PMC G.SHDSL (4W) Expansion Card

Teldat-Dm 616

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Table of Contents

Chapter 1 About This Guide

This installation guide contains the step by step instructions that you need to follow in order to correctly install, uninstall and replace the PMC-2SHDSL expansion card in the ATLAS router family.

1.1 Supported Devices

The information contained in this installation guide only applies to the PMC-2SHDSL expansion card.

1.2 Warning and notes

Observe the warnings and instructions given in this manual to avoid and prevent injuries or damage during installation and maintenance. Please follow the security procedures and guidelines when working near electrical equipment. The warnings and notes are provided in each chapter as appropriate.

1.3 Who should read this manual?

This manual should be read by installers and network administrators who need to install, configure or maintain networks. This guide assumes that the installer is familiar with network electronics and technologies.

1.4 What is in this manual?

This installation guide contains the following information:

• Description of the general characteristics of the PMC-2SHDSL expansion card.

• Description of the steps to carry out to install the PMC-2SHDSL card in the ATLAS routers.

• Description of the PMC-2SHDSL expansion card LEDs and the pinouts for their connectors.

1.5 How is the information organized?

This document aims to provide all the information necessary for installing the PMC-2SHDSL expansion card in the ATLAS router family.

• PMC-2SHDSL expansion card characteristics.

• PMC-2SHDSL expansion card connectors.

• Requirements prior to installation.

• Installing the PMC-2SHDSL expansion card.

1.6 Technical Support

Teldat SA offers a technical support service.

Contact information:

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1.7 Related documentation

Teldat-Dm742-I *SHDSL.*

Teldat-Dm748-I *Software Updating* .

ATLAS router family installation manuals

Teldat-Dm605-I *PMC Expansion Cards ATLAS 60 Installation* .

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 presented on the front and back panels of the devices are provided as information guidelines only. Some small modifications may exist in the actual device.

Chapter 2 PMC-2SHDSL expansion card

This manual is about the 4-wire PMC G.SHDSL expansion card.

The G.SHDSL standard (Single-Pair High-Speed Digital Subscriber Line), ITU G.991.2 recommendation describes a method for data transmission in telecommunications access networks.

The main characteristics for this technology are as follows:

- Digital implementation
- TC-PAM: Trellis Coded Pulse Amplitude Modulation
- Variable transmission rate

For further information on SHDSL technology, please see manual *"Teldat-Dm742-I SHDSL".*

Fig. 1: PMC-2SHDSL Card

2.1 PMC-2SHDSL expansion card: Characteristics

The main characteristics of the PMC-2SHDSL expansion card are as follows:
PMC-2SHDSL Card: Characteristics

Ports	1 RJ11 G.SHDSL port. Annexes A and B, 4 wires
Standards	ITU-T • G.SHDSL (G.991.2) • G.Handshake (G.994.1) – Link negotiation
Symmetrical Rate	Up to 4 Mbps (4 wires)
Operating Modes	User device: • CPE (*"Customer Premises Equipment"*) Central device: • CO (*"Central Office"*)
Transport Mode	ATM (*"Asynchronous Transfer Mode"*)
ATM Adaptation Layer	AAL5 (*"ATM Adaptation Layers"*) • Sublevel SAR (*"Segmentation and Reassembly"*)
Number of permanent virtual circuits (PVC)	Up to 31 PVCs in the ATM

Other characteristics	Possibility of being used with 2-wires

2.2 PMC-2SHDSL expansion card: Connectors

Figure 2 shows the front board of the PMC-2SHDSL card:

Fig. 2: Front of the PMC-2SHDSL Card

The front board elements are as follows:

Elements Table for the Front of the PMC-2SHDSL Card

Item	Description
A	RJ11 G.SHDSL connector, 4 wires

Chapter 3 Installing the PMC-2SHDSL expansion card

This chapter provides information on how to install and uninstall the PMC-2SHDSL expansion card in the ATLAS routers.

This information includes:

• Requirements prior to installation

• Installing or replacing a PMC-2SHDSL expansion card

3.1 Requirements prior to installation

In order to configure the card, you must have access to the ATLAS router through a console or a Telnet connection. For further information, please see the section on "Connecting for configuration" found in the ATLAS router family installation manuals.

So that the PMC-2SHDSL expansion cards operate properly, you need to load the appropriate firmware file for each card in the router.

If the firmware has not been loaded in the device prior to installing the card, you can determine what firmware file you need.

3.1.1 Determining the firmware file

We have two options to determine the firmware file needed for the installed PMC card:

3.1.1.1 FTP "quote site listfirmwares" command

The FTP command "**quote site listfirmwares**" returns a list containing the names of the firmware files needed so the device operates correctly:

```
ftp> quote site listfirmwares
211 fw00000d.bfw
ftp>
```

3.1.1.2 The "system firmwares-required" Monitoring command

The "**system firmwares-required**" monitoring command displays the same information as the previous command but in the local console:

```
+system firmwares-required

List of required firmwares for detected hardware
----------------------------------------------
   Filename                       Description
-------------- -------------------------------------------------
 fw00000d.bfw   Conexant Orion SHDSL
+
```

Once the necessary firmware file has been detected, you need to load it in the device through a FTP connection.

For further information on how to load firmware files in the router, please see manual *"Teldat-Dm748-I Software Updating".*

3.2 Installing or replacing the PMC-2SHDSL expansion card

To install or replace a PMC-2SHDSL card, please see the PMC cards installation generic manual corresponding to the ATLAS router model where the installation is being carried out.

Chapter 4 LEDs and connector Pinouts: Description

This chapter provides information on the PMC-2SHDSL expansion card LEDs and the pinouts for its connector.

4.1 PMC-2SHDSL expansion card: LEDs

The PMC-2SHDSL expansion card doesn't have any LEDs of its own.

4.2 Connector Pinouts

The PMC-2SHDSL expansion card has one RJ-11 connector.

4.2.1 RJ-11 Connector

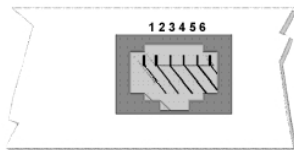The following figure shows the RJ-11 connector pinouts.

Fig. 3: Figure 3. RJ-11 Connector Pinouts

The following tables display the information associated to each connector pinout, depending on the selected option:

Option 1 Pinouts

RJ-11 pinouts	Signal
1	RING2
2	TIP2
3	TIP1
4	RING1
5	--
6	--

Option 2 Pinouts

RJ-11 pinouts	Signal
1	--
2	TIP2
3	TIP1
4	RING1
5	RING2
6	--

We recommend you at the very least use a 26 AWG cable. This may be supplied with the card itself or described in the safety instructions.

> **Warning**
>
> To reduce the risk of fire, only use a 26 AWG cable or a cable with a larger diameter.

Appendix A Regulatory compliance and safety information

A.1 Translated Safety Warnings

⚠️	To reduce the risk of fire, only use a 26 AWG cable or a cable with a larger diameter.
	Чтобы снизить риск воспламенения, используйте только кабель 26 AWG или кабель большего диаметра.
	Pour réduire le risque d'incendie, utilisez uniquement un câble 26 AWG ou de diamètre plus grand.
	Para reducir el riesgo de incendio, utilice sólo un cable 26 AWG o de un diámetro mayor

A.2 Compliance

A.2.1 FCC Statement

A.2.1.1 Federal Communications Commission Interference

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

A.2.2 IC Statement

A.2.2.1 CAN ICES-3 (A)/NMB-3(A)

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par le ministère des Communications.