# DESCRIPTION OF CIRCUIT FUNCTION

# Circuit Description of Cordless Headset Telephone (BE-900MHZ)

## BASE UNIT

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1. Power supply and Regulator circuit ( R150-R153 and C144-C146 )

- AC/DC adaptor converts 120VAC/60Hz to DC 9V and supplies 9VDC to the baseunit.
- Supply +4.2VDC to relay through D103 and R158.
- Supply +7.8VDC to pin 4 of IC104 through R133.
- Supply +4.3VDC to RF module B+ terminal through regulator circuit.
- Supply +4.5VDC to pin 14 of IC102.
- Supply +4.9VDC to pin 32 of IC101.
- Supply +4.9VDC to pin 1 of IC103.

2. Charge circuit

- Whenever the handset cradles on the charge contacts, baseunit starts battery charge on handset and charge LED on baseunt lights on.
- Q102 turns on to make low level on pin 6 of IC101 and IC101 is reset by impulse to pin 17 of IC101 through C128.

3. Speech circuit

- CZ101 is for surge protection and there are RF interference protection components L103, L104, C149 and C150.
- IC105,C151, R156 and R159 are for ringer circuitry.
  When the baseunit receives a ring signal, a pulse on pin 4 of IC105 inputs pin15 of IC101 then pin 19 of IC101 sends a data output to handset.
- When there is an audio signal on telephone line, the audio signal through T101 applies pin 8 of IC102 (compandor) for compressing audio signal, then the compressed audio signal outputs from pin 12 of IC102.
  RV102 adjusts the compressed audio signal to keep proper modulation ratio.
- Receive signal from handset is detected by RF module then expended by the IC102 (compander), and RV102 adjusts the expressed audio signal output to keep proper level.
  The audio level is amplified by IC104 and supplis to telephon line through T101.
- R160-R163 are the components for proper sidetone level.

- Dialing function

When a dial data from handset is received by baseunit, the detected dial data by RF module applies to pin 25 of IC101 through IC104 (comparator).
Then the dial data in IC101 is changed to DTMF data by DTMF generator in in IC104.
IC104 drives the output level of DTMF data on pin 23 of IC101 then supplies the data to telephone line.

4. RF module curcuit

- The RF module includes Duplexer, RF receive circuit, Receive VCO, FM detector,

5. Audio transmit signal flow

Telephone line (tip/ring) ---> pin 8 of IC102 ---> pin 12 of IC102 ---> RV102 ---> RF module ---> antenna

6. Audio receive signal flow

Antenna ---> pin 11 of RF module ---> pin 8 of IC104 ---> pin 2 of IC102 ---> pin 4 of IC102 ---> Telephone line (tip/ring)

7. Data transmit flow

Telephone line (ring signal) ---> pin4 of IC105 ---> pin 15 of IC101 ---> RF module ---> antenna

8. Data receive flow

Antenna ---> pin 11 of RF module ---> pin 8 of IC104 ---> pin14 of IC104 ---> pin 25 of IC101 ---> pin19 of IC101.

# DESCRIPTION OF CIRCUIT FUNCTION

## HANDSET

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1. Power supply

   3.6VDC 600mAH NiMH battery

2. Speech circuit

   - Received signal is detected by RF module and applies IC102 (expendor) through IC301B. The expended audio signal output on pin 4 of IC102 is supplied to speaker after being adjusted the level by RV101 volume control.
   - Audio signal input on microphone is supplied to pin 8 of IC102 (compander) and the compressed output signal level on pin 12 of IC102 is adjusted the level by RV102 to keep proper modulation ratio.

3. Audio transmit signal route

   Microphone ---> pin 12 of IC102 ---> RV102 ---> RF module ---> antenna

4. Audio receive signal route

   Antenna ---> pin 11 of RF module ---> pin 7 of IC103 ---> pin 4 of IC102 ---> RV101 ---> speaker

5. Data transmit route

   Talk data ---> pin 17 of IC101 ---> pin 1 of RF module --- antenna

6. Data receive route

   Antenna ---> pin 11 of RF module ---> IC103B ---> IC103A ---> pin 12 of IC101