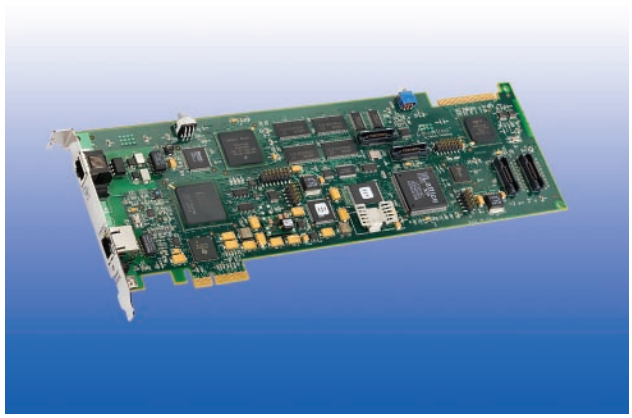
Dialogic® Brooktrout® TR1034 Fax Board

Datasheet
Fax Board

The Dialogic® Brooktrout® TR1034 Fax Board is a high-performance, intelligent fax board that offers both TDM- and IP-based fax capabilities. The Brooktrout TR1034 is suitable for many computer-based fax applications, including document management and business process automation, and for regulatory compliance with Sarbanes Oxley, HIPAA and Basel II.



Because it supports both TDM and IP, the Brooktrout TR1034 can provide a migration path from traditional fax to IP fax as companies move to VoIP networks. Dialogic has also successfully completed interoperability testing for the Brooktrout TR1034 with leading IP-PBX and gateway vendors such as Cisco, Avaya, and Alcatel-Lucent.

Available in both PCI and PCI Express (PCIe) formats, the Brooktrout TR1034 delivers unparalleled call completion at fast connection rates across a wide variety of fax machines and line conditions.

Dialogic delivers time-tested industry-leading fax technology, offering a broad range of fax and fax over IP products, which are supported by more than 50 software partners and approved for use in more than 40 countries (as of 2008). The Dialogic® Brooktrout® T.30 Stack has been deployed for more than 20 years.

Features	Benefits
Based on V.34 fax standard	Can process faxes at twice the speed of V.17 fax boards
Analog, DID, BRI, T1/PRI, and E1/PRI interfaces	Supports a broad range of configurations
Includes Dialogic® Technology Expansion Capability (TEC)	Allows an increased feature set and density by installing additional software license keys as needed
Patented inbound fax routing	Support fax servers, fax-to-email, unified messaging, fax document management, workflow and document delivery, and systems that comply with government regulations
Works with both PSTN and VoIP networks in T1/E1/PRI configurations	Allows a fax server to be a future-protected investment
Field-proven T.30 implementation	Helps to deliver faxes consistently and with high reliability
Interoperable with leading VoIP gateways and IP-PBXs	Continued attention to interoperability testing provides a broad choice of compatible devices for use with the Brooktrout TR1034

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The Brooktrout TR1034 sends and receives TDM or IP faxes up to 33.6 kbps, based on the V.34 fax standard (the DID/Combo model receives faxes up to V.17 and sends up to 33.6Kps). Not only can the TR1034 process fax at twice the speed of 14.4 kbps fax boards, it also supports V.8 fast handshaking and advanced compression, which can cut call setup and session-management time by one third. A document that can be faxed in one minute with a 14.4 kbps intelligent fax board can be sent in less than 30 seconds with the Brooktrout TR1034. This can translate into significant savings on long distance toll charges.

The Brooktrout TR1034 provides scalability and flexibility. The Brooktrout TR1034 is available in 2, 4, and 8 analog channels; 2 and 4 DID/Combo channels; 2 and 4 BRI channels; 4, 8, 16, and 24 T1/PRI/FoIP; and 8, 10, 16, 20, and 30 E1/ PRI/FoIP channels. The Technology Expansion Capability (TEC) upgrade allows extra scalability on the E1/T1/FoIP TR1034. See http://www.dialogic.com/products/docs/techbrief/10965_TEC_tb.pdf link to a technology brief on TEC.

To enable highly reliable faxing over VoIP networks, the Brooktrout TR1034 retains the field-proven Dialogic® Brooktrout® T.30 fax data stream within a T.38-based fax over IP transmission. The T.38 stack has also undergone significant interoperability testing with other IP vendors. This successfully tested interoperability provides flexibility and reliability when the Brooktrout TR1034 is deployed into VoIP networks.

Technical Specifications

Hardware

T1/E1
CPU: PCI: PowerPC 8240 @ 200 MHz; PCIe: PowerPC 8247 @ 300 MHz
DSPs: PCI: 6 TI C549 (600 MIPS total); PCIe: 1 TMS 320VC5441 (532 MIPS)
Network interface: One T1/E1 interface (RJ-48C), DSX-1 (requires CSU)
Ethernet interface: One 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 (RFC 3261)
- H.323 (version 4)

Media channels: Up to 30 V.34 fax and voice
Telephony Bus: PCI: ECTF H.100; MVIP-90, (via bus adapter); PCIe: ECTF H.100
Physical: Full-size 12.283 in. long x 4.2 in. wide
Server Bus: PCI: 33 MHz PCI 2.2 (3.3/5 V signaling); PCIe: x4 lane PCIe 1.0a
Power: PCI: 17 W max, +5 V power supply required; PCIe: 8 W

Analog
CPU: PowerPC 8241 @ 200 MHz
DSPs: 2 TI C5402 (122 MIPS total)
Media channels: Up to 8 V.34 fax and voice
Telephone interface and signaling: RJ-11, RJ-45-to-(4) RJ-11 interface cable supplied
Physical: Full-size 12.283 in. long x 4.2 in. wide; Half-size 6.6 in. long x 4.376 in. wide
Server Bus: PCI: 33 MHz PCI 2.2 (3.3/5 V signaling); PCIe: x4 lane PCIe 1.0a
Power: PCI: 6 W, +5 V power supply required; PCIe: 2 channel, 5.1 W; 4 Channel, 5.5 W; 8 channel, 6.3 W

Technical Specifications *(continued)*

BRI
CPU: PowerPC 8241 @ 200 MHz
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: Half-size 6.875 in. long x 4.2 in. wide
Server Bus: 33 MHz PCI 2.2 Universal card (3.3/5 V signaling), PCIe: x4 lane PCIe 1.0a
Power: PCI: 5 W, +5 V power supply required; PCIe: 2 channel, 5.1 W; 4 Channel, 5.5 W

DID/Combo/Analog Loop Start Half-Size
CPU: PowerPC 8241 @ 200 MHz
DSP: 1 TI C5402 (61 MIPS total)
Media channels: Up to 4 V.34 fax and voice
- DID V.17 inbound and V.34 outbound
- Loop start V.34 inbound and V.34 outbound

Telephony interface and signaling: RJ-11 (RJ-45 to RJ-11 interface cable supplied)
Physical: Half-size 6.600 in. long x 4.2 in. wide
Server Bus: PCI: 33 MHz PCI 2.2 (3.3/5 V signaling); PCIe: x4 lane PCIe 1.0a
Power: 15 W, both +3.3 V and 5 V power supply required; PCIe: Combination 2 ALS and 2 DID channels, 15 W; 2 ALS channels 12 W; 4 DID channels, 17 W
No External Power Supply Required

Fax Processing
ITU T.30; ITU T.38; Group 3 V.34, V.17, V.23, V.29, V.27ter, V.21 modulation
Up to 33.6 kbps 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
Onboard 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

Voice Processing
64 kbps G.711 PCM μ-law and A-law PCM
OKI ADPCM at 6 kHz and 8 kHz sample rates
11 kHz 8/16 bit .WAV; 8 kHz 16 bit .WAV
DTMF/MF/Special Information Tone (SIT) detection
Playback volume control, pitch corrected speed control
Silence compression

Technical Specifications *(continued)*

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, DID, DTMF, and MF detection

IP-PBX and VoIP Gateway Interoperability
Dialogic's FoIP products interoperate with industry-leading IP PBXs and VoIP gateways. See www.dialogic.com/interoperability/fax.htm for a current list.

Operating System Support
Windows®; Linux. Details at http://www.dialogic.com/systemreleases

Installation and Configuration
Windows® Plug and Play Compliant
Graphical Configuration Tool

Application Programming Interface
Dialogic® Brooktrout® Bfv API

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

Environmental Compliance
This electronic equipment complies with the European Union Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, Directive 2002/95/EC.

Reliability/Warranty
Estimated MTBF Per Telcordia Method 1:

T1/E1
PCI: T1 — 24 port: 502,000 hours
E1 — 30 port: 502,000 hours

PCIe: T1 — 24 port: 731,000 hours
E1 — 30 port: 731,000 hours

Analog (4-port)
PCI: 402,500 hours
PCIe: 397,500 hours

BRI (2-port)
PCI: 857,300 hours
PCIe: 815,600 hours

DID/Combo (2-port)
PCI: 671,750 hours
PCIe: 671,750 hours

Warranty information at http://www.dialogic.com/warranties

Ordering Information

The following table provides ordering information for Dialogic® Brooktrout® TruFax® Fax Boards.

	Order Code	Description
Brooktrout TR1034 — PCI Express — Analog		
TR1034+E2-2L	901-007-06	2 Channel Analog; V.34 PCI Express
TR1034+E2-2L HALF	901-013-01	2 Channel Analog; V.34 PCI Express half-size board
TR1034+E4-4L	901-007-09	4 Channel Analog; V.34 PCI Express
TR1034+E8-8L	901-007-12	8 Channel Analog; V.34 PCI Express
Brooktrout TR1034 — PCI Express DID and Combo Boards		
TR1034+E2C HALF	901-013-04	1 Channel Loop Start / 1 Channel DID; PCI Express half-size board
TR1034+E2D HALF	901-013-05	2 Channel DID; PCI Express half-size board
TR1034+E4C HALF	901-013-06	2 Channel Loop Start / 2 Channel DID; PCI Express half-size board
TR1034+E4D HALF	901-013-07	4 Channel DID; PCI Express half-size board
Brooktrout TR1034 — PCI Express BRI Boards		
TR1034+E2-1B	901-012-03	2 Channel, Single Euro BRI; V.34: PCI Express
TR1034+E2-1B ZA/NZ	901-012-04	2 Channel, Single Euro BRI; V.34: PCI Express with approval labels for South Africa and New Zealand
TR1034+E4-2B	901-012-05	4 Channel, Dual Euro BRI; V.34: PCI Express
TR1034+E4-2B ZA/NZ	901-012-06	4 Channel, Dual Euro BRI; V.34: PCI Express with approval labels for South Africa and New Zealand
Brooktrout TR1034 — PCI Express — T1/FoIP* **		
TR1034+E4H-T1-1N	901-006-14	4 Channel Fractional T1; V.34 PCI Express; H.100. Or 4 channel; T.38 (V.34); SIP; H.323
TR1034+E8H-T1-1N	901-006-16	8 Channel Fractional T1; V.34 PCI Express; H.100. Or 8 channel; T.38 (V.34); SIP; H.323
TR1034+E16H-T1-1N	901-006-09	16 Channel Fractional T1; V.34 PCI Express; H.100. Or 16 channel; T.38 (V.34); SIP; H.323
TR1034+E24H-T1-1N	901-006-11	24 Channel Fractional T1; V.34 PCI Express; H.100. Or 24 channel; T.38 (V.34); SIP; H.323
Brooktrout TR1034 — PCI Express — E1/FoIP* **		
TR1034+E4H-E1-1N	901-006-13	4 Channel Fractional E1; V.34 PCI Express; H.100. Or 4 channel; T.38 (V.17); SIP
TR1034+E8H-E1-1N	901-006-15	8 Channel Fractional E1; V.34 PCI Express; H.100. Or 8 channel; T.38 (V.34); SIP; H.323
TR1034+E10H-E1-1N	901-006-07	10 Channel Fractional E1; V.34 PCI Express; H.100. Or 10 channel; T.38 (V.34); SIP; H.323
TR1034+E16H-E1-1N	901-006-08	16 Channel Fractional E1; V.34 PCI Express; H.100. Or 16 channel; T.38 (V.34); SIP; H.323
TR1034+E20H-E1-1N	901-006-10	20 Channel Fractional E1; V.34 PCI Express; H.100. Or 20 channel; T.38 (V.34); SIP; H.323
TR1034+E30H-E1-1N	901-006-12	30 Channel Fractional E1; V.34 PCI Express; H.100. Or 30 channel; T.38 (V.34); SIP; H.323
Brooktrout TR1034 — PCI Express — Analog (UK)		
TR1034+E2-2L UK	901-007-07	2 Channel Analog; V.34 PCI Express with approval label for UK
TR1034+E2-2L HALF UK	901-013-02	2 Channel Analog; V.34 PCI Express half-size board with approval label for UK
TR1034+E4-4L UK	901-007-10	4 Channel Analog; V.34 PCI Express with approval label for UK
TR1034+E8-8L UK	901-007-14	8 Channel Analog; V.34 PCI Express with approval label for UK

Ordering Information *(continued)*

	Order Code	Description
Brooktrout TR1034 — PCI Express — Analog (ROW*)		
TR1034+E2-2L AZ/NZ/HK/SG/ID	901-007-08	2 Channel Analog; V.34 PCI Express with approval labels for South Africa, New Zealand, Hong Kong, Singapore, and Indonesia
TR1034+E4-4L AZ/NZ/HK/SG/ID	901-007-11	4 Channel Analog; V.34 PCI Express with approval labels for South Africa, New Zealand, Hong Kong, Singapore, and Indonesia
TR1034+E8-8L AZ/NZ/HK/SG/ID	901-007-13	8 Channel Analog; V.34 PCI Express with approval labels for South Africa, New Zealand, Hong Kong, Singapore, and Indonesia
Brooktrout TR1034 High Density (HD) **		
TR1034+P48H-2T1-1N-R	901-000-31	48 Channel T1; V.34 Universal PCI; H.100. Or 48 channel; T.38 (V.34); SIP; H.323 - RoHS compliant
TR1034+P60H-2E1-1N-R	901-000-30	60 Channel E1; V.34 Universal PCI; H.100. Or 60 channel; T.38 (V.34); SIP; H.323 - RoHS compliant
TR1034+P96H-4T1-V17-R	901-000-34	96 Channel T1; V.17 Universal PCI; H.100 - RoHS compliant
TR1034+P90H-3E1-V17-R	901-000-33	90 Channel E1; V.17 Universal PCI; H.100 - RoHS compliant
Brooktrout TR1034 G.711 Support SKUs**		
TR1034+E4HG-T1-1N	901-006-24	4 Channel Fractional T1; (V.34); PCIe; H.100. Or 4 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+P4HG-E1-1N-R	901-001-24	4 Channel Fractional E1; (V.34); Universal PCI; H.100. Or 4 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+P4HG-T1-1N-R	901-001-25	4 Channel Fractional T1; (V.34); Universal PCI; H.100. Or 4 channel; T.38 (V.17); G.711 FAX; SIP; H.323
TR1034+E4HG-E1-1N	901-006-23	4 Channel Fractional E1; (V.34); PCIe; H.100. Or 4 channel; T.38 (V.17); G.711 FAX; SIP; H.323
TR1034+E8HG-E1-1N	901-006-25	8 Channel Fractional E1; (V.34); PCIe; H.100. Or 8 channel; T.38 (V.17); G.711 FAX; SIP; H.323
TR1034+E8HG-T1-1N	901-006-26	8 Channel Fractional T1; (V.34); PCIe; H.100. Or 8 channel; T.38 (V.17); G.711 FAX; SIP; H.323
TR1034+P8HG-E1-1N-R	901-001-26	8 Channel Fractional E1; (V.34); Universal PCI; H.100. Or 8 channel; T.38 (V.17); G.711 FAX; SIP; H.323
TR1034+P8HG-T1-1N-R	901-001-27	8 Channel Fractional T1; (V.34); Universal PCI; H.100. Or 8 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+E10HG-E1-1N	901-006-17	10 Channel Fractional E1; (V.34); PCIe; H.100. Or 10 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+P10HG-E1-1N-R	901-001-18	16 Channel Fractional E1; (V.34); Universal PCI; H.100. Or 16 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+E16HG-E1-1N	901-006-18	16 Channel Fractional E1; (V.34); PCIe; H.100. Or 16 channel; T.38 (V.34); G.711 FAX;
TR1034+E16HG-T1-1N	901-006-19	16 Channel Fractional T1; (V.34); PCIe; H.100. Or 16 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+P16HG-E1-1N-R	901-001-19	16 Channel Fractional E1; (V.34); Universal PCI; H.100. Or 16 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+P16HG-T1-1N-R	901-001-20	16 Channel Fractional T1; (V.34); Universal PCI; H.100. Or 16 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+E20HG-E1-1N	901-006-20	20 Channel Fractional E1; (V.34); PCIe; H.100. Or 20 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+P20HG-E1-1N-R	901-001-21	20 Channel Fractional E1; (V.34); Universal PCI; H.100. Or 20 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+P24HG-T1-1N-R	901-001-22	24 Channel T1; (V.34); Universal PCI; H.100. Or 24 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+E24HG-T1-1N	901-006-21	24 Channel T1; (V.34); PCIe; H.100. Or 24 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+E30HG-E1-1N	901-006-22	30 Channel E1; (V.34); PCIe; H.100. Or 30 channel; T.38 (V.34); G.711 FAX; SIP; H.323
TR1034+P30HG-E1-1N-R	901-001-23	24 Channel Fractional E1; (V.34); Universal PCI; H.100. Or 24 channel; T.38 (V.34); G.711 FAX; SIP; H.323

Ordering Information *(continued)*

	Order Code	Description
Brooktrout TR1034 Series — uPCI		
TR1034-P2-2L HALF	901-004-05	Half-size 2 Channel Analog; V.34 Universal PCI - RoHS compliant
TR1034-P2-2L HALF UK	901-004-06	Half-size 2 Channel Analog; V.34 Universal PCI with approval label for UK - RoHS compliant
TR1034+uP2C-R HALF	901-004-01	1 Channel Loop Start / 1 Channel DID; Universal PCI
TR1034+uP2D-R HALF	901-004-02	2 Channel DID; Universal PCI
TR1034+uP4D-R HALF	901-004-04	4 Channel DID; Universal PCI
TR1034+P2-1B-R	901-003-03	2 Channel, Single Euro BRI; V.34: Universal PCI
TR1034+P2-1B-R ZA/NZ	901-003-04	2 Channel, Single Euro BRI; V.34: Universal PCI with approval labels for South Africa and New Zealand
TR1034+P4-2B-R	901-003-05	4 Channel, Dual Euro BRI; V.34: Universal PCI
TR1034+P4-2B-R ZA/NZ	901-003-06	4 Channel, Dual Euro BRI; V.34: Universal PCI with approval labels for South Africa and New Zealand
TR1034+P2-2L-R	901-002-06	2 Channel Analog; V.34 Universal PCI - RoHS compliant
TR1034+P2-2L-R UK	901-002-07	2 Channel Analog; V.34 Universal PCI with approval label for UK - RoHS compliant
TR1034+P2-2L-R ZA/NZ/HK/SG	901-002-08	2 Channel Analog; V.34 Universal PCI with approval labels for South Africa, New Zealand Hong Kong, and Singapore - RoHS compliant
TR1034+P4-4L-R	901-002-09	4 Channel Analog; V.34 Universal PCI - RoHS compliant
TR1034+P4-4L-R UK	901-002-10	4 Channel Analog; V.34 Universal PCI with approval label for UK - RoHS compliant
TR1034+P4-4L-R ZA/NZ/HK/SG/ID	901-002-11	4 Channel Analog; V.34 Universal PCI with approval labels for South Africa, New Zealand Hong Kong, Singapore, and Indonesia - RoHS compliant
TR1034+P8-8L-R	901-002-12	8 Channel Analog; V.34 Universal PCI - RoHS compliant
TR1034+P8-8L-R UK	901-002-14	8 Channel Analog; V.34: Universal PCI with approval label for UK - RoHS compliant
TR1034+P8-8L-R ZA/NZ/HK	901-002-13	8 Channel Analog; V.34 Universal PCI with approval labels for South Africa, New Zealand, and Hong Kong - RoHS compliant
TR1034+P2-1B-R	901-003-03	2 Channel, Single Euro BRI; V.34 Universal PCI - RoHS compliant
TR1034+P2-1B-R ZA/NZ	901-003-04	2 Channel, Single Euro BRI; V.34 Universal PCI with approval labels for South Africa and New Zealand - RoHS compliant
TR1034+P4-2B-R	901-003-05	4 Channel, Dual Euro BRI; V.34 Universal PCI - RoHS compliant
TR1034+P4-2B-R ZA/NZ	901-003-06	4 Channel, Dual Euro BRI; V.34 Universal PCI with approval labels for South Africa and New Zealand - RoHS compliant
TR1034+P4H-T1-1N-R	901-001-14	4 Channel Fractional T1; V.34 Universal PCI; H.100. Or 4 channel; T.38 (V.34); SIP; H.323 - RoHS compliant
TR1034+P8H-T1-1N-R	901-001-16	8 Channel Fractional T1; V.34 Universal PCI; H.100. Or 8 channel; T.38 (V.34); SIP; H.323 - RoHS compliant
TR1034+P16H-T1-1N-R	901-001-09	16 Channel Fractional T1; V.34 Universal PCI; H.100. Or 16 channel; T.38 (V.34); SIP; H.323 - RoHS compliant
TR1034+P24H-T1-1N-R	901-001-11	24 Channel Fractional T1; V.34 Universal PCI; H.100. Or 24 channel; T.38 (V.34); SIP; H.323 - RoHS compliant
TR1034+P4H-E1-1N-R	901-001-13	4 Channel Fractional E1; V.34 Universal PCI; H.100. Or 4 channel; T.38 (V,34); SIP; H.323 - RoHS compliant
TR1034+P8H-E1-1N-R	901-001-15	8 Channel Fractional E1; V.34 Universal PCI; H.100. Or 8 channel; T.38 (V.34); SIP; H.323 - RoHS compliant
TR1034+P10H-E1-1N-R	901-001-07	10 Channel Fractional E1; V.34 Universal PCI; H.100. Or 10 channel; T.38 (V.34); SIP; H.323 - RoHS compliant
TR1034+P16H-E1-1N-R	901-001-08	16 Channel Fractional E1; V.34 Universal PCI; H.100. Or 16 channel; T.38 (V.34); SIP; H.323 - RoHS compliant
TR1034+P20H-E1-1N-R	901-001-10	20 Channel Fractional E1; V.34 Universal PCI; H.100. Or 20 channel; T.38 (V.34); SIP; H.323 - RoHS compliant
TR1034+P30H-E1-1N-R	901-001-12	30 Channel Fractional E1; V.34 Universal PCI; H.100. Or 30 channel; T.38 (V.34); SIP; H.323 - RoHS compliant

Note: Requires Dialogic® Brooktrout® SDK Version 5.1.1 or greater

* - (ROW) - Rest of the World

** - Brooktrout TR1034 High Density (HD) and Brook TR1034 G.711 Support SKUs – Product Managers approval is required to order these boards

*** - FoIP with TEC upgrade

Dialogic®
Making Innovation Thrive™

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