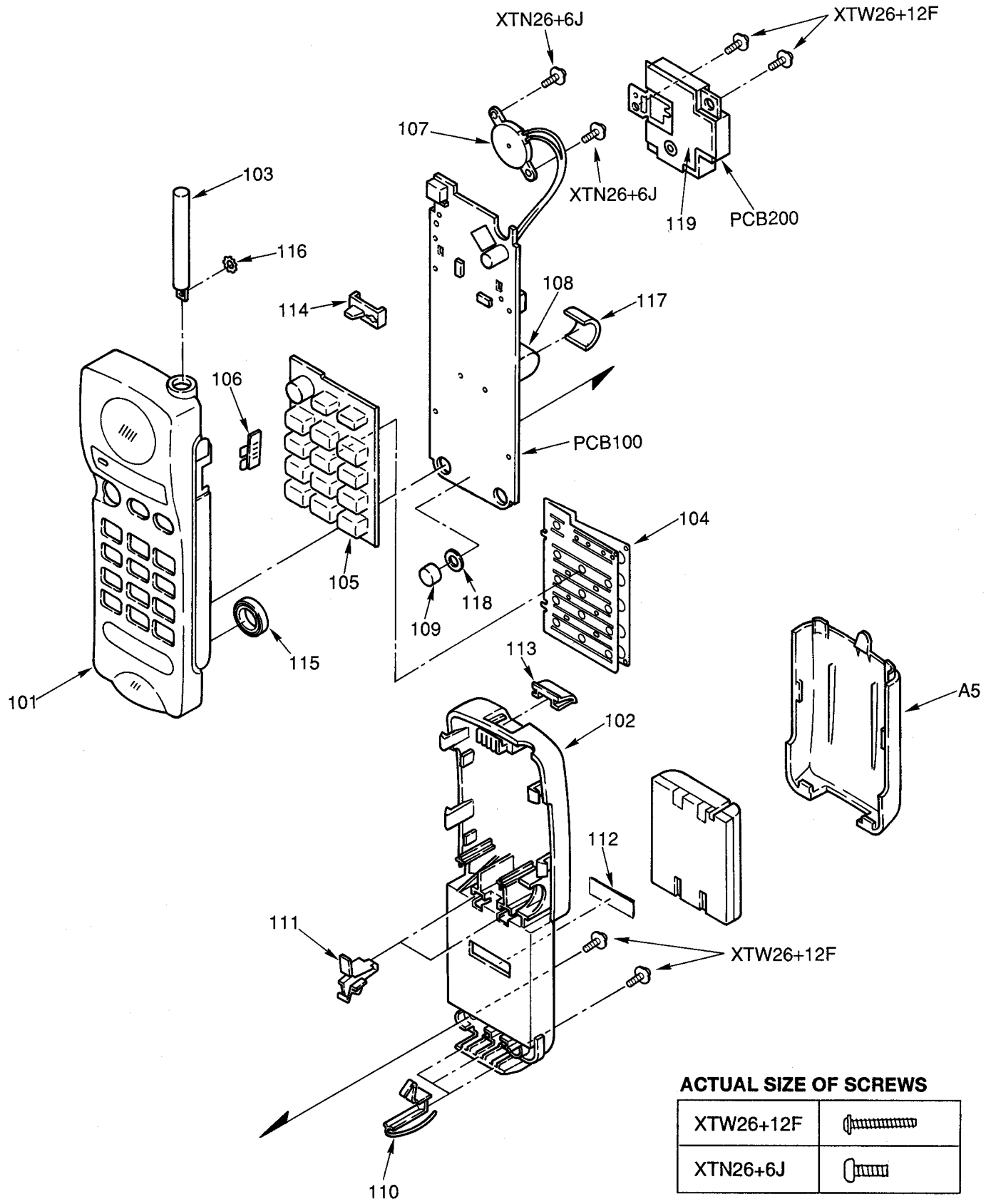


ACTUAL SIZE OF SCREWS

XTW3+S10P	
XTW3+S12P	
XYC3+CJ10	

Fig. 31

CABINET AND ELECTRICAL PARTS LOCATION (KX-T9500R)



ACTUAL SIZE OF SCREWS

XTW26+12F	
XTN26+6J	

Fig. 32