

T1 Channel Bank FXS and FXO

Providing reliable, flexible, and leading-edge solutions for a demanding telecommunications industry, including the Asterisk community



Managing your telecommunication needs has never been easier than with Rhino products. Rhino satisfies the needs of any T1 channel bank application, no matter how stringent the requirement. Unique Rhino features like real-time T1 status on our four line by 40 character (4x40) LCD display, or automatic, hands-off configuration utilizing artificial intelligence software, and crystal clear audio quality proves that Rhino products are in a top class of their own. Knowing that the Rhino is ready to perform means that you can spend more time developing important customer relationships.

Rhino Equipment Corp. offers you a complete line of low cost T1 channel banks including FXS, FXO, or mixed mode FXS/FXO analog interfaces. As a bonus, every system comes with our standard fractional V.35 data port. Add the Rhino modular, internal power supply system to the list and Rhino crushes the competition.

Using Asterisk? Rhino channel banks allow you to utilize analog phones and wiring in conjunction with leading-edge Asterisk technology -- without having to buy expensive IP telephones. Why go IP when you can save on installations by using your existing wiring? With Rhino you can use lower cost analog phones with digital features and get guaranteed T1 voice quality, all while enjoying Asterisk VoIP technology for off-premise connectivity.

Rhino products are tough. In the rare case of trouble, our technical support staff is ready to give you the support you need, when you need it. Our 5-year, limited warranty means that you can be confident that Rhino will always work hard in your T1 application.

Rhino Equipment Corp.

T1 Channel Bank Specifications



Features

- Asterisk* soft PBX tested and ready!
- 4x40 LCD real-time status display shows independent AB bit signaling
- Automatic T1 configuration using artificial intelligence software, no configuration switches
- CSU auto detects T1 modes: D4 or ESF, AMI or B8ZS
- T1 CSU via RJ48C, with line buildout programmability
- Internal power supply module, no external components
- FLASH based system configuration
- V.35 fractional data interface, user selectable to 56K or 64K
- Self diagnostics, verbose error reporting, loopback modes
- Single channel configuration, each channel may have a different analog start mode, signaling protocol, line current, or gain
- Telco network uptime and downtime for T1 history
- Remote connection via RS-232c or Ethernet (optional) via Windows based graphical user interface
- Field software upgradable
- 19", 23" or wall mounting kit standard
- T1 and analog cables included
- Immediate, Wink, Loop, Ground, RevPol (Loop), and three DID start protocols
- Distinctive ring in Loop start mode
- Caller ID enabled in Loop start mode
- Low cost fully populated FXS, fully populated FXO, or modular FXS/FXO mixed mode capable
- 110V AC, 220V AC and -48V DC modular power supply models
- 5-year limited warranty

Benefits

Rhino Equipment Corp. channel banks provide a flexible and reliable product line that can satisfy any T1 need. Our products will beat your expectations, or your money back - guaranteed.

T1 CSU

All Rhino channel banks feature a single CSU that is software controlled, software programmable and will self configure to the proper mode right out of the box.

Analog Interfaces

The Rhino channel bank provides either FXS or FXO analog interfaces, both with digital technology that utilizes a dedicated Digital Signal Processor (DSP) for monitoring real-time line characteristics.

- **FXS** - The Rhino FXS analog interface provides standard battery and ringing voltages to each of up to 24 loop or ground start analog channels.

Each channel provides:

- Digital DSP
- Echo cancellation
- Line current limit from 18ma to 45ma
- Tx and Rx gain control of -5db to +6db
- Power down control from 1 to 3 secs.
- Ring cadence control

- **FXO** - The Rhino FXO analog interface requires a standard POTs analog telephone line up to 24 inputs

Each channel provides:

- Digital DSP
- Dynamic impedance matching
- Tx and Rx gain control of -15db to +12db
- Ring cadence monitoring timer

- **FXS/FXO Modules** - The modular Rhino channel bank can be ordered with four to 24 channels of either FXS or FXO analog channels installed in increments of four channels up to six modules. When using the Rhino in fractional T1 applications, there is no need to install a 4-channel analog card in those slot positions.

Rhino Models

- **CB24-FXS-110V** - T1, 24 FXS analog channels, 110VAC
- **CB24-FXS-220V** - T1, 24 FXS analog channels, 220VAC
- **CB24-FXS-48V** - T1, 24 FXS analog channels, -48VDC

- **CB24-FXO-110V** - T1, 24 FXO analog channels, 110VAC
- **CB24-FXO-220V** - T1, 24 FXO analog channels, 220VAC
- **CB24-FXO-48V** - T1, 24 FXO analog channels, -48VDC

- **CB24-MOD-110V** - T1, 4-24 FXS/FXO analog channels, 110VAC
- **CB24-MOD-220V** - T1, 4-24 FXS/FXO analog channels, 220VAC
- **CB24-MOD-48V** - T1, 4-24 FXS/FXO analog channels, -48VDC

All Rhino channel banks come in 110VAC, 220VAC or -48V DC models. The internal power supply module can be easily swapped.

Size: 3.5" tall (2U), 17" wide and 8.5" deep

Weight: 12 pounds maximum

Rhino Equipment Corp. is proud to manufacture our products in the U.S.A..

Specifications are subject to change without notice.

© 2004, 2005 Rhino Equipment Corp. All rights reserved. Printed in U S America 8/2005