

Service Manual

Telephone Equipment

KX-TC1740B

900MHz Cordless Answering System

Black Version

(for U.S.A.)

Caller ID Compatible



(Base Unit)

(Handset)

SPECIFICATIONS

	Base Unit	Handset
Power Source:	AC Adaptor (PQLV1Z)	Rechargeable Ni-Cd battery
Receiving Frequency:	30 channels within 926.1~927.55 MHz	30 channels within 902.1~903.55 MHz
Receiving Method:	Double super heterodyne	Double super heterodyne
Transmitting Frequency:	30 channels within 902.1~903.55 MHz	30 channels within 926.1~927.55 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	20-bit
Greeting Message and Incoming Message:	Full digital recording Total recording time, 15 minutes	
Dial Mode:	Tone (DTMF)/Pulse	Tone (DTMF)/Pulse
Redial:	Up to 30 digits	Up to 30 digits
Speed Dialer:	Up to 22 digits	Up to 22 digits
Power Consumption:		21 days at Standby, 8 hours at Talk
Dimension (H × W × D):	2 8/32" × 6 1/2" × 8 15/32" (55 × 165 × 215 mm)	9 9/16" × 2 8/32" × 1 5/8" (243 × 53 × 40 mm)
Weight	0.93 lbs. (420 g)	0.55 lbs. (250g) with battery

Design and specifications are subject to change without notice.

Panasonic

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20.3. Auto Disconnect Circuit

Function:

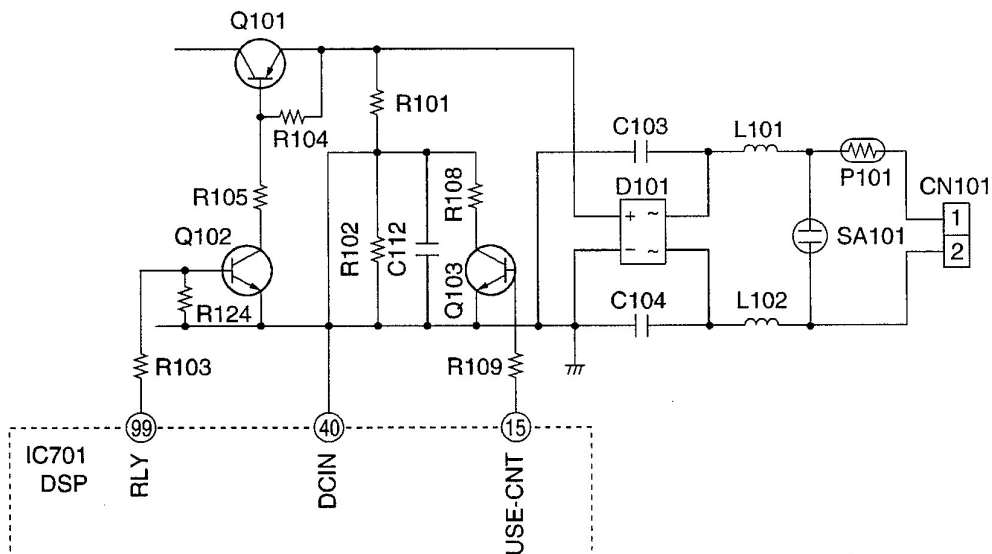
This circuit is used to detect the fact that another telephone connected to the same line is OFF-HOOK while the unit is in a receiving status or OGM transmitting status.

Circuit Operation:

The voltage pin 40 of IC701 is monitored. If a parallel-connected telephone is put into an OFF HOOK status, the presence/absence of a parallel connection is determined when the voltage changes by 0.2V or more.

When the set detects tha parallel-connected telephone is OFF HOOK status, the line is disconnected.

Circuit Diagram



20.4. Power Supply Circuit

Function:

Power from the AC adaptor passes through a regulating block consisting of IC301.

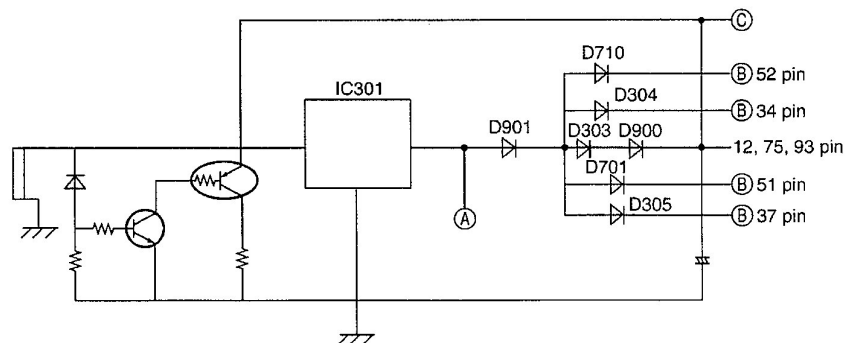
Circuit Operation:

IC301 is a regulated power supply. The voltage at point A is regulated to 6 V by IC301.

The voltage at point B is dropped by D901, D304~D305, D701 and D710 to 4.6 V.

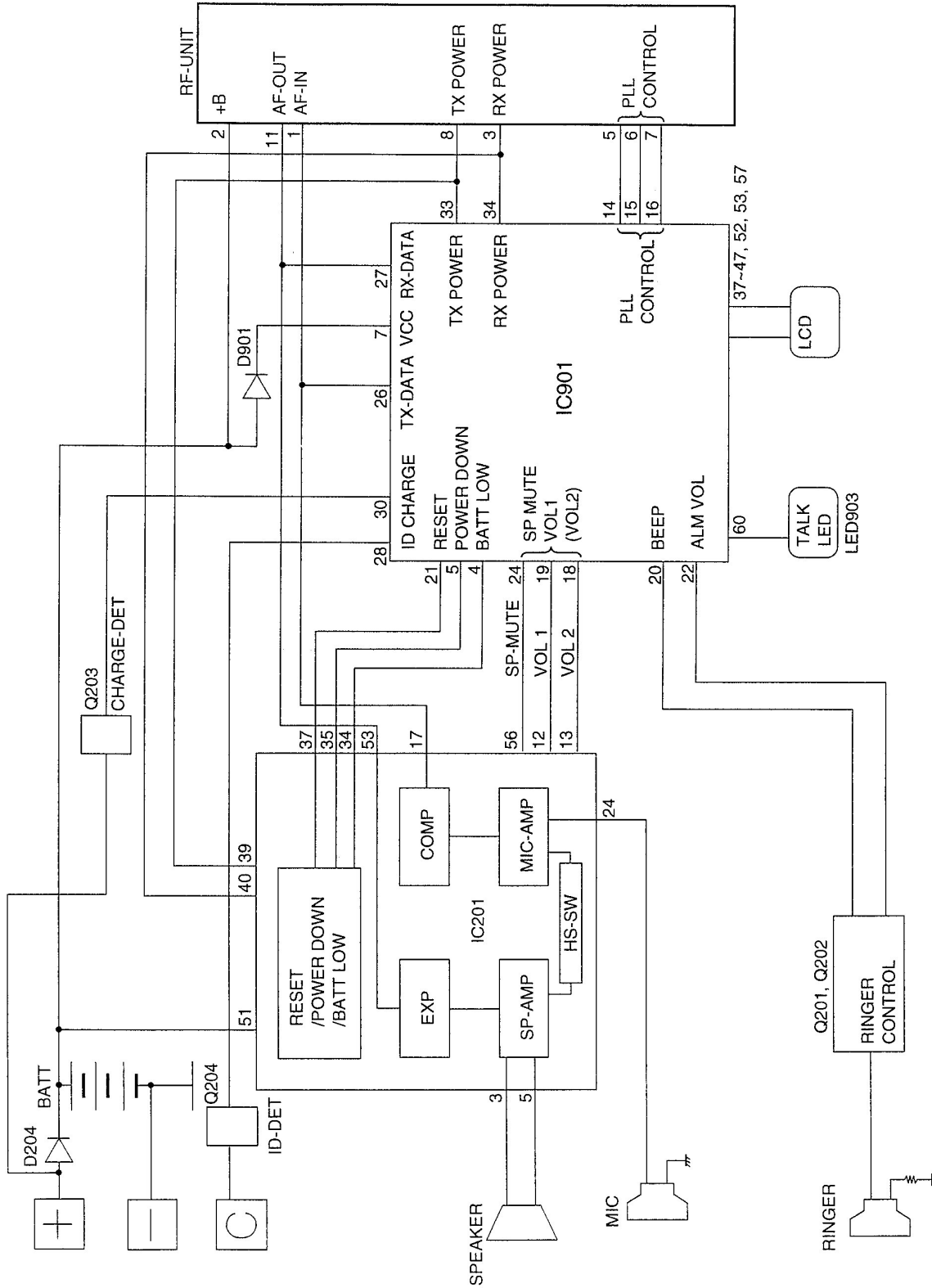
The voltage at point C is dropped by D303, D900 to 4.1 V.

Circuit Diagram



21 BLOCK DIAGRAM (Handset)

21.1. Control Block



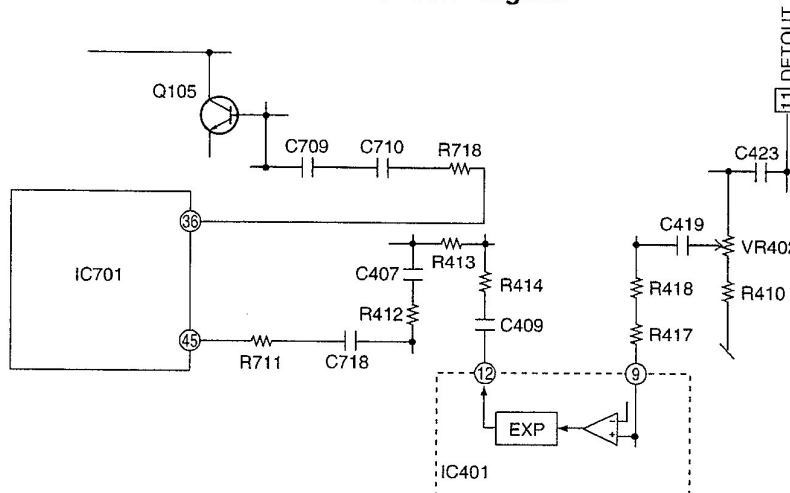
20.5. DTMF Signal

When the DTMF data from the Handset is received, the DTMF signal is output from pin 36 of the DSP and sent to the line through Q105.

20.6. Line Sending Signal

The AF signal output from the AF terminal of the RF unit is adjusted to the appropriate level by VR402 and input to IC401. The RX DATA signal from the handset is muted at this point by IC401 Exp to prevent the RX DATA from leaking onto the line. IC401 comprises a 3 kHz LPF and an expander IC. The signal compressed by the handset is expanded, recreating it as a normal signal. The output from the expander passes through IC701, and is input to telephone line.

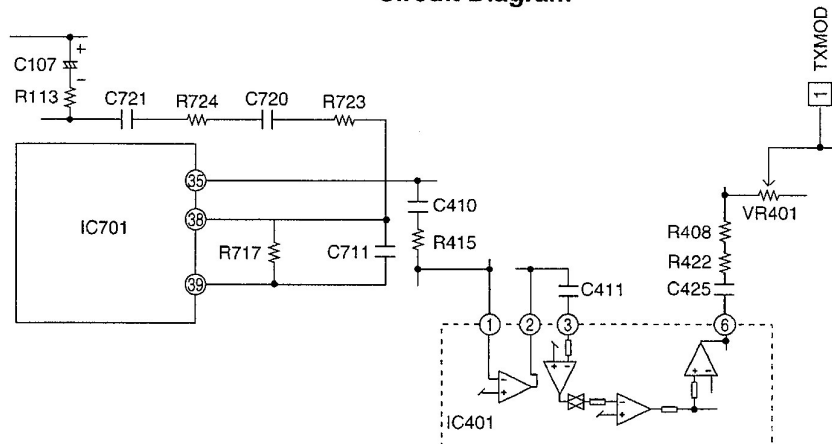
Circuit Diagram



20.7. Line Receiving Signal

The audio signal from line passes through IC701 and is input to IC401. IC401 comprises an amplifier, limiter, mute circuit, compander, and 3 kHz LPF. It performs signal processing. The audio signal output from pin 6 of IC401 is mixed with the TX DATA. At this point (in the talk mode), the DTMF tones, pulse dial tones, and data transferred between the Handset and base unit is input to the modulator circuit.

Circuit Diagram



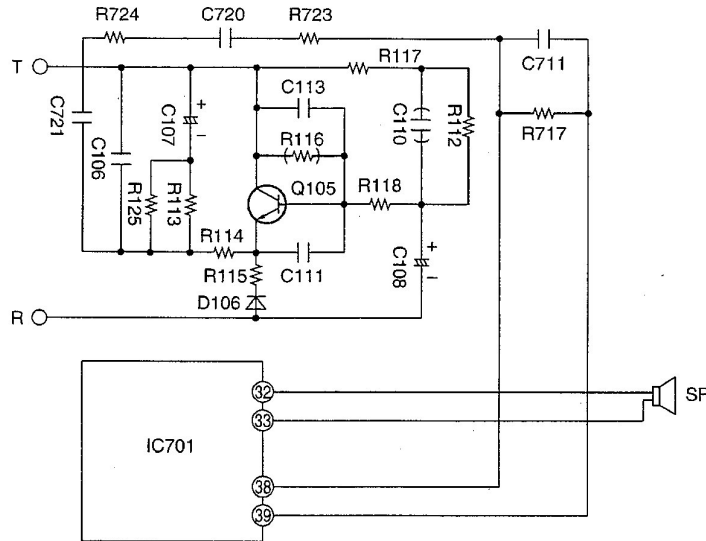
20 NEW CIRCUIT OPERATION (Base Unit)

20.1. SP-PHONE RX Circuit

Circuit Operation:

Telephone Line → C721 → R724 → C720 → R723 → pin 38 of IC703 → pins 32 and 33 of IC701 → Speaker

Circuit Diagram

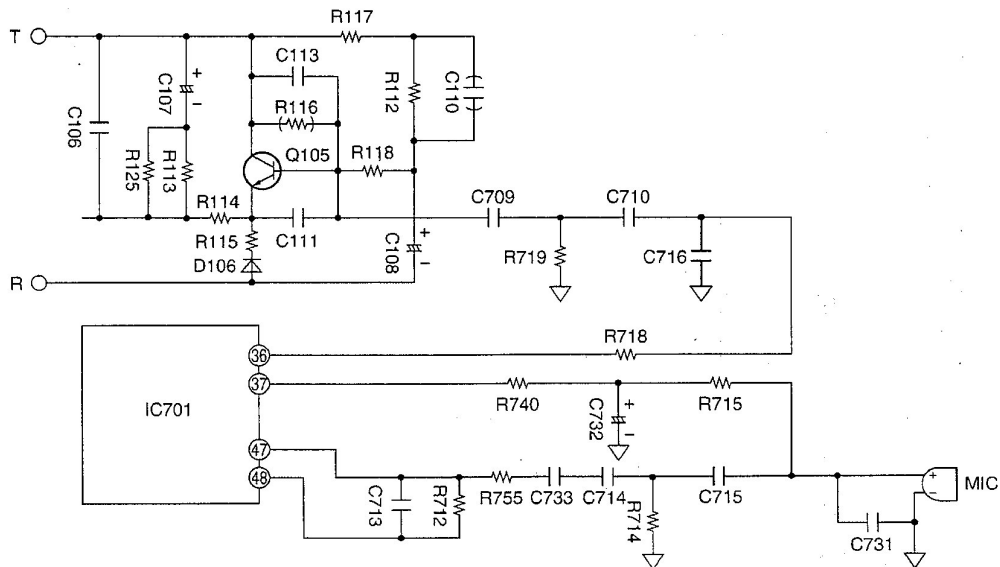


20.2. SP-PHONE TX Circuit

Circuit Operation:

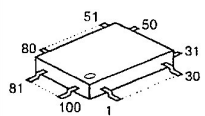
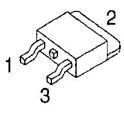
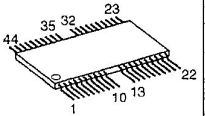
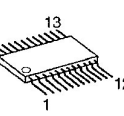
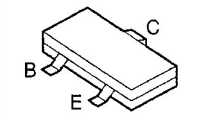
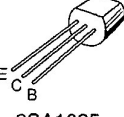
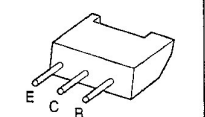
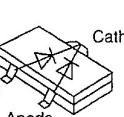
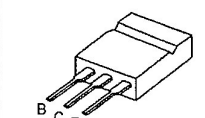
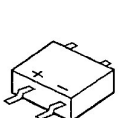
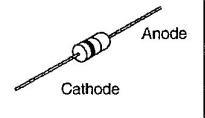
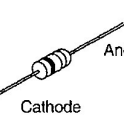
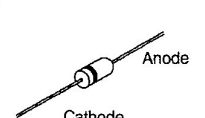
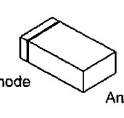
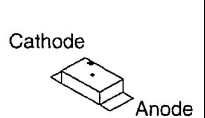
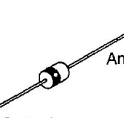
MIC → C715 → C714 → C733 → R755 → pin 47 of IC701 → pin 36 of IC701 → R718 → C710 → C709 → Telephone Line

Circuit Diagram

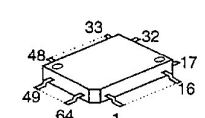
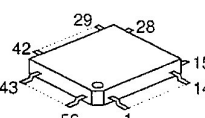
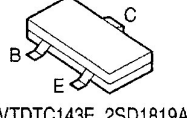
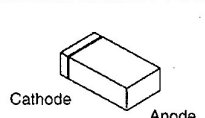
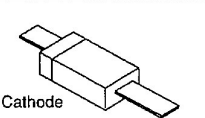
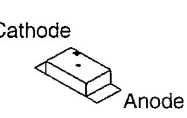


13 TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

13.1. Base Unit

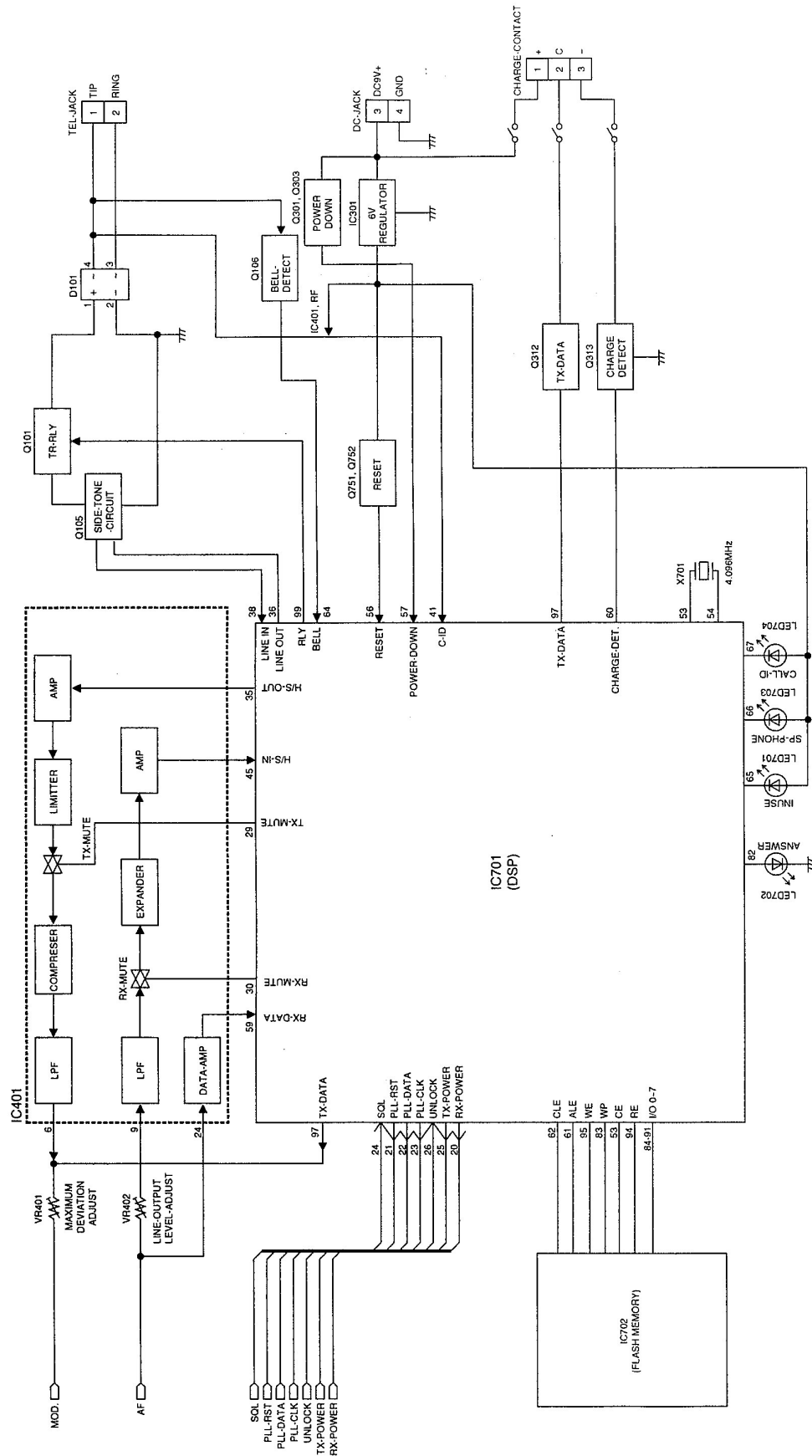
 <p>PQVI16559AAD</p>	 <p>PQVIL7806D2T</p>	 <p>PQWITC1740BH</p>	 <p>AN6137SB</p>
 <p>2SD1819A, UN5113 UN5213, 2SD601R</p>	 <p>2SA1625, PQVT2N6517CA 2SC2120</p>	 <p>2SD1994A 2SD1991A</p>	 <p>MA153</p>
 <p>2SD2136</p>	 <p>PQVDS1ZB40F1</p>	 <p>MA4180 MA4300</p>	 <p>PQVDMZJ6R2 MA4020</p>
 <p>1SS119 MA723</p>	 <p>MA111 MA8051 MA8039</p>	 <p>PQVDPY1112H, PQVDSML210LT</p>	 <p>PQVDS5688G</p>

13.2. Handset

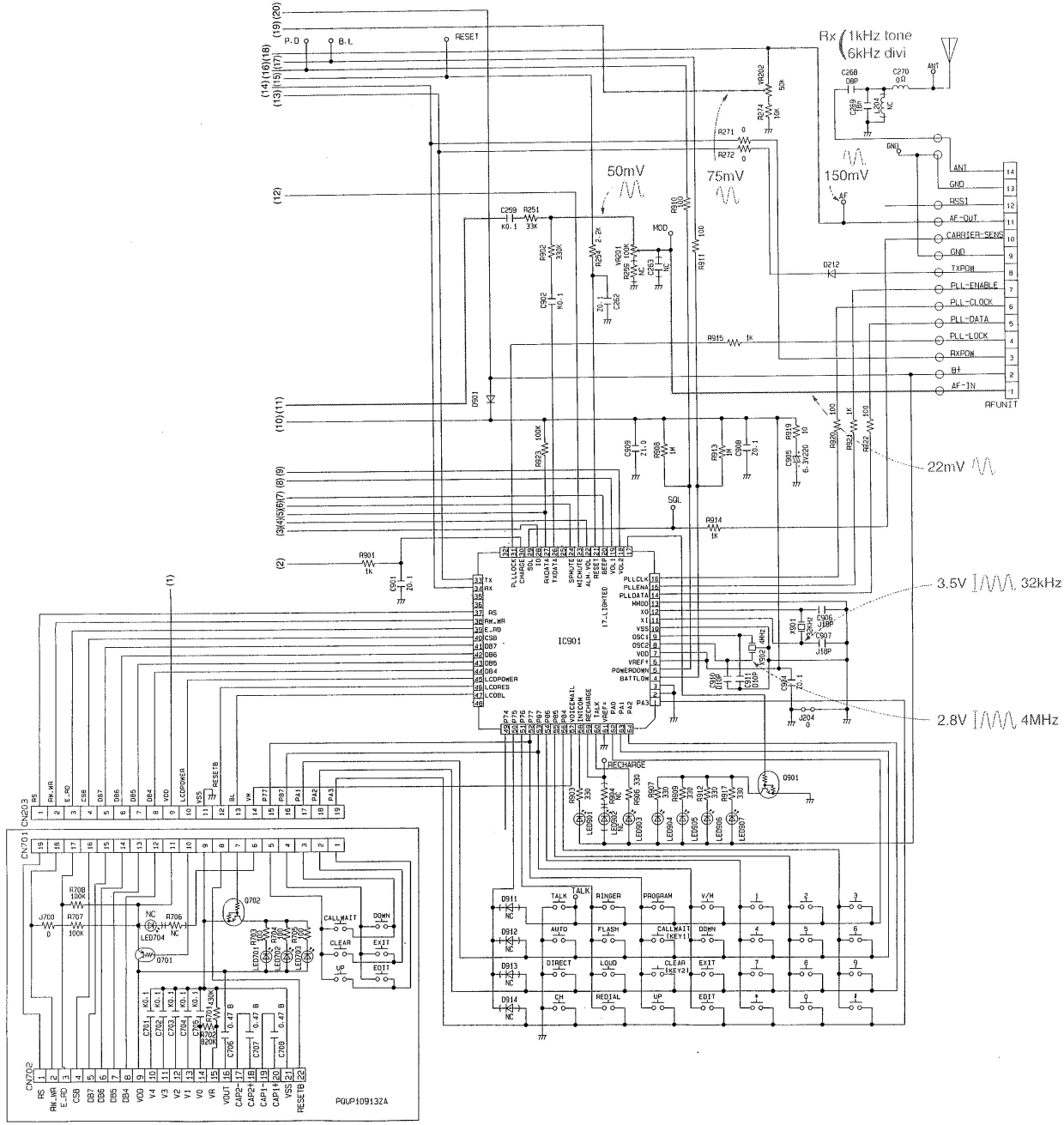
 <p>MN101C10AKC</p>	 <p>AN6139FA</p>	 <p>PQVTDTC143E, 2SD1819A, PQVTDTC123E, PQVTDTA143TU, PQVTD123T146</p>
 <p>MA8150, MA111 MA728</p>	 <p>PQVDPTZTE25, MA736</p>	 <p>LN308G8JRA, PQVDSML310MT</p>

19 BLOCK DIAGRAM (Base Unit)

19.1. Main P.C. Board

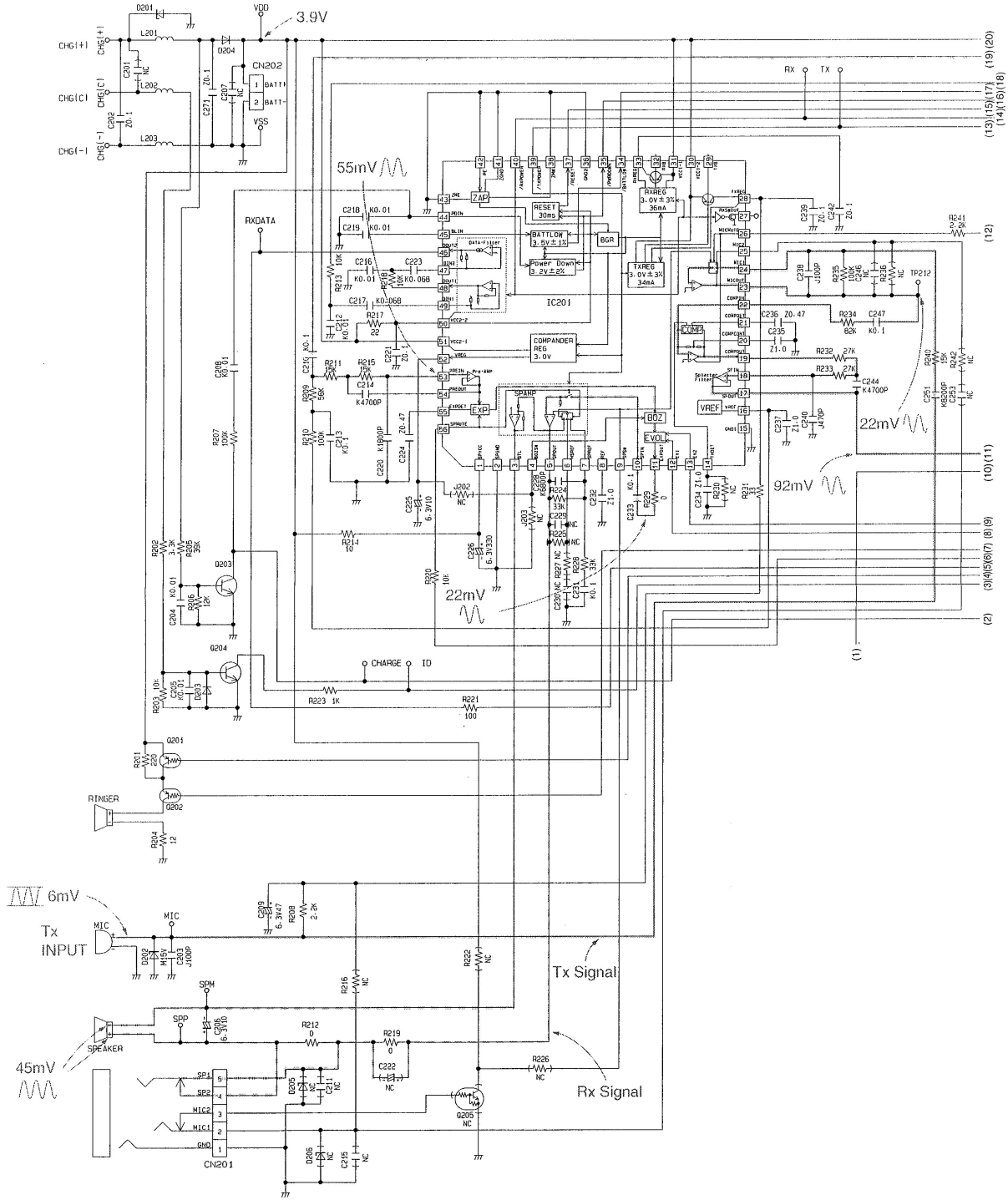


17.2. Handset No. 2

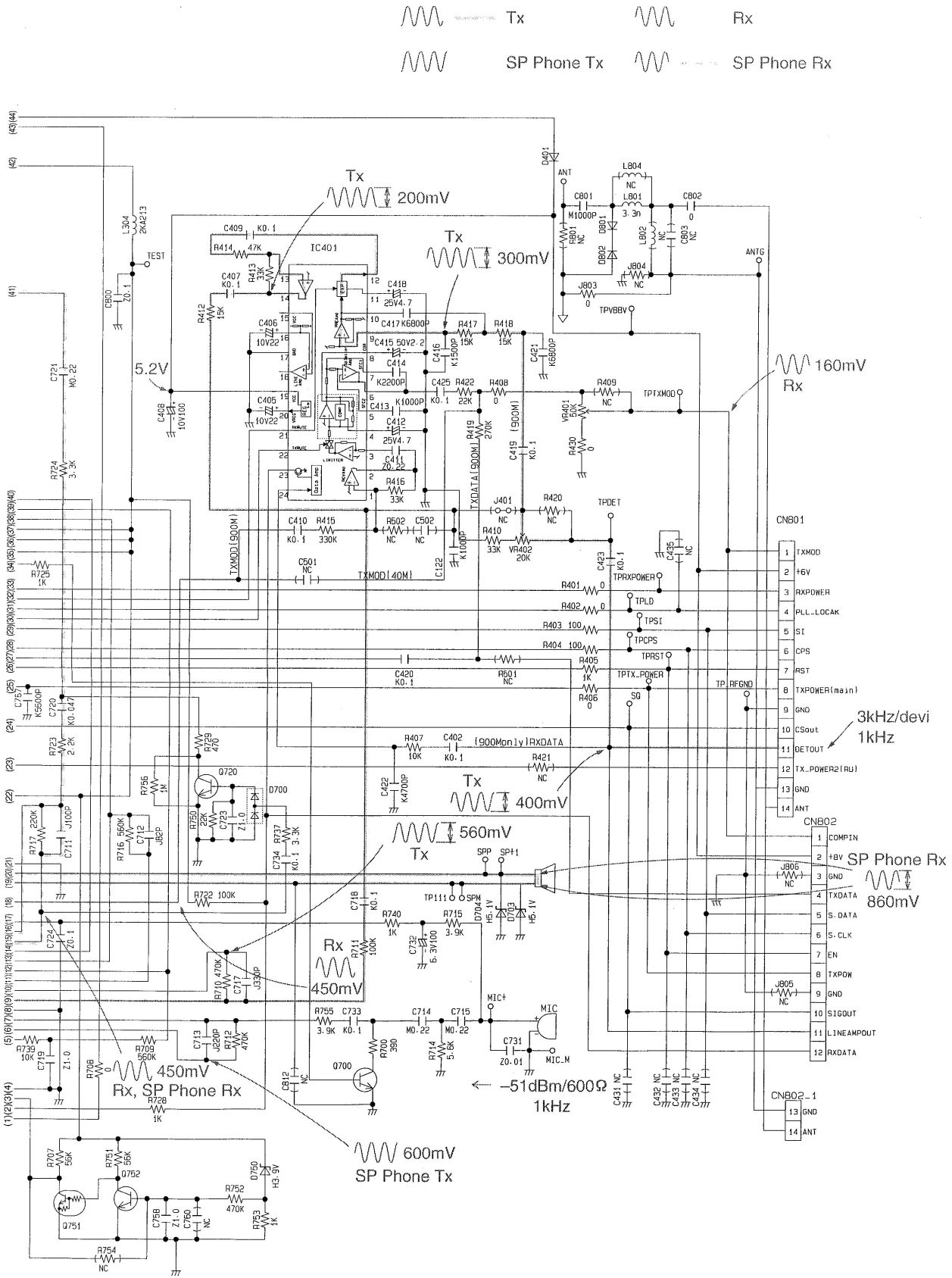


17 SCHEMATIC DIAGRAM (Handset)

17.1. Handset No. 1



16.2. Base Unit No. 2



16 SCHEMATIC DIAGRAM (Base Unit)

16.1. Base Unit No. 1

