

Tau-PCI-E3 Adapter

User Manual



Adapter Tau-PCI-E3

Specifications

- Distance up to 440 m
- One interface G.703.8
34.368 Mbps (E3)
- Full duplex synchronous mode
- Built-in BER tester
- PCI bus, master mode

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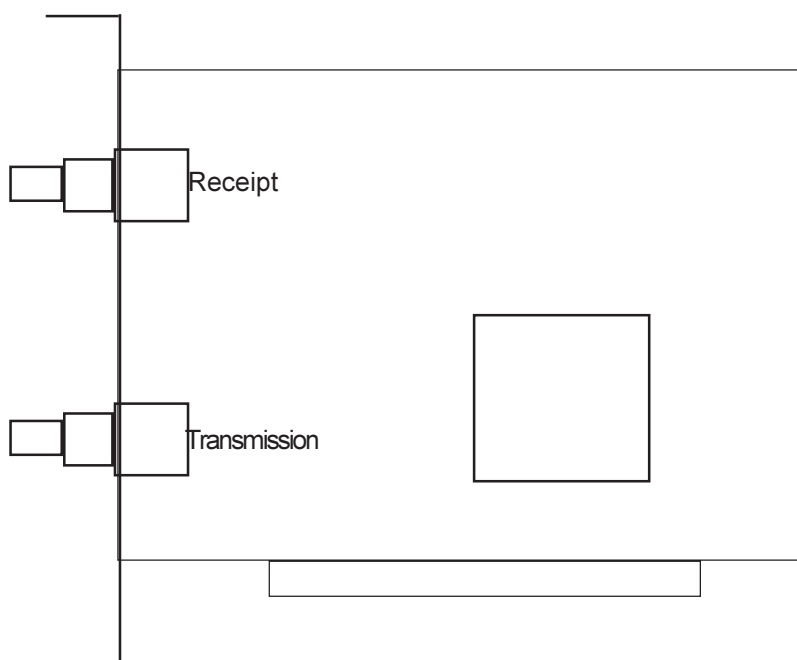
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Technical Specifications

Bus type	PCI 33 MHz/32 бит
Synchronous protocol	HDLC
Supported protocols	PPP, Cisco/HDLC, Frame Relay
Operating systems	Linux, FreeBSD, Windows 2000/XP
Card dimensions	Height 107 mm, width 140 mm

G703 Interface

Data rate	34.368 Mbps
Line code	HDB3
Line impedance	75 Ohm (coaxial)
Receive signal attenuation range	from 0 to -15 dB (up to 440 m)
BER-tester	2e23-1 pseudorandom bit sequence
Error detection	Code violation

Description

Tau-PCI-E3 family multiplexers are designed to be used in Intel-compatible computers with PCI bus for the computer direct connection to G.703.8 (E3) communications channels.

Tau-PCI-E3 multiplexer implements HDLC synchronous protocol. The data is transferred over the direct memory access channel in the master mode, which ensures efficient utilization of the computer input/output bus.

The adapter is supplied with Linux, FreeBSD and MS Windows 2000 drivers. The Driver Development Kit is available for special-purpose software developers. The latest software versions are available at www.cronyx.ru.

Models

The multiplexer is manufactured in several versions:

- Tau-PCI-E3 - one E3 channel (34.368 Mbps, 75 Ohm cable up to 440 m)
- Tau-PCI-E3 - one E3 channel (44.736 Mbps, 75 Ohm cable up to 440 m)
- Tau-PCI-STS1 - one STS-1 channel (51.84 Mbps, 75 Ohm cable up to 440 m)

Check List

The complete package consists of:

- Tau-PCI-E3 adapter card
- Two diskettes or a CD with software
- User manual

Note: the interface cables are not included into the package and shall be purchased separately.

Adapter Installation

Make sure that your computer power supply unit has adequate power reserve for an additional card installation.

- Make sure that computer is turned off!
- Remove the chassis cover, find free PCI slot and remove the corresponding bracker on the rear side of the chassis.
- Insert the multiplexer into the slot as far as it goes and screw it to the chassis rear side.
- Put the chassis cover back in place.
- Connect the communication equipment using appropriate cables (not included into the delivery set).

G.703 Line Protection

The data lines can be subject to pulse interference from electrostatic and lightning discharges or other sources. If you use long lines extending beyond one building it is recommended to use special protection devices (Communication Line Surge Suppressors), which shall be located in close vicinity to a computer.

Adapter Testing

- Boot up the computer from the diskette labeled as "Diag (Boot)" DIAG utility will be started automatically after boot up, it will search for the adaptors installed.
- Select "General Test" from "Test" menu. The main adapter data circuits will be checked (bus test) and then the internal testing of all channels will be started.

The testing shall be error-free (a few CRC errors are allowed in the beginning of the test due to synchronization tuning).

- To check the external signal circuits, go to "Channel" menu, select appropriate channel number (line "Select Channel" ...), connect an external contactor to the selected channel slot

and start the test with external loopback (External Loopback line).

- In case the connected communication equipment supports the loopback mode it can be used instead of the short-circuit to check the cable. For this purpose switch the external equipment to the loopback mode and start the channel testing with external loopback ("Channel" menu, "External Loopback" line).
- The synchronization mode, rate, test data type etc. can be changed from "Setup" menu. Use "Channel", "Adapter" and "Test" menus to test individual channel, all channels of one adapter (for multi-channel adapters) or all adapters simultaneously.

is started, e.g. from /etc/rc file and is not modified thereafter. Full sconfig utility description is included into the supplied software package, see "man sconfig".

Channels configuration in Linux OS

Sconfig utility is used to set the Tau-PCI adapter channels modes in Linux OS. Use the samples supplied in the distribution kit to create the command file that sets the channels operation modes when the operating system is started. The sconfig help can be retrieved using the command:

```
sconfig help
```

Software Installation

The first diskette supplied with the adapter is bootable and it is used to test the adapter. The second floppy disk contains the Linux and FreeBSD drivers.

Driver installation in FreeBSD and Linux OS

FreeBSD and Linux drivers are recorded on the second diskette. Readme.txt file contains the full list of drivers. You can use "mread" utility (mtools package) to read the files from the diskette. Use "tar" utility to extract the files. For example:

```
mread a:linx30.tgz .  
tar xvzf linx30.rgz
```

Install the extracted driver following the instructions in readme file (or instal-r.txt).

Channels configuration in FreeBSD OS

Sconfig utility is used to set the channels modes. Usually the modes are set when the operating system