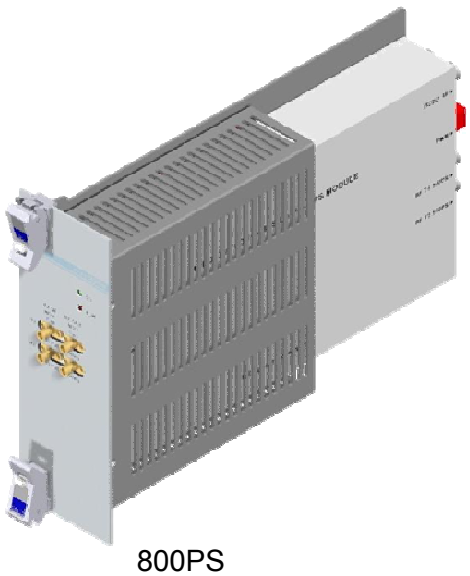
### 4.1.4 Function by unit

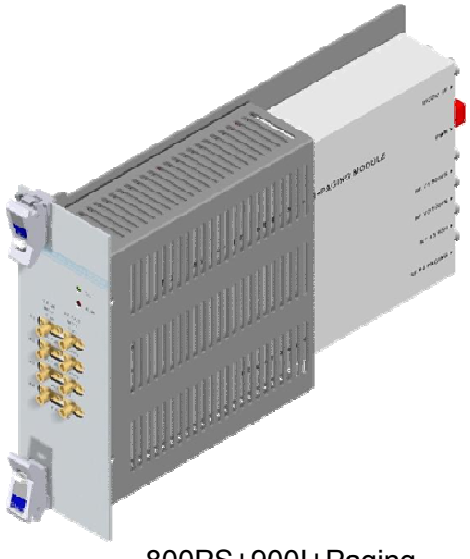
4 **Main Drive BTS Unit (MDBU)**

MDBU delivers TX signals of BTS or BDA to related devices and then delivers RX signals of the devices to BTS or BDA. This unit can monitor TX input level. Using input AGC function, it automatically adjusts input ATT. It also has ATT to adjust RX gain. MDBU is varied per frequency band including the following:

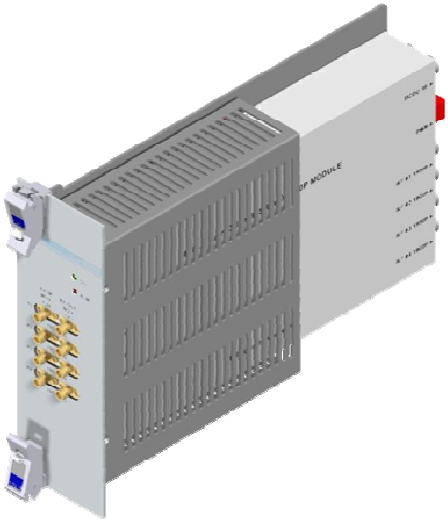
| No | Unit naming | Description | In/out RF Port | |
|---|---|---|---|---|
| | | | TX | RX |
| 1 | 800PS | Single Band | 2 Port | 2 Port |
| 2 | 850C | Single Band | 2 Port | 2 Port |
| 3 | 1900P | Single Band | 4 Port | 4 Port |
| 4 | AWS-1 | Single Band | 4 Port | 4 Port |
| 5 | 800PS+900I+PA | Dual Band | 4 Port | 4 Port |
| 6 | 850C+700PS | Dual Band | 4 Port | 4 Port |
| | 850C+700PS(D) | Dual Band | 4 Port | 4 Port |
| 7 | 850C+700LTEC | Dual Band | 4 Port | 4 Port |
| 8 | 700LTEF SISO | Single Band | 2 Port | 2 Port |
| 9 | 700LTEF MIMO | Single Band | 4 Port | 4 Port |
| 10 | 700LTEF+850C | Dual Band | 4 Port | 4 Port |



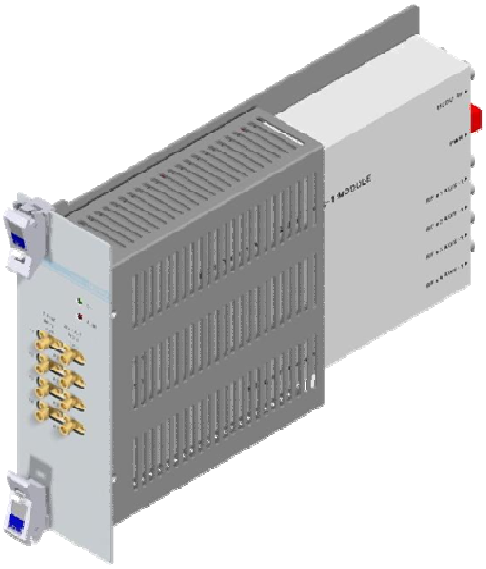
800PS



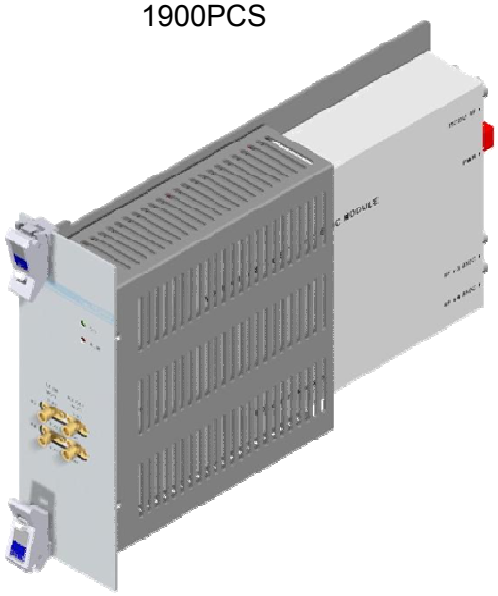
800PS+900I+Paging



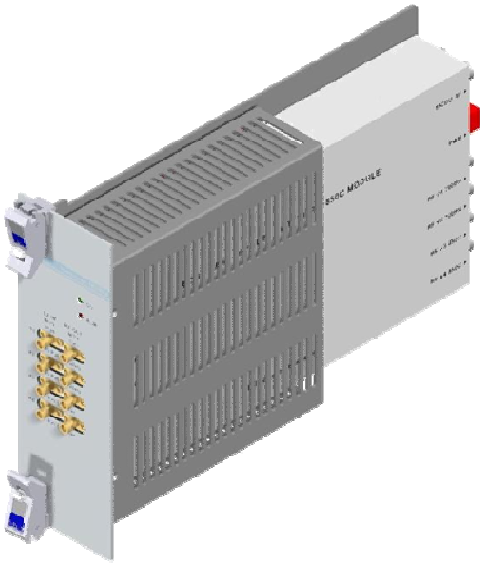
1900PCS



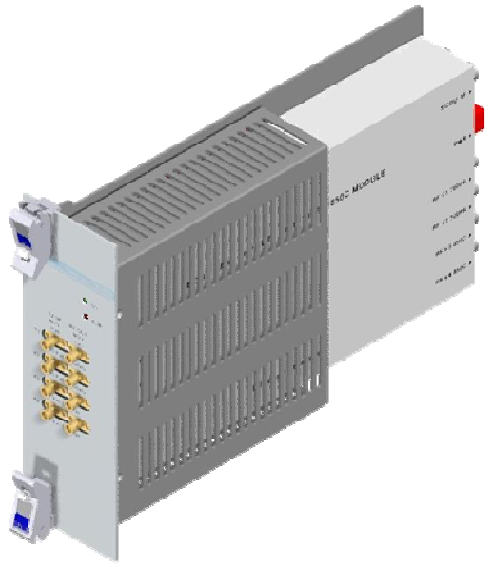
AWS-1



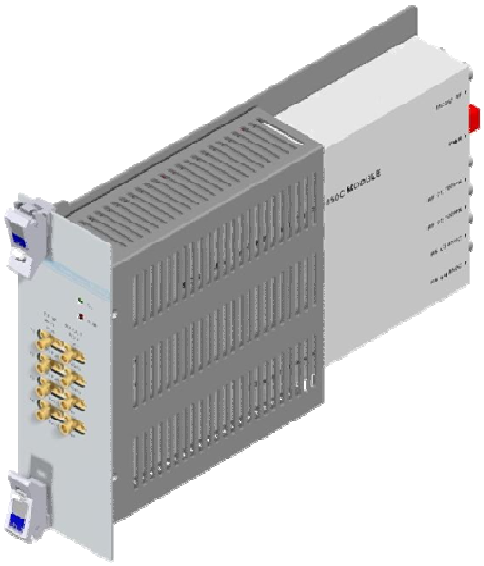
850C



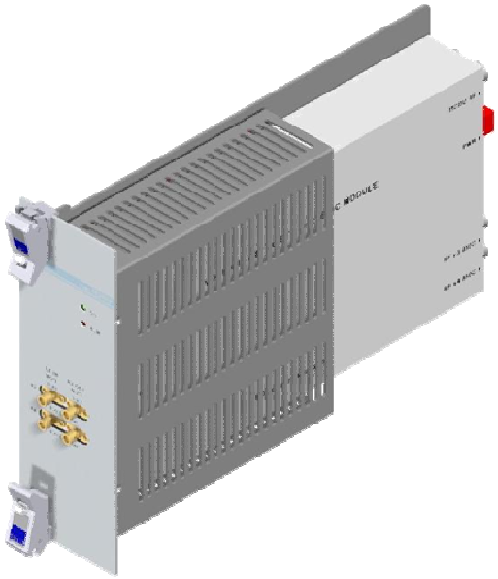
850C+700PS



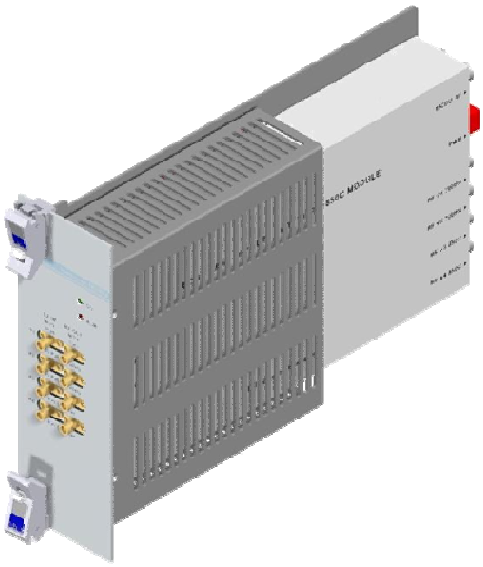
850C+700LTEC



700LTEF+850C



700LTEF SISO



700LTEF MIMO

**Figure 4.3 – MDBU Outer Look**

**2) Main Com/Div Unit (MCDU)**

MCDU combines TX signals that are delivered from MDBU per frequency band and delivers the signals to four ODUs. This unit adds signals of FSK modem to the TX signals before sending them to ROU. It also combines RX signals from up to four ODUs and sends them to up to four MDBUs. In this case, the unit extracts signals of FSK modems, which are sent in a combined form with RX signals, and then delivers the signals to MCU.

The unit has a port to interface with VHF&UHF signals. It has ATT for input monitoring and input control.

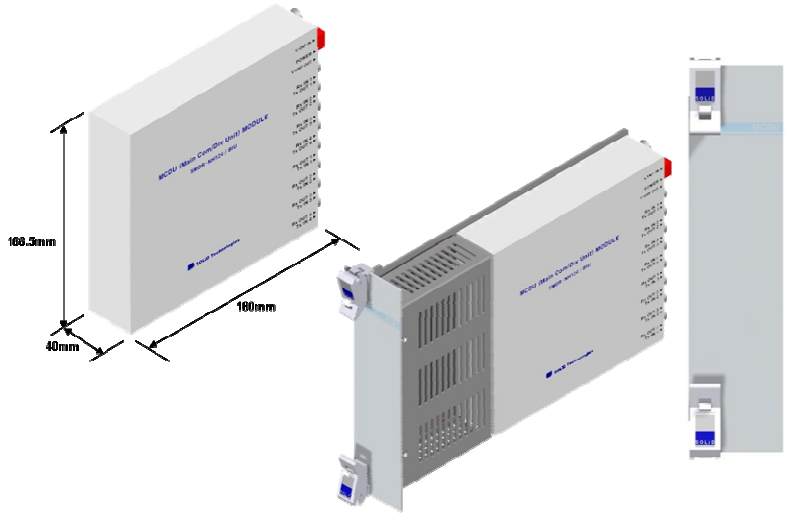



**Figure 4.4 – MDBU Outer Look**

VHF+UHF frequency band including the following:

| No | Unit naming | Description | In/out RF Port | |
|---|---|---|---|---|
| | | | TX | RX |
| 1 | VHF+UHF | Dual Band | 1 Port | 1 Port |

**3) Main Central Processor Unit (MCPU)**

MCPU can inquire and control state of modules that are installed in BIU.

This unit can inquire and control state of four ODUs in total. Through communication, it also can inquire and control ROU that is connected with lower parts.

In addition, the unit has RS-232C port for serial communication so that it can inquire and control state of devices through PC. On the front panel, it has communication LED indicator to check communication state with ROU. It also has ALM LED indicator to show whether a device gets faulty.

For access to upper network, it has a port to insert Ethernet port and GSM modem in it.

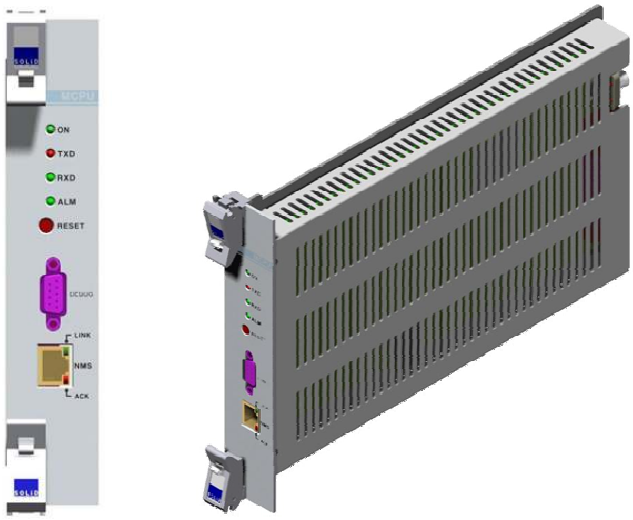



**Figure 4.5 – MCPU Outer Look**

In the Main Central Processor Unit, a lithium battery is installed for RTC (Real Time Control) function.

---

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE
DIPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS
[INSTRUCTION]
The equipment and accessories including inner lithium battery are to be disposed of safely after the life span of them and national regulation must be observed. Do not attempt to replace the lithium battery unless service personnel confirmation has first been obtained, to avoid any risk of explosion.

---

**4) Main Power Supply Unit (MPSU)**

MPSU receives -48V of input and outputs +6V and +9V of DC power.
On the front panel, this unit has an output test port and it also has DC ALM LED Indicator to show whether output gets faulty.

**Figure 4.6 – MPSU Outer Look**

### 4.1.5 Front/rear panels of BIU

1) **Front panel**


**Figure 4.7 – BIU front panel Outer Look**

| Item | Description |
|---|---|
| 1. MDBU LED | LED to show whether MDBU is installed and gets faulty |
| 2. RF Monitor Port | 20Db Coupling compared with TX Input Level<br>20Db Coupling compared with RX Output Level |
| 3. Alarm LED & Reset | Communication state with devices, alarm status of the system and reset switch |

| | |
|---|---|
| 4. NMS(RS-232C port) | RS-232C port for communication and diagnosis of devices through PC/laptop |
| 5. NMS(Ethernet port) | Ethernet port for upper network<br>This equipment is indoor use and all the communication wirings are limited to inside of the building |
| 6. Pwr Test Port & ALM | Output DC power test port and ALM LED to show abnormal state, if any |
| 7. Power switch | Power ON/OFF switch |

**2) Rear panel**

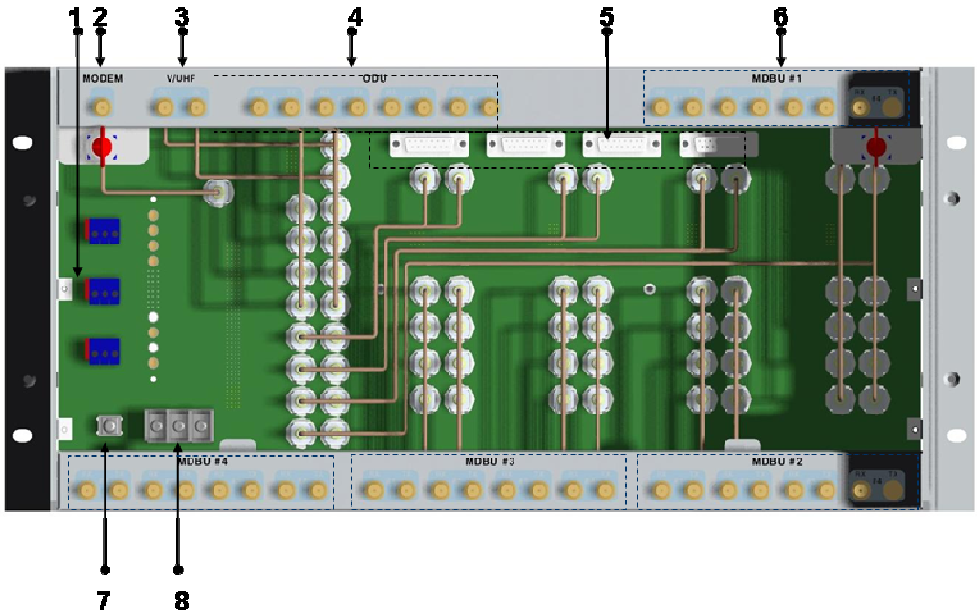



**Figure 4.8 – Rear panel Outer Look**

| Item | Description |
|---|---|
| 1. External ALM Port | Input/output terminal for dry contact |
| 2. GSM Modem Port | GSM Modem terminal for upper network (Optional) |
| 3. V/UHF I/O Port | RF signal interface terminal of VHF&UHF |
| 4. ODU I/O Port | RF signal interface terminal for ODU |
| 5. ODU signal Port | Power and signal interface terminal for ODU |
| 6. BTS/BDA I/O Port | Input/output interface terminal of BTS/BDA |
| 7. GND Port | System ground terminal |
| 8. DC Input Port | Input terminal for DC -48V |

## 4.2 ODU (Optic distribution Unit)

ODU receives TX RF signals from upper BIU and converts them into optical signals. The optical signals are sent to ROU through optical cables. This unit converts optical signals from ROU into RF signals and sends the converted signals to BIU.

For each shelf of the ODU, up to two DOUs (Donor Optic Unit) can be installed in it.

One DOU is supported with four optical ports. Therefore, one ODU can be connected with eight ROUs.

Up to four ODUs can be connected with BIU.

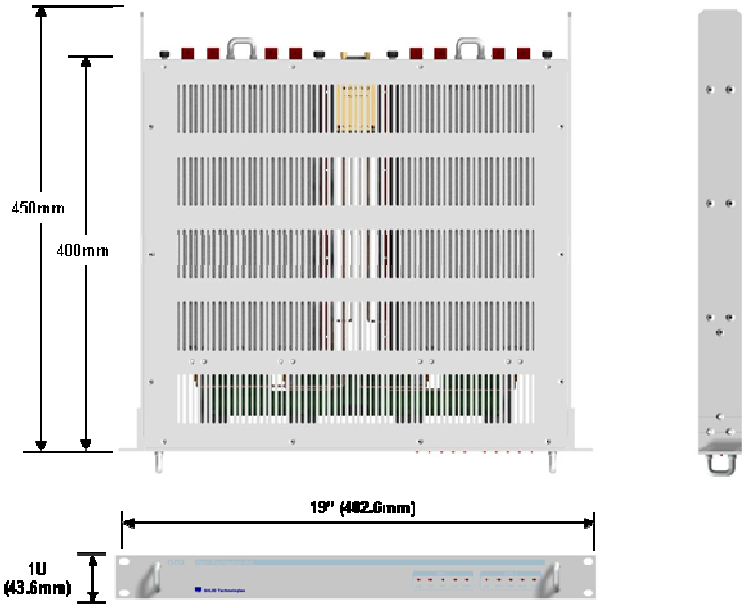



**Figure 4.9 – ODU Outer Look**

### 4.2.1 Specifications of ODU

| Item | Spec. | Remark |
|---|---|---|
| **Size** | 482.6(19”) x 43.6(1U) x 450 | Mm |
| **Weight** | 5.7 Kg | Full Load |
| **Power consumption** | 27 W | |