

**DESCRIPTION OF ELECTRICAL CIRCUITRY**1. BASE UNIT:

## A) WHEN A BELL SIGNAL ENTERS FROM TEL LINE

- 1) The bell detection circuit, i.e., the photo-coupler(PC401) begins to operate and its output is inputted through C101 to PC101, then fed to pin 36 of CODEC IC702. When the CODEC detects the Bell signal, it sends a signal from pin 20 to pin45 of Sub CPU IC701
- 2) To obtain a display synchronized with the bell signal, an IN USE signal is output from pin 79 of IC701(CPU) and INUSE LED(LED907) is lighted up.
- 3) A portable phone receives a bell from the base station.  
When the portable phone is switched from the STANDBY to TALK, the base station receives a carrier modulated by data indicating the switch from STANDBY to TALK.

B) WHEN A LINE LOOP IS MADE BY A PORTABLE PHONE

- 1) When the operator of the portable phone switches STANDBY to TALK, the TALK mode data enters the base station and is demodulated at the RF Unit of the base station, and is inputted to pin 78 of IC818.
- 2) In this time, an IN USE signal is output from pin 79 of IC701, and the IN USE LED (LED907) is lighted up.

### C) RECIEVER UNIT OPERATION

- 1) A signal is received by antenna is inputted to RF unit.  
In the RF unit the received signal is demodulated and shaped digital base band signal.
- 2) The digital base band signal goes from pin 8 of RF unit is inputted to pin 78 of IC818.
- 3) In the IC818 BMC block pick up ADPCM signal from digital base band signal and pass to the ADPCM transcoder of IC818.  
In the ADPCM transcoder the incoming ADPCM signal is transcoded to LOG-PCM signal, u-law.
- 4) The LOG-PCM signal goes out from 28 pin of IC818 is inputted to pin 25 of DSP IC104~IC404( defined by line number ) and goes out from pin 25 of DSP to pin 26, 30 of IC702.
- 5) In the IC 702 LOG-PCM signal is expanded to Linear PCM and decode to audio signal.  
The audio signal is transmitted to the telephone line by IC103 ~ IC403 defined by line number.

#### D) TRANSMISSION UNIT OPERATION

- 1) An audio signal from the line passes through the interface diode D101 ~ D401 and T101 ~ T401, defined by line number. This signal is amplified by IC101 ~ IC401.
- 2) The audio signal goes out from pin 7 of IC101 ~ IC401 is inputted to IC702.  
In the IC702 the audio signal is coded to Linear – PCM signal and compressed to LOG – PCM signal, u-law.
- 3) The LOG – PCM signal goes out from pin 27, 29 of IC 702 is inputted to pin 27 of DSP, IC104~ IC404.
- 4) The LOG – PCM signal goes out from pin 27 of IC104~IC404 is inputted to pin 29 of IC818 and transcoded to ADPCM signal.
- 5) The ADPCM signal goes to BMC block and formed TX data.
- 6) The TX data goes from pin 79 of IC818 is inputted to pin 22 of RF unit.  
The modulated signal goes out from RF unit to antenna.

DESCRIPTION OF ELECTRICAL CIRCUITRY

2. PORTABLE UNIT:

A) RECEIVER UNIT OPERATION

- 1) A signal is received by antenna is inputted to RF unit.  
In the RF unit the received signal is demodulated and shaped digital base band signal.
- 2) The digital base band signal goes from pin 8 of RF unit is inputted to pin 26 of IC1.
- 3) In the IC1 BMC block pick up ADPCM signal from digital base band signal and pass to the ADPCM transcoder of IC1.  
In the ADPCM transcoder the incoming ADPCM signal is transcoded to LOG-PCM signal, u-law.
- 4) The LOG-PCM signal goes from BMC block to DSP block is expanded to Linear –PCM and decoded to audio signal.
- 5) The audio signal goes from pin 125 and pin 126 with balance to speaker.

## B) TRANSMISSION UNIT OPERATION

- 1) When selected TALK key, Handset go into TALK mode.
- 2) The audio signal from microphone is inputted to pin 134 and pin 137 of IC1 with Balance.
- 3) In the IC1 the audio signal is coded to Linear – PCM signal and also companded to LOG – PCM signal in DSP block.
- 4) The LOG - PCM signal goes from DSP block to BMC block is transcoded to ADPCM signal and formed TX data.
- 5) The TX data goes out from pin 17 of IC1 is inputted to pin 22 of RF unit.  
The modulated signal goes out from RF unit to antenna.