



Teldat T200 Router Family

Teldat-Dm 418-I

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Warranty

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I Important Information



Note

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

The images showing the front and back panels of the device are for information purposes only. Some small modification may exist in the actual device.

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 Installation

1.1 Introduction

The **Teldat T200** is a general-purpose IP router, suitable for a wide range of applications (personal, SOHO/SME and corporate environments). It adapts perfectly to plenty of IP scenarios, providing simultaneous access to Internet for private LAN users and accommodating teleprocess networks and SNA support.

The **Teldat T200** router has a 4 or 8 port Ethernet LAN Switch and a Fast Ethernet port that behaves as WAN. You can configure a serial port in the 4-port model, which can be used in X.25, SDLC, Frame Relay scenarios or with an external backup device.

This manual shows you how to install and connect the router.

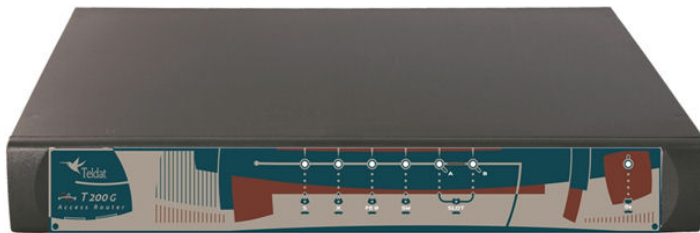


Fig. 1: Teldat T200G: External aspect

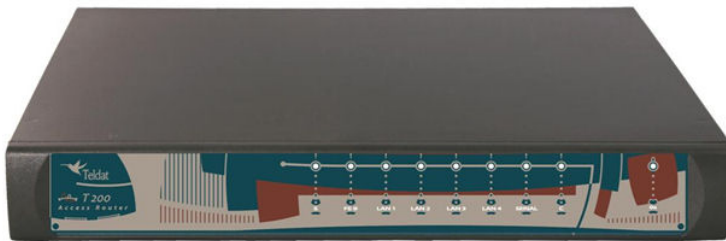


Fig. 2: Teldat T200: External aspect

1.1.1 Recycling and the Environment

Please do not, under any circumstances, throw away any **Teldat T200** routers 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 a **Teldat T200** , must be recycled complying with the current active laws regarding recycling materials.

The symbol shown below 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.



1.2 Connections



Note

BEFORE INSTALLING THE ROUTER, PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

Workplace Conditions. Main Characteristics

- Excessive cold and heat should be avoided, as should humidity and dust.
- Avoid direct exposure to sunlight and any other heat sources. Do not place the device between papers, magazines or other items that could hinder natural air circulation.
- Do not place the device near strong electromagnetic fields such as those produced by speakers, motors, etc.
- Avoid knocks and/or strong vibrations during operation, storage and transport.



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 following the steps set forth in the following section.

To Connect	To Disconnect
Make sure the device's power supply is OFF.	Switch off the device.
Connect all data cables.	Disconnect the power supply.
Connect the power supply to the device.	Disconnect the data cables.
Turn the switch ON.	

1.2.1 Power Source Connection

The **Teldat T200** does not require any special conditions regarding voltage stability or protection against power loss, as it is already protected.

To avoid electric shocks, residual current circulation and any other unwanted effects that may disrupt communication, 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.

To connect the power source to the device: ensure 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 to ensure their proper installation.

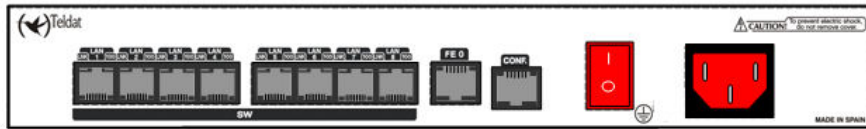


Fig. 3: T200G Power connection and switch

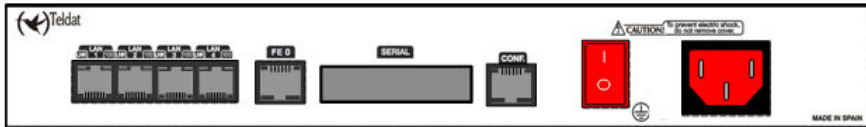


Fig. 4: T200 Power connection and switch

1.2.2 Data Connections

The **Teldat T200** is equipped with the following connectors (although some of these may not be available depending on the model):

SWITCH:

The **Teldat T200** incorporates a 4 or 8 port Switch 10/100BaseT with automatic MDI/MDIX for LAN (local area network) connection. It also has a LED indicating connectivity.

Please pay close attention to the labelling to avoid confusing the switch with other port types.

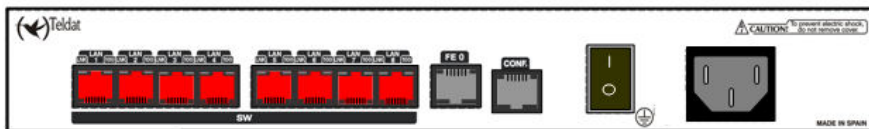


Fig. 5: T200G 8 port Switch (LAN)



Fig. 6: T200 4 port Switch (LAN)

FE 0:

The **Teldat T200** has one female RJ45 connector in order to connect to the Ethernet 10BaseT / 100BaseT networks through shielded twisted pairs (STP) or unshielded (UTP) cables.

Depending on the design of the network, the connection is carried out through a HUB or directly to another terminal device Ethernet interface through a crossover cable (please consult your supplier for information on crossover Ethernet cables).

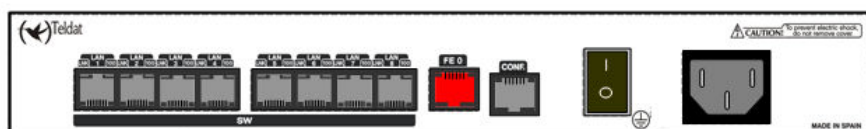


Fig. 7: T200G Fast Ethernet Port (FE 0)

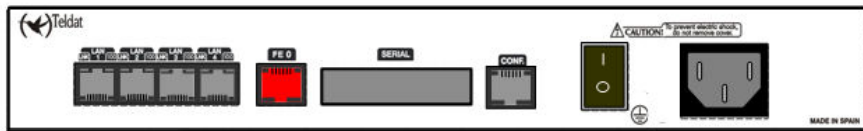


Fig. 8: T200 Fast Ethernet Port (FE 0)

SERIAL:

Multistandard serial interface to connect an external modem, POS, or to connect to a WAN (wide area network) such as X.25, Frame Relay, PPP, etc.

It requires an insertable driver (V.24, V.35, V.36, X.21, RS-485) to operate.

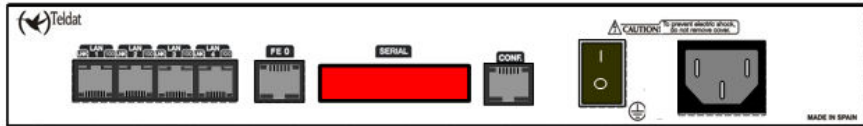


Fig. 9: SERIAL connector

1.2.2.1 Connecting for configuration

The Teldat T200 has a RJ45 female connector on the rear panel labeled CONF., which provides access to the router's local console. For configuration purposes, connect the CONF. port to an asynchronous terminal (or to a PC with terminal emulation).

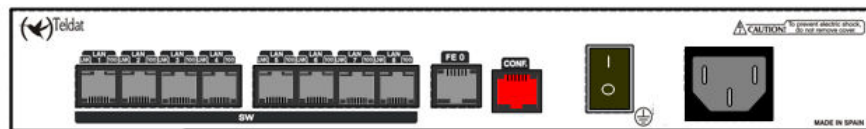


Fig. 10: T200G Configuration connector (CONF.)



Fig. 11: T200 Configuration connector (CONF.)

The terminal configuration is as follows:

- Speed: 9600 bps
- Eight data bits
- One stop bit
- No parity bit
- No type of flow control

To connect to the configuration port, use the RJ45 connector cable and the RJ45 female-DB9 female adaptor, both provided with the router. In cases where the terminal has DB25 connections, you must use an additional adapter.

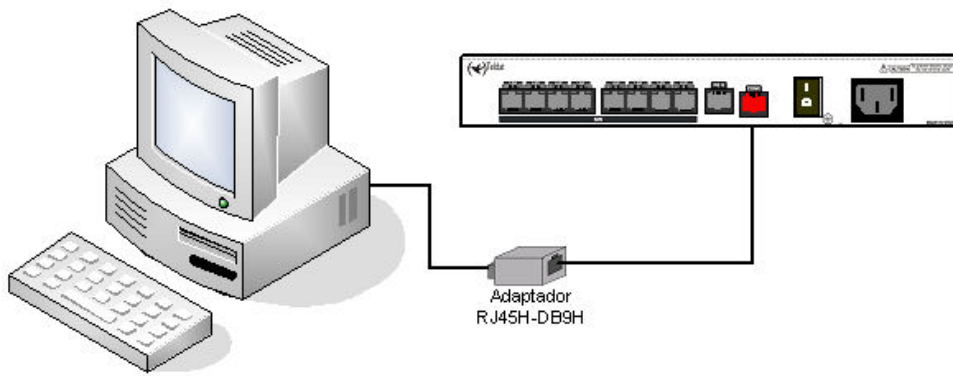


Fig. 12: Connecting for configuration

1.3 Meaning of the LEDs

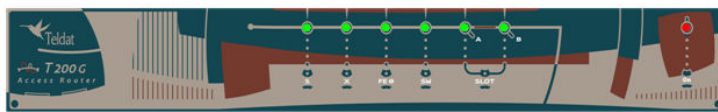


Fig. 13: Teldat T200 : Front panel

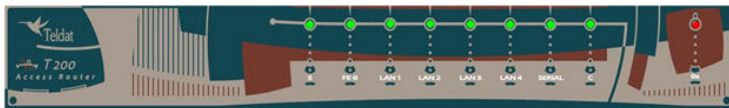


Fig. 14: Teldat T200 : Front panel

ON	Power-on indicator. It lights up when connected to the power.
S	Router operation: OFF: System off. GREEN: System initialized and operating. YELLOW: System with Telnet session established.
FE 0	Fast Ethernet - WAN: OFF: Interface not supported or not available. RED: Interface is not available either because it is not enabled or there is a malfunction in the auto-test. YELLOW: Interface initialization in process. GREEN: Interface available. Blinking: Maintenance frame being sent.
SW (T200G)	Switch(es) LAN Ethernet: OFF: Switch(es) not available. RED: Active Switch(es), there are no active devices connected. GREEN: Active Switch(es), there is at least one active device connected. Blinking: "heartbeat"
LAN	Switch(es) LAN Ethernet:

(T200)	<p>OFF: Switch(es) not available.</p> <p>RED: Active Switch(es), there are no active devices connected.</p> <p>GREEN: Active Switch(es), there is at least one active device connected.</p> <p>Blinking: "heartbeat"</p>
X (T200G)	Not used in the current version of the device.
SLOT A/B (T200G)	Not used in the current version of the device.
SERIAL (T200)	<p>Multistandard Serial Interface</p> <p>OFF: Port has not initialized.</p> <p>RED: Port has initialized.</p> <p>YELLOW: Establishing the link.</p> <p>GREEN: Communications established.</p>
C (T200)	Not used in the current version of the device.

1.4 Programming the microswitches

The **Teldat T200** has a block of 8 microswitches, useful for maintenance tasks and testing. Here they are only used to ignore the configuration or establish the default configuration (where there is a default configuration file **config.def**).

This block is normally found on the underside of the Teldat t200. It should not be handled by the user unless it is necessary to re establish the default configurations.



Note

All microswitches must be in the OFF position to ensure correct functionality.

1.4.1 Procedure to ignore the configuration, or establish the default configuration

Follow these steps when you have to reject the whole router configuration (for instance, if you cannot remember the password):

- Turn off the device by means of the ON/OFF switch.
- Using a screwdriver, move microswitch 5 to the ON position.
- Turn the router 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:

```
*****
*****
*****

BOOT CODE VERSION: 02.09 Feb 10 2009 10:10:22
  gzip Feb 10 2009 10:10:22
P.C.B.: B2 MASK:0C10 Microcode:00E1
```

```

START FROM FLASH
BIOS CODE DUMP.....
BIOS DATA DUMP....
End of BIOS dump
  Boot-stack used: 0x00000788
  Boot-stack free: 0x00001878

=====
          BIOS TELDAT                               (c)Teldat
=====

BIOS CODE VERSION: 02.09
CLK=262144 KHz   BUSCLK=65536 KHz   PCICLK=32768 KHz   L0
Date: 01/01/00, Monday           Time: 00:00:06

SDRAM size: 128 Megabytes
  BANK 0: 128 Megabytes (detected)
I_Cache: ON
D_Cache: ON   Write-Back
FLASH: 16 Mb.
NVRAM: 128 Kb.
EEPROM: 2048 Bytes.
DPRAM: 8192 Bytes.
FAST ETHERNET 1
SWITCH 10/100
SECURITY ENGINE
PCI device: Host bridge
  (Bus: 0, Device: 0, Function: 0)
  (Vendor: 0x1057, Device: 0x18C1)
  (Subs. Vendor: 0x0000, Subs. Device: 0x0000)
Current production date: 08 36
Current software license: 19 12
S/N: 661/06453
BIOS MAC Add: 00-a0-26-b0-19-35
>>
.....
TRYING APP CODE DUMP
  (CONFIGURED) APPCODE1.BIN ver.: 0.10.7.26 0.0.0.0 .....
.....
APP DATA DUMP.....
  Bios-stack used: 0x14B8
  Bios-stack free: 0x2B48
  Aux-stack used: 0x0
  Aux-stack free: 0x2000
Running application
[Default configuration used | Empty configuration used]
Parsing text mode configuration ...
Configuration parsed
Initializing
Press any key to get started

```

At this point, return microswitch 5 to the OFF position (you don't need to turn off the device). The next time you re-start the device, the saved configuration will run.

Chapter 2 Appendix

2.1 Trouble Shooting

The following table can help you solve problems when installing the router. If you cannot solve the problem, contact your dealer for more information.

Problem	Solution
None of the LEDs lights up on the device.	Check the power supply to the device (power source, ON/OFF switch, mains socket).
The S LED does not light up.	Check that all the microswitches are in the OFF position.
The local console doesn't respond.	Check that the console cable is the correct one and that it is connected to the device and the asynchronous terminal. Check the terminal has the correct port configured. Check the terminal configuration is 9600 8N1. Check the console is not processing events. Check the device is not being remotely accessed by telnet.
The local console is only showing rubbish.	Check the terminal has the correct port configured. Check the terminal configuration is 9600 8N1.
The device doesn't startup and the text WARM-UP appears on the console.	Check microswitch 1 is in the OFF position. You may have to reload the device BIOS and the routing application.
The device is taking a long time to display the application prompt.	Check microswitch 3 is in the OFF position.
You have forgotten the router's access password.	Ignore the configuration through microswitch 5 (See the Programming the microswitches on page 7).
The SW/FE 0/LANx LED never lights up in green.	Check the LED following the LINK is ON; if it isn't, check the Ethernet cable and the connection to the network (you may need a crossover cable).
The SERIAL LED never lights up in green.	If your device has a DTE/DCE interface, check that the cable you are using is suitable, that the driver is inserted in the correct position (DTE or DCE) and that the configuration is correct (speed, protocol, etc).

2.2 Software Upgrading

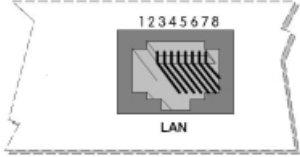
The **Teldat T200** can be updated to newer versions. Please contact your dealer for further details on new versions.

There are several ways to update a Teldat router. For further information, please see the software upgrading manual.

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 detailed information on the content.

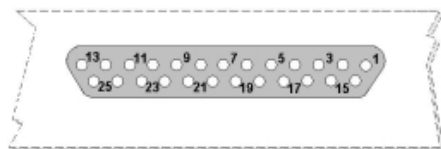
2.3 Connectors

2.3.1 LAN Connector (FE 0 and Switch)

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

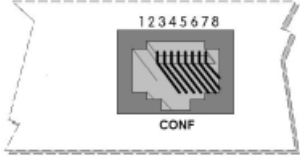
2.3.2 SERIAL Connector

DB25 SERIAL



DB25 connector	STANDARD							
	V.24		V.35		X.21		RS-485 2W	RS-485 4W
Pinout	Signal	UIT	Signal	V.35	Signal	DB15	Signal	Signal
1	Ground	101	Ground	A	Ground	1	Ground	Ground
2	TxD	103	TxD (A)	P	TxD (A)	2	D (-)	TxD (-)
3	RxD	104	RxD (A)	R	RxD (A)	4		RxD (-)
4	RTS	105	RTS	C	CONT(B)	10		
5	CTS	106	CTS	D				
6	DSR	107	DSR	E				
7	GND	102	GND	B	GND	8	GND	GND
8	DCD	109	DCD	F				
9			ExTxC (B)	W				
14			TxD (B)	S	TxD (B)	9	D(+)	TxD (+)
15	TxC	114	TxC (A)	Y	IND(A)	5		
16			RxD (B)	T	RxD (B)	11		RxD (+)
17	RxC	115	RxC (A)	V	CLK(A)	6		
18			TxC (B)	AA	IND(B)	12		
19			RxC (B)	X	CLK(B)	13		
20	DTR	108	DTR	H	CONT(A)	3		
24	ExTxC	113	ExTxC (A)	U				

2.3.3 Configuration Connector

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

2.4 Technical Specifications

Hardware Architecture

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

LAN Interface (Switches)

PROTOCOLS	Ethernet (802.3).
SPEED	SWITCH 100Mbps (BaseT)
PORTS	4 or 8*
CONNECTOR	RJ45 female.

* Depends on the model

WAN Interface (FE 0)

PROTOCOLS	Ethernet (802.3).
SPEED	100Mbps (BaseT)
CONNECTOR	RJ45 female.

SERIAL Interface*

PROTOCOLS	FRAME RELAY, X.25, PPP, SDLC, X.28, TPV-DATAPHONE, SCADA.
INTERFACES	Insertable drivers V.24 / V.35 / V.36 / X.21 DTE/DCE. And 2-4 wire RS-485.
SPEED	200 to 2048 Kbps.

CONNECTOR	Female DB25.
-----------	--------------

* Depends on the model

Configuration Interface

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

Power Source

INPUT VOLTAGE	85-264VAC / 120-300VDC
INPUT CURRENT	1Amp Max (RMS) @ 115VAC
INPUT FREQUENCY	47-63Hz
MAXIMUM POWER	47W
APPROX CONSUMPTION.	25W





Dimensions and weight

TYPE	CGSM
LENGTH x WIDTH x HEIGHT	315mm x 240mm x 43.2mm (+4mm for the legs)
WEIGHT	2050gr (+200gr for the 19" rack wings)

Environmental Specifications

AMBIENT TEMPERATURE	-5° to 65°C
RELATIVE HUMDITY	10% to 95%

2.5 Translated safety warnings

	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.
	El equipo está diseñado para ser instalado por personal del servicio 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. 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.
	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 dangerous. To prevent electric shocks, before installing, handling or opening the equipment covers, connect and disconnect the cables following the steps set forth in the relevant section.
	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 correspondiente.
	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.
	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 problemas de funcionamiento y envejecimiento prematuro de drivers y demás componentes.