TBC1 VoIP PRI card

Teldat Dm678-I

Legal Notice

Warranty

This publication is subject to change.

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

Teldat 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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Chapter 1 About This Guide

This installation guide contains the step by step instructions you need to follow to correctly install, uninstall and replace the TBC1-VOIP-PRI expansion card in the Teldat M/iM/Atlas-i70 routers family.

1.1 Supported Devices

The information contained in this installation guide only applies to the TBC1-VOIP-PRI 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 TBC1-VOIP-PRI expansion card.
- Description of the steps that need to be carried out to install the TBC1-VOIP-PRI expansion card in the Teldat M/iM/Atlas-i70 routers.
- Description of the TBC1-VOIP-PRI expansion card LEDs and connector pinouts.

1.5 How is the information organized?

This document aims to provide all the information necessary for installing the TBC1-VOIP-PRI expansion card in the Teldat M/iM/Atlas-i70 router family.

- TBC1-VOIP-PRI expansion card characteristics.
- TBC1-VOIP-PRI expansion card connectors.
- Requirements prior to installation.
- Installing the TBC1-VOIP-PRI 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

1.7 Related documentation

Teldat-Dm748-I *Software Updating*.

Teldat-Dm770-I *VoIP Interfaces.*

Teldat-Dm569-I *M1 Installation.*

Teldat-Dm649-I *iM8 Installation.*

Teldat-Dm667-I *Atlas-i70 Installation.*

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.

Chapter 2 TBC1-VOIP-PRI expansion card

The PRI ISDN interface is a digital interface that allows you to establish multiple calls over a physical interface, at a rate of 64 or 56 Kbps. The number of calls depends partly on the type of interface (up to 30 calls over an E1 interface and up to 23 for a T1 interface) and partly on the number of time-slots reserved for the calls.

The TBC1-VOIP-PRI expansion card contains a primary access. From a behavioral viewpoint, it can operate as E1 with ITU-T Q.931 (both in user and network formats), QSIG and R2 signaling. Only audio calls are supported.

By default, the interface is configured to operate as E1 without specifying any signaling or the number of channels assigned to calls.

Note

T1 interfaces are currently not supported for this type of card.

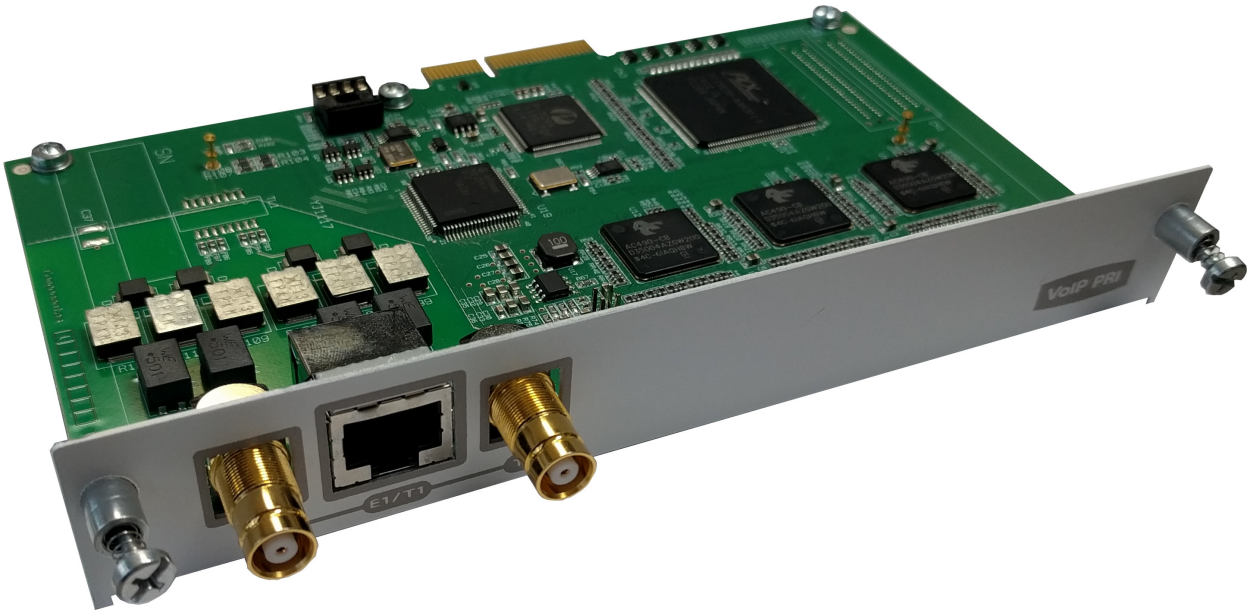

Fig. 1: TBC1-VOIP-PRI Expansion Card

2.1 TBC1-VOIP-PRIexpansion card: Characteristics

The main characteristics of the TBC1-VOIP-PRI expansion card are as follows:

TBC1-VOIP-PRI Card: Characteristics

Ports	• 1 RJ-45 port. • 2 coaxial connectors (depending on the type of card).
Standards	ITU-T • G.711 • G.729A • G.723.1
Channels	30 simultaneous voice channels with any codec.
Speed	2 Mbps duplex.
Other characteristics	• Echo cancellation. • Silence detection. • DTMF detection (*"Dual-Tone Multi-Frequency").* • Includes all the necessary codec chips.

2.2 TBC1-VOIP-PRI expansion card: Connectors

Figure 2shows the front board of the two types of TBC1-VOIP-PRI cards:

Fig. 2: Front of the TBC1-VOIP-PRI cards

The front board elements are as follows:

Elements Table for the Front of the TBC1-VOIP-PRI ExpansionCard

Item	Description
A	E1/T1. RJ45 connector.
B	E1/T1. Rx, coaxial connector for reception.
C	E1/T1. Tx, coaxial connector for transmission.

Chapter 3 Installing the TBC1-VOIP-PRI expansion card

This chapter provides information on how to install and uninstall the TBC1-VOIP-PRI expansion card in the routers.

This information includes:

- Requirements prior to installation.
- Instructions on how to install or replace a TBC1-VOIP-PRI expansion card.

3.1 Requirements prior to installation

To configure the card, you must be able to access the router through a console or a Telnet connection. For further information, please see the section on “Connecting for configuration” found in the router installation manuals.

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

3.1.1 Determining the firmware file

There are two options to determine the firmware file needed for the card installed:

3.1.1.1 FTP “quote site listfirmwares” command

The FTP command **quote site listfirmwares** returns a list with the names of the firmware files needed for the device to operate properly:

```
ftp> quote site listfirmwares
211 fw00000X.bfw
ftp>
```

3.1.1.2 The “system firmwares-required” Monitoring command

The **system firmwares-required** (monitoring menu) 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, load it in the device through an FTP connection.

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

3.2 Installing or replacing the TBC1-VOIP-PRI expansion card

To install or replace a TBC1-VOIP-PRI card, please see the "Expansion Slot" section found in the *Teldat Dm569-I M1 Installation*, *Teldat Dm649-I iM8 Installation* or *Teldat Dm667-I Atlas i70 Installation* manuals.

Chapter 4 LEDs and connector Pinouts: Description

This chapter provides information on the TBC1-VOIP-PRI expansion card LEDs and connector pinouts.

4.1 TBC1-VOIP-PRI expansion card: LEDs

The TBC1-VOIP-PRI expansion card doesn't have any LEDs of its own.

4.2 Connector Pinouts

The TBC1-VOIP-PRI expansion card is equipped with an RJ-45 connector or with one RJ-45 and two coaxial connectors.

4.2.1 RJ-45 Connector

The following figure shows the RJ-45 connector pinouts. This component is normally used in balanced connections with an impedance of 120 Ohms.

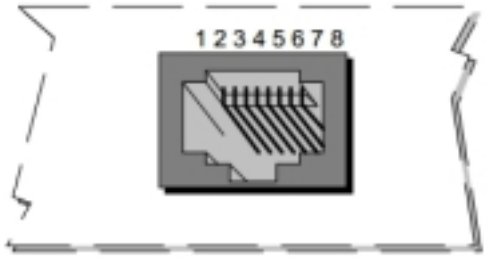

Fig. 3: RJ-45 connector pinouts

Table 3 shows the information associated to each connector pinout:
RJ-45 connector pinouts

RJ-45 pinouts	Signal
1	Rx+
2	Rx-
3	--
4	Tx+
5	Tx-
6	--
7	--
8	--

From the card's point of view, TX signals are considered outgoing and RX signals incoming.

We recommend that you use a 26 AWG cable, at the very least. This may be supplied with the card itself or be 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.

Note

The RJ45 to BNC adapter cable cannot be used together with this card.

4.2.2 Coaxial connector

This is normally used in unbalanced connections with an impedance of 75 Ohms.

Appendix A Regulatory compliance and safety information

A.1 Manufacturer Information

Brand	Teldat
Manufacturer	Teldat S.A.
Country	Spain
Postal Address	Isacc Newton, 10 Parque Tecnológico de Madrid, 28760 Tres Cantos, Madid, Spain
International Phone	+34 91 807 65 65

A.2 Translated Safety Warnings

	To reduce the risk of fire, only use a 26 AWG cable or a cable with a larger diameter.
	Um das Brandrisiko zu verringern, verwenden Sie nur Kabel mit einem Durchmesser von 26 AWG oder größer.
	Para reducir el riesgo de incendio, utilice sólo un cable 26 AWG o de un diámetro mayor.
	To make sure the immunity levels set forth under ITU-T recommendation K.21 are complied with, this card must be installed in routers with an earthing connection or, failing this, in those with primary protection.
	Um sicherzustellen, dass die in der ITU-T-Empfehlung K.21 festgelegten Stufen der Störsicherheit eingehalten werden, muss diese Karte in Routern mit einem Erdungsanschluss oder andernfalls mit einem Hauptschutz installiert werden.
	Para asegurar el cumplimiento de los niveles de inmunidad descritos por la recomendación ITU-T K.21, esta tarjeta deberá instalarse en routers dotados de toma de tierra o, en su defecto, en una instalación con protección primaria.

A.3 WEEE Information

The waste container symbol with the >X< indicates that the device must be disposed of separately from normal domestic waste at an appropriate waste disposal facility at the end of its useful service life.

Das auf dem Gerät befindliche Symbol mit dem durchgekreuzten Müllcontainerbedeutet, dass das Gerät am Ende der Nutzungsdauer bei den hierfür vorgesehenenEntsorgungsstellen getrennt vom normalen Hausmüll zu entsorgen ist.

El símbolo del contenedor con la cruz, que se encuentra en el aparato, significa que cuando el equipo haya llegado al final de su vida útil, deberá ser llevado a los centros de recogida previstos, y que su tratamiento debe estar separado del de los residuos urbanos.

A.4 REACH

In compliance with the REACH Candidate List, the delivered product and product packaging do not contain chemical substances above a concentration limit of 0.1% weight by weight (w/w). This declaration will be updated whenever any changes occur or other chemical substances are added to the REACH Candidate List. Information is currently provided to consumers upon request.

A.5 EC Declaration of Conformity

English (EN)	This equipment is in compliance with the essential requirements and other relevant provisions of: Directive 2014/30/EU (EMC) Directive 2014/35/EU (LVD) Directive 2011/65/EU (RoHS) of the European Parliament
Spanish (ES) Español	Este dispositivo cumple con los requisitos esenciales y con las normas correspondientes de las siguientes directivas: Directiva 2014/30/UE (EMC) Directiva 2014/35/UE (LVD) Directiva 2011/65/UE (RoHS) del Parlamento Europeo
German (DE) Deutsch	Dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 2014/30/UE (EMC) Richtlinie 2014/35/UE (LVD) Richtlinie 2011/65/UE (RoHS) des Europäischen Parlaments.

The EC declaration of conformity and additional product documentation can be accessed here:
www.teldat.com/conformity

A.6 CE Marking

This equipment is in conformity with the CE procedures and marking.