



## PMC VoIP 2 BRI Expansion card

Teldat-Dm 603-I

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## **Legal Notice**

### **Warranty**

This publication is subject to change.

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# Table of Contents

Chapter 1	About This Guide . . . . .	1
1.1	Supported Devices . . . . .	1
1.2	Warnings and notes. . . . .	1
1.3	Who should read this manual? . . . . .	1
1.4	What is in this manual? . . . . .	1
1.5	How is the information organized? . . . . .	1
1.6	Technical Support . . . . .	1
1.7	Related documentation . . . . .	2
Chapter 2	PMC-2BRI expansion card . . . . .	3
2.1	PMC-2BRI expansion card with bypass . . . . .	3
2.2	PMC-2BRI expansion card with bypass: Characteristics . . . . .	3
2.3	PMC-2BRI expansion card with bypass: Connectors . . . . .	3
Chapter 3	Installing the PMC-2BRI expansion card . . . . .	5
3.1	Requirements prior to installation . . . . .	5
3.1.1	Determining the firmware file . . . . .	5
3.2	Installing or replacing the PMC-2BRI expansion card . . . . .	5
Chapter 4	LEDs and connector Pinouts: Description . . . . .	6
4.1	PMC-2BRI expansion card with bypass: LEDs . . . . .	6
4.2	Connector Pinouts . . . . .	6
4.2.1	RJ-45 Connector . . . . .	6
Appendix A	Regulatory compliance and safety information . . . . .	8
A.1	Translated Safety Warnings . . . . .	8
A.2	Compliance . . . . .	8
A.2.1	FCC Statement. . . . .	8
A.2.2	IC Statement. . . . .	8



## Chapter 1 About This Guide

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

### 1.1 Supported Devices

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

### 1.2 Warnings 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-2BRI expansion card.
- Description of the steps to carry out to install the PMC-2BRI card in the ATLAS routers.
- Description of the PMC-2BRI 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-2BRI expansion card in the ATLAS router family.

- PMC-2BRI expansion card characteristics.
- PMC-2BRI expansion card connectors.
- Requirements prior to installation.
- Installing the PMC-2BRI expansion card.

### 1.6 Technical Support

Teldat SA offers a technical support service.

Contact information:

Web: <http://www.teldat.com>

Tel.: +34 918 076 565

Fax: +34 918 076 566

Email: [support@teldat.com](mailto:support@teldat.com)

## 1.7 Related documentation

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

Teldat-Dm748-I *Software Updating*.

Teldat-Dm770-I *VoIP Interfaces*.

ATLAS router family installation manuals.

**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-2BRI expansion card

The BRI ISDN interface is a digital interface permitting you to establish two calls over a physical interface at 64 Kbps. The calls can be either audio or data.

### 2.1 PMC-2BRI expansion card with bypass

This card contains 2 independent basic accesses (2B+D) with an S/T interface to be used in audio calls. From a behavior point of view, both interfaces can independently operate in TE mode or NT mode; in cases of TE, these can operate by requesting TEI from the network entity or with TEI 0; in cases of NT, these only operate with TEI 0. TE mode does not provide any power so it is not possible to supply power to the terminals. By default, this operates in TE mode.

For further information on VoIP interfaces, please see manual *“Teldat-Dm770-I VoIP Interfaces”*.



Fig. 1: PMC-2BRI Card with bypass

### 2.2 PMC-2BRI expansion card with bypass: Characteristics

The main characteristics of the PMC-2BRI expansion card with bypass are as follows:

#### PMC-2BRI Card with bypass: Characteristics

Ports	<ul style="list-style-type: none"> <li>• 2 ISDN ports (4 conversations)</li> <li>• 1 port for BRI bypass</li> </ul>
Standards	ITU-T <ul style="list-style-type: none"> <li>• G.711</li> <li>• G.729A</li> <li>• G.723.1</li> </ul>
Operating modes	<ul style="list-style-type: none"> <li>• NT (network mode)</li> <li>• TE (user mode)</li> </ul>
Channels	4 simultaneous voice channels with any codec
Speed	256 Kbps (with Multilink PPP)
Other	Silence detection

### 2.3 PMC-2BRI expansion card with bypass: Connectors

Figure 2 shows the front board of the PMC-2BRI card with bypass:

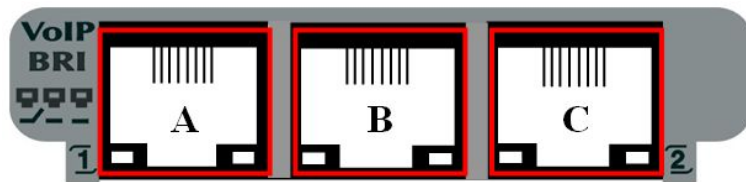


Fig. 2: Front of the PMC-2BRI Card with bypass

The front board elements are as follows:

**Elements Table for the Front of the PMC-2BRI card with bypass**

Item	Description
A,C	1,2. Basic Access RJ-45 connectors for voice transmission
B	RJ-45 bypass connector associated to connector 1.

As you can see in Figure 2, there is a bypass connector between the both basic access connectors, which is associated to line 1. In the serigraphy, the bypass is indicated by the symbol. This bypass is active when the device is switched off.

Regarding the wiring to be used, this should be a direct wire, both for the basic access connectors as well as for the bypass connector, for both NT and TE mode.



## Chapter 3 Installing the PMC-2BRI expansion card

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

This information includes:

- Requirements prior to installation
- Installing or replacing a PMC-2BRI 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 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 fw00000X.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
-----
fw00000X.bfw           VoIP Audiocodes ACXXXX v.xxxx
+
```

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-2BRI expansion card

To install or replace a PMC-2BRI 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-2BRI expansion card LEDs and the pinouts for its connector.

### 4.1 PMC-2BRI expansion card with bypass: LEDs

The PMC-2BRI expansion card has two LEDs in each one of its connectors:

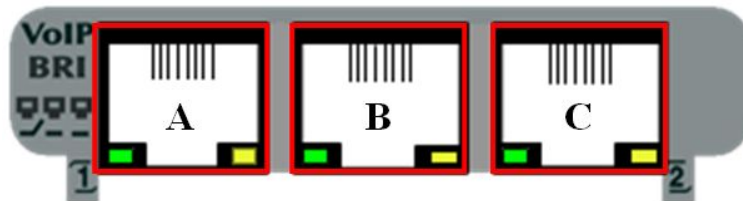


Fig. 3: PMC-2BRI Card with bypass: Leds

#### Leds Table for the PMC-2BRI Card with bypass

Connector	LED	Description
A	Green	This lights up when the physical layer is active (UP)
	Yellow	Not currently used
B	Green	Not currently used
	Yellow	Not currently used
C	Green	This lights up when the physical layer is active (UP)
	Yellow	Not currently used

### 4.2 Connector Pinouts

The PMC-2BRI expansion card has 3 RJ-45 connectors:

#### 4.2.1 RJ-45 Connector

The following figure shows the PMC-2BRI expansion card RJ-45 connector pinouts. The three connectors are the same, consequently only one image is shown:

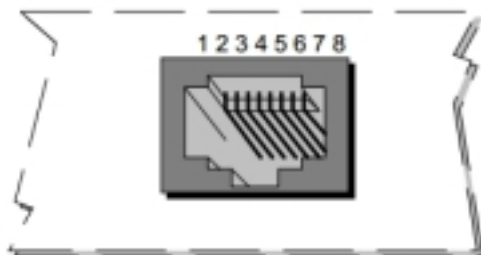


Fig. 4: RJ-45 connector Pinouts

Next table shows the information associated to each connector pinout:

#### RJ-45 connector Pinouts

RJ-45 pinouts	Signal
1	--
2	--

3	Tx+
4	Rx+
5	Rx-
6	Tx-
7	--
8	--

**Note**

Internally, depending on the operating mode, network or terminal, the wires are crossed so externally direct wiring can be used.

The bypass connector internally crosses the transmission and reception pins facing basic access 1, so that externally the wiring can be directly used.


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.
	Русский: 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.*