ESCALA
Disk Expansion Unit
Quick Set Up

Introduction

This leaflet describes:

- How to connect the disk expansion unit to the base unit
- How to connect one disk expansion unit to two base units in a High Availability configuration.

It is supposed that the base unit is already set up. In case it is not, refer to the base documentation set.

Notes:

a. The figures of the following examples show a specific base unit model but the connections they show are valid for any base unit, unless otherwise specified.

b. The positions of the SCSI controllers shown in the following examples are not to be considered as mandatory positions. The SCSI controllers for the management of a disk expansion unit can be installed in any available slot. Please refer to the base documentation set, for any specific constrain related to the configuration of the controller area.

The operations described in this leaflet must be performed by people trained to perform service tasks on the system.

Preliminary Operations

1. **Power off the base unit.**

- If the base unit is running, perform a system shutdown
- Power off the base unit by turning its key mode switch to the Power Off position.
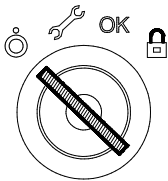
2. **Switch off all the external devices connected to the base unit, if any.**

   Note: If they are shared in a High Availability configuration, they must not be powered off.

3. **Unplug the power cords of the base unit and external devices, if any, from the outlets.**

4. **Check that all the on-board LED's are set to OFF before performing any operation on the system.**
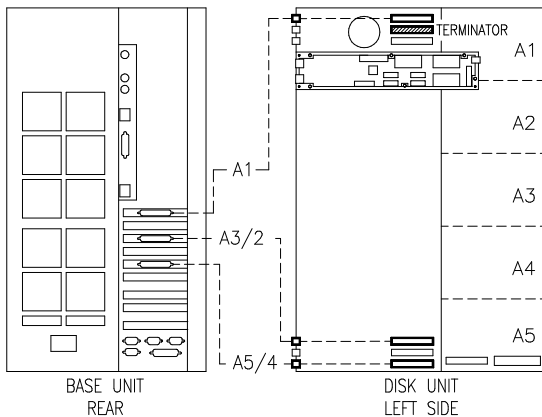
Standard Connection

1. **Perform the Preliminary Operations.**

2. **Unpack and check the disk expansion unit(s).**

3. **Place the disk expansion unit(s) next to the base unit.**

   Up to two disk expansion units can be connected to the base unit, one for each side.

4. **Perform the SCSI connection from unit to unit.**

   • Install the dedicated SCSI controller(s) in the base unit (up to three SCSI controllers, depending on the disk expansion unit configuration)

   • Connect the base unit SCSI controllers to the disk expansion unit, according to the system configuration, as shown in the figure.

BASE UNIT
REAR

DISK UNIT
LEFT SIDE

A1   Connection of media drives in Area 1 (the terminator must be used only in this case).

A3/2 Connection of hard disk drives in Area 3 (and Area 2, if any).

A5/4 Connection of hard disk drives in Area 5 (and Area 4, if any).

Note: The disk expansion unit houses the same type of disks of the base unit it is connected to:
ULTRA/SE for ESCALA T and E
ULTRA-2/LVD for ESCALA E230, E250, T430 and T450.

5. **Connect the RS-485 cable from unit to unit.**

   The disk expansion unit power is controlled through an RS-485 connection (Remote Control).
   See step 6 for further details.

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Notes:

a. Some special configurations (e.g. some High Availability configurations) do not require the RS-485 interconnection.

b. The RS-485 control is mandatory with RAID configurations.

c. The RS-485 connection must be performed using different cables, according to the type of connection:

ESCALA T, T430, T450, E230 and E250 Series Base Unit
Base to Disk Unit   Code 90177002
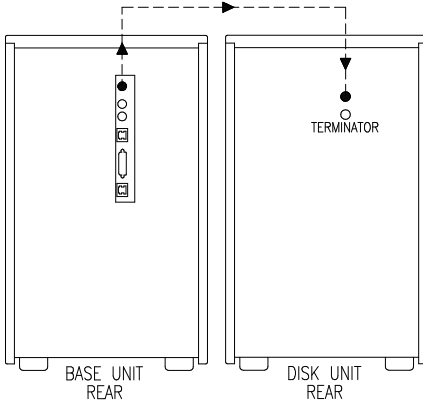Disk Unit to Disk Unit   90177001

ESCALA E Series Base Unit
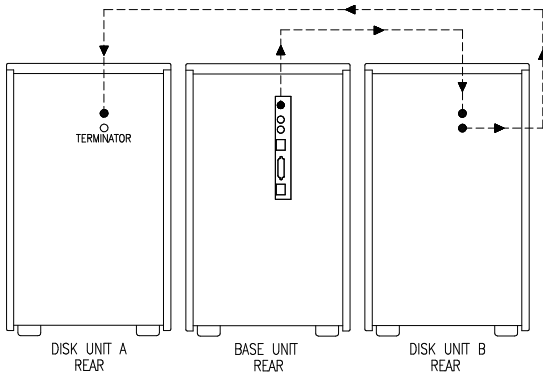Base to Disk Unit   Code 91109001
Disk Unit to Disk Unit   90177001

• Connect the RS-485 cable from the base unit to the disk expansion unit(s).

The RS-485 terminator must be connected to the RS-485 output connector of the last disk expansion unit.
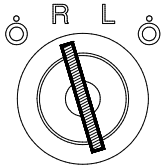
BASE + ONE DISK EXPANSION UNIT

BASE + TWO DISK EXPANSION UNITS

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6. Set the disk expansion unit key mode switch to the R (Remote Control) position.

This is the position to be used for standard configurations. The disk expansion unit is powered on/off only by the base unit through the RS-485 connection.

Notes:

a. The disk expansion unit can locally manage its power, overriding the RS-485 power control, if its key mode switch is set to **L** (Local Control) position.

b. The disk expansion unit must be powered off (power cord disconnected) to change from Remote (**R**) to Local (**L**) Control and vice versa.

7. Connect and plug in the power cords.

- Connect the power cord to the disk expansion unit power cord receptacle

- Connect the power cords of the external devices connected to the system, if any, to the power outlets

- Connect the power cord of the disk expansion unit(s) to the power outlet

- Connect the power cord of the base unit to the power outlet

- Switch on the external devices connected to the system, if any.

8. Assign the logical number to the disk expansion unit.

Note: This operation is required only if the disk expansion unit(s) is managed through an RS-485 connection.

If the BUMP console is available, perform the following steps, otherwise go to step **c**.

a. Switch on the BUMP console.

b. Check the firmware level, entering the `Stand-By Menu` from the BUMP console:

> Press the ENTER key
> Type `sbb`
> Select `DISPLAY CONFIGURATION`

The indicated BUMP, INITFW, OPENFW levels must be:

ESCALA T & E	**higher than 03.01.09**
ESCALA T430 & E230	**higher than F0.04.00**
ESCALA T450	**higher than F0.05.00**
ESCALA E250	**higher than F0.05.05.**

If the firmware levels are lower than required, it is necessary to perform a firmware updating. In this case, go to step **c**.

If the firmware levels are equal to or higher than required, you only need to assign a number to the new unit(s). From the `Stand-By Menu`:

Select `SET UNIT NUMBER`

The unit number is automatically assigned. Go to step 9.

c. Re-load the firmware.

Update the firmware with the adequate firmware level (check the label on the diskette), as described in the *Firmware Loading Instruction* document, delivered with the firmware diskette.
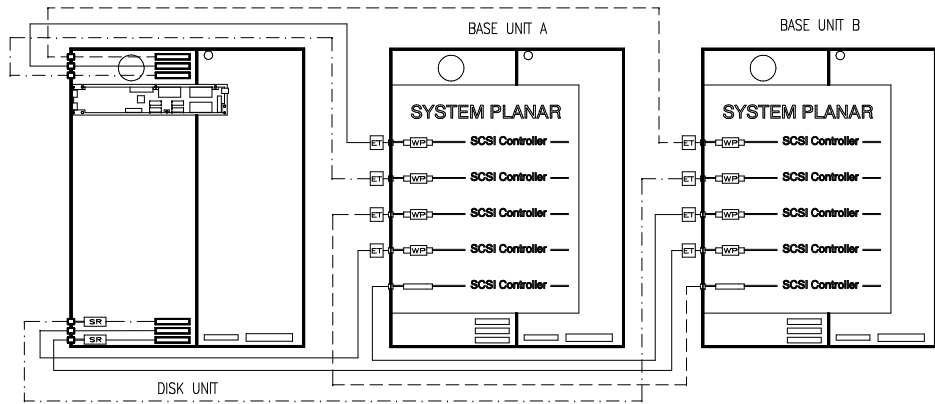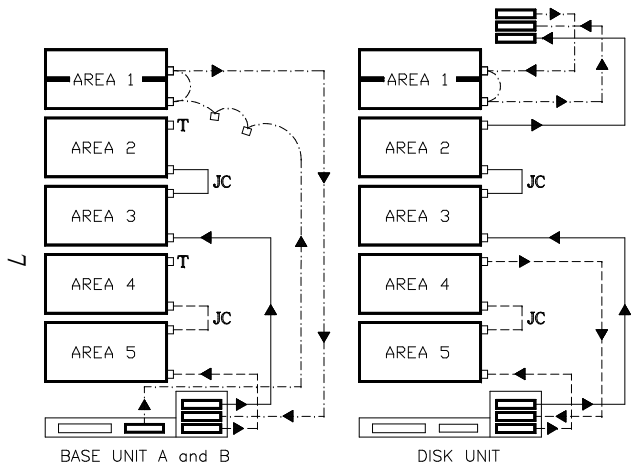
9. Power on the system.

Power on the system by turning the key mode switch of the base unit to the Normal position (use the Service position, if you want to enter the operating system diagnostic mode).

High Availability Connection

1. Perform the Preliminary Operations.

2. Unpack and check the disk expansion unit and the base unit.

3. Place the disk expansion unit next to the two base units.

4. Perform the SCSI connections.

a. Install the dedicated SCSI controller(s) in each base unit.

b. Connect the bulkhead to the device areas on each base unit and on the disk expansion unit.

c. Activate the SCSI busses for the internal device areas of each base unit.

d. Install the SCSI repeaters on the disk expansion unit.

e. Perform the external connections, according to the system configuration.

Notes:

1. For any detailed information about SCSI connections, please refer to the *Disk Expansion Unit Service Guide*.

2. Native H. A. works only in SE configurations.

3. This example shows one of the possible High Availability configurations.

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AREA 1 AREA 2 AREA 3 AREA 4 AREA 5

T
JC
T
JC

BASE UNIT A and B

AREA 1 AREA 2 AREA 3 AREA 4 AREA 5

JC
JC

DISK UNIT

BASE UNIT A

SYSTEM PLANAR

ET WP SCSI Controller
ET WP SCSI Controller
ET WP SCSI Controller
ET WP SCSI Controller
SCSI Controller

SR
SR

DISK UNIT

BASE UNIT B

SYSTEM PLANAR

ET WP SCSI Controller
ET WP SCSI Controller
ET WP SCSI Controller
ET WP SCSI Controller
SCSI Controller

Legend:

T   Terminator; the terminator can be either a LVD/SE terminator or a SE terminator

JC   Jumper Cable

WP   H.A. Wrap Plug

SR   SCSI Repeater

ET   External SCSI Terminating Plug

4. **Set the disk expansion unit key mode switch to the L (Local Control) position.**
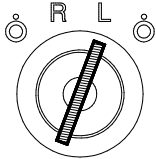
5. **Connect and plug in the power cords.**
    - Connect the power cord to the disk expansion unit power cord receptacle
    - Connect the power cord to the base unit power cord receptacle
    - Connect the power cords of the external devices connected to the system, if any, to the power outlets
    - Connect the power cord of the disk expansion unit(s) to the power outlet
    - Connect the power cord of the base unit(s) to the power outlet
    - Switch on the external devices connected to the system, if any.

6. **Power on the system.**

Power on the system by turning the key mode switch of the base unit to the Normal position (use the Service position, if you want to enter the operating system diagnostic mode).

More Information about the Unit

- *Using the Disk Expansion Unit* (86 A1 16PX) explains how to operate and configure the disk expansion unit.
- *Disk Expansion Unit Service Guide* (86 A1 13PX) provides service information, such as hardware component replacement and cabling information. This guide is reserved to people trained to perform service tasks on the system and can be ordered to the system supplier.