5 Commissioning the Base Station (7390BS)

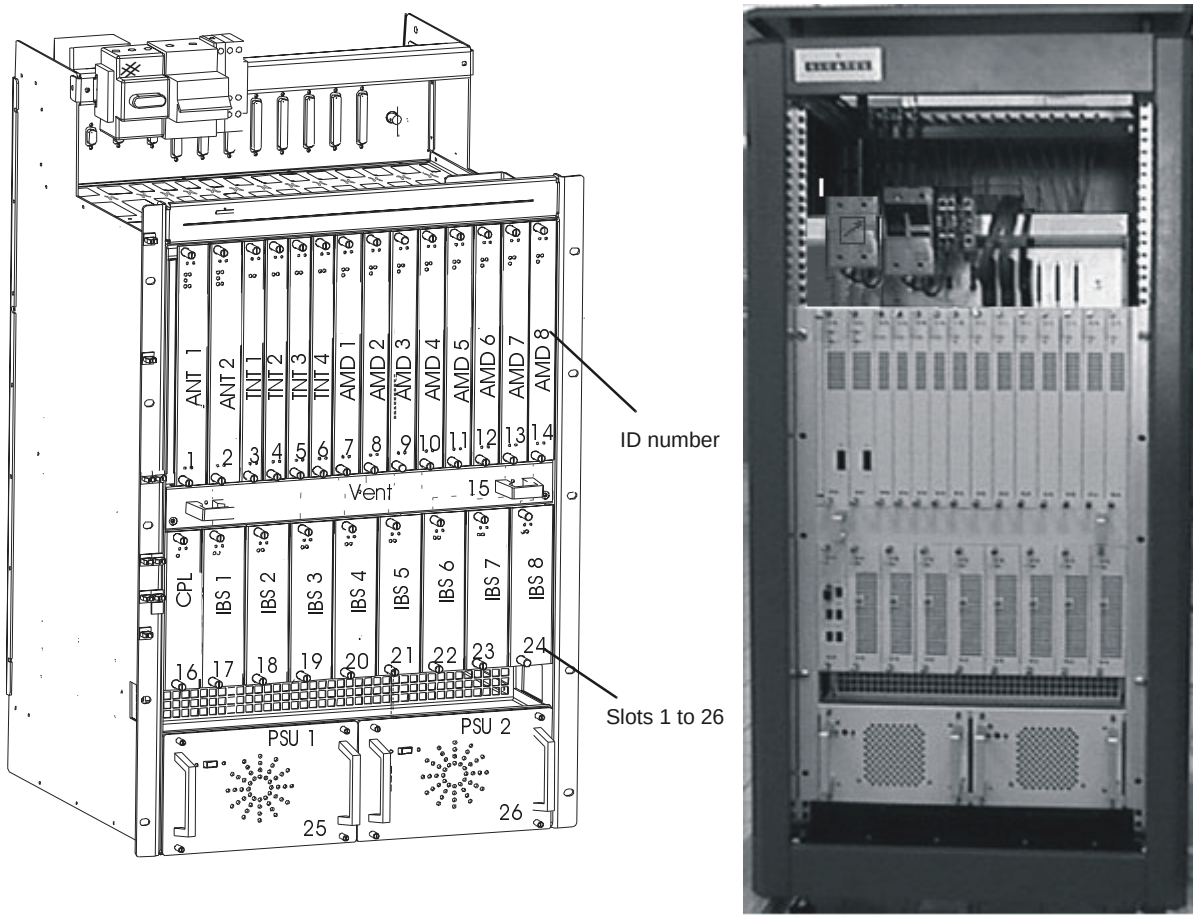

Figure 58 – Base station optical configuration

Base Station commissioning is carried out using a compatible laptop PC fitted with the 7390LT installation and programming software. The PC is connected directly to the DBS rack (see *Figure 59 – Connecting laptop PC to DBS rack*) using a cable supplied with the equipment.

Commissioning involves:

- **initialisation** and **configuration** of Base Station parameters,
- **control** and **validation** of the installed parameters before running the system.

5.1 Initialisation and configuration of parameters

Preliminary conditions

To commission a Base Station it is necessary:

- to have access to all sub-assemblies required for Base Station creation associated with the site specific installation sheet, (see *Appendix 1 – Installation sheet*),
- to have access to the 7390LT software version corresponding to the site configuration,
- to have access, on the laptop PC, to an installation software compatible with the boards to be installed,
- that the network operator gives the mission order to the installer.

Main steps

To commission a Base Station it is necessary to carry out the following:

- installation of the **DBS** rack (see Chapter 3.5 Base Station equipment installation),
- installation and configuration of the associated **RBS**(s) (see *Chapter 3 Installation of the Base Station*),
- configuration and commissioning of the station using the **7390LT**.

5.1.1 Equipment required

To configure the Base Station parameters the following equipment is required:

- the **RBS** transceivers already installed outdoors, connected to the DBS,
- a 50 ohm N/N connector **coaxial cable** (ref. 3CC07568Axxx) or equivalent.
- the **DBS rack** assembly,
- a laptop **PC** equipped with:
  - the **7390LT** Base Station initialisation and programming software, (see *Appendix 2 – Installation of 7390LT software)*,
  - the Windows® **NT4 SP5 Workstation**® system,
  - the data transfer application (OMNI® NFS).

The minimum PC specifications are as follows:

- microprocessor: Pentium II 450 MHz,
- RAM: 128 MB,
- Hard disk: min. 10 GB,
- Graphics board: 8 MB,
- 3" 1/2 floppy drive (internal or external),
- 12x CD drive (internal or external),
- ports: 1 available serial (DB9) and 1 available parallel (centronix) port,
- mouse: 2 buttons (PS2 series) or tracking device,
- network board: Ethernet 10/100BT (RJ45),
- 12" monitor (1024x768).

5.1.2 Powering up RBS and DBS equipment in site configuration

⚠	**BEFORE POWERING THE EQUIPMENT, BE SURE ITS INSTALLATION IS CONFORM TO THE PROCEDURES DESCRIBED IN SECTION § 3.5.2 ; IN PARTICULAR CHECK THE RIGHT POLARITY OF THE 48V CABLES (POWER SUPPLY CABLES).**

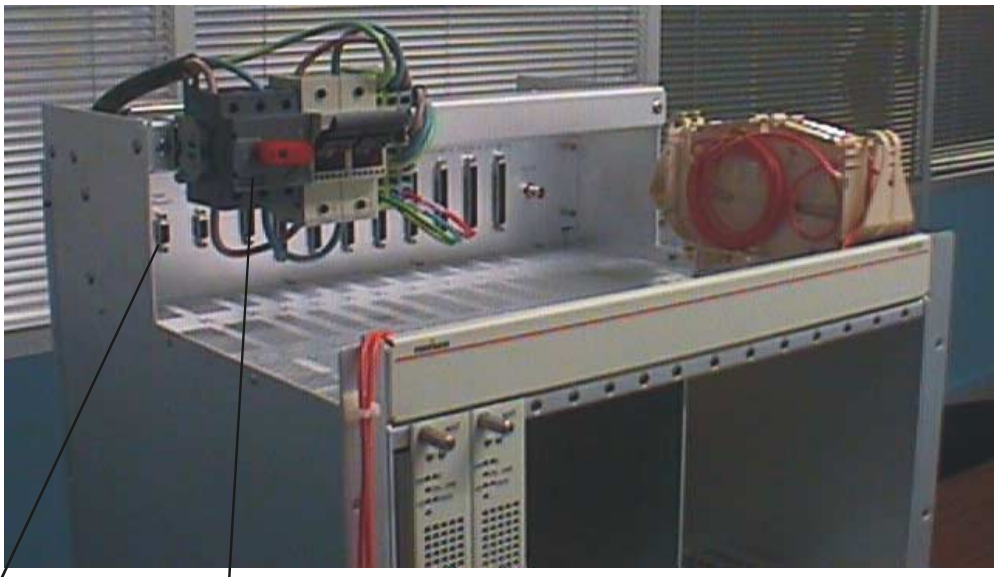

Figure 59 – Connecting laptop PC to DBS rack

Steps

1. Power up the **DBS rack** using the general ON/OFF switch (see Figure 56).
2. Power up the **power supply units** at the bottom of the rack (switch at ON).
3. Check the DC/DC power coupling and the status of the power supply boards:
   - board **operational**: green "ON" LED lit; red "F" LED unlit,
   - board presenting a **fault** but still **powered**: green "ON" LED **lit**; red "F" LED lit (see *Figure 60 – Role of the LEDs of the DBS board*).
4. Check the operational status of the DBS boards:
   - active **operational** board, if the green "ON" LED is **lit** and if the red "F" LED is **unlit** and, in addition, for the ANT and AMD boards, if the green "ON LINE" LED is **lit**;
   - the board is in standby if the "ON LINE" LED is **unlit**, for the ANT board the "F" LED is **unlit**, on the contrary for the AMD boards the red "F" LED is **lit**;
   - board **not operational**, but **powered**: the green "ON" LED is **lit** and if the red "F" LED is **lit** and, in addition, for the ANT and AMD boards, the green "ON LINE" LED is **unlit**.

Note: *In the initialization phase, the red "F" LED is lit, as is the green "ON" LED.*

⚠	**POWER SUPPLY UNITS MUST BE OFF BEFORE POWERING UP THE DBS RACK WITH GENERAL SWITCH.**

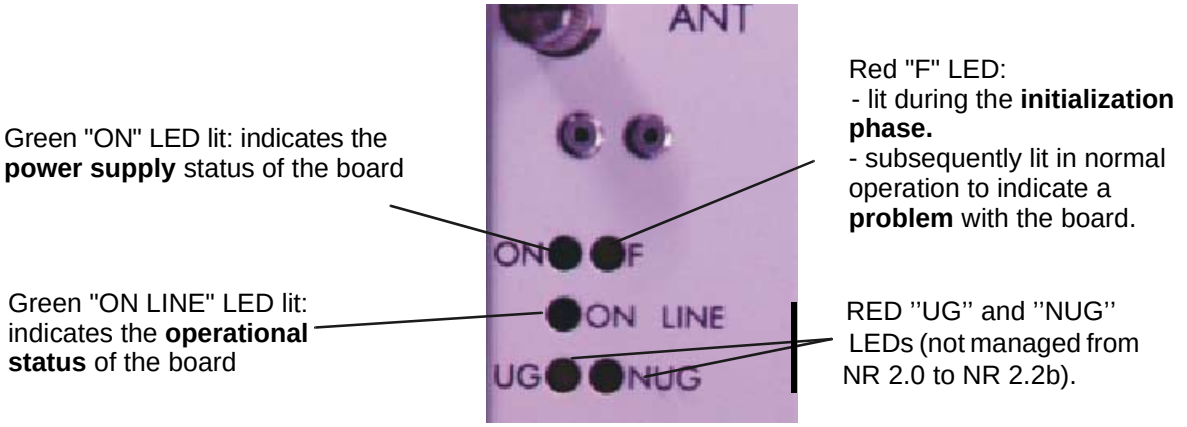

Figure 60 – Role of the LEDs of the DBS board

5. Connect the PC to a power source and power up.
6. Allocate an IP address to the PC that is compatible with that of the BS. This condition is imperative for communication between PC and BS to take place. The IP address of the BS (default value: 192.168.99.1 with sub-net mask: 255.255.255.0) and of the PC must be defined in the same sub-net. For example: the IP address: 192.168.99.2 and the sub-net mask: 255.255.255.0 can be allocated to the PC.
7. Connect laptop PC to DBS rack using a dedicated cable (Ethernet link, not provided). Use the connector situated on the top panel of the DBS rack (see *Figure 59 – Connecting laptop PC to DBS rack*).

	**ON THE ETHERNET PORT IT IS RECOMMENDED TO CONFIGURE ONLY ONE IP ADDRESS.**

8. Initialize the system by running the 7390LT software: to do this, the configuration steps listed in the following table must be executed:

Order number of steps	Designation of steps linked to the 7390LT	Comments	Reference of screen or paragraph
I	**Starting up the LT**	- Follow the instructions described previously in the manual to start up the 7390LT software. - Close the information window displayed when the program is running in order to access the 7390LT main screen.	4.2.2
II	**Connecting to the BS**	- Connect the DBS following the instructions seen before. . *IP address*: enter the address which is blank on first start-up; for subsequent connections, the last used IP address is displayed by default. Click on «*Apply*» to activate retrieval of MIBs on PC; this terminates with the opening of the ***BS Supervision*** screen.	4.3.1 4.5

Order number of steps	Designation of steps linked to the 7390LT	Comments	Reference of screen or paragraph
III	**Initializing the RAM ANT board**	**On first start-up**, it is wise to initialize the ANT board SNMP agent memory. To do this, follow the instructions in § 4.5.6 . **Warning**: this destructive function is not to be used subsequently for an operation, but is **reserved for maintenance operations**. This initialization causes a reboot of the 7390LT; return to step III to reconnect.	4.5.6
IV	**Select CO-POL configuration**	In the ***BS Details*** screen: - select Co-Polarization for polarization type. - click on the «*Apply*» button, ***Nota:*** configuration of radio links is only available after this step.	4.5
V	**Checking recognition of sub-assemblies (boards and RBS) by the LT**	Check on the rack represented in the ***BS supervision*** screen that the physically present sub-assemblies are taken into account by the LT. Running the 7390LT software automatically retrieves the serial number for each board, their modification index and their software version. Check the conformity of the data against the delivery slip.	4.5 4.5.3.1 to 4.5.3.7 4.5.3.6
VI	**Synchronization**	This involves defining the priority rules for the possible timing sources for the station. Priority 1 of course relates to an external source, since this allows the station to be immune to user error. For the moment, it is not possible to select one of the channels (1, 5, 9 or 13) of the TNT board present since they are not yet defined. You should come back to this step VI when at least one has been configured. . *Operational Status*: the effective presence of a signal used for synchronization is signaled by the wording "Enabled". If no signal is valid, the station uses its internal clock. --> Confirm the modifications and quit the screen to return to the ***BS supervision*** screen.	4.5
VII	**Agent time setting**	In the ***BS Details*** screen: - click on the icon to send the time to the agent. - check that the ***Last time setting*** section has been consequently modified (automatic).	4.5

Order number of steps	Designation of steps linked to the 7390LT	Comments	Reference of screen or paragraph
VIII	**Setting Radio link parameters**	Radio characteristics: . *AMD Board associated*: fields automatically filled: check that the parameters are those anticipated. . *Band Width (MHz)*: define the band Width: 14 or 28MHz. . DownStream Central (GHz): Enter the frequency of the downstream channel, according to radio planning. . *Upstream Central (GHz)*: Enter the central frequency of the four upstream channels, according to radio planning. --> Confirm settings: after a few seconds, the four frequencies of the upstream channels, Upstream # 1, Upstream # 2, Upstream # 3 et Upstream # 4, are calculated and displayed. NB: there are as many tabs as installed radio sectors (radio links). . *Transmission power (dBm)* (defines an output power from +7 dBm to 17 dBm): Adjust the display value to give that required for the link study. If no value is supplied, use by default the value +17 dBm, which gives the greatest range. NB: If the specified value is +7 dBm, it is recommended not to leave it in this status, but to quit the value and return to it by using the up and down arrows. Upstream characteristics: . activation of upstream, . validate upstream apply data trafic. Quit the screen to return to the ***BS supervision*** screen. Note that the alarm indicator of the AMD card(s) has switched from yellow to green, to indicate the settings have been accepted (otherwise see A.6.1 – Error messages for 7390LT software).	4.7 4.7.1 4.7.2 4.5
IX	**First 7390NE software update**	Download, reference and activate.	7.3.13

Order number of steps	Designation of steps linked to the 7390LT	Comments	Reference of screen or paragraph
X	**Configuration of RBS** RBS parameters: type and length of cable.	Characteristics: . *ID:* field automatically filled with the radio link number. . *Cable type*: select the type of cable from the scroll menu. . *Cable length*: enter the length of the cable which connects the RBS to the DBS. NB: Never leave at 0, even for a tabletop bench. --> Confirm the settings to return to the ***BS supervision*** screen NB: Note that the alarm indicator on the RBS has changed from yellow to green. Repeat the same operations for all the RBS.	4.5.7 note 4.5.7 4.5
XI	**Configuration of the ATM medium type** (only for DBS with optical interface)	- *Select sdh or sonet* for the Medium type configuration, then apply	4.9.1
XII	**Information about the BS**	. *Name:* enter the name of the base station (e.g., Base ST #1) . *Location:* enter the location of the base station (e.g., Orlando)	4.5

9. Quit the 7390LT software (see § *4.3.2 Disconnecting the NE assembly*)
10. Fill in the Installation Sheet (see *Appendix 1 – Installation sheet*).

5.2 Checking and validating parameters

Once the Equipment is commissioned, the 7390LT software can be used to:

- connect the Base Station, offering the possibility to update site data (see § *4.3.1 NE Connection*),
- supervise the entire A7390 (NE) system.

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