

## 4. Commissioning

Read carefully Chapter 1 *Safety* before commissioning the repeater.

Check all connections made during the installation.

To fulfill the IP65 weather protective requirements, ensure that the cable strain relief bushings are properly tightened. Also, ensure that the gaskets at the cable inlets and on the cabinet are properly fitted and not damaged.

### Preparing for setup

You can set up a repeater locally by connecting a PC loaded with the OMT32 software.

A COM port on the PC is connected to the P31 PC port (RS-232) located to the right in the cabinet (see Figure 4-1). Use the provided serial cable.

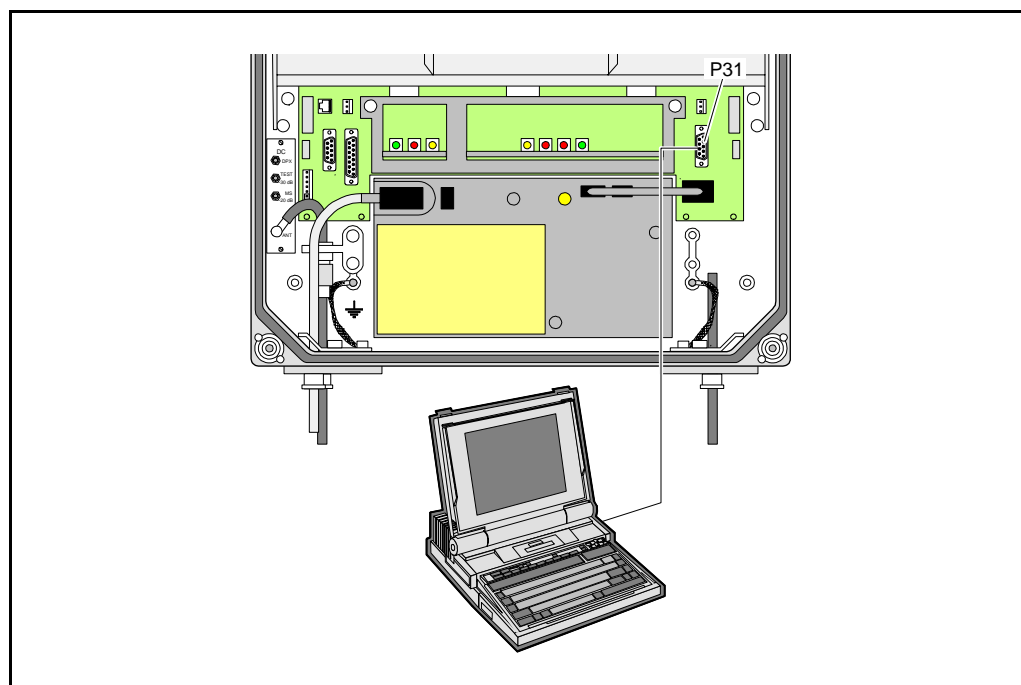


Figure 4-1. Connecting a PC for local setup

The P31 PC port is described in the *Connection Ports* section in Chapter 5.

Finally, make sure the repeater is connected to the mains.

Now, you can use OMT32 to set up and control the repeater. The OMT32 program is described in the *OMT32, User's Manual*.

For repeaters without DIA board (e.g. BMU without donor antenna) the PC is connected to the P106 port on the FON board. The P106 port is described in the *FON - Fiber Optic Node Board* section in Chapter 5.

## Starting the Repeater

1. Turn the mains switch on (marked 'S' in Figure 4-2).
2. Check the LED on the power supply unit (V). It must be lit with a steady yellow light.
3. Check the four **CU board** LEDs (see Figure 4-2). A correct power up is indicated as follows:

### **POWER**

Yellow LED that is lit with a steady light after the mains is switched on. Indicates present power.

### **BOOT**

Red LED that is lit with a steady light when the system boots, i.e. for 10 – 15 seconds after the mains is switched on. Then, it flashes for the next 5 – 10 seconds. After that, if no error is detected, the LED is off.

### **FAULT**

Red LED that flashes 15 – 20 seconds after the mains is switched on. Then, it flashes for less serious alarms (ERROR) and is lit with a steady light for fatal alarms (CRITICAL).

### **OPER**

Green LED that lights up approx. 15 seconds after the mains is switched on. It shows, with a steady light, that the unit is ready for operation.

4. Check the three **ALI board** LEDs (see Figure 4-2). The LEDs follow the alarm relays. A correct power up is indicated as follows:

### **OPER**

Green LED that has the same indication as the green LED on the CU board (see above).

### **FAULT**

Red LED that is lit with a steady light for ERROR and CRITICAL alarms.

### **POWER**

Yellow LED that has the same indication as the yellow LED on the CU board (see above).

When the indicators show operational mode, the repeater can be configured for operation by using a computer running OMT32. This is further detailed in the *OMT32, User's Manual*.

## Indicators in the Cabinet

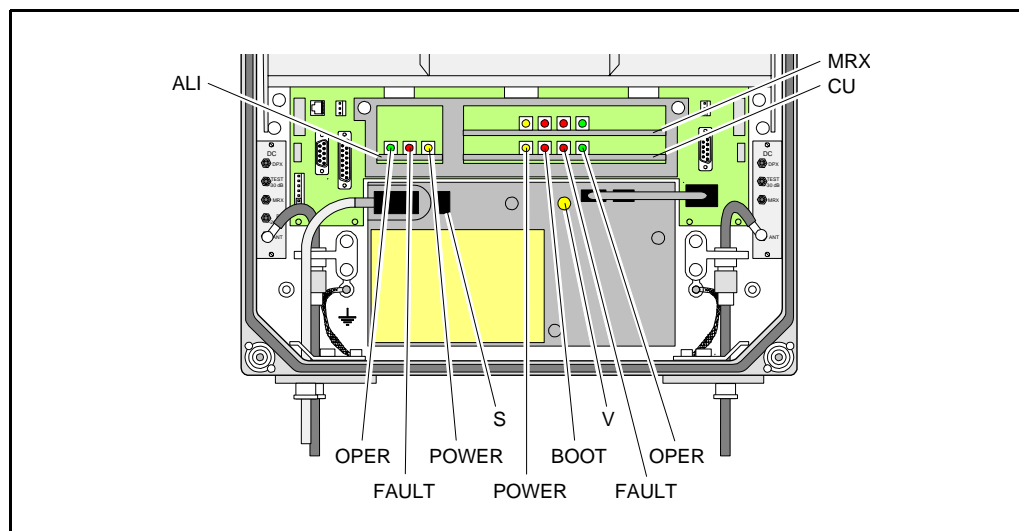


Figure 4-2. Internal indicators and mains switch

Figure 4-2 shows the repeater indicators and the mains switch in the cabinet.

Figure 4-2 is, however, not applicable to the BMU type that uses the indicators on the FON board. The FON board indicators are described in the *FON - Fiber Optic Node Board* section in Chapter 5.

### MRX indicators

An optional MRX board for CDMA repeaters has the same set of indicators as the CU board (POWER, BOOT, FAULT and OPER). The function of these MRX indicators are also the same as for the CU board (described in the previous section).

### R2R, Repeater to Repeater Link indicators

Additional indicators are found in the repeater, if equipped with the *Repeater to Repeater Link* feature. For information about these indicators, refer to the VD202 91/EN *R2R, Repeater to Repeater Link Kit, Installation Guide*.

### F2F, Fiber to Fiber Link indicator

An additional green F2F indicator is found on the FON board in the BMU, RMU and FOR types. This indicator is further described in the *FON - Fiber Optic Node Board* section in Chapter 5.

## Indicators on the Repeater Front



*Figure 4-3. External indicators*

After commissioning the repeater, the cover is closed and the following indicators on the repeater front are visible:

### **Yellow**

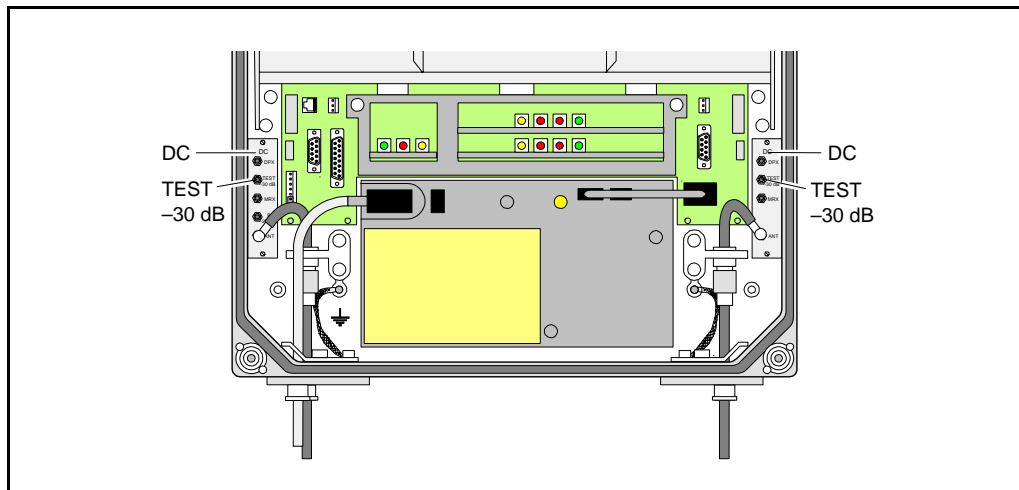
Operation LED that lights up approx. 15 seconds after the mains is switched on. At steady light the repeater is ready for operation.

### **Red**

Alarm LED that indicates ERROR alarms with flashing light and CRITICAL alarms with steady light.

## Measuring the Output Signal Level

Uplink and downlink output signal test ports are found on the directional couplers (DC) at the MS and BS antenna connectors. These test ports are marked TEST -30dB (see Figure 4-4) and are intended for signal measuring using e.g. a spectrum analyzer.



*Figure 4-4. Measuring ports for output signal level*

The coupling is -30dB approximately. There is no directivity in these test ports, i.e. both uplink and downlink signal can be measured.

## Voltage Supply Testpoints

A number of voltage supply testpoints are available in the repeater. These testpoints are named U7A – U7F for the 7V supply voltages and U26 for the 26V or 13V supply voltage (26V or 13V depending on the repeater type).

A standard multi-meter can be used on these testpoints.

The testpoints are found on the DIA board in the repeater cabinet. The testpoint positions on the DIA board is detailed in the *Board and Unit Descriptions* section in Chapter 5.

If the repeater is equipped with a second PSU, e.g. for combined channel/band selective operation, the same set of testpoints are also found on the cover DIA board.

## Repeater Configuration

The repeater is now ready to be configured in accordance with the site conditions and system performance requirements. Pay especial attention to the antenna isolation described in the *OMT32, User's Manual*.