DAS System Tune up procedure

Index

1 INTRODUCTION

This document is primarily written for those who are new to Comba ComFlex-4300 DAS system and wish to tune up the equipment.
The document is applicable to below products from Comba.
Model number: MU-4300, HRU-4300

2 PREPARATION

This section will be discussing on:
1 - Preparation for those who are going to operate the equipment;
2 - How to connect to equipment for setting;
3 - LED Indicator description;

2.1 PERSONAL PREPARATION

1 - The following checklist will help to make sure relevant personnel get ready before operation.

The personnel preparation list:
a. Only trained or qualified personnel is recommended for performing tuning with equipment. Operating person should be with necessary knowledge of electronic, RF, and familiar with local regulation, rules. b. Personnel shall read through the manual/instructions/guide carefully before operation. c. Check if there is warning/alert sign on the equipment to avoid possible danger. d. Wear proper cloth. If necessary, equip with PPE (Personal Protective Equipment). e. Before operation, procedures and data recording form should be prepared.

2 - Package inspection
Visual inspect the external product package, and check internal items according to packing list. Prepare ample space and easy accessible to socket-outlet. For tools reference please find in manual.

3 - Tools preparation
Please prepare tools/cables and measuring instruments ready before hand-on. For tools recommendation, please refer to product user manual.

Handling Precautions
This covers a range of activities including lifting, lowering, pushing, pulling, carrying, moving, holding or restraining an object, animal or person. It also covers activities that require the use of force or effort, such as pulling a lever, or operating power tools.

Caution, Electrostatic Discharge (ESD)
Before removing the antistatic bag from repeater, enough caution shall be taken to avoid ESD. The Anti-static Wrist Strap is recommended.

2.2 EQUIPMENT CONNECTION

2.2.1 GROUNDING CONNECTION

The equipment must be grounded securely. Connect a copper wire to the grounding terminal on the mounting tab/enclosure, and connect the other end to a protective ground (i.e. building earth point). An internationally acceptable coloring code of the ground connection wire is green/yellow.

2.2.2 MU CONNECTION

Step1: Connect the MU OP (optical) port to one of the HRU OP port. (NOTE: requires Single Mode fiber with SC/APC connectors; MAXIMUM OPTICAL LOSS = 6.5dBo)

Step 2: For duplex application, connect the MU TX/RX port to the RF Source (BTS or BDA). For simplex application, connect the MU TX/RX port to the RF Source downlink, and then connect MU RX port with RF Source uplink.
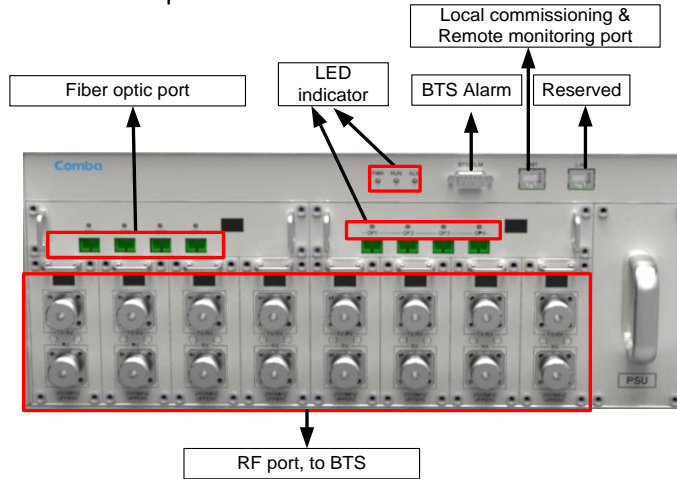

Figure 1: Fiber Optical and RF Port Connection

Step 3: Connect the power cable to the power supply port (100-240VAC, 1Amp maximum).

Figure 2: MU Power Connection (Rear Panel)

2.2.3 HRU CONNECTION

Step1: Connect the HRU OP (optic) port to one of the OP port located on MU front panel.

Step 2: Connect ANT port to a broadband antenna.

Step 3: Connect DC 28V port to HRU Power Supply Unit DC 28V port.

Step 4: Connect power cable on PSU with the public power grid (110~220VAC, 14Amp maximum).
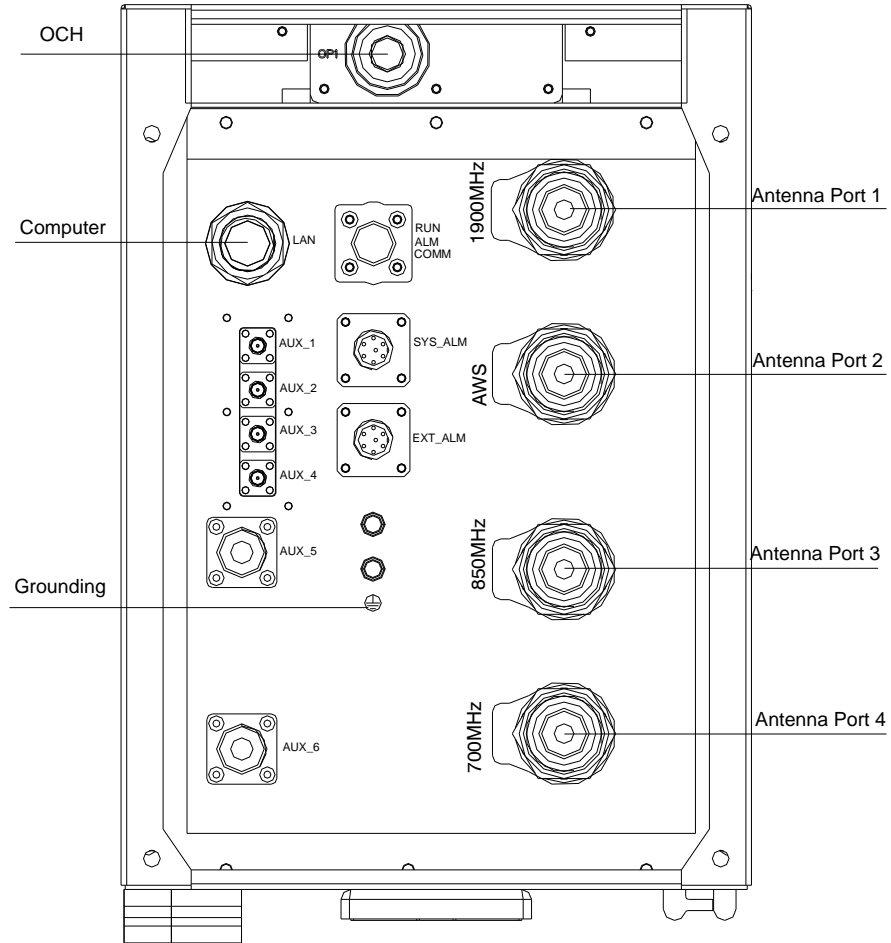
Figure 3: HRU Fiber Optical and RF Port Connection

Figure 4: PSU Power Port Connection

2.2.4   CHECKLIST BEFORE POWERING

Users *MUST* check the following items before powering on MU and HRU.

Table 1: Check list

Item	Check List
Grounding	• Make sure MU and HRU are well grounded.
Power	• The utility voltage is within 100~240VAC. • DC cable of PSU is well connected with HRU.
RF connection	• RF cables are well connected.
Optical connection	• Optical cables are well connected. • The optical link between MU and HRU is normal.
VSWR	• The VSWR of antenna port must less than 1.5.

2.2.5   VERIFY NORMAL OPRATION

Verify normal operation upon powering up the equipment.

Table 2 MU LED Indications

LED Indicator	Normal Status	Indication
PWR	Steady green	Power indicator. If LED is off, it indicates the system has no power.
RUN	Flashing green (1 time/sec)	MU operation indicator. After initialization (1~2 minutes), the LED should flash at once per sec. If other flashing rate occurs, MU operates abnormally.
ALM	off	Alarm indicator. If LED is RED, there is an alarm.
OP	Steady green	Located on Fiber Optical Unit (FOU), it is an indicator for receive optical power. If LED is off, it indicates the receiving optical power is less than -10dBm.

Table 3: HRU LED Indications

LED Indicator	Normal Status	Indication
PWR	Steady green	Power indicator. If LED is off, it indicates the system has no power.
RUN	Flashing green (1 time/sec)	HRU operation indicator. After initialization (1~2 minutes), the LED will flash once per sec. If other flashing rate occurs, HRU operates abnormally.
ALM	off	Alarm indicator. If LED is RED, there is an alarm.
OP	Steady green	Located on Fiber Optical Unit (FOU), it is an indicator of Receiving optical power. If LED is off, it indicates the receiving optical power is less than -10dBm.

End of Section

3 WEB GUI OPERATION

ComFlex can be monitored and controlled by WEB GUI, follow below contents to archive system parameter setting and commissioning.

3.1 WEB GUI CONNECTION

Step 1: Connect MU OMT port to PC RJ45 port with the supplied Ethernet cable to set up a physical connection.

Step 2: Go to laptop Control Panel\Network and Internet\Local Area Connection. Right click it and click Properties. Then follow the steps shown in figure below.
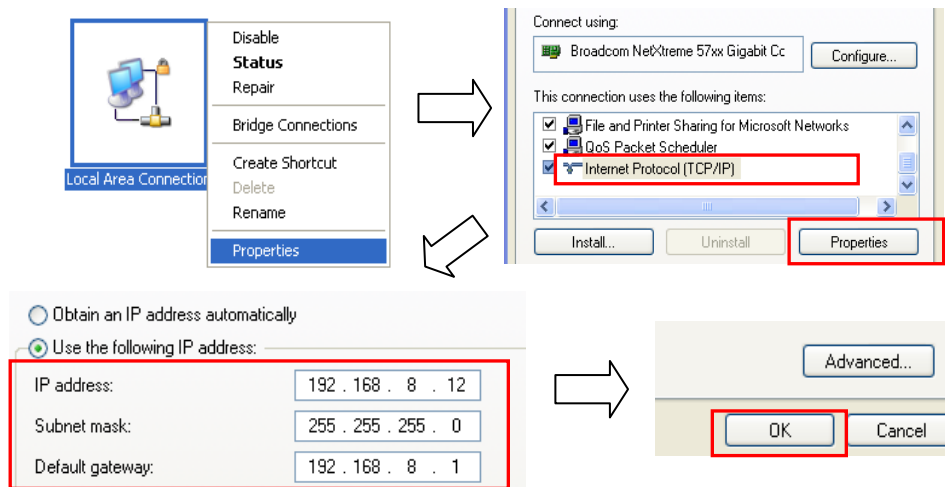
Figure 5: PC IP Address Setting

Step 3: Open browser (browser IE7.0, IE8.0, Chrome or Firefox, suggest disply resolution is 1024×768), input Web GUI **IP address: 192.168.8.101**, click [Enter].
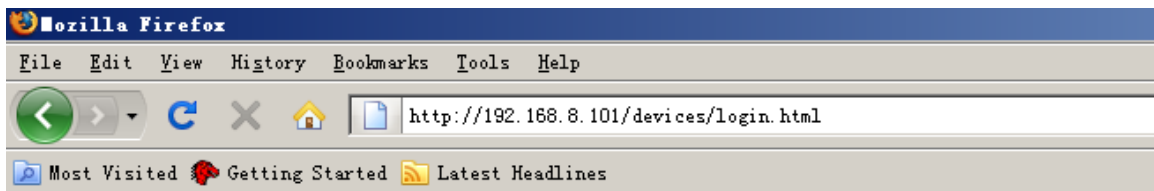
Figure 6: Input IP Address

Step 2: Input **User Name: admin; Password** (default password: **admin**). Click [Log in].

Figure 7: Input User Name and Password

3.2   COMMISSIONING PROCEDURE

To complete the installation and commissioning, users need to follow the steps below.

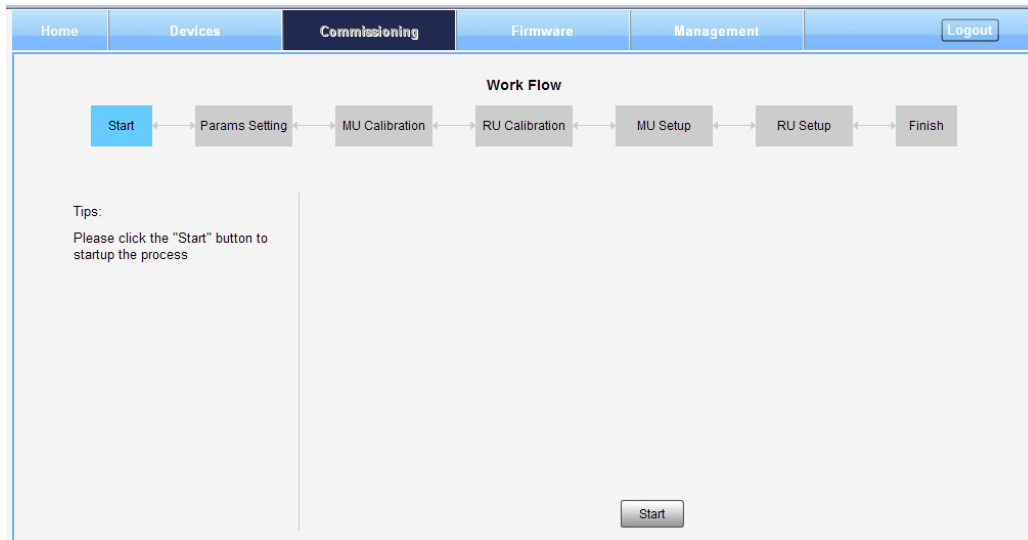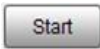**Step 1:** Click Menu bar [Commissioning] on home page, a work flow will show up.

Figure 8: Commissioning Procedure - Start

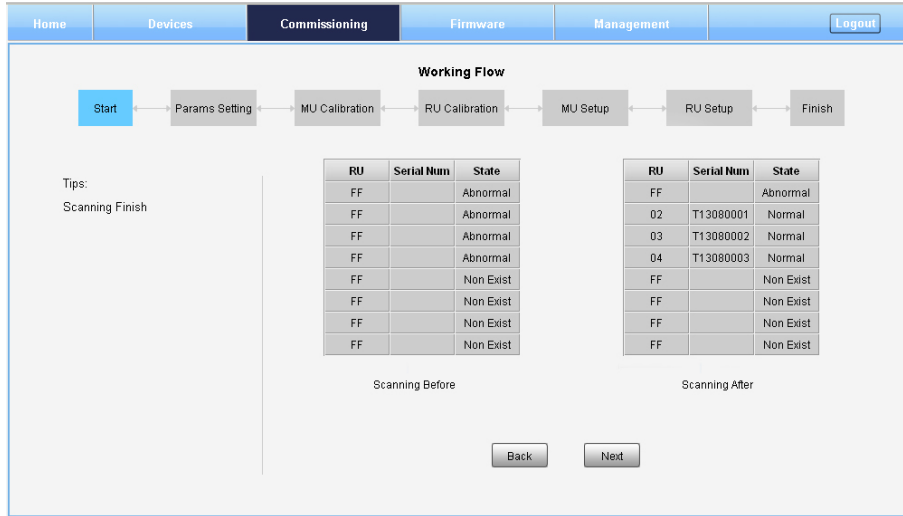**Step 2**: Click [Start] to start RU device scan, this step will take about 1 minute.

Figure 9: Commissioning Procedure – Device Scan

Step 3: Click [Next] to enter to Params Setting page. Click [Modify], users can set the device information and system time.
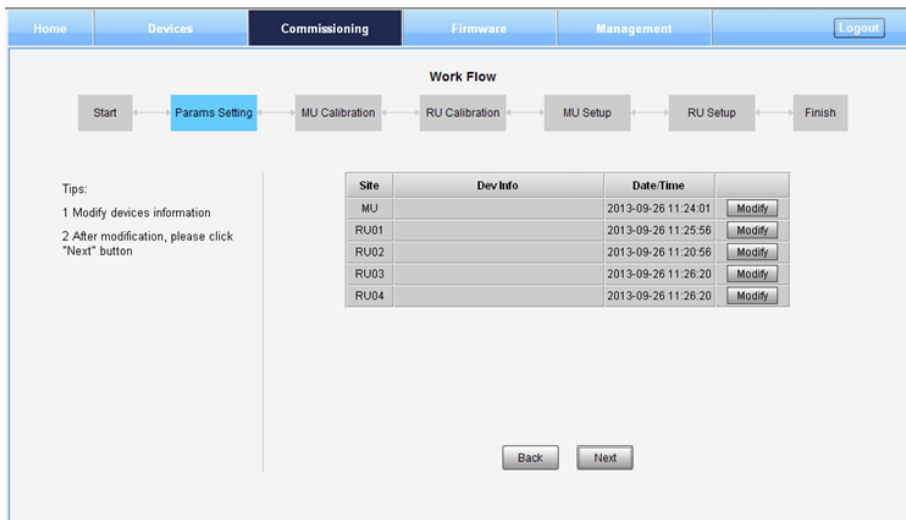

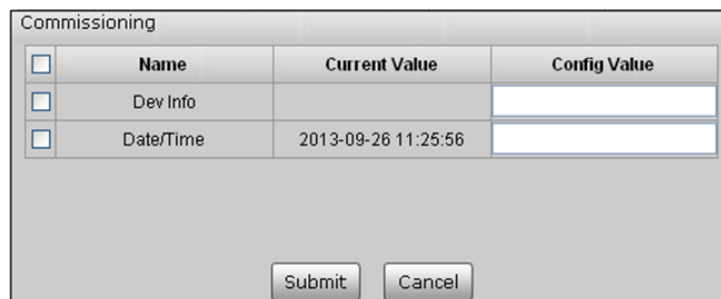Figure 10: Commissioning Procedure – Params Setting

Figure 11: Dev Info & Date/Time

Dev Info mainly used to record device location and Date/Time provide a time reference. Mouse click the Config Value of Date/Time to auto receive the computer time.

Step 4: Click [Next] to enter to MU Calibration page after finishing Parems Setting.

Step 5: Enter to HRU Calibration page after finishing MU Calibration.

NOTE1: Make sure the ANT port of HRU is connected with dummy load or antennas before Calibration. Several HRU can be calibrated simultaneously.

NOTE2: The maximum DL output power lever during the manufacturing process is 46 dBm per band of 40W product, and the tolerance is ±1dB, while 20W product is 43dBm per band and the tolerance is ±1dB. The UL output power lever is 25dBm per band, and the tolerance is ±2dB.

End of Section

End of Document