ATLAS 50

Installation Manual

Legal Notice

Warranty

This publication is subject to change.

Teldat S.A. offers no warranty whatsoever for information contained in this manual.

Teldat S.A. is not liable for any direct, indirect, collateral, consequential or any other damage connected to the delivery, supply or use of this manual.

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I Important Information

⚠️ **Caution**

The manufacturer reserves the right to make changes and improvements to the appropriate features in both the software and hardware of this product, modifying the specifications of this manual without prior notice.

The images presented on the front and back panels of the devices are provided as an information guideline. Some small modification can exist in the actual device.

⚠️ **Warning**

The equipment is intended to be installed by Service Personnel and only handled by qualified personnel. If not, the device may be damaged and malfunction.

This device contains elements that are sensitive to electrostatic surges and shocks. Therefore, it is essential when handling the equipment that an antistatic wriststrap is connected to the device chassis and that this is placed on an antistatic mat. Furthermore, it is crucial to avoid any kind of contact between the device components and necklaces, bracelets, rings, ties, etc.

Chapter 1 Installing the Router

1.1 Introduction

The **ATLAS 50** aims at meeting the voice, video and data needs of small-sized companies and offices. It is a modular device incorporating encryption hardware and designed with network convergence in mind, as it supports IP Telephony and the possibility to encode video. Teldat presents the **ATLAS 50** as a perfect solution for wireless technology, both for the local network (with wireless access point functionality) and for the wide area network, as this device supports the following interface cards: GSM, GPRS, EDGE, UMTS, HSDPA, CDMA2000, EV-DO and WiMAX

This manual shows you how to connect and install this device.

Fig. 1: **ATLAS 50 front panel**

1.2 Connections

⚠ **Caution**

Before connecting the router, please read the following instructions carefully.

Workplace Conditions. Main Characteristics

• Excessive cold and heat should be avoided, as should humidity and dust.

• Direct exposure to sunlight should be avoided as well as other heat sources. The device should not be placed amongst papers, magazines or other elements that could hinder natural air circulation.

• The device should not be placed very close to strong electromagnetic fields such as speakers, engines, etc.

• Knocks and/or strong vibrations should be avoided during transport, operation and storage.

⚠ **Warning**

The electric current in power cables, telephone lines and communication cables is dangerous. To prevent electric shocks, before installing, handling or opening the equipment covers, connect and disconnect the cables as follows:

To Connect	To Disconnect
Turn the device's power supply OFF	Turn the switch OFF
Check that the power supply is not connected to either	Disconnect the power supply from the main electricity

the main electricity supply or the device	supply
Connect all data cables	Disconnect the power supply from the device
Connect the power supply to the device	Disconnect the data cables
Connect the power supply to the main electricity supply	
Turn the switch ON	

1.2.1 Power Source Connection

The **ATLAS 50** router is powered with an external AC/DC source.

To avoid electric shocks, residual current circulation and other unwanted effects, also affecting communications, the following is recommended:

> ⚠️ **Warning**
>
> All interconnected communication devices should be plugged to THE SAME GROUNDED POWER OUTLET, which should at the same time be of good quality (lower than 10 ohms).
>
> Whether the workplace is provided with an uninterrupted power supply system (UPS), regulated supply or it is independent from the rest (such as lighting, etc.); it is highly recommended that all data devices should be connected to the same power source. This will avoid operating and premature aging problems of drivers and other components.
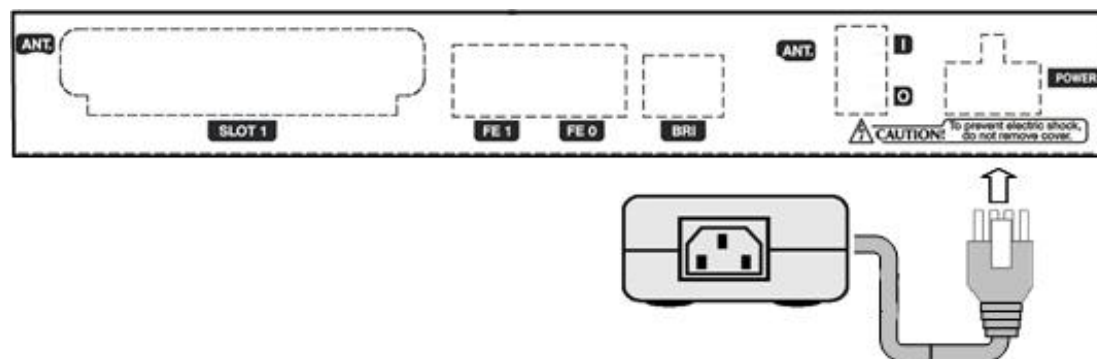

Fig. 2: **Power supply connection with external source**

To connect the power source to the device, follow the steps listed in the previous table: make sure that the switch is OFF (0) and the power supply is NOT connected to the main electricity supply; find the POWER plug (located on the rear panel of the device) and plug it into the power source: both the connector and the receptacle are designed so it is only possible to insert it in the correct position.

For subsequent connection of the power source to the main electricity supply, use the grounded cable provided for this purpose.

1.2.2 Data Connection

The **ATLAS 50** router family has the following connectors. Depending on the model. some of these connectors may not be available:

FE 0, FE 1:

FastEthernet Interfaces. The **ATLAS 50** router has two connectors to connect to 10/100 Base-T Ethernet networks.

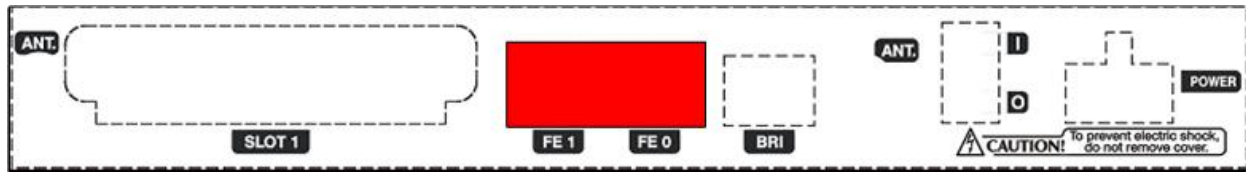The second LAN (FE 1) requires a software license in order to operate.

Fig. 3: **Fast Ethernet Connectors**

BRI:

ISDN 2B-D basic interface; this has an activation mechanism, through 2 jumpers, for the S bus terminal load.

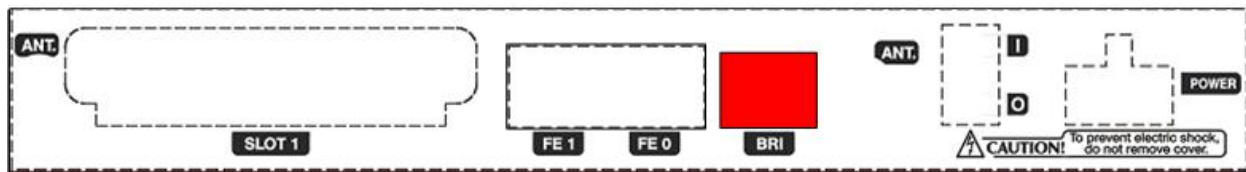It requires a software license in order to operate.

Fig. 4: **ISDN Connector**

ANT.:

RF antenna connectors.

For the Wireless LAN interface to work, the device must have a plug-in Wireless LAN card and the corresponding software license. In some models, the antennas are installed as a factory setting. If your device does not have the Wireless LAN module, you can add it later on. The manual provided will indicate how to install the module and its antenna cables in the device.
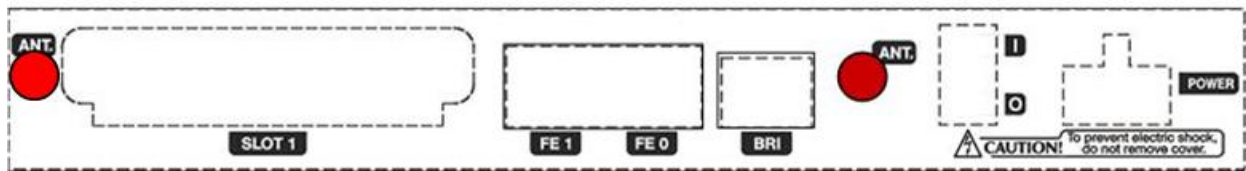
Fig. 5: **Antenna connector for Wireless LAN**

1.2.2.1 BRi Connection

The BRI interface has a 4 wire RJ45 female connector in order to connect to the S bus coming from the ISDN network terminator (NT1 or TR1).

In order to connect, use the cable with RJ45 male connections provided with the device.

Passive-Bus terminal resistances

The **ATLAS 50** has 2 internal jumpers to configure the S-BUS terminal resistances.

To access the jumpers (P1 and P2), you need to open the open the lid or top of the device. The jumpers are located next to the Power connector (S1) and the BRI (CN1) connector. To activate the terminal resistances, you need to position the P1 and P2 jumpers as indicated in the following figure:
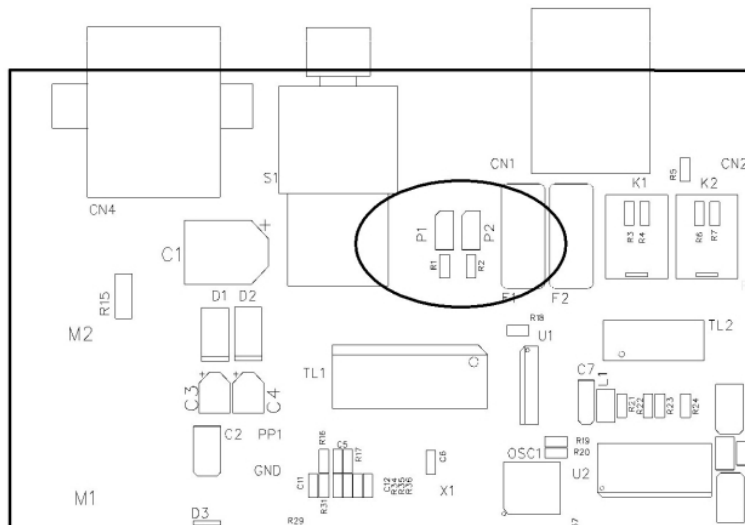
Fig. 6: **BUS-S Terminal resistance jumpers**

Placing these terminal resistances in the correct position is important . Otherwise, it can lead to errors in data (or voice), particularly if the "S" bus line is long.

• **Only or the last terminal on the ISDN "S" bus**

The P1 and P2 jumpers must be positioned (terminal resistance on) if the router is the only element connected to the network terminal (NT1, TR1, etc.) or it is in the last position on the ISDN "S" bus. This is the configured default position for the device.

Fig. 7: **Sole or last terminal**

• **Intermediate position on the ISDN "S" bus**

The P1 and P2 jumpers must be off (without terminal resistance) if the router occupies an intermediate position on the ISDN "S" bus.
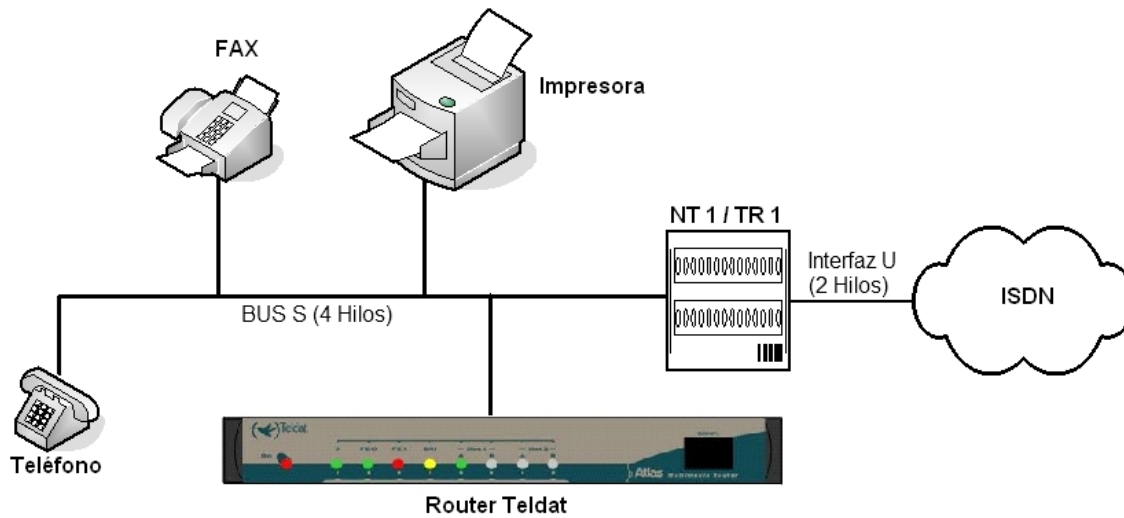
Fig. 8: **Intermediate position on the bus**

1.2.2.2 Connecting the antenna

The **ATLAS 50** router has two connectors for external antennas, which improve the quality of the signal received and transmitted through the Wireless LAN module. This module is optional. Your device may not have Wirel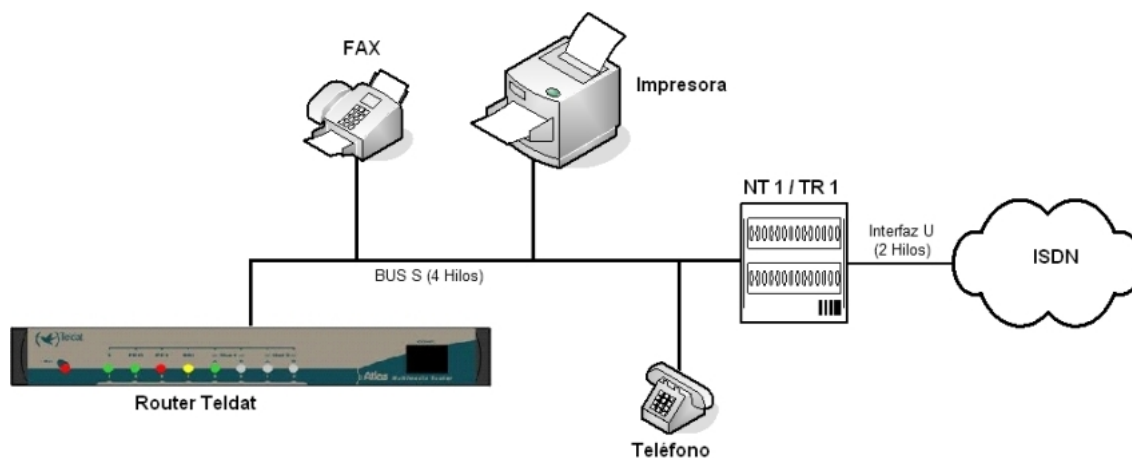ess LAN and, consequently, no antennas. To assemble and disassemble the antennas, simply screw them into the connectors labeled as ANT (located on the rear of the device).

1.2.2.3 Connecting for configuration

The **ATLAS 50** router has a RJ45 female connector on the front panel referred to as "**CONF.**", which provides access to the device local console. In order to configure this, you must connect the "**CONF.**" port to an asynchronous terminal (or to a PC with terminal emulation).

> **Note**
>
> Configuration for the terminal must be:
>
> - Speed: 9600 bps.
>
> - Eight data bits.
>
> - One stop bit.
>
> - No parity bit.
>
> - No type of flow control.

Connection to the configuration port can be carried out using the RJ45 connectors cable, provided with the device, and the RJ45 Female-DB9 Female adapter (also provided with the device).
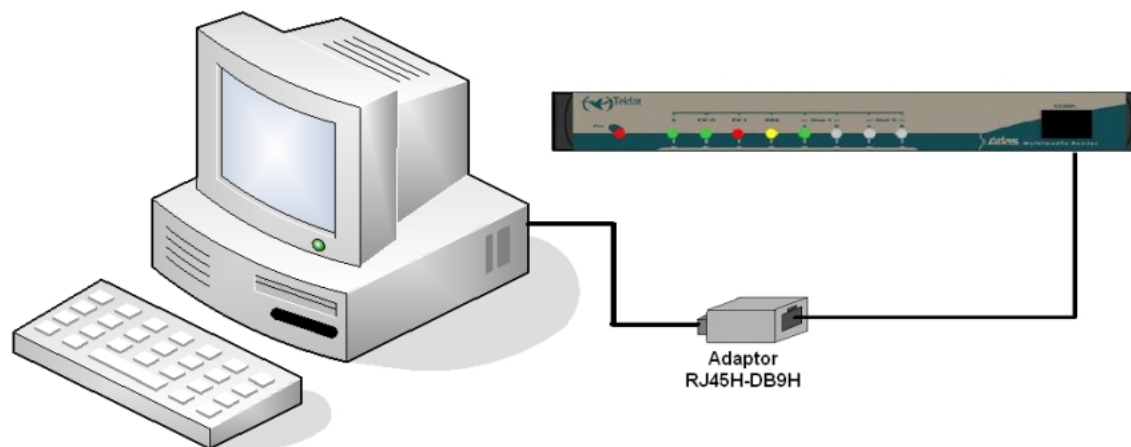
Fig. 9: **Connecting for configuration**

1.3 Meaning of the LEDs
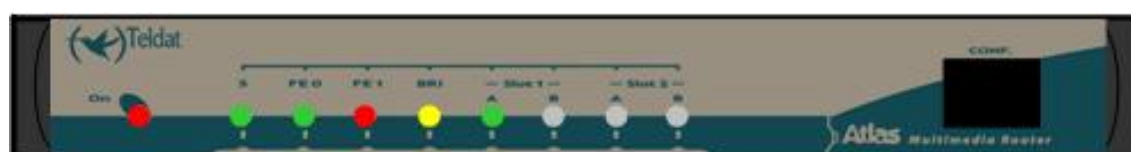
Fig. 10: **ATLAS 50 Router Front Panel**

ON	Power-on indicator. It lights up when connected to the power.
S	Router operations **OFF:** System stopped. **GREEN**: System initialized and operating. **YELLOW**: System with Telnet session established.
FE X	LAN Ethernet: **OFF:** Interface not supported or not available. **RED:** Interface not available either because it is not enabled or due to auto-test failure. **GREEN**: Interface initialized and operating. Flashing indicates frame activity. **YELLOW**: Interface in process of initialization.
BRI	ISDN Interface: **OFF:** Physical layer not available. **RED**: ERROR: Errors on the line (physical layer) or call in progress. **YELLOW**: Physical layer established. **GREEN**: Call established.
SLOT 1 **A & B**	Depends on the card installed in the PCI Slot. Normally: **OFF:** Interface not available or not installed (not supported). **RED**: Interface not established, without data connection. **YELLOW**: Connecting.

	GREEN: Communications established.
SLOT 2 **A & B**	The device has a MINI-PCI slot where you can install a Wireless LAN daughter card. Please see the manual on Wireless LAN interfaces to check the meaning of the LEDs operations.

1.4 Programming the microswitches

The **ATLAS 50** router has a block of 8 available micro-switches, located on the underside of the device, which are used for maintenance and test tasks. In this case, they are only used to load the default configuration.

These switches should not be handled by the user other than to establish the default configurations.

> **Note**
>
> So the device operates correctly, all micro-switches must be in the OFF position.

1.4.1 Procedure to ignore the configuration

Follow the steps below if you have to discard the whole configuration of the device (for instance, if you cannot remember the password).

• Turn off the device through the ON/OFF switch.

• Using a screwdriver, move micro-switch '5' to the ON position.

• Turn the device on with the ON/OFF switch.

When the device is switched on, a message similar to the one shown below will appear on the configuration console:

```
**************************************************
******************* Router Teldat ****************
**************************************************

BOOT CODE VERSION: 01.06  Jan  2 2006 10:22:22
  gzip  Dec 28 2005 09:54:11
P.C.B.: A0  MASK:0C10  Microcode:00E1
START FROM FLASH
BIOS CODE DUMP....................
BIOS DATA DUMP...
End of BIOS dump
 Boot-stack used: 0x00000C38
 Boot-stack free: 0x000013C8




===========================================================
     BIOS TELDAT                        (c)Teldat
===========================================================
BIOS CODE VERSION: 01.06
CLK=262144 KHz   BUSCLK=65536 KHz   PCICLK=65536 KHz   L0
Date: 01/12/06, Thursday       Time: 12:40:13

SDRAM size: 32 Megabytes
   BANK 0: 32 Megabytes (detected)
Caches: ON    Write-Back
FLASH: 64 Mb.
NVRAM: 128 Kb.
```

```
EEPROM: 2048 Bytes.
DPRAM: 8192 Bytes.


ISAC
RDSI_B
RDSI_B
SECURITY ENGINE
PCI device: Host bridge
   (Bus: 0, Device: 0, Function: 0)
   (Subs. Vendor: 0x0000, Subs. Device: 0x0000)
Current production date: 00 00
Current software license: 12 15
Current serial number: 550/05646
BIOS MAC Add: 00-a0-26-a0-16-0e
>>
........
TRYING APP CODE DUMP
    (CONFIGURED) ATLAS2G.BIN ver.: 0.10.6.12 0.0.0.0 .......
........................................................
........................................................
........................................................
........................................................
........................
APP DATA DUMP...........................................
 Bios-stack used: 0x1490
 Bios-stack free: 0x2B70
 Aux-stack used: 0x124
 Aux-stack free: 0x1EDC
Running application
Default configuration used
Parsing text mode configuration ...
Configuration parsed
Initializing


Press any key to get started
```

On reaching this point, you can set micro-switch '5' in the OFF position (it is not necessary to turn off the device). This way, th saved configuration will run next time you restart the device.

1.5 PMC-PCI Cards

The **ATLAS 50** features and interfaces can be amplified by inserting PMC boards (PCI mezzanine card). In order to correctly insert the card, please follow the steps given below.

1.5.1 Procedure to install PMC cards

(1) Switch off the device and remove the cables (as described in the section on connection in this manual).

(2) Remove the device from the workplace and place it in a stable, safe place where it can be easily accessed and handled. Open up the device. To do this you need to remove the upper cover, which is secured through two screws located on the underside of the device.

(3) Once the screws have been removed, slide the cover towards the front panel and then remove it by lifting it. Place it in a safe place.

(4) Find the place where the PMC board needs to be located (labeled as SLOT#1 in the device). This slot has a set of elevated connectors with gold contacts and a pair of securing screws.

(5) Remove the blind cover from the spot. This cover is located on the rear panel. Push this out.

(6) Place the PMC board, securing posts over the securing screws. Secure these firmly.

(7) Place the PMC card in the slot so that this firstly adjusts to the space on the device rear panel and subsequently to the two PMC connections. This operation must be carried out carefully, without forcing any piece or part of the device. Check that the board is clearly settled over the PMC connectors.

(8) Screw the PMC board to the posts using two screws with their corresponding washers. Firmly tighten the screws without damaging the board.

(9) Close the device with the cover. To do this, place the device upside down adjusting the three slots on the underside in the device's front panel and subsequently adjust the cover. Secure the cover with the screws.

(10) Connect and switch on the device (as explained in the connection section). Should you detect any problems, switch off the device and make sure that the above steps have been carried out correctly. If the problem persists, please contact your usual supplier.

(11) Connect a terminal to the console and check that the device detects the PMC board.

```
**************************************************
******************* Router Teldat ***************
**************************************************


BOOT CODE VERSION: 01.06  Jan  2 2006 10:22:22
  gzip  Dec 28 2005 09:54:11
P.C.B.: A0  MASK:0C10  Microcode:00E1
START FROM FLASH
BIOS CODE DUMP...................
BIOS DATA DUMP...
End of BIOS dump
 Boot-stack used: 0x00000C38
 Boot-stack free: 0x000013C8




========================================================
     BIOS TELDAT                      (c)Teldat
========================================================
BIOS CODE VERSION: 01.06
CLK=262144 KHz   BUSCLK=65536 KHz   PCICLK=65536 KHz   L0
Date: 01/12/06, Thursday        Time: 12:40:13


SDRAM size: 32 Megabytes



   BANK 0: 32 Megabytes (detected)
Caches: ON    Write-Back
FLASH: 64 Mb.
NVRAM: 128 Kb.
EEPROM: 2048 Bytes.
DPRAM: 8192 Bytes.
ISAC
```

```
RDSI_B
RDSI_B
SECURITY ENGINE
PCI device: Host bridge
   (Bus: 0, Device: 0, Function: 0)
   (Subs. Vendor: 0x0000, Subs. Device: 0x0000)
Slot 1 - PCI device: CardBus bridge
   (Bus: 0, Device: 10, Function: 0)
   (Subs. Vendor: 0x0000, Subs. Device: 0x0000)
Current production date: 00 00
Current software license: 12 15
Current serial number: 550/05646
BIOS MAC Add: 00-a0-26-a0-16-0e
```

RDSI_B
RDSI_B
SECURITY ENGINE
PCI device: Host bridge
   (Bus: 0, Device: 0, Function: 0)
   (Subs. Vendor: 0x0000, Subs. Device: 0x0000)

Appendix A Technical Information

A.1 Troubleshooting

Below, you will find a table that will help you solve problems during the installation of the device. If you cannot solve the problem, please ask your distributor for additional information.

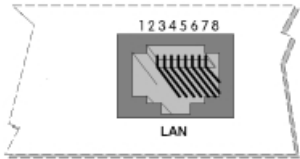| Symptom	Solution
None of the LEDs lights up on the device.	Check the power supply to the device (power source, ON/OFF switch, main power outlet).
The *S* LED does not light up.	Check that all the micro-switches are in the OFF position.
The local console does not respond.	Check that you are using the correct console cable and that this is connected to the device and the asynchronous terminal. Check that the terminal has the correct port configured. Check that the terminal configuration is 9600 8N1. Check that the console is not in an events process. Check that the device is not being remotely accessed via telnet.
The local console is only displaying garbage.	Check that the terminal has the correct port configured. Check that the terminal configuration is 9600 8N1
The device does not initialize and the console displays the WARM-UP text.	Check that micro-switch '1' is in the OFF position. In this situation, you may have to reload the device BIOS and the routing application.
The device is very slow in displaying the application prompt.	Check that micro-switch '3' is in the OFF position.
You have forgotten the password to access the device.	Ignore the configuration through micro-switch '5' (as explained in the relevant section).
The LANx LED never lights up in green.	Check that the rear LINK LED is ON. Otherwise, check the Ethernet cable and the connection to the network (you may need a crossover cable).
The BRI LED never lights up in either yellow or green.	If your device has an ISDN interface, check that the connection to the bus is correct and that the S bus terminal switch is in the correct position.
The LEDs indicate the FE interfaces are established but there is no connectivity at the data layer.	Check the configuration (routes, IP addresses, etc).

A.2 Updating the software

The **ATLAS 50** router can be updated to new releases. Please contact your distributor for further details on new releases.

The software required to update Teldat routers is supplied in a format known as **distribution**. This consists of a single file that contains all the files needed to update your device, as well as in-depth information on the contents of the files.
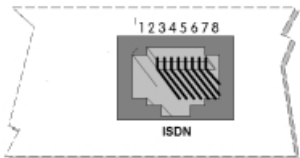
A.3 Connectors

A.3.1 LAN (FE x) Connector

RJ45 LAN	RJ45 PIN	LAN
	1	Tx+(input)
	2	Tx-(input)
	3	Rx+(output)
	4	--
	5	--
	6	Rx-(output)
	7	--
	8	--
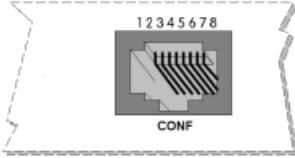
A.3.2 BRI Connector

RJ45 ISDN	RJ45 PIN	ISDN
	1	--
	2	--
	3	Tx+(output)
	4	Rx+(input)
	5	Rx-(input)
	6	Tx-(output)
	7	--
	8	--

A.3.3 ANT Connectors

	PIN	ANT
	Internal	RF in/out
	External	GND

A.3.4 Configuration Connector

RJ45 CONFIGURATION	RJ45 PIN	CONF
	1	--
	2	RxD
	3	GND
	4	--
	5	--
	6	GND
	7	TxD
	8	--

A.4 Technical Specifications

Hardware Architecture

PROCESSORS	Motorola PowerPC MPC8272
MEMORY	16/64 Mbytes in SDRAM
STORAGE UNIT	FLASH Memory (16Mbytes) EEPROM 2 Kbytes, NVRAM 128 Kbytes

LAN Interface

PROTOCOLS	Ethernet (802.3)
Nº PORTS	1+1*
SPEED	10/100 Mbps (BaseT)
CONNECTOR	RJ45 Female
CABLE	STP (Length<3m)

* Depending on the model

Wireless LAN Interface *

STANDARDS	Please see the manual on Wireless LAN
SPEED	Please see the manual on Wireless LAN
CONNECTOR	2 RF

* Depending on the model

ISDN Interface*

ACCESS	Basic 2B+D
SPEED	2 x 64 Kbps (Channels B)
CONNECTOR	RJ45 female

CABLE	Length<3m

* Depending on the model

Configuration Interface

TERMINAL LOCAL TERMINAL	V.24 9.600-8-N-1- without flow control.
CONNECTOR	RJ45 female, on the rear panel of the device.

Power Supply

INPUT VOLTAGE	+5 V,+12 V,-12 V DC
INPUT CURRENT	5 A (to +5 V DC) , 1 A (to +12 V DC) and 0.1 A (to -12 V DC)
MAXIMUM POWER	30 W

External Power Source

INPUT VOLTAGE	100-240 V AC
INPUT CURRENT	1 A
INPUT FREQUENCY	50-60 Hz
MAXIMUM POWER	45 VA

Dimensions and Weight

TYPE	Desktop
LENGTH x WIDTH x HEIGHT	220 x 220 x 30 mm
WEIGHT	1 kg

Environmental Specifications

AMBIENT TEMPERATURE	ON: 5º to 45 ºC. OFF: -20º to 60 ºC.
RELATIVE HUMIDITY	ON: 8 % to 85 %. OFF: 5 % to 90 %.

Appendix B Safety information

B.1 Recycling and the Environment

Please do not, under any circumstances, throw away any **ATLAS 50** with normal domestic waste. Ask your local town hall for information on how to correctly dispose of them in order to protect the environment against e-waste. Always respect the current laws regarding waste material. Anyone found violating the environmental laws will be subject to fines and any additional steps established by law.

All the packing materials i.e. the cardboard box, plastic and any other packaging, together with the pieces making up an **ATLAS 50**, must be recycled complying with the current active laws regarding recycling materials.

The below symbol with a cross over the rubbish container can be seen on the device. This means that, when a device reaches the end of its life, it must be taken to the official recycling/disposal centers where it must be disposed of in an environmentally responsible manner and separately from normal domestic waste.

B.2 Translated Safety Warnings

The equipment is intended to be installed by Service Personnel and only handled by quali-
fied personnel. If not, the device may be damaged and malfunction.

El equipo está diseñado para ser instalado por personal del sevicio técnico y su manejo
debe realizarlo personal cualificado. De lo contrario, el equipo puede resultar dañado y
quedar inservible.

This device contains elements that are sensitive to electrostatic surges and shocks. There-
fore, it is essential when handling the equipment that an antistatic wriststrap is connected to
the device chassis and that this is placed on an antistatic mat. Furthermore, it is crucial to
avoid any kind of contact between the device components and necklaces, bracelets, rings,
ties, etc.

Este equipo contiene componentes sensibles a las sobrecargas y descargas
electroestáticas. Por eso, durante la manipulación del equipo, utilice una pulsera antiestática
conectada al chasis del equipo y colóquelo sobre una esterilla antiestática. Evite también el
contacto de colgantes, pulseras, anillos, corbatas, etc.con cualquier componente del equipo.

The electric current in power cables, telephone lines and communication cables is danger-
ous. To prevent electric shocks, before installing, handling or opening the equipment covers,
connect and disconnect the cables following the steps set forth in *Connections* on page 2.

La tensión eléctrica de los cables de alimentación, de los cables de la línea telefónica y de
los cables de comunicación es peligrosa. Para evitar descargas, antes de instalar, mover o
abrir las cubiertas de este equipo, conecte y desconecte los cables siguiendo el orden que
se detalla en el apartado "Conexiones".

All interconnected communication devices should be plugged to THE SAME GROUNDED
POWER OUTLET, which should at the same time be of good quality (lower than 10 ohms).

Whether the workplace is provided with an uninterrupted power supply system (UPS), regu-
lated supply or it is independent from the rest (such as lighting, etc.); it is highly recommen-
ded that all data devices should be connected to the same power source. This will avoid op-
erating and premature aging problems of drivers and other components.

Todos los equipos de comunicaciones interconectados deberán estar unidos a UNA MISMA
TOMA DE TIERRA, a ser posible de buena calidad (inferior a 10 ohmios).

Si la instalación está dotada de un Sistema de Alimentación Ininterrumpida (SAI),
alimentación estabilizada, o bien es independiente del resto (alumbrado, etc.), conecte todos
los equipos de comunicaciones a la misma fuente de alimentación. Así, se ahorrará prob-
lemas de funcionamiento y envejecimiento prematuro de drivers y demás componentes.