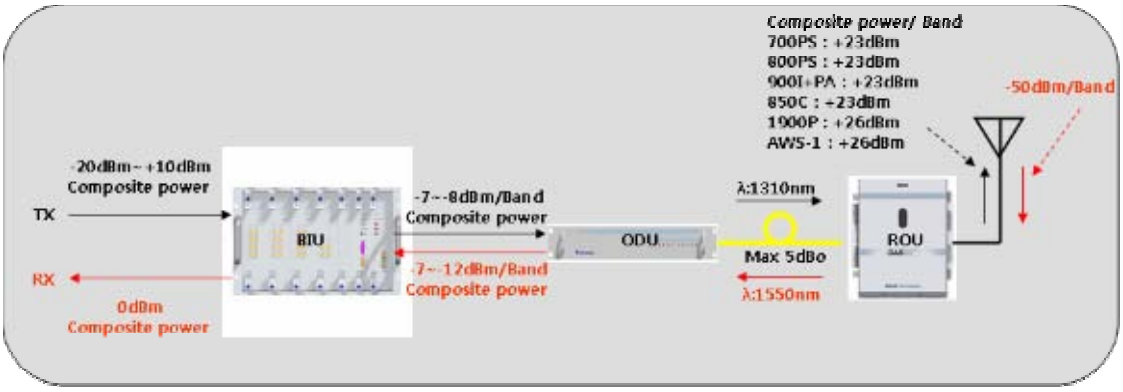
This chapter describes operation of SMDR-NH124. It deals with procedures and operations for normal system operation after installation. It also describes operations per unit and interworking methods.

6.1 BIU Operation

6.1.1 BIU



6.1.2 TX Operation at BIU

TX level to be sent to BIU should be in the range of -20dBm ~ + 10dBm. If the level exceeds the range, you need to connect an attenuator with the front end of BIU input and adjust the level in the corresponding range. Out of the range, maximal power cannot be outputted and so you need to increase output power of BDA or adjust attenuation amount of BTS's coupler or ATT to adjust the level.

For signals of all bands, you need to check, using spectrum, if they are in an appropriate level before making connection with input port of BIU and then check if there are spurious signals.

You need MDBU of a band you want to use. Insert the unit into BIU and check if it works normally. For MDBU, up to two TX inputs are provided. Input level per port is -20dBm~+10dBm. The following describe settings for 800MHz Public safety MDBU.

Checking the status of the system's LED Indicator

After turning on the switch of the power supply in BIU, check information on each module's LED of the system. The table below shows normal/abnormal cases depending on the status of each module's LED.

LED information

Unit	LED		Indicates
MDBU	ON		Green: MDBU is normally power-supplied.
	ALM		Green: MDBU is normal.
			Red: MDBU is abnormal; check the alarm through RS-232C.
MCPU	ON		Green: MCPU is normally power-supplied.
	TXD		Green flicker: TX signals are transmitted to communicate with ROU.
	RXD		Green flicker: RX signals are received from ROU.
	ALM		Green: BIU system is normal.
			Red: BIU system is abnormal; check the alarm through RS-232C.
MPSU	ON		Green: BIU is connected with power and MPSU works normally.
	ALM		Green: DC output is normal.
			Red: DC output is abnormal.

MDBU Setting

Insert MDBU into BIU. Check if the "ON" LED Indicator at the front panel of MDBU is lit green. Make connection with DEBUG port of MCPU through RS-232 Cable (Direct Cable).
Check if the ID of MDBU module is searched for in those 1~4 slots of MDBU through GUI. When you select the tab of a corresponding slot (MDBU 1~4) from the main window, you can inquire and set the status of a corresponding MDBU module.

Check if MDBU is inserted into a corresponding slot of BIU. The ID screen shows the following:

A. MDBU ID: 800Public Safety, 800PS+900I+Paging, 850C, 700PS+850C, AWS-1,1900P
B. Not Insert: This status value appears when MDBU has not been set.
C. Link Fail: This status value appears when MDBU has been set but it fails to communicate with modules.

Use the ON/OFF (Activation/de-activation) function for a port you want to use and turn it ON.

Depneding on whether to use a port, output varies. Thus, make sure to turn OFF unused ports.

The table below shows output power depneding on whether to use a port:

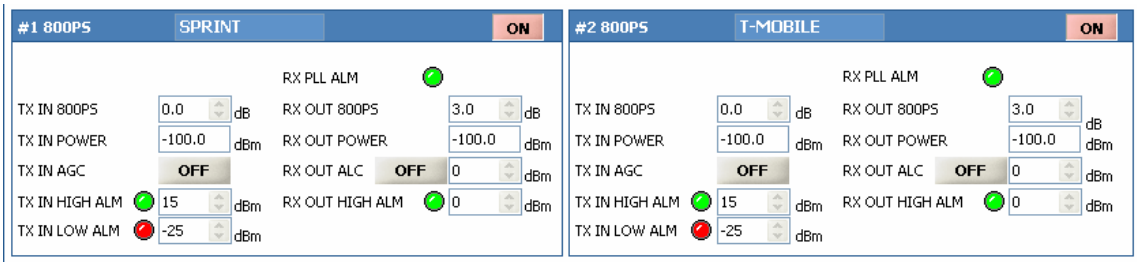
MDBU Band	Output level (Composite power)	No. of Max port (N)
700PS	23dBm-10*LOG(N)	2
700LTEC	23dBm-10*LOG(N)	2
800PS	23dBm-10*LOG(N)	2
850Cellular	23dBm-10*LOG(N)	2
900I+Paging	23dBm-10*LOG(N)	2
1900PCS	26dBm-10*LOG(N)	4
AWS-1	26dBm-10*LOG(N)	4
VHF	24dBm-10*LOG(N)	1
UHF	24dBm-10*LOG(N)	1

Check if the level of TX IN POWER is the same as the value measured through spectrum (Within ±3dB). Use TX IN AGC function and automatically set internal ATT depending on input level. ATT is automatically set based on -20dBm of input . The table below shows TX IN ATT depending on TX IN POWER. For manual setting, you can set ATT depending on input according to the table.

TX IN POWER	TX IN ATT	TX IN POWER	TX IN ATT	TX IN POWER	TX IN ATT

-20dBm	0dB	-9dBm	11dB	+1dBm	21dB
-19dBm	1dB	-8dBm	12dB	+2dBm	22dB
-18dBm	2dB	-7dBm	13dB	+3dBm	23dB
-17dBm	3dB	-6dBm	14dB	+4dBm	24dB
-16dBm	4dB	-5dBm	15dB	+5dBm	25dB
-15dBm	5dB	-4dBm	16dB	+6dBm	26dB
-14dBm	6dB	-3dBm	17dB	+7dBm	27dB
-13dBm	7dB	-2dBm	18dB	+8dBm	28dB
-12dBm	8dB	-1dBm	19dB	+9dBm	29dB
-11dBm	9dB	0dBm	20dB	+10dBm	30dB
-10dBm	10dB				

Edit Naming of a port and set it as a desired character string (up to 12 characters).For example, the figure below shows a screen when you set “SPRINT” for port 1 and “T-MOBILE” for port 2.



Use various upper/lower limits. The following table shows recommended limit settings:

Item	Recommended Limit	Remark
TX IN HIGH ALM	15dBm	Alarm
TX IN LOW ALM	-25dBm	Alarm
RX OUT ALC	0dBm	Auto Level control
RX OUT HIGH ALM	5dBm	Alarm

As such, when you finish setting normal input levels and alarm limits, check if the value of MODULE FAILUER LED Indicator is lit green (Normal case).