MICRO-B BTS

System Description

SMD-008-SYA210
01(01)/991006/1.0

Notice

Contents

1. General

1.1 Overview

Micro-B BTS (hereinafter called M-BTS), located between MS and BSC, a private communication system using CDMA digital mobile communication technology, controls calls and performs the maintenance function for MS.
That is, it leads MS to initially recognize BTS, downloads necessary data, assigns traffic channel as to call request, and opens call Path.
M-BTS is divided largely into MBMR and MBRR and accommodates all the functions below.

- Call control and call resources management
- Loading function
- Configuration and operational information processing function
- Fault handling function
- Statistics, overload measurement and control function
- Radio signal processing, radio link test and TPTL
- Packet routing and transmission
- Inventory function
- Remote Control function
- MBMR environment, power monitoring function
  - Automatic temperature control device, humidity sensor and humidity adjustment device
  - Using a suitable device to ensure dehumidification
  - Sensing and reporting whether air conditioner/heater, rectifier, and battery are abnormal

- MBRR additional function
  - Door Open function
  - Volt pressure function

1.2 General Specification

Item	Specification
M-BTS Types	➠ 1FA/3 Sector(Base) ➠ Up to 2FA/3 Sector(Extended)
Traffic Channels Capacity per Sector	More than 13Chs/Sector/FA ➠ 13K QCELP Vocoder
Traffic Handling Capacity per Sector	More than 9.0 Erlang/Sector/FA ➠ BP=2%
No. of Channel Elements per Board	20 Channel Elements
Environmental Requirements • Operating Temperature Limits MBMR MBRR • Relative Humidity Limits MBMR MBRR	 -30 ~ 46°C -30 ~ 46°C 5 ~ 90% 5 ~ 90%
Rack Size MBMR MBRR	 750Wx700Dx846H(mm) 297Wx132Dx510H(mm)
RF Output Power	10W(40dBm)/Sector/FA
No. of Receiver Antenna	2EA/Sector
Frequency Band	• Downlink (MS → BTS) : 1,850~1,910MHZ • Uplink (BTS → MS) : 1,930~1,990MHZ

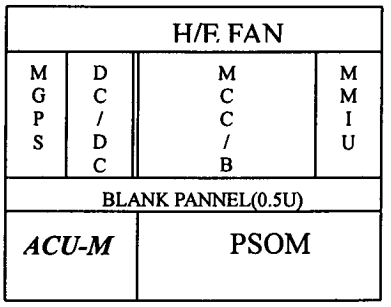
2. Architecture

2.1 Hardware Configuration

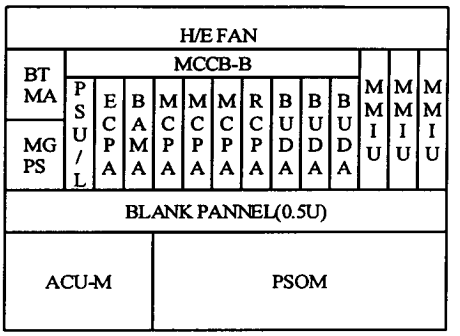
2.1.1 MBMR (Micro-B BTS Main Rack)

MBMR consists of MCC-C, MGPS, MMI, rectifier, environment sensor, battery.

Configuration diagram



Insertion diagram



< MBMR Configuration and Insertion Diagram >

2.1.1.1 MCC-B (Micro-B BTS Control & Channel Bank Block – B)

MCC-B block performs Downloading, call control, and maintenance functions of BTS. It also performs Modem function and Channel distribution functions of CDMA Channel and up/down converting function of RF signal.

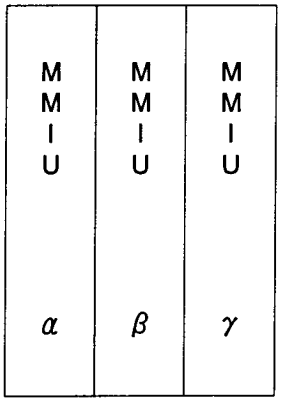
(1) ECPA-M : Master Processor function of BTS
(2) BAMA : Alarm gathering and maintenance in BTS
(3) RCPA : RF device control function, Base-band Digital Combining function of the forward link
(4) MCPA20 : Overhead channel function, digital signal processing as to CDMA channel
(5) BUDA : Frequency conversion function of Tx/Rx signal, A/D Conversion function
(6) LICD : Function which interfaces BSC with Trunk
(7) MCCB-B : Back Board of MCC-B block
(8) PSU/L : DC /DC Converter Module

2.1.1.2 MGPS (Micro-B BTS's Global Positioning System)

MGPS block is composed of BTMA which provides synchronization with BTS system and CLOCK, using TOD and synchronous signal provided from GPS receiver and MGPS composed of GPS engine, Power supply, OCXO, and Controller.
BTMA receives 10MHZ(sine wave), 1PPS(TTL) and TOD(Time of Day) from MGPS, and TOD uses IPC link in BTS to perform Broadcasting. Signals between MGPS and BTMA are all connected through Backplane, and BTMA and MGPS use their own On-board power supply.

(1) BTMA : Provides synchronization with BTS system and Clock.
(2) MGPS : Provides 10MHZ, 1PPS, and TOD and controls two GPS modules.

2.1.1.3 MMIU (Micro Master Interface Unit)



< MMIU Insertion Diagram >

2.1.1.4 Rectifier

PSOM is an Unit developed for a stable power supply to M-BTS, and its basic functions include System DC power supply function and environment control function.

2.1.1.5 ACU-M (Access Control Unit - M)

ACU-M is an Unit inserted to sense and control environment Alarm of M-BTS, and it senses BTS status through the sensor loaded, and transmits sense data and environment Alarm to BAMA. In addition, it operates Heat exchanger to control the environment in the housing.

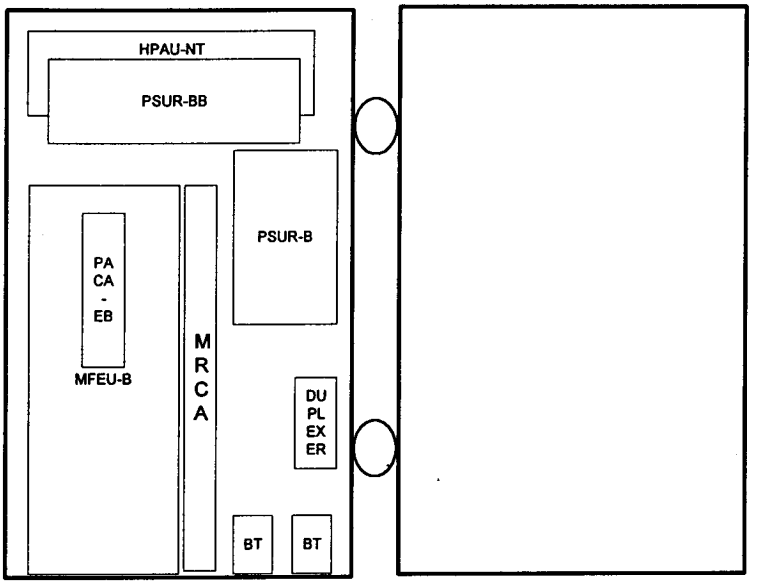
2.1.1.6 Battery

Upon a commercial power failure it supplies power to the system, and 30 minute system Back up is enabled.

2.1.2 MBRR (Micro-B BTS Remote Rack)

MBRR is comprised of MRCA, MFEU-B, PACA-EB, Bias Tee, DC/DC Booster, DC/DC Converter, and HPAU-NT.

MBRR Insertion Diagram



MBRR is operated with DC power from MBMR, and it amplifies, combines and separates Tx/Rx signal, and performs RF output control function at MBMR through the sense and report of Tx signal level. In preparation for power emergency it receives Battery power from MBMR for operation.

For the diversity of Rx signal it uses two antennas, and Tx/Rx Duplexing function. It also has an extra control line and the Control function for Control and status management with Master side.

(1) MRCA : Controls a device in MBRR.
(2) Bias Tee: Combines and separates power and RF Tx/Rx signal.
(3) Duplexer: Combines and separates Tx/Rx signal.
(4) HPAU-NT: Performs the amplification function necessary for the output of Nominal RF Power of Tx signal.
(5) MFEU-B: Amplifies 1FA BPF and two Rx path signal, and detects and separates Tx signal.
(6) PACA-EB : Detects and reports Tx signal.
(8) PSUR-BB: Boosts the voltage of DC power.
(9) PSUR-B: Converts DC/DC and supplies power to each Device.

2.2 Software Configuration

S/W of BTS is composed of 2 Subsystems, i.e., ECMS, RCCS.

2.2.1 ECMS (Enhanced BTS Call Control & Management) Subsystem

ECMS Subsystem performs the function that sets up and releases mobile calls and manages resources related to calls.
In addition, for operation and maintenance, it performs downloading function, status management function, configuration and operational information change function, fault handling function, Remote Control function, Inventory function, test function using BADA, overload control and statistics function, etc.

2.2.2 RCCS (RF & Channel Control) Subsystem

RCCS Subsystem controls MCPA, BUDA, etc. and performs digital signal processing and call processing as to J-STD-008 CDMA channel.
In addition, it performs operation and maintenance related functions such as channel element downloading function, device status management function, statistics function, etc.
It performs the function that controls and manages all RF devices such as BUDA Frequency Synthesizer Control, HPAU Enable/Disable, etc. and controls RF power such as AGC/RSSI Level measurement and TX Gain Control of the entire sector, etc.

3. Functions

3.1 Main functions of BTS

The main functions of BTS subsystem are as follows:

1) Call control function
It interworks with MS and BSC to perform the function that sets up and releases Mobile-to-Land, Land-to-Mobile, and Mobile-to-Mobile calls entered into BTS, and supports Softer, Soft, Hard handoff functions. In addition, it performs Markov call processing function for setting up of test calls.

2) Call resources management function
It performs the function that selects Channel Element resources by distributing loads, and collects them upon call release. In addition, according to handoff occurrence frequency of each BTS, it reserves handoff only resources and supports a safe handoff.

3) Downloading function
BTS downloads OS and Application Code it needs by processor from the higher processor.
Upon downloading of OS and Application Code, in case of the same Version it does not receive loading again, and it rather receives a transfer from Flash Memory, a nonvolatile memory, for execution.

4) Configuration, status function
For operation and maintenance of BTS, it performs the functions such as processor status management, device status management, configuration information and operational information management, etc.

5) Fault, alarm handling function
It handles software faults which do not need any hardware device for hardware fault or detection such as power fault, processor function fault, cable open fault.

6) Test function
As for Channel element (especially Traffic Channel), it heightens dependability on resources by periodically testing available resources On-Line. It judges whether to continuously utilize it as call resources according to the test result. Test by the request of the operator is also enabled. CE related test has two types, i.e., a function which tests CE's own H/W and a function which uses BTS Markov Call.

7) Overload control function

It is divided into four grades (Normal, Minor, Major, and Critical) according to the load of the processor, and it takes necessary measures such as origination barring, termination/origination barring, etc. according to the corresponding grade.

8) Statistics and measurement functions

It performs the collection and report functions as to various statistics (call statistics, Process statistics, paging statistics, CE (Channel Element) statistics, BTS performance statistics, and CAI (common Air Interface) statistics, etc.). Statistics are collected every hour basically to be reported to BSM, and, as occasion demands, can be measured with the input of the time and period that the operator wants.

9)Remote Control function

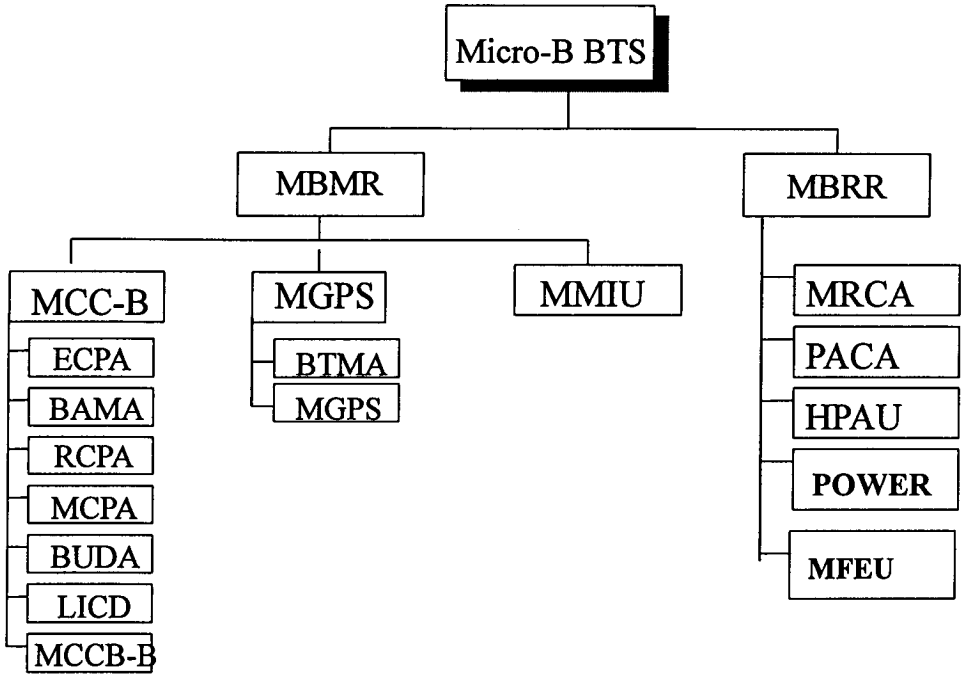
It plays a role of isolating or resetting shelf Power, processor or Device. When the operator took an isolation (or Reset) command on BSM, ECP receives it and selects a subject (BAMA or RCP) which actually performs an isolation, and then transmits a message to the corresponding isolation (or Reset) subject for its isolation (or Reset).

10) Inventory function

It is to manage each board's history. It manages a history about a specific board and a specific BTS (CN application, repair history, or comments in particular).

3.2 Hardware Configuration and Function

3.2.1 Hardware Configuration Diagram



3.2.2 Function of Each Hardware Unit

3.2.2.1 MBMR

3.2.2.1.1 MCC-B (BTS Control & Channel Bank Block - B)

(1) ECPA (Enhanced Control Processor circuit board Assembly)

ECPA is the Master Processor of BTS, and is in charge of the function which receives a download from the higher processor and performs a download to the sub-processor, and call control of MS, performing status management of BTS.

The function of ECPA is largely divided into two parts, i.e., ECP function consisting of 68030 Local Processor function, Shelf Bus Master function, duplexing function, Packet Bus Slave

Node function, M-Bus interface function, etc. and NMM-P function consisting of Network Master function, Trunk interface function, Packet Bus Slave Node function, M-Bus interface function.

The main functions are as follows:

- ECP function
  - MC68030 Core function
  - IPC Slave Node function
  - Duplexing function
  - Shelf Bus Master function
  - M-Bus interface function

- NMM-P function
  - 68360 Core function
  - IPC Slave Node function
  - M-Bus interface function
  - Network Master function
  - Trunk interface function

(2) BAMA (BTS Alarm collection & Maintenance board Assembly)
It performs Alarm collection and Reporting in BTS, Remote Control, BSM access through PSTN (Modem), and BTS Maintenance.

The main functions are as follows:

- H/W Alarm Collection and Reporting in BTS
  It can accommodate up to 180EA of BTS H/W Alarm (Cable Alarm : 158EA, Alarm in Shelf : 22EA) including Reserved 16Pin, and collected Alarm is sent to ECPA through IPC(RS-422/HDLC).

- Remote Control
  It can perform Power Pack On /Off through BAMA or restart Processors in each Board, and up to 24EA are enabled.
  Electrical standards are TTL, and when High it is in Power Pack Off or Board Reset status, when Low it is Power Pack On or Board Run status.

- BSM access through User I/F (PSTN) Modem
  BSM(Work Station or PC) can access BTS BAMA through PSTN, and BSM can check the BTS status, perform Remote Control and diagnose the Boards in BTS. Modem's Protocol is V.90, and its transmission speed is up to 56Kbps.

- BTS Maintenance(by Maintenance Bus, EDU Communication)
  BAMA is Master of the Maintenance Bus, and through this it checks the status of each board in BTS and manages it. M BUS is in the method of HDLC BUS consisting of one Master and multiple Slaves, and each Slave can escape the collision between the Slaves through CTS Control. Electrical standards are in the method of RS-485.

(3) RCPA (Radio & Channel Processing board Assembly)
RCPA plays a role of Base-band Digital Combining of the forward link, Parity Check and generation of the backward link, and distribution of the Timing and basic frequency of the Digital Shelf, and of RF Device Control.

The main functions are as follows:

- Core Control Module (CCM)
  - Interrupt Control
  - DMA Control
  - Timer
  - Control port

- ESCC
  - RS-232 Monitor Interface

- Memory Controller
  - Dram, Cache RAM, Tag RAM Control
  - Cache Mode Control between Cache RAM and DRAM
  - Flash Memory Control

- HDLC
  - NIM2- Board Duplex

- Peripheral Controller
  - CSM(Cell Site Modem) ASIC or ECM ASIC – Modem Chip
  - CDM - CDMA Date interface Control

- SDM – Self states Detecting Module (Open/Fail)
- PIM - Packet Interface with MCPA
- STM – System Timing
- HPA – SIO HPA Interface
- SIM – BUDA, PACA Interface

(4) MCPA20 (Multi-Channel Processing board Assembly 20)

MCPA20 is a Board in charge of up to 20 Traffic Channels with Overhead channel (Pilot, Sync, Paging, Access channel) of CDMA code channels, and MCPA20 has Core Control Module (CCM) interfacing with CPU(i960), and is composed of ESCC in charge of Monitor Interface through RS-232, Memory Controller in control of Memory, and Peripheral Controller in charge of the Interface of the Peripheral Device in the Board. 20EA of CSM(Cell Site Modem) ASIC or ECM ASIC Control corresponding to each CDMA Code Channel correspond to it.

The main functions are as follows:

- Core Control Module (CCM)
  - Interrupt Control
  - DMA Control
  - Timer
  - Control port

- ESCC
  - RS-232 Monitor Interface

- Memory Controller
  - Dram , Cache RAM, Tag RAM Control
  - Cache Mode Control between Cache RAM and DRAM
  - Flash Memory Control

- Peripheral Controller
  - CSM(Cell Site Modem) ASIC or ECM ASIC
  - DTM - Timing & CDMA Date interface Control
  - PIM
  - Packet Interface with RCPA

(5) BUDA (Base station sector conversion & Up/Down converter Assembly)
BUDA is largely divided into the common part, Tx Path, and Rx Path. BUDA's Block Diagram and the major functions are as follows:

- Major functions in Tx/Rx

  - Frequency UP Conversion function which changes Baseband signal into IF/ RF signal.
  - RF signal output adjustment function by Gain Control.
  - Tx AGC (Automatic Gain Control) function: A function which regularly maintains the gaining of sending-end so that the output of sending-end may be regular
  - Rx AGC (Automatic Gain Control) function
  - RSSI (Received Signal Strength Indication) Monitor function
  - IQ Demodulator function

(6) LICD (Line Interface Control Daughter board)
LICD is a trunk interface Daughter board inserted into BSBB and BCCB Back Plane in BTS. LICD has 4 T1/E1 trunk link circuits for T1/E1 packet Tx/Rx between ECPA of BTS and CITA of BSC or ENIA of BTS and CITA of BSC, and the selection of T1 and E1 is determined by LICD built-in Framer. And, 4 links should all be used for T1 or E1.

(7) MCCB-B (Micro-B BTS Control & Channel Bank Backboard – B)
MCCB-B is a Backboard of BCC Block accommodated in M-BTS Outdoor BTS.
It was designed to be only used for 1FA 3Sector.
MCCB-B was designed to insert 2EA of Power Pack(PSU-H), 2EA of ECPA, 1EA of BADA, 1EA of BAMA, 5EA of MCPA20, 2EA of RCPA, 3EA of BUDA, and 1EA of PACA. In addition, on the back of BCCB is 1EA of LICD inserted.
MCCB-B is a PBA of a multiple board made of 14 layers having an external size which can be inserted into the standard Outdoor Shelf. It was designed to accommodate the boards inside the BCC Block of Outdoor type M-BTS.

3.2.2.1.2 MGPS

1) BTMA (BTS Timing Management circuit board assembly)
BTMA receives 10MHZ(TTL), 1PPS(TTL) and TOD (Time of Day) from MGPS, and TOD uses IPC link in BTS for Broadcasting. BTMA is operated duplex, and the signals between MGPS and BTMA are all connected through Backplane, and BTMA uses On-board power supply.

The main functions are as follows:

- Clock Generation function
  - SYS_CLOCK/EVEN_SEC
  - p-ECL Interface

- GPS interface function
  - TOD / Control / Alarm / 1PPS / 10MHZ
  - TTL Interface

- MBUS interface function
  - Power On/Off
  - RS485 Interface

- IPC function
  - Interface using NIM2 ASIC
  - RS422 Serial Interface

Interaction
Interface between BTMA and MGPS is as follows:

Clock Interface : Provides 1PPS, 10Mhz (from MGPS)
TOD, Control TTL Interface : Provided to BTMA through Back plane
Alarm Interface : Receives GPS related H/W Alarm (Open / Power fail / Function fail) from MGPS to provide it to BAMA.

2) MGPS (Micro-B BTS's Global Positioning System)
MGPS provides 10Mhz(TTL), 1PPS(TTL) and TOD (Time of Day - TTL) to BTMA.
All signals between MGPS and BTMA are connected through Backplane, and uses its own On-board power supply.

The main functions are as follows:

- 10Mhz, 1PPS, TOD Generation function
- Control port, Alarm Interface function
- Redundancy Control function
- Fault monitoring function

3.2.2.1.3 MMIU (Micro-B Master Interface Unit)

MMIU amplifies Tx output of the BUDA Board by Sector, and it uses manual Attenuator to adjust the gain of the Tx Path in consideration of path loss to the extent of Remote. The adjusted Tx signal is combined with DC signal at Bias-Tee installed in Rack through the Duplexer to be extended to the extent of Remote in order to be transferred to the RX path to the extent of Remote with one Coaxial cable.

- Function of amplifying Tx signal of BUDA by Sector
- Duplexer function for sharing of Tx/Rx path
- Manual attenuation adjustment function
- Gain compensation function according to the distance between Master and Remote
- Function of amplification of low noise of Rx signal
- Manual attenuation adjustment function for the compensation of the loss of Rx path
- Power distribution, Alarm collection, DC/DC conversion function (MMID: Transmitter Master Interface Daughter Board)
- DC power supply function
- Alarm collection Composite function
- Function of status indication on the front board (power detection and operational status)
- Function of Alarm signal detection and report to RCPA
- Signal distribution function as to 2 Rx paths
- Function of monitoring Tx/Rx signal

3.2.2.1.4 ACU-M (Access Control Unit –M)

ACU is an Unit for the detection and control of the environment alarm of M-BTS, and senses the status of BTS through the loaded sensor, and performs the function of transmitting the sense data and environment Alarm to BAMA.

ACU consists of three parts as below.

- Sensor part
  - Each Sensor is located inside of the housing to sense the environmental status through the Sensor, and upon a failure, it goes off alarms, and transmits the environment alarm to the higher end (BAMA) at TTL Level.

- Alarm detection part
  - ACU is connected with the external Unit (FAN, RECTIFIER, TCU), and upon a failure occurrence of the Unit it collects Alarm to transmit it to the higher end.

- Alarm and data transmission part
  - Alarm collected through the Alarm detection part and Sensor Alarms are transmitted to BAMA at TTL Level, and it transmits Rectifier data and Sensor data to BAMA through HDLC communication.

3.2.2.1.5 Rectifier

PSOM is an Unit developed to supply a stable power to M-BTS, and its basic function is System DC power supply function and environment control function.

- Rated input volt and scope : Single-phase AC 220V ±20%
- Input frequency scope : 47Hz ~ 63Hz
- Rated output volt and output current : +27VDC / 120A
- EMI : FCC PART 15 SUBPART J CLASS B
- Operational temperature : -30 ~ +60 ° C
- Relative humidity : 20% ~ 80%
- Storage temperature : -35 ~ +70 ° C
- Relative humidity : 5% ~ 95%

3.2.2.1.6 Bias Tee

It is used for the purpose of combining and separating DC power and RF Tx/Rx signal to reduce the amount of lines, and performs Surge Arrester function.

3.2.2.2 MBRR

(1) MRCA (Micro-B BTS Remote Controller Assembly)

MRCA is a board in charge of Alarm status Report and Module Control of the remote system, and it uses control signal from RCPA of BTS to control each module, and performs the function of notifying RCPA of BTS of the state of Alarm and Status.

The main functions are as follows:

- Interrupt Handler
  - It receives Interrupt Request from Interrupt Source of 3 - 7 Level and generates differently IPL2* ~ IPL0* signals for each Source to determine Interrupt Level, and then generates Interrupt Acknowledge signal at A3 - A1 signals indicating FC2 - FC0, A19 – A16 and corresponding Interrupt Level received from CPU to supply it to the corresponding Source.

- Module Enable function
  - It Enables/Disables the Module in MBRC.
  - DCA1 Module Enable/Disable
  - DCA2 Module Enable/Disable

- Debugger
  - It uses SCC3 of MC68360 to make possible the communication with the Terminal or Host Computer with RS232C Port. Through this, using the commands in the Monitor Program, it uses it for Debugging, or upon Test Program execution it can check the operation or result.

- Mobile Station Interface function
  - It performs Serial Communication with MS with SERIAL DATA Async(38.4kbps). Through this, it checks up the normal status and call status of BTS.

- MBRC temperature feature sense function
  - It reads the value of the Thermal sensor located in MBRC through A/D Converter, and transfers the temperature status of MBRC to RCPA.

- Module EXIST signal generation function
  - To notify MRCA of whether there exists each module in MBRC, Exist Signal is connected between MRCA and each module, and this signal is connected to the Ground in each module, and in MRCA it is connected with the pull-up resistance. MRCA hereby judges whether there exist alarms of each module.

- Analog to Digital (A/D) converter
  - It receives the power transmitted from HPA with Rx rate of 0 ~ 5V, and measures TX power to report it to RCPA.

(2) Bias Tee

It combines and separates the power and RF Tx/Rx signal, and performs the Surge Arrester function.

(3)Duplexer

It performs the combination and separation function of Tx/Rx signal.

(4) HPA (High Power Amplifier)

It performs the function that amplifies BTS Tx signal separated through the Duplexer and transmits it to the Front End Filter. HPA is a Power Amplifier for Single Carrier whose maximum output is 18W(42.55dBm).

The main standards are as in the below table.

PARAMETER	SPECIFICATION
Frequency Range	1.930GHz to 1.990GHz
RF Output Power	18W (42.55 dBm)
Gain variation over 30 ~ 42.5dBm	45dB ± 1.0dB
Input/Output VSWR	1.5:1 maximum (50 ohm reference)
DC Power	27V, 6A max at any condition

(5) MFEU-B

It performs Tx signal filtering of one path, amplification of two Rx path signal, and detection of Tx Power.

(6) PACA-EB(Power Adjust & Control Assembly)

PACA-EB PBA receives an input of signals given Tx output COUPLING from TRIU and converts its frequency to acquire IF signal, and then separates measurement target FA signal only through the SAW FILTER to convert it into DC volt in proportion to Tx output, and finally supplies it to MRCA, a PROCESSOR BOARD. Its path has only one RF PATH, and it can tune 7 FAs by the frequency signal controlled by MRCA.
Reference Clock is supplied by the Oscillator inserted into the board.

- BTS Tx output MONITORING(by FA)
- MULTI FA TUNING(1~7FA)
- SITE CALIBRATION
- BTS operation property calibration according to temperature change
- Power control by BTS FA

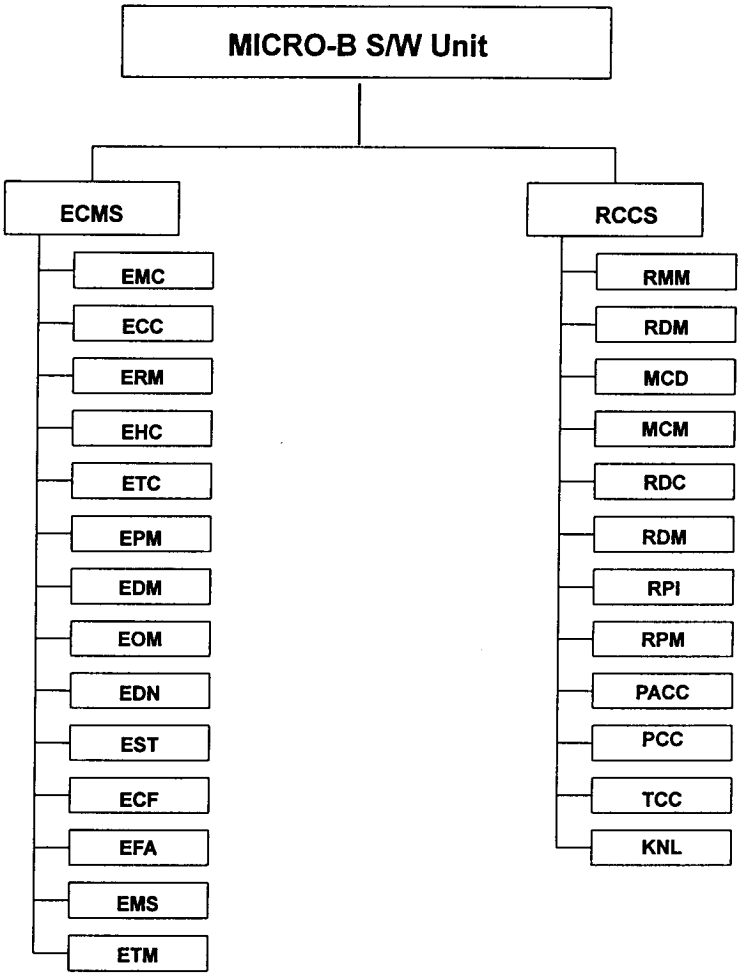
(7) PSUR-BB(Power Supply Unit for Remote)

It plays a role of receiving the power supplied from the rectifier and Battery of MBMR and heightens the volt in consideration of volt drop on the Coaxial path, and especially upon power supply by Battery it plays a role of supplying the power which enables MBRR-B to be safely operated.

(8) PSUR-B

It performs the function which converts it into the power necessary for the Active Device of MBRR side to supply the power to each Device.

3.3 Software Configuration Diagram



4. Abbreviation

MBMR : Micro-B BTS Main Rack
MBRR: Micro-B BTS Remote Rack
MCC-B : Micro-B BTS Control & Channel Bank Block - B
MGPS : Micro-B BTS's Global Positioning System Block
MMIU : Micro-B Master Interface Unit
ECPA-M : Enhanced Control Processor circuit board Assembly - M
BAMA : BTS Alarm collection & Maintenance board Assembly
LICD : Line Interface Control Daughter board
BTMA : BTS Timing Management circuit board Assembly
MGPS : Micro-B BTS's Global Positioning System
MCPA20 : Multi-Channel Processing board Assembly 20
RCPA : Radio & Channel Processing board Assembly
BUDA: BTC sector conversion & Up/Down converter Assembly
MRCA: Micro-B BTS Remote Controller Assembly
PACA: Power Adjust & Control Assembly
HPAU: High Power Amplifier Unit
MCCB-B : Micro-B BTS Control & Channel Bank Backboard – B
PSOM-B : Power Supply for Outdoor Micro-B BTS - B
MDMC : Micro-B BTS Dong-Ah Module Controller
MDMR : Micro-B BTS Dong-Ah Module Rectifier
PSU-L : Power Supply Unit – L
ACU-M : Access Control Unit - M
PSUR-BB : Power Supply Unit for Remote)

Summary

This document describes the configuration method of Stand Alone Mode of MICRO-B BTS and Test Call Setup method on Stand Alone Mode.

Contents

1. Overview

Stand `Alone Mode of MICRO-B BTS is the function which made a restricted test call possible by completing Loading and initialization by BTS itself in case there is no BTS higher processor (CCP, BSM). S/W necessary for the operation of BTS includes Application, OS, and PLD, etc. by processor in BTS, and these S/W are stored in CCP and BSM, BTS higher processor, and are programs downloaded and run by the Loading request of BTS. As these S/W can not be downloaded from the higher processor in the Stand Alone environment of BTS, it uses the Code stored in the Flash Memory in ECP to perform Loading and initialization. All the Test functions run after BTS activation are BTS alone functions not interworking with the higher processor (CCP, SVC), and BTS also performs the function of taking the place of a role of the higher processor.

This document describes the function of initialization and activation of BTS on Stand Alone Mode and the test call function after the insertion of ECP where the run Code was stored into the Flash Memory.

2. Abbreviation

PCS : Personal Communication System
BTS : Base Station Transceiver Subsystem
CCP : Call Control Processor
BSM : Base Station Manager
PLD : Programmable Loading Data
SVC : Selector Vocoder Card
ECP : Enhanced BTS Call Processor
RCP : RF / Digital Channel Processor
MCP : Multi Channel Processor
IPC : Inter Processor Communication
FA : Frequency Assignment
BSC : Base Station Controller