TRxStream™ SERIES

TR2001™

Platform for Real-Time IP Voice and Fax

The TR2001 Series™, a member of the TRxStream Series™ of media resource platforms, supports real-time voice and fax transmission over IP packet data networks. The TR2001 powers voice/fax gateways, as well as new applications such as Internet call-waiting and push-to-talk web-based telephony.

Powerful Standards Based Software

The TR2001 comes with the powerful, field proven SpeechPac™ voice compression software that provides users with multiple industry standard vocoders. SpeechPac supports the ITU standard G.723.1 and G.729a vocoders as well as other popular high performance vocoders. These vocoders are part of a highly integrated compression system that includes echo canceller, DTMF and VAD capability. Vocoders can be selected at the time of the call. Fax calls are handled by the optional FaxRelay real-time fax software that automatically transports fax traffic over the same data network as voice. BTStack323™ is an ITU compliant H.323 V2 protocol stack designed specifically for IP voice and fax gateways.

Scalable, High-Density Design

The TR2001 is offered in both PCI and CompactPCI form factors, in a variety of channel densities. Currently the product supports up to 60 channels in a single slot. The product's on-board microprocessor and efficient drivers allow multiple boards per system; systems are currently deployed supporting up to 236 channels per gateway.

On-Board Network Interfaces

The TR2001 features optional on-board T1/E1 telephone network interfaces based on field-proven Netaccess ISDN technology. They support T1 Robbed Bit Signaling, as well as T1 and E1 Primary Rate ISDN. The on-board network interface dramatically increases system scale and reduces cost by eliminating the need for separate WAN-interface boards.

The Developer's Choice

To speed development, Brooktrout provides the TR2001 Software Developer's Kit. The kit includes SpeechPac voice compression software and FaxRelay, real-time fax over IP software, BTStack323 host software and DSP resource boards as well as sample gateway applications. This kit gives users all the technology elements they need to get a fast start on IP voice and fax gateway development.

Brooktrout Technology®

Your Hook into the New Network™

TRxStream™ SERIES

Features & Benefits

FEATURE	BENEFIT
Standards-compliant	Support for ITU H.323 V2 protocol, and standard vocoders and maximizes interoperability with gateways, gatekeepers and client software.
Protocol flexibility	H.323 V.2 stack provided, along with developer interface for alternate protocols such as SIP, MGCP, or Megaco/H.248
Broad OS support	Support under Windows NT and UNIX operating systems; develop in the environment of your choice.
High-density	Up to 60 channels/board, up to 236 channels/chassis means maximum system scalability
On-board WAN interfaces	Eliminates need for dedicated T1/E1 interface boards, increasing system density and reducing cost
Low power consumption	Boards run cool, reducing system cost and increasing reliability.

Specifications

Hardware Specifications

Processors

CPU Type:	50 MHz PowerPC 401
Local DRAM:	4MB x 32 bits
DSP Type:	TMS320C/54x Series
Quantity:	12 baseboard (CPCI); 6+6 (PCI)
MIPS:	100
Data Word Width:	16 bits
Local SRAM:	32K words internal/128K words external
Shared SRAM:	128K words per 6 DSPs

CompactPCI Platforms

Voice Channels:	
G.723.1, G.729a:	Up to 48 T1 / 60 E1
G.711:	Up to 96 T1 / 120 E1
Sessions:	Up to 48 T1 / 60 E1
Physical:	1 slot 6U Eurocard; NEBS Compliant; Hot-Swappable; Passive Rear I/O
CT Bus: ECTF H.100:	T8105 (Lucent)
TDM Capacity:	4,096 time slots

PCI Platforms

Voice Sessions:	Up to 48 T1 / 60 E1
Fax Sessions:	Up to 24 T1 / 30 E1
Physical:	1 full-size PCI slot
CT Bus: ECTF H.100:	T8105 (Lucent)
TDM Capacity:	4,096 time slots
CT Bus: MVIP-90:	FMIC chip (Mitel 90810)
TDM Capacity:	512 time slots
CT Bus: SCbus:	SC-4000 ASIC (VLSI)
TDM Capacity:	512 full-duplex time slots

T1/E1 Interfaces & Signaling

Connector:	RJ48; 2 or 4 (CPCI); 1 or 2 (PCI)
T1 Robbed Bit:	E&M
ISDN PRI:	N.A. ETSI / Euro ISDN
Framers:	Brooktree 8370 (T1/E1)

Power and Environmental

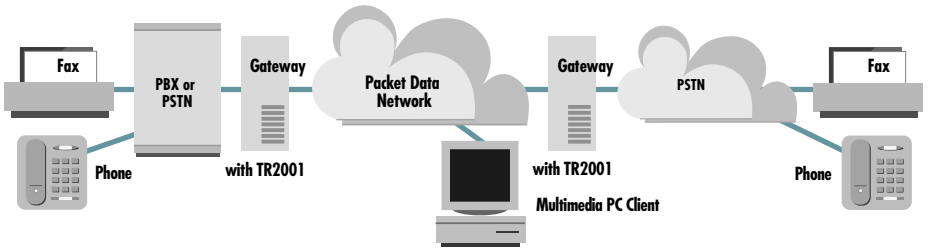
Base card:	12.4W CPCI; 1.5W PCI
Base card with mezzanine:	2.5W PCI only
Operating Temperature:	0º-50º C
Humidity:	10% to 95% non-condensing

Firmware Specifications

Voice Formats	G.711, G.723.1, G.729a, SX7300, SX9600
IP Networking Protocols	H.323 V2 stack provided; alternate protocols supported via low-layer API
Voice/telecom features	Real-time voice-stream processing, gain control, echo cancellation, voice play/record, DTMF detect/generate
Telecom/call progress and call control	DTMF, DNIS, and ANI detection
Fax protocols	Demod/remod, FaxRelay
API options	SpeechPac, BTStack323; Brooktrout Fax/Voice (for IVR)

Specifications subject to change without notice.

The IP Telephony Gateway



The TR2001 is used in IP telephony gateways that link telephones and fax machines over IP packet data networks. In a typical application, a user calls a gateway located either on-premises or at a service provider. The gateway then calls another gateway located close to the person being called, eliminating long distance telephone charges. The gateways can also handle voice and data traffic from multimedia PCs and standard fax machines.

1998 INTERNET TELEPHONY PRODUCT OF THE YEAR

U.S. Corporate Headquarters:

Brooktrout, Inc.
250 First Avenue
Needham, MA 02494-2814 U.S.A.
Phone: +1 781 449-4100
Fax: +1 781 449-9009

European Headquarters:

Brooktrout Technology Europe, Ltd.
Hoeilaart Office Park
Vandammestraat 5, Box 2
1560 Hoeilaart, Belgium
Phone: +32 2 658-0170
Fax: +32 2 658-0180

Sales Offices:

Brooktrout Technology, Needham, MA	+1 877 842-3944
Brooktrout Technology, Salem, NH	+1 603 898-1800
Brooktrout Technology, Los Gatos, CA	+1 408 370-0881
Brooktrout Technology, U.K.	+44 1344 380 280
Brooktrout Technology, Singapore	+65 224-0313
Brooktrout Technology, Germany	+49 89 74120 133

E-mail us at info@brooktrout.com or visit www.brooktrout.com

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Printed in U.S.A. ©7/00 TR2001-04 Part No. 939-003-50