



A101 Single Port T1/E1/J1

Now with available Hardware Echo Cancellation

Version	Interface	Digital Signal Processor
101	PCI	n/a
101-X	PCI Express	n/a
101D	PCI	Hardware Echo Canceller
101D-X	PCI Express	Hardware Echo Canceller

Introducing the industry's first affordable single port T1/E1/J1 card with available Telco-grade hardware echo cancellation. It's designed for optimum voice support for smaller systems.

The A101 is part of Sangoma's family of Advanced Flexible Telecommunications hardware product line—it uses the same high-performance PCI or PCI Express interface that is providing superior performance in critical systems all over the world.

The A101 supports up to 2.048 Mbps of full duplex data throughput or up to 30 voice calls over a single T1, E1, or J1 line.

With Sangoma cards, you can always take advantage of hardware and software improvements, as soon as they become available. The A101, like all cards in Sangoma's AFT family, is field upgradeable with crash-proof firmware.

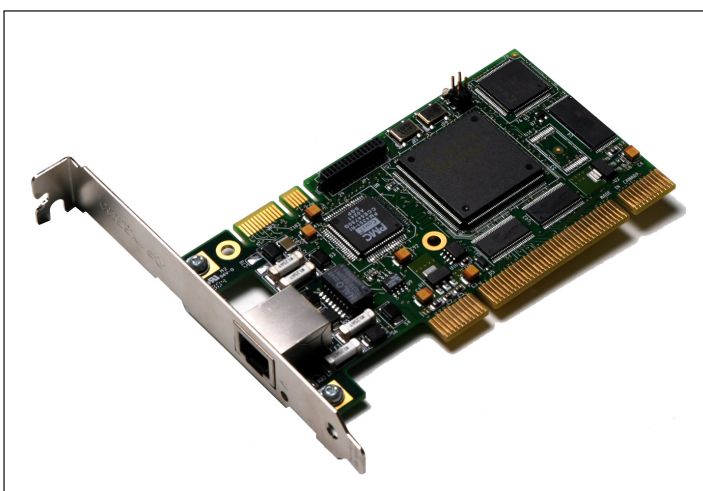
Choose the Sangoma A101D and A101D-X cards with Octasic's DSP hardware and certified algorithms to achieve carrier-grade echo cancellation and Voice Quality Enhancement functions on your open source or even proprietary telephone system.



A101D-X PCI Express Interface with Hardware Echo Canceller supporting up to 30 simultaneous calls over a single T1, E1, or J1 port.

Technical Specifications

- One T1/E1 port with optimum PCI Express or PCI interface for high performance voice and data applications.
- Line decoding: HDB3, AMI, B8ZS.
- Framing: CRC-4, Non CRC4, SF, D4. Also compatible with Japan's J1.
- Support for Asterisk™, Yate™, and FreeSwitch™ PBX/IVR Projects, as well as other open source and proprietary PBX/Switch/IVR/VoIP gateway applications.
- All of Sangoma's AFT products use the same base PCI interface card and the same professionally engineered firmware on the same family of Field Upgradeable Gate Arrays.
- Fully compatible with all commercially available motherboards—proper PCI-standard interrupt sharing without manual tuning.
- A101-X and A101D-X PCI Express: 1 Lane PCI Express bus.
- Dimensions: 2U Form factor: 120 mm x 55 mm for use in restricted chassis.



A101 with PCI Interface



- Includes high quality, tested RJ45 cables and short 2U mounting clips for installation in 2U rack mount servers.
- Power: 800 mA peak, operational 300 mA max at +3.3 V or 5 V.
- Temperature range: 0–50 °C.
- Autosense compatibility with 5 V and 3.3 V PCI busses.
- Intelligent hardware: Downloadable FPGA programming with multiple operating modes. Add new features related to voice and/or data when they become available.
- 32-bit bus master DMA data exchanges across PCI interface at 132 Mbytes/sec for minimum host processor intervention.
- Ring buffer DMA handling for minimum host intervention and guaranteed data integrity on high volume systems.
- Supports Robbed Bit Channel Associated Signaling (CAS) and ISDN PRI.
- T1/E1 and fractional T1/E1, multiple channel HDLC per line for mixed data/TDM voice applications.
- Optimized per channel DMA streams and hardware-level HDLC handling unload the host CPU.
- Use raw bitstream interfaces to support arbitrary non-standard line protocols, such as non-byte aligned monosynch or bisynch.
- WANPIPE® routing stack is completely independent of TDM voice application for total system reliability.
- WANPIPE® supports certified, field-tested, and reliable Frame Relay, PPP, HDLC, and X.25.

Optional DSP daughterboard on the A101D

- G.168–2002 echo cancellation in hardware.
- 1014 taps/128ms tail per channel on all 256 channels.
- DTMF decoding and tone recognition.
- Voice quality enhancement: Octasic music protection, acoustic echo control, and adaptive noise reduction.

RJ45 T1/E1 Pinouts

Pin	Signal	Pin	Signal
1	RTIP	4	TTIP
2	RRING	5	TRING

Operating Systems

- Linux (all versions, releases and distributions from 1.0 up).
- Windows NT/2000/XP.
- FreeBSD, Open BSD, NetBSD.
- Solaris.

T1/E1 Status Alarms

- RED: Telco Red Alarm Condition.
- OOF: Out of Frame.
- LOS: Receive Loss of Signal.
- AIS: Alarm Indication Signal.
- RAI: Remote Alarm Indication (Yellow Alarm).

Voice Applications

Asterisk™, Yate™, Open PBX/IVR, FreeSwitch™, TrixBox, as well as proprietary applications.

Line Protocols

- FCC Part 15 Class A, FCC Part 68, CISPR 22, EN 55022, Class A, CIPSR 24, AFIC-2016, IEC 60950.
- Technical certifications in Russia, Malaysia, and Australia.

Higher Level Protocols

IP/PX over Frame Relay/PPP/HDLC/X.25, X.25 over Frame Relay (Annex G), BSC over X.25 (D.T. and TOP), SNA over X.25, PPPoE, PPPoA, IP over ATM.

Diagnostic Tools

WANPIPEMON, SNMP, System logs.

Production Quality

ISO 9002.

Warranty

- Five years parts and labor.
- PLUS 30-day “no questions asked” return policy.

Contact Information



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