

# **How to ...**

This chapter contains additional information to configure and use the Local Controller.

Once a Login operation is performed for the first time or after a database cleared, the ADM-1 is fully unequipped.

The suggested configuration procedures, in chronological order, is:

- 1. Configure the System:**
  - a) Configure the Network Element;
  - b) Create the Units;
  - c) Assign Protection Roles;
  - d) Equip Traffic Port;
  - e) Set the System Management Parameters;
  - f) Assign Alarm Settings.
- 2. Configure Protections:**
  - a) Configure Equipment Protection
  - b) Configure Network Protections
- 3. Configure Synchronism:**
  - a) Equip Synchronisation Sources;
  - b) Configure System Synchronism;
  - c) Configure External Synchronisation Outputs.
- 4. Create Cross Connections.**

Further information regarding the above described procedure and other useful operations are given in the following.

## ... Configure the System

### Configure the Network Element

1. Select the **NE Type** item.
2. Define equipment redundancy.
3. Define the unit responsible for the management of the Data Communication Channels.
4. Define the NE type must be used.
5. Enable or disable the use of the V.11 interface (DLC handling).

*See Also:*

**NE Configuration**

### Create the Units

1. Click on the unit to be created and select the **Create** item in the unit menu.
2. Select the type of unit to be created, by checking the relevant radio button. The available options depend on the unit types that can be installed in the selected slot position.
3. Confirm the settings.

*See Also:*

**Unit Creation**

### Assign Protection Roles

1. Select the **No Protection** item.
2. Define the protection role of the previously created units.
3. Confirm the settings; the selected units will be displayed with the new protection role.

*See Also:*

**Protection Role**

## Equip Traffic Port

### Traffic Rate Configuration

In case of 2Mbit/s tributary units, the tributary ports can accept 1.5Mbit/s signals as well; proceed as follows:

1. Click on the unit that must be configured and select the **Configuration** item in the unit menu.
2. Define the PDH traffic rate for each group of tributary ports.
3. Confirm the settings.

*See Also:*

**2Mbit/s Unit Configuration**

### Port Configuration

1. Click on the unit that must be configured and select the **Configuration** item in the unit menu.
2. Equip the required ports.
3. Confirm the settings.

*See Also:*

**STM-1 Port Configuration, 2Mbit/s Port Configuration, 34-45Mbit/s Port Configuration, 140Mbit/s Port Configuration**

### Optional Configurations

1. Click on the unit that must be configured and select the **Configuration** item in the unit menu.
2. Enable the detection of the TIM alarm for the selected port.
3. Set the degraded signal thresholds.
4. In case of STM-1 optical interfaces, enable or disabled the scrambler.
5. Set the expected Signal Label.
6. Enter the transmitted and the expected Trace Identifier.

**7.** Confirm the settings.

*See Also:*

**STM-1 Port Configuration, STM-1 Path Information Configuration, STM-1 Channel Parameters Configuration, 2Mbit/s Port Configuration, 2Mbit/s Path Information Configuration, 34-45Mbit/s Port Configuration, 34-45Mbit/s Path Information Configuration, 140Mbit/s Port Configuration, 140Mbit/s Path Information Configuration**

## **Set the System Management Parameters**

### *Data Communication Channels Configuration*

- 1.** Select the **NE Setup** item.
- 2.** Select the **Communication** folder.
- 3.** Enable the use of the required DCCs, by unlocking them.
- 4.** Confirm the settings.

*See Also:*

**DCC Configuration**

### *Network Addresses Configuration*

- 1.** Select the **NE Setup** item.
- 2.** Select the **Protocol** folder.
- 3.** Enter the network addresses (Nsap and MAC) in the relevant fields and enable or disable the use of the Q interface.
- 4.** Confirm the settings.

*See Also:*

**Network Configuration**

## Assign Alarm Settings

### Alarm Parameters Configuration

1. Select the **Alarm Parameters** item.
2. Define the persistence thresholds of the listed alarms and the other available options, regarding the alarm detection and displaying.
3. Confirm the settings.

*See Also:*

**Alarm Parameters**

### Alarm Attributes Configuration

1. Select the **Alarm Attributes** item.
2. Change, if required, the alarm category of the listed alarms.
3. Confirm the setting and close the window.

*See Also:*

**Alarm Attributes**

### Incoming Ground Contacts Configuration

1. Select the **Ground Contacts** item.
2. Configure the available incoming ground contacts.
3. Confirm the settings.

*See Also:*

**Ground Contacts**

### Outgoing Ground Contacts Configuration

1. Select the **Ground Contacts** item.
2. Configure the available outgoing ground contacts.
3. Confirm the settings.

*See Also:*

**Ground Contacts**

### Rack Lamp Configuration

1. Select the **Rack Lamp Configuration** item.
2. Configure the rack lamp by assigning one of the available.
3. Confirm the settings.

*See Also:*

**Rack Lamp Configuration**

### Alarm Monitoring Configuration

1. Click on the required unit and select the **Alarm Monitor** item in the unit menu.
2. Choose a channel or a port and change its state, if required.
3. Confirm the settings.

*See Also:*

**Alarm Monitoring**

### Fault Actions

1. Click on the required unit and select the **Configuration** item in the unit menu.
2. Select the **Unit Config.** folder. This folder and its contents can change depending on the unit type.
3. Check the radio buttons to enable/disable the fault action to be performed when the indicated alarm is detected.
4. Confirm the settings.

*See Also:*

**STM-1 Unit Configuration, 2Mbit/s Unit Configuration, 34-45Mbit/s Unit Configuration, 140Mbit/s Unit Configuration**

## ... Configure Protections

### Configure Equipment Protection

1. Select the **Equipment Protection** item.
2. Configure the equipment protection (unit selection, protection type and protection mode).
3. Confirm the settings.

*See Also:*

**Equipment Protection**

### Configure Network Protections

#### MSP Protection Configuration

1. Select the **MSP Protection** item.
2. Configure the MSP protection (unit selection, protection type and protection mode).
3. Confirm the settings.

*See Also:*

**MSP Protection**

#### SNCP Protection Configuration

**NOTICE** This protection can be configured only on cross-connected channels.

1. Select the **Cross Connection** item.
2. Select an existing bidirectional cross connection (or the *from* channel of a unidirectional cross connection), by clicking on the channel to be protected.

----- The channel to be protected must belong to an STM-1 unit.

3. Click on the **Protection** button.
4. Select the protection channel and configure the protection.
5. Confirm the settings.

### Protection Parameters Configuration

This option is used to modify the protection parameters relevant to a existing protection scheme.

1. Select the **Protection Parameter** item.
2. Set the new protection parameters.
3. Confirm the settings.

## ... Configure Synchronism

### **Equip Synchronisation Sources**

1. Select the **Sync Configuration** item.
2. Equip the required synchronisation sources:
  - ◆ select the unit and its port to be used as synchronisation source;
  - ◆ force the quality level for a PDH or an external source;
  - ◆ enable the received quality level reading or force it for an STM-1 source.

### **Configure System Synchronism**

1. Select the **System** folder.
2. Configure the synchronisation sources, defining the priority of each of them.
3. Set the external output mode (normal or system).
4. Set, if required, the synchronism scheme parameters:
  - ◆ set the protection mode (Revertive or Not Revertive);
  - ◆ set the WTR (Wait To Restore) time, if the protection mode is Revertive;
  - ◆ enable SSM (Synchronism Status Message);
  - ◆ set the transmitted quality level when the SSM is disabled;
  - ◆ define the quality level threshold for holdover;



- ◆ set the transmitted quality level when the system is in free-running.
5. Confirm the settings by clicking on the **OK** button; by pressing the **Cancel** button the window will be closed without confirm the settings.

## Configure External Synchronisation Outputs

1. Select the **Ext 1 Output** or the **Ext 2 Output** folder.
2. Configure the synchronisation sources, defining the type of outgoing signals (2Mbit/s or 2MHz) and the source priority.
3. Set, if required, the synchronism scheme parameters:
  - ◆ set the External Output Mode (normal or system);
  - ◆ set the protection mode (Revertive or Not Revertive);
  - ◆ set the WTR (Wait To Restore) time, if the protection mode is Revertive;
  - ◆ enable SSM (Synchronism Status Message);
  - ◆ set the transmitted quality level when the SSM is disabled;
  - ◆ define the quality level to transmit, if the output is a 2Mbit/s signal;
  - ◆ define the quality Level used as threshold to squelch the synchronisation output.
4. Confirm the settings.

## ... Create Cross Connections

1. Select the **Cross Connection** item.
2. Multiply, if required, the SDH frames.
3. Create the cross connection (i.e. bidirectional, unidirectional, broadcast, etc.).
4. Protect, if required, the connection by creating a SNC protection.

## ... Manage Performances

### Configure the Performance Data Collection

1. Select the **Performance -> Configuration** item and define the access general performance parameters of ADM-1 (i.e. number of errored blocks to generate a SES, number of consecutive SES to generate a CSES, etc.).
2. Select the **Performance -> Exception Report Enabling** item and enable the Exception Report for both registers.
3. Select the **Performance -> Exception Thresholds -> Set n** item and, if required, configure the sets of exception thresholds.
4. Select the **Performance -> Data Collection and Monitoring Configuration** item and:
  - ◆ select the entity to be monitored (unit and port/channel);
  - ◆ enable or not the two registers (15 minutes and 24 hours);
  - ◆ enable or not the Unavailability Time report;
  - ◆ set the exception threshold to be used;
5. Confirm the settings and start the performance data collection.

### Display the Performance Data Collection

1. Select the **Performance -> Data Collection and Monitoring Configuration** item.
2. Select a monitored entity (unit and port/channel).
3. Click on the proper button to display the window containing the performance data.

## ... Perform Maintenance Operations

### Perform a Database Upload

1. Select the **Database Upload/Download** item.
2. Enter the file name and location, where the data will be saved.
3. Start the upload operation.

### Perform a Database Download

1. Select the **Database Upload/Download** item.
2. Select the file containing the equipment configuration to download, by clicking on the **File Selection** button.
3. Start the download operation.

### Realise a Software Upgrade of the Equipment

1. Copy the application software and the new download.ini file in the directory used for the Control Application software.
2. Select the **Software Download** item.
3. Select the unit types to be upgraded, by checking them in the available list.
4. Start the download operation; the new application software is downloaded on the stand-by flash bank of the selected units.
5. When the download is over, click on a downloaded unit and select the **Bank Switch** item from the Unit Menu.
6. Click again on the unit and select the **Bank Validation** item.
7. Repeat steps 5. and 6. for each downloaded unit; the last one must be the main MOST unit. After these operations, the local controller will be automatically disconnected, and the operator can use the new Control Application to manage the equipment.

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