FarSync WAN PCI/PCI-X synchronous adapters for Windows
1, 2 and 4 port cards with X.21, V.35, RS-530 and V.24 interfaces

FarSite
COMMUNICATIONS

Key Features

- **High performance synchronous adapters at competitive prices**
- **PCI / PCI-X (Universal PCI) 1, 2 and 4 port WAN cards**
- **Network interface choice: X.21, V.35, RS530 and V.24**
- **Line speeds up to 10 Mbits/s using bus mastering DMA**
- **PCI-X and PCI 2.2 compliant adapters**
- **Support for Windows 2000, XP and Server 2003**
- **Validated by Microsoft as 'Designed for Windows XP'**
- **Easy install NDIS (LAN) Plug and Play drivers**

Overview

The versatile, intelligent FarSync WAN T-Series adapters provide up to 10 Mbits/s WAN solutions for your X.21, RS-530 and V.35 connectivity requirements. Whether you are connecting to the Internet, a satellite link, a private network using TCP/IP or connecting sites using leased lines. FarSync provides the connectivity solution.

The adapter installs seamlessly as a plug and play device under Windows 2000, XP or Server 2003 on both single and multiprocessor systems. The interface to the adapters are presented as an NDIS (LAN) driver with TCP/IP running over PPP with optional authentication by CHAP or PAP (RFC 1334). Multiple adapters can be installed to create a very low cost high speed Wide Area Network (WAN) hub using 12 or more adapters (48+ ports). FarSync WAN drivers have been validated by Microsoft as 'Designed for Windows XP'.

The product is supplied with its own multi-channel Line Monitor utility.

The FarSync WAN T-Series cards support PC connections to secure BRENT units using X.21.

The FarSync WAN products are also supplied with drivers for Linux, see the **FarSync WAN PCI adapter products for Linux** datasheet for further information.

Designed for
Microsoft®
Windows®XP

Related Products

For developers who need an API to access the HDLC or Bitstream support on the adapter directly, the FarSync OEM product range should be used instead. The FarSync OEM range includes a Developers Toolkit that supports application development using the adapter's API. See FarSync OEM T-Series datasheet for further details.

For connections to E1 or T1 lines see the FarSync WAN TE1 Adapter datasheet.

Typical Applications

The FarSync T-Series X21 / V35 / EIA530 adapters are suitable for connection to TCP/IP networks. Typical applications include:

- **High speed Internet Access**
- **Remote office access over leased lines**
- **Video Conferencing**
- **Satellite Multicasting**
- **PC-based multi-port wide area network hub (Routers & Firewalls)**
- **Connections over secure lines using BRENT**

High Performance and Flexibility

The T-Series intelligent cards have been designed for high performance and flexibility. The cards are driven by an AMD processor with on board zero wait state SRAM memory. The PCI Bus mastering DMA interface provides a very high performance interface to the card whilst minimising PCI and PC CPU loads.

A large number of ports can be supported by the installation of multiple FarSync cards. The T1U, T2U and T4U adapters can be intermixed, each line appears a separate NDIS (LAN) connection. Rack mounted Servers can support 12 or more adapters utilising more than one PCI bus; the card limit is only dependent on the number of general purpose PCI / PCI-X slots available.

- **Line speeds up to 10 Mbits/s**
- **PCI / PCI-X (Universal PCI) 1, 2 and 4 port cards**
- **Network interfaces for X.21 (V.11 / RS422), V.35, RS530 (EIA530) and V.24 (RS232C)**
- **12 or more FarSync WAN Multiport cards in a single server**
- **High efficiency, low overhead Bus mastering DMA interface**

PCI / PCI-X Bus Compatibility

The FarSync WAN T1U, T2U and T4U are PCI version 2.2 compliant and PCI-X compatible, these Universal PCI adapters can operate in PCs using either 3.3 volt or 5 volt signaling. The cards are suitable for systems with either 32 bit bus or 64 bit bus configurations and with single, HyperThreading or multiple processors. The power for the adapters is derived from the 3.3 volt PCI bus supply rail.
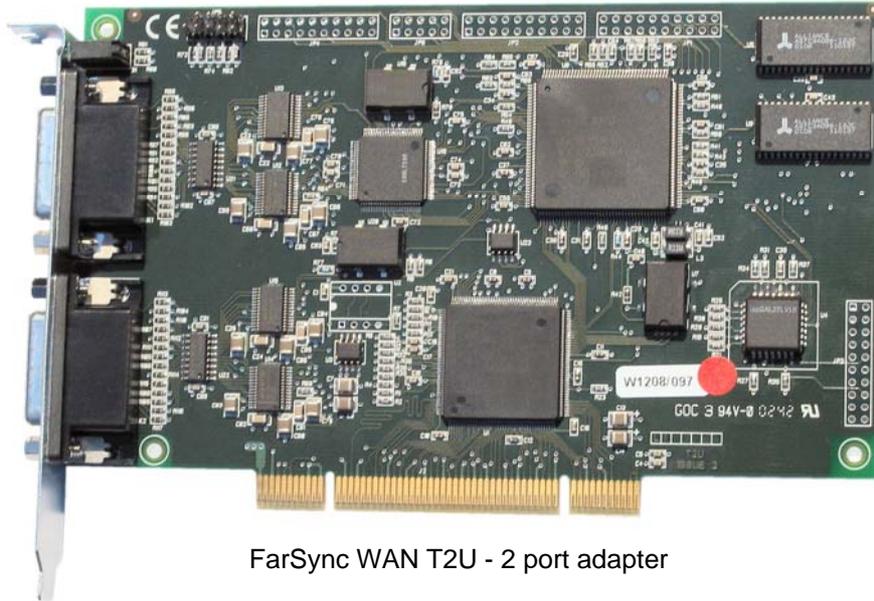
Installation and Configuration

Easy installation and fast configuration are features of the product, on-line help and documentation is provided. T-Series cards are 'plug-and-play' compatible supporting Windows XP, 2000 and Server 2003. The NDIS (LAN) interface allows each line to appear like a LAN port, this means that all the configuration complexities are hidden, making for a very quick installation. The FarSync WAN drivers have been tested and validated by Microsoft as 'designed for Windows XP'.

Line Monitor and Diagnostics

The product is supplied with a high performance multi-channel line monitor that allows the user to record, display and store line traffic with full WAN protocol decoding (see sample screen below). Comments can even be inserted into the line trace to assist later analysis.

FarSync WAN T2U - 2 port adapter

Product Packaging

The product includes the complete set of software drivers for Windows and Linux, utility programs including the line monitor software, documentation supplied on CD-ROM, a quick start guide and the communications adapter. The cables are ordered separately.

Cables

The cable and connector configurations available for each adapter type are described in the list below. Crossover cables, sometimes referred to as null modem cables, are also available. These allow the adapter to present a full DCE interface as well as allowing the lines to be linked in a back-to-back configuration for test purposes. See www.farsite.co.uk for full details

FarSync WAN T1U and FarSync WAN T2U

These one and two port adapters have separate high-density D type connector for each port on the card. Cables supporting RS232C (V.24, X.21bis), X.21 (V.11, RS422), V.35, RS530 (EIA-530) are available plus RS449 via X.21 conversion cables.
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Name	Description	Product Code
UCR1	Single RS232C (V.24, X.21bis) cable, 1.5 metres	FS6061
UCX1	Single X.21 (V.11, RS422) cable, 1.5 metres	FS6062
UCV1	Single V.35 DTE cable with standard MRAC-34 (brick) male connector, 1.5 metres	FS6063
UX35C	Single V.35 DCE cable where the DCE generates clocks, female connector, 1.5 metres.	FS6095
U530	Single RS530 (EIA530) cable, 1.5 metres	FS6064

FarSync WAN T4U

This four port adapter uses a single large high-density D type connector on the card with all four lines available though this connector. The quad port cables split out the four network interfaces into separate network connectors. Cables supporting X.21 (V.11, RS422), RS530, V.35 and RS232C (V.24, X.21bis) are available plus RS449 via X.21 conversion cables. Using the MTU4 cable different types of network interfaces can be intermixed on the same adapter.

Name	Description	Product Code
MCX4	Quad X.21 (V.11) cable with male 15 pin D type connectors, 1.5 metres	FS6041
MCV4	Quad V.35 cable with standard MRAC-34 (brick) male connectors, 1.5 metres	FS6042
MCR4	Quad RS232C (V.24) cable with male 25 pin D type connectors, 1.5 metres	FS6043

A MTU4 conversion cable is available that allows cables listed above for the FarSync T1U and T2U to also be used

Name	Description	Product Code
MTU4	Quad port conversion cable, 0.5 metres, permits cables for the T1U/T2U to be used	FS6074

Technical Specifications

Product name	FarSync WAN T1U	FarSync WAN T2U	FarSync WAN T4U
Product code	FS8141	FS8241	FS8441
Hardware warranty	5 years	5 years	5 years
Max port count	1 port	2 ports	4 ports

Hardware Features

Adapter type	Intelligent Universal PCI bus mastering adapter, PCI-X compatible, PCI v2.2 compliant, Compatible with 3.3 & 5 volt signaling, Suitable for 32 and 64 bit PCI bus slots, Short card - height 107mm, length 167mm, AMD processor, 1Mbyte zero wait state SRAM, Adapter line connectors: T1U - 1x female HD26, T2U - 2x female HD26, T4U - 1x female HD62		
Network connections available using FarSite cables	X.21 (V.11, RS422) - 15 pin male D type, V.35 - MRAC-34 male 'brick' type, RS530 (EIA-530) - 25 pin male D type, RS232C (V.24, X.21bis) - 25 pin male D type		
Link speed range	X.21, V.35, RS530: up to 10 Mbits/s, RS232C: up to 128 Kbits/s		
ESD Protection	Yes, Littelfuse high speed ESD and over-voltage protection on each port		
LEDs on back panel	One line status	Two line status	Four line status
Approvals	EN55022 class B, CE, FCC	EN55022 class B, CE, FCC	EN55022 class B, CE, FCC
Power requirements	850mA @ +3.3v < 5mA @ +/- 12v 2.8 watts max	< 1.2 Amp @ +3.3v < 5mA @ +/- 12v < 4 watts	< 1.75 Amp @ +3.3v < 10mA @ +/- 12v < 6 watts
Line clocking (internal / external)	Both, internal clock range 9600 baud to 76 Kbits/s on X.21 and RS232C connections. [2]	Both, all ports independently selectable. Internal clock range 9,600 baud to 8 Mbits/s on X.21 and RS232C connections. [2]	
	[2] The standard V.24 and X.21 cables used to connect to the card are suitable for both internal and external clocking. For V.35 internal clock generation the UX35C DCE cable should be used. RS530 connections are external clocking only		
Cables	Cables are ordered separately, see the Cables section on page 3 for details		

Software Features (applies to all cards)

Standard interfaces	NDIS (LAN), each line appears as a LAN port
Multiple cards	Yes, up to 12 or more in a Server, only limited by PCI slots, 1, 2 and 4 port adapters can be intermixed
Protocols	TCP/IP, over PPP, with CHAP or PAP authentication (RFCs 1661, 1332, 1334)
Applications tested and supported	Microsoft's Netmeeting, FarSite's FarSync TCP-X25 GP Gateway, FarSync TCP-X25 POS Gateway and FarSync TCP-X25 SMS Router
Utilities	Multi channel line monitor to record, display and store line traffic included
Documentation	Full installation and configuration instructions included
Operating Systems supported	Windows XP, Windows 2000, Windows Server 2003 Linux support is included as part of the same product, see the _FarSync WAN T-Series Adapters for Linux_ datasheet for further details

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