

A101, A102 T1/E1 AFT card

5 YR WARRANTY!!!

The A101/A102 is Sangoma's next generation hardware designed for optimum support of data and voice over T1 and E1.



Operational Modes

Data only:

T1/E1 and fractional T1/E1, single channel HDLC per line.

Can be used as a hub for sub-DS1 remotes. The A101 and A102 can support any configuration of up to 62 DS0s carrying Frame Relay, PPP or HDLC data.

Raw bitstream interfaces can be used to support arbitrary non standard line protocols such as non-byte aligned monosynch or bisynch.

Voice modes:

- The A104 and drivers fully support TDM voice gateways for the Asterisk™, Yate™, OPAL™ PBX/IVR projects, as well as other Open Source and proprietary PBX/Switch/IVR/VoIP gateway applications.
- Supports Robbed Bit Channel Associated Signaling (CAS) and ISDN PRI.
- Optimized per channel DMA streams and hardware-level HDLC handling unload the host CPU.
- EDAC™ (patent pending) technology is integrated to drastically reduce the load due to software echo cancellation, which is the largest component of CPU load in a typical soft PBX system.
- Field upgradeable hardware allows for new TDM-related functions to be added as they become available.

Mixed Voice/Data mode:

- Combination of router/PBX functions in one server - Asterisk™ as an option.
- Both 8 bit (64kbps per channel) and 7 bit (56kbps per channel) board-level HDLC support.
- WAN data connection is supported by Sangoma's standard WANPIPE® routing stack providing certified Frame Relay, PPP, HDLC and

Technical Specifications

- Available as **Single** T1/E1 port (A101) or **Dual** T1/E1 port (A102) with daughterboard (as shown in photograph).
- Intelligent hardware: Downloadable Field Programmable Gate Array programming with multiple operating modes:
- T1/E1 and fractional T1/E1, single channel HDLC per line
- Power: 520mA at +5v
- PCI 32 bit (5v and 64 bit (3.3v) compatible.
- Temperature range: 0 - 45C.
- All set-up and configuration is in software or by machine BIOS.
- DSU/CSU set up entirely in software.
- Line decoding: HDB3, AMI, B8ZS.
- Framing: CRC4, non-CRC4, ESF, D4.
- Clocking mode: Normal , Master.
- Software controlled DSU/CSU test modes.
- Remote monitoring of card and CSU/DSU operation.
- Dimensions: 2U Form factor: 120mm x 55 mm.

T1/E1 Status alarms

- ALOSV: Loss of Signal alarm
- LOS: Receive Loss of Signal
- ALTLOS: Alternate loss of Signal Status
- OOF: Out of Frame
- RED: Telco Red Alarm condition
- AIS: Alarm Indication Signal
- OOSMFV: Loss of Signaling Multiframe
- OOCMFV: Loss of CRC Multiframe
- OOOFFV: Out of Off-Line Frame
- RAIV: Receive Loss of Signal
- YEL: Receive Telco Yellow Alarm

Line protocols

Frame Relay, X.25, HDLC, PPP, SS7, Transparent bit-stream, BSC.

Operating systems

Linux (all versions, releases and distributions from 1.0 up), FreeBSD, Open BSD (X.25, BSC and SS7 NOT available on BSD)

Higher level protocols

Asterisk™ Open PBX/IVR, IP/IPX over Frame Relay/ PPP/ HDLC/ X.25, X.25 over Frame Relay (Annex G), BSC over X.25 (DMT and TCOP), SNA over X.25, PPPoE, PPPoA, IP over ATM.

Warranty

FIVE years parts and labour.

Certification

FCC Part 68

FCC Part 15 Class A

CISPR 22

CISPR 24

Safety: 6095-1 (worldwide)

Australian AFIC-S016-2001

Diagnostic Tools

WANPIPEMON, SNMP, System logs.

Production quality

ISO 9002

RJ 45 Pin-out

RJ45 E1/T1 pinouts	
Pin	Signal
1	RTIP
2	RRING
4	TTIP
5	TRING

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