



## Digital Series

1 – 8 Port T1/E1/J1

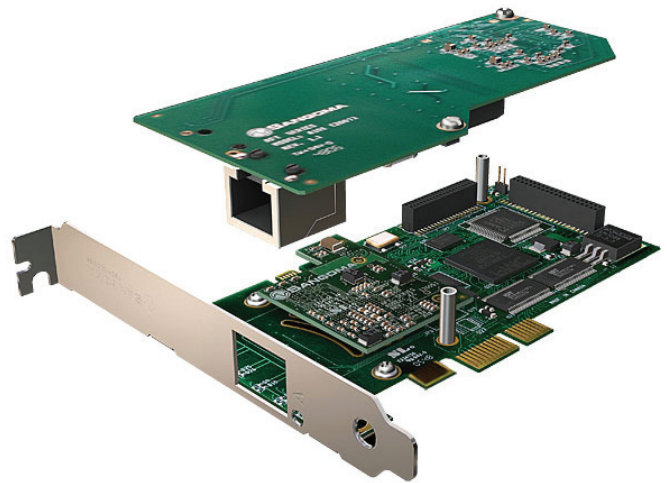
**Get one, two, four, or eight ports of optimized voice and data over T1/E1/J1 with available telco-grade hardware echo cancellation!**

Sangoma's unmatched voice optimized hardware is powering leading PBX, IVR and call center applications worldwide. Its quality, reliability and support is well known in the developer community. Sangoma raised the bar in TDM voice communications with on-board, telco-grade, hardware echo canceller DSPs available on all voice cards and the most optimized, scalable, cross-platform device drivers available.

Part of Sangoma's award-winning Advanced Flexible Telecommunications hardware product line, each card uses the same high-performance PCI or PCI Express interface that is delivering superior functionality in many critical systems.

Take advantage of hardware and software improvements, as soon as they become available. All cards in the AFT family are field upgradeable with crash-proof firmware.

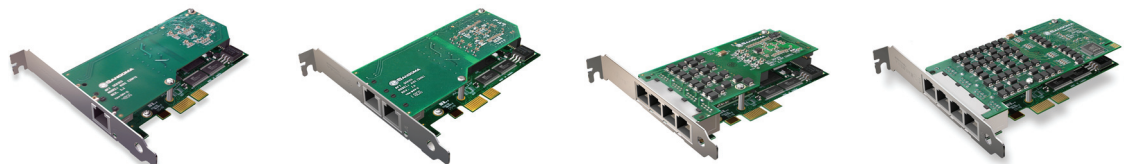
Choose the AFT Series to achieve carrier-grade echo cancellation and voice quality enhancement functions for your phone systems.



A101DE 1-port T1/E1/J1 shown with available echo canceller and PCI-Express interface

-  **Award-winning**
-  **Echo Cancellation**
-  **Lifetime Warranty**
-  **Low Profile Option**
-  **Open Source Compatible**

## Digital Series



	A101	A102	A104	A108
No. of Ports	1	2	4	8
Full Duplex Data Transfer Rate	2.048 Mbps or up to 30 voice calls	4.096 Mbps or up to 60 voice calls	8.192 Mbps or up to 120 voice calls	16.4 Mbps or up to 240 voice calls
Max. Operational Power for PCI	3 W (0.6 A @ 5 V)	3.8 W (0.76 A @ 5 V)	5 W (1 A @ 5 V)	7.5 W (1.5 A @ 5 V)
Max. Operational Power for PCIe	2.5 W (0.76 A @ 3.3 V)	3.2 W (0.97 A @ 3.3V)	4 W (1.2A @ 3.3 V)	5.5 W (1.67 A @ 3.3 V)
Voice Line Protocols	PRI, CAS, MFC/R2, SS7	PRI, CAS, MFC/R2, SS7	PRI, CAS, MFC/R2, SS7	PRI, CAS, MFC/R2, SS7
WAN Protocols	ATM, Frame Relay, X.25, HDLC, PPP, Transparent bit-stream, BSC	ATM, Frame Relay, X.25, HDLC, PPP, Transparent bit-stream, BSC	ATM, Frame Relay, X.25, HDLC, PPP, Transparent bit-stream, BSC	ATM, Frame Relay, X.25, HDLC, PPP, Transparent bit-stream, BSC
Warranty	Lifetime	Lifetime	Lifetime	Lifetime

CONTINUE READING »

## Technical Specifications

- T1/E1 ports with optimum PCI or PCI-Express interface for high performance voice and data applications
- Support for Asterisk®, FreeSWITCH®, Yate™, and CallWeaver™ PBX/IVR Projects, as well as other open source and proprietary PBX, Switch, IVR, or VoIP gateway applications
- Same base PCI interface card; fully compatible with all commercially available motherboards—proper PCI-standard interrupt sharing without manual tuning
- Dimensions: 2U Form factor: 120 mm x 55 mm for use in restricted chassis; includes RJ45 port-splitter cables and short 2U mounting clips for installation in 2U rack-mount servers
- Autosense compatibility with 5 V and 3.3 V PCI busses
- Intelligent hardware: Downloadable FPGA programming with multiple operating modes
- Line decoding: HDB3, AMI, B8ZS
- Framing: CRC-4, Non CRC4, ESF, SF, D4; also compatible with Japan's J1
- PCI Express: 1 Lane PCI Express bus
- Maximum operational power for PCI: 7.5 W (1.5 A @ 5 V)  
For PCI Express: 5.5 W (1.67 A @ 3.3 V)
- Temperature range: 0 – 50 °C
- 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
- Uses 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

The AFT Series are digital data and voice network cards, not subject to TNV evaluation as an approved TELCO-provided DMARK device, providing that isolation from the TNV is utilized in the end-use application.

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### Optional DSP Hardware Echo Cancellor Daughterboard

- G.168–2002 echo cancellation in hardware
- 1024 taps/128 ms tail per channel on all channel densities
- DTMF decoding and tone recognition
- Voice quality enhancement: music protection, acoustic echo control, and adaptive noise reduction
- Does not increase the physical size of the card, and no additional slot is required

### Operating Systems

- Linux (all versions, releases and distributions from 1.0 up)
- Windows® 2003, Windows® XP, Windows® Server 2008, Windows® Vista, Windows® 7

### 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)

### Line Protocols

Voice CAS, MFC/R2, PRI, ATM, Frame Relay, X.25, HDLC, PPP, SS7, Transparent bit-stream, BSC

### Higher Level Protocols

IP/IPX over Frame Relay/PPP/HDLC/X.25, X.25 over Frame Relay (Annex G), BSC over X.25, SNA over X.25, PPPoE, PPPoA, IP over ATM

### Certification

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

### Diagnostic Tools

WANPIPEMON, SNMP, system logs

### Warranty

Lifetime warranty on parts and labour. Plus a 30-day no questions asked return policy.

### Production Quality

ISO 9002