

# Sangoma T116 16-Span T1/E1/J1 Tapping Board



# Dedicated tapping solution for up to 8 two-way connections or 16 one-way connections.

The T116 Tapping Card is part of Sangoma's family of Advanced Flexible Telecommunications hardware product line — it uses the same high-performance PCI Express interface that is providing superior performance in critical systems all over the world.

The T116 supports the passive tapping of up to 240 voice calls using up to 16 T1, E1 or J1 spans.

With Sangoma cards, you can take advantage of hardware and software improvements, as soon as they become available. The T116, like all cards in Sangoma's AFT family, is field upgradable with unbreakable firmware.

Choose the T116 to collect call control information, telecom protocol information and voice/media.

# T116 Card Features

- » Sixteen receive-only spans with optimum PCI-Express interface enables tapping of sixteen one-way or eight two-way conversation
- » Support for Asterisk®, Yate®, and FreeSWITCH® PBX/IVR Projects, as well as other open source and proprietary PBX, Switch, IVR, or VoIP gateway applications
- » Optimized per channel DMA streams and hardware-level HDLC handling unload the host CPU
- 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
- » 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
- Uses raw bitstream interfaces to support arbitrary non-standard line protocols, such as non-byte aligned monosynch or bisynch



- » 5 Year warranty on parts and labor
- Supports the passive tapping of up to 240 voice calls using up to 16 T1, E1 or J1 spans
- Field upgradable with unbreakable firmware
- » 1 Lane PCI Express bus
- Supports Robbed Bit Channel Associated Signaling (CAS) and ISDN PRI
- Downloadable FPGA programming with multiple operating modes.

# **Operating System Support:**

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

#### **Line Protocols:**

- » Voice CAS
- » MFC/R2
- » PRIATM
- » Frame Relav
- » 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

#### **Diagnostic Tools:**

- » WANPIPEMON
- » SNMP
- » System Logs

#### **PBX Support:**

- » Asterisk®
- » FreePBX®
- ≫ PBXact<sup>TM</sup>
- > FreeSWITCH®
- > Yate®
- » PBX/IVR Projects, as well as other open source and proprietary PBX, Switch, IVR, or VoIP gateway applications

## **Mounting:**

- Compatible with all commercially available motherboards
- » Proper PCle-standard interrupt sharing without manual tuning.

#### **Dimensions:**

> 2U Form factor: 120 mm x 55 mm for use in restricted chassis.

### **Line Decoding:**

- » HDB3
- » AMI
- » B8ZS

#### Framing:

- » CRC-4
- » Non CRC4
- » ESF
- » SF
- » D4
- » Also compatible with Japan's J1

### **Intelligent Hardware:**

» Downloadable FPGA programming with multiple operating modes. Add new features related to voice and/or data when they become available.

#### **PCI Express:**

» 1 Lane PCI Express bus

#### **Environmental:**

Temperature range: 0 – 50 °C
Maximum Operational Power:

» 5.5 W (1.67 A @ 3.3 V)

#### **Certification:**

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

# Warranty:

» 5 year warranty on parts and labor. Plus a 30-day no questions asked return policy.

## **Production Quality:**

» ISO 9002

# **About Sangoma**

Sangoma Technologies is a trusted unified communications leader, providing globally scalable telephony solution, such as on-premise and cloud-based (or hosted) IP-PBX phone systems, SIP Trunking service, Cloud-based PBX service, voice-over-IP (VoIP) Gateways, session border controllers (SBC) and telephony cards. Sangoma's business telephony products are integrated into much of the world's OEMs, Enterprises, Carriers and service provider networks providing seamless connectivity between traditional infrastructure and new technologies.

# Become a Sangoma Partner

Provide your customers with outstanding VoIP and Unified Communications quality products that deliver industry-leading value. As an Empowered by Sangoma Partner, you'll get the help you need to grow your business and the incentives you want to make it easy to win sales. Discover more at: Sangoma.com/partner-program

