



## High Performance V.34 Intelligent Fax Boards with Real-Time Fax Over IP

Brooktrout Technology is the market leader in intelligent fax technology, having pioneered the network fax market in 1987. The TR1034™ series is the latest generation of intelligent fax boards from Brooktrout Technology, and offers enterprise customers a line of high performance 33.6 Kbps intelligent fax boards with real-time fax over IP capabilities for a variety of computer-based fax applications, such as network fax, fax broadcast, unified messaging, and business process automation.

The TR1034 series delivers the ultimate in flexibility, offering support for both IP and PSTN network connectivity. For IP network connectivity, the TR1034 digital T1/E1 offers an additional Ethernet interface and supports real-time fax over IP via the T.38 protocol and SIP call control. Brooktrout's TR1034 has been tested with fax over IP equipment from industry leading providers, including Cisco T.38 gateways, to ensure interoperability.

For PSTN-based faxing, the TR1034 is offered in a variety of analog, BRI and PRI configurations, compatible with all 33 MHz and 66 MHz PCI slots. For customers requiring a medium or low density fax solution, the TR1034 is available in 2, 4 and 8 channel analog and 2 and 4 BRI channels. For higher density PRI fax solutions, the TR1034 is available in 4, 8, 16, or 24 channel configurations for T1/PRI, or 4, 8, 10, 16, 20 or 30 channel configurations for E1/PRI. The TR1034 series, provides endusers the ultimate in choice for implementing either a PSTN or IP based network fax solution, depending on their IT requirements.

Developers can create fax applications using the Brooktrout Technology Fax and Voice Application Programming Interface (Bfv API), a powerful tool for sophisticated application development. High-level functions permit programmers to quickly create applications. Lower level functions permit direct interactions with individual elements of fax and voice calls.

Brooktrout Technology offers the Technology Expansion Capability (TEC), the industry's first software-based expansion capability for the TR1034 fractional T1/E1 Series. These TEC-enabled boards allow customers to increase channel densities on their existing fractional T1/E1 TR1034 to 8,10,16 or 24 channels of T1 fax or 8, 10, 16, 20 or 30 channels of E1 fax simply by downloading and installing a software license key.

The TR1034 intelligent fax board has all the renowned functionality that has made Brooktrout the leading provider of intelligent fax boards such as Brooktrout's Adaptive Call Progress, Error Correction Mode, MMR fax compression, and 1200x1200 resolution, the highest fax resolution support available on the market today and real-time fax over IP support. The TR1034 also offers additional capabilities and value with 33.6 Kbps transmission rates in TDM mode. The TR1034 sends and receives faxes up to 33.6 Kbps based on the V.34 fax standard. Not only can the TR1034 process fax at twice the speed of 14.4 Kbps fax boards, it also supports V.8 fast handshaking, which can cut call setup and session-management time by one-third. In the end, a fax document that takes 1 minute with a 14.4K intelligent fax board can now be sent in less than 30 seconds with the TR1034. The TR1034 board delivers unmatched call completion at the fastest possible connection rates across a wide variety of fax machines and line conditions. When connected to an IP network the TR1034 T1/E1 PRI can send and receive faxes in real-time and interface directly with the leading IP-PBXs in the market today.

### Target Applications

- Network Fax
- Broadcast Fax
- Production Fax
- Customer Relationship Management
- Business Process Automation
- Unified Messaging
- Fax On Demand

# TR1034 Specifications

## HARDWARE

### Analog Platform

- CPU: PowerPC 8241 @ 200MHz
- DSPs: 2 TI C5402 (123 MIPS total)
- Media channels: Up to 8 V.34 fax and voice
- Telephone interface and signaling: RJ11, Loop Start; RJ45-to-(4)RJ11 interface cable supplied.
- Physical: 4.2" x 12.283"; full-size 33MHz PCI 2.2 Universal card (3.3/5V signaling)
- Power: 6W

### BRI Platform

- CPU: PowerPC 8241 @ 200MHz
- DSP: TI C5402 (61 MIPS total)
- Media channels: Up to 4 V.34 fax and voice
- Network interface: 1 or 2 BRI
- Signaling: ISDN BRI, Euro, Japan
- Physical: 4.2" x 6.875"; half-size 33MHz PCI 2.2 Universal card (3.3/5V signaling)
- Power: 5W

### T1/E1 Platform

- CPU: PowerPC 8240 @ 200MHz
- DSPs: Up to 6 TI C549 (600 MIPS total)
- Network interface: One T1/E1 interface (RJ48C), DSX-1 (requires CSU)
- Ethernet interface: 1 10/100 MB interface
- Signaling
  - ISDN PRI: N.A., Euro ISDN
  - T1 CAS: RBS E&M (wink and immediate)
  - E1 CAS: Configurable MFC R2 support
  - SIP
- Media channels: Up to 30 V.34 fax and voice
- Telephony Bus: ECTF H.100; MVIP-90, and SCbus (via bus adapter)
- Physical: 4.2" x 12.283"; full-size 33MHz PCI 2.2 Universal PCI (3.3/5V signaling)
- Power: 17W max

## ENVIRONMENTAL

- Operating temperature: 0°C-50°C
- Humidity: 10%-95% non-condensing

## FAX

- ITU T.30; ITU T.38; Group 3
- V.17, V.23, V.29, V.27ter, V.21, V.34 modulation
- Up to 33.6Kbps with auto fallback
- Normal and fine resolution: 100x200, 200x200
- Additional Resolutions
  - 200x400, 300x300, 300x600, 400x800, 400x400, 600x600, 600x1200, 1200x1200
  - 100x100, 300x300, 400x400, 600x600, 1200x1200 Color/Grayscale pass through
- MH, MR, MMR compression
- On-board image conversion
- A4, A3 and B4 page sizes with scaling
- A4 and B4 TIFF F file widths
- Enhanced ASCII conversion support with headers
- Image pass-through: Color fax T.42 (JPEG), JBIG T.85 (B/W), T.43 (color)
- Error Correction Mode (ECM)
- Line error detection/repeat good line

Brooktrout Technology is a leading supplier of media processing, network interface, call control and signal processing products that enable the development of applications, systems and services for both the New Network™ (packet-based) and the traditional telephone (TDM) network. Our strategy is to partner with our customers and collaborate closely with them to help accelerate their delivery of new applications and services, increase their existing business, and expand into new markets.

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3/05 TR1034

## Features and Benefits

- **Low, Medium, or High-Density Fax Platform with V.34 33.6 Kbps Fax Transmission Rates:** Increases performance and lowers cost of ownership.
- **Universal PCI Support:** Allows operation in both 3.3 and 5.0-volt PCI slots.
- **Windows GUI Installation:** All new graphical configuration tool allows end-users to easily install and configure their intelligent fax board.
- **Scalable Fax Platform Offering Range of Channels to Suit Budget and Need:** Available in 2, 4 and 8 analog channels; 2 and 4 BRI channels; 4, 8, 16, and 24 T1/PRI; 4, 8, 10, 16, 20 and 30 E1/PRI channels.
- **Real-Time Fax over IP Capability:** Start with TDM based faxing and move to IP when your IT decision dictates.
- **Easily Increase Capacity:** The TEC Enabled-TR1034 fractional T1/E1 allows customers to expand their fractional TR1034 cards up to 24 or 30 channels as their fax requirements grow by installing and downloading a software license key.
- **Onboard T1/E1 and Ethernet Interface:** Simplifies installation, minimizes space requirements for a small footprint, and gives customers the flexibility to choose between IP or TDM LAN fax solutions.
- **Market Leading Reliability with Adaptive Call Progress:** Ensures high connectivity rates and transmissions speeds across wide variety of fax machines and line conditions.
- **On Board Image Conversion:** Off-loads processing from the host.
- **MH, MR, MMR Fax Compression:** Reduces transmission time.
- **T.38 Protocol and SIP Call Control Support**
- **Error Correction Mode (ECM):** Provides reliable and fast transmissions.
- **Highest Fax Resolution Available on the Market Today - 1200x1200:** Increases document readability and produces clearer images.

## VOICE PROCESSING

- 64Kbps G.711 PCM  $\mu$ -law and A-law PCM
- OKI ADPCM at 6KHz & 8KHz sample rates
- 11KHz 8/16 bit .WAV; 8KHz 16 bit .WAV
- DTMF/MF/Special Information Tone (SIT) detection
- Playback volume control, pitch corrected speed control
- Silence compression

## CALL PROGRESS AND CALL CONTROL

- International call progress and tone detection
- Programmable tone and cadence detection/generation
- CED, CNG, v.21 modem detection
- ANI/DNIS DTMF and MF detection

## OPERATING SYSTEMS

- Windows 2000 Server, 2003 Server and XP Professional
- Solaris SPARC 9 and 10
- Solaris Intel 9 and 10
- Redhat Enterprise Linux AS 3 and Enterprise Linux ES 3\*

## INSTALLATION AND CONFIGURATION

- Windows Plug and Play Compliant
- Windows Graphical Configuration Tool

## MODELS/CONFIGURATIONS

### T1 Interfaces

- TR1034 +P4H-T1-1N, 4 channel fax board
- TR1034 +P8H-T1-1N, 8 channel fax board
- TR1034 +P16H-T1-1N, 16 channel fax board
- TR1034 +P24H-T1-1N, 24 channel fax board

### E1 Interfaces

- TR1034 +P4H-E1-1N, 4 channel fax board
- TR1034 +P8H-E1-1N, 8 channel fax board
- TR1034 +P10H-E1-1N, 10 channel fax board
- TR1034 +P16H-E1-1N, 16 channel fax board
- TR1034 +P20H-E1-1N, 20 channel fax board
- TR1034 +P30H-E1-1N, 30 channel fax board

### Analog Interfaces

- TR1034+P2-2L, 2 channel fax board
- TR1034+P4-4L, 4 channel fax board
- TR1034+P8-8L, 8 channel fax board

### BRI Interfaces

- TR1034+P2-1B, 2 channel fax board
- TR1034+P4-2B, 4 channel fax board

## APPLICATION PROGRAMMING INTERFACE

Brooktrout Fax and Voice (Bfv)

## WARRANTY

Five year hardware warranty. Separate warranty terms apply to software products and custom products. *Extend the standard warranty with Express Exchange Service,\*\* next-day delivery of a replacement fax board.*

## TECHNICAL SUPPORT

The Brooktrout Support Team offers a range of support programs to meet your specialized needs.

\* Supported in upcoming SDK release

\*\* Subject to certain terms and conditions



Brooktrout  
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Your Hook into the New Network®

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