

DataFire SYNC Family

High-speed
synchronous WAN
communications



- > Ideal platform for Frame Relay, X.25, SNA and server-based routing
- > Part of the complete Digi line of connectivity solutions for Microsoft Windows NT, Novell NetWare, SCO UnixWare, Linux and Sun Solaris x86
- > Two- and four-port models
- > Available for ISA, PCI and CompactPCI platforms

As a complete hardware and software solution, the Digi DataFire SYNC WAN adapter family delivers tightly integrated, synchronous remote connectivity for major operating system environments, including Novell NetWare, Microsoft Windows NT, SCO UnixWare, Linux and Sun Solaris x86. The DataFire SYNC adapters provide remote LAN, WAN and SNA connectivity for PCI, CompactPCI or ISA servers, which make them ideal for branch offices or central sites where two to 16 ports are required.

The WAN media options supported by the DataFire SYNC Family of WAN adapters include T1, fractional T1 and E1; Digital Data Services (DDS); switched 56/64; X.25; and Frame Relay.

T1, fractional T1 and E1 services are dedicated, high-speed, point-to-point connections. T1 service provides 24 channels with 64 Kbps per channel for a total bandwidth of 1.544 Mbps. E1 provides 30 channels with 64 Kbps for a total bandwidth of 2.048 Mbps.

Digital data services provide dedicated, point-to-point communications over leased lines. Like T1, fractional T1 and E1, DDS users are charged a flat monthly rate based on bandwidth and distance.

Switched 56/64 are digital, dial-up, circuit-switched services that provide 56 Kbps and 64 Kbps of bandwidth. They offer the flexibility to connect to more than one site without having to have a dedicated line installed between each site. Once your site is connected, you can connect to any other site that subscribes to the same service. Users are charged a variable rate based on distance and usage.

X.25 is a proven, packet switched technology that has been around for many years. X.25 provides 100 percent error correction and network-managed flow control. It guarantees that every packet will arrive at its destination without any errors. This is a slow, deliberate process that involves a great deal of overhead, and is widely used internationally where leased lines are not readily available.



Subscribers pay a variable rate based on connect time and packets transmitted.

Frame Relay is designed as the successor to X.25 for transmitting data over the phone network. It is also a packet switching protocol, but it provides no guarantee of data integrity. Frame Relay links have more in common with dedicated lines than switched lines, but the cost can be substantially lower for an equivalent capacity, as subscribers pay a variable rate based on bandwidth and the committed information rate.

Intelligent Synchronous Adapters

The Digi DataFire SYNC 2000 is a family of intelligent synchronous communication adapters that provide advanced server-based Wide Area Network (WAN) solutions for PCI and CompactPCI environments. Available in two- and four-port models, the DataFire SYNC 2000 supports Frame Relay, X.25, and PPP under SCO UnixWare 7 and Microsoft Windows NT 4.0. SNA is also supported when combined with Microsoft's SNA Server or the IBM eNetwork Communications Server.

The DataFire SYNC 2000 2P and 4P models are mid-level, intelligent WAN adapters built on the Motorola MPC860 PowerQUICC processor running at 25 MHz and 40 MHz, respectively. The DataFire SYNC 2000 2P+ and 4P+ are high-performance adapters with Motorola EC603e secondary processors running at 100 MHz and delivering up to 188 Mips of CPU power. All DataFire SYNC 2000 adapters run Frame Relay FRF.9 compression to boost throughput.

The DataFire SYNC 2000 Family works with PCI- and CompactPCI-based servers running at either 3.3- or 5-volts. Four MB of on-board RAM support T1/E1 speeds on all ports in full-duplex mode. Cables are available for the common interfaces—V.24, EIA-530, V.35, V.36, V.11 and EIA-449. Each port uses an independent cable, allowing any combination of electrical interfaces to be used. The cable is automatically configured when plugged in to the board, eliminating troublesome configuration options. Each port can report the status of all compliant modem signals and attached

cables. Each interface can also measure and report the speed of modems and CSU/DSUs for faster troubleshooting.

High-Speed Synchronous Adapters

The Digi DataFire SYNC/570 Family of high-performance synchronous WAN communication adapters is a very cost-effective line of products for LAN-to-LAN, client-to-LAN, and client-to-IBM host connectivity. As complete hardware and software solutions, DataFire SYNC/570 products provide tightly integrated remote LAN connectivity for major operating environments including Novell NetWare, Microsoft Windows NT and Sun Solaris x86. This makes them ideal branch office and enterprise solutions where two to 16 ports per server are required.

The product family includes two- and four-port models for ISA and PCI platforms and a model featuring an integrated CSU/DSU. The PCI model offers a universal interface bus (UIB) capable of supporting a different interface on each port. No jumpers or switches are needed—simply connect the cable for the interface you want. All models have an advanced feature set allowing them to support line speeds better than T1/E1. These features include a design based on the Hitachi HD64570 Serial Communications Adapter (SCA) chip. This highly integrated sub-system supports two synchronous serial ports and four DMA channels, plus interrupt and timer logic. In addition, it has many protocol-specific features designed to maximize performance by minimizing driver overhead.

The key to the performance of the DataFire SYNC/570 is its integral Direct Memory Access (DMA)-to-shared memory architecture. Its on-board 128K or 256K memory is directly addressable by both the system and the DMA of the SCA. Program-initiated DMA transfers operate at DMA/memory speed independently of other system activity. This results in reduced system overhead and hardware line speeds up to 5 Mbps.

For ease of use, the DataFire SYNC/570 Family is software configurable. Shared memory is accessed through a 16K window that is assignable to any 16K boundary in the first 16MB of system memory. In addition, the memory is tri-stated, which allows multiple boards in a system to share a common window address.

DDK's for Quick and Easy Porting

Digi provides DataFire development tools to access and control protocols supported by Digi's wide area networking interface adapters for platform-independent software development. All of the necessary product information to develop a program with SNA Emulation, X.25, or Frame Relay can be found in the Driver Development Kit (DDK). We also provide developer support for customers who are using our development tools. The Digi Developer Support Program will provide our customers with a high level of developer support expertise on an as-needed basis.

FEATURES

DataFire SYNC 2000 (PCI and CompactPCI)

- > Two- and four-port models supporting up to T1/E1 speeds
- > 32-bit PCI interface
- > UIB automatic interface detection
- > 25 MHz Motorola MPC860 Power QUICC RISC processor - two-port version
- > 40 MHz Motorola MPC860 Power QUICC RISC processor - four-port version
- > Four MB dual port RAM
- > 2P+ and 4P+ are available with secondary co-processor
- > Independent quad transmit and receive channels
- > Surge protection
- > Internal/External clocking

DataFire SYNC/570 (ISA)

- > Two ports with EIA-232 interface
- > 16K shared memory window
- > Software configurable interrupts 3, 5, 7, 10, 11, 12, 15
- > Supports four DMA channels
- > Performance of up to 150 Kbps
- > Supports up to 1024 virtual circuits

DataFire SYNC/570i (ISA and PCI)

- > Available in two or four ports
- > Software configurable interrupts 3, 5, 7, 10, 11, 12, 15
- > Supports four DMA channels on 2-port boards, eight DMA channels on 4-port boards
- > Surge protection
- > Interfaces available for EIA-232, V.35 and X.21
- > Performance up to 5 Mbps
- > PCI bus offers UIB which automatically detects the connector interface with no configuration required

DataFire SYNC/570i-56 (ISA)

- > Two ports
- > Built-in CSU/DSU on one port with choice of EIA-232 or V.35 interface for second port
- > Surge protection
- > Supports 56K/64K service

MODEL/PART NUMBERS

DataFire SYNC 2000 (PCI Bus)

DataFire SYNC 2000 4P+ PCI	# 77000641
DataFire SYNC 2000 4P PCI	# 77000642
DataFire SYNC 2000 2P+ PCI	# 77000643
DataFire SYNC 2000 2P PCI	# 77000644

Required Cable Options (PCI Bus)

DataFire SYNC 2000 EIA-530 Cable	# 76000425
DataFire SYNC 2000 V.11 Cable	# 76000426
DataFire SYNC 2000 V.35 Cable	# 76000427
DataFire SYNC 2000 V.24 Cable	# 76000428
DataFire SYNC 2000 V.36/EIA-449 Cable	# 76000440

DataFire SYNC 2000 (CompactPCI)

DataFire SYNC 2000 CompactPCI 4P+ CompactPCI	# 77000709
DataFire SYNC 2000 CompactPCI 4P CompactPCI	# 77000711
DataFire SYNC 2000 CompactPCI 2P+ CompactPCI	# 77000710
DataFire SYNC 2000 CompactPCI 2P CompactPCI	# 77000712

Required Cable Options (CompactPCI)

DataFire SYNC 2000 CompactPCI EIA-530 Cable	# 76000556
DataFire SYNC 2000 CompactPCI V.11 Cable	# 76000552
DataFire SYNC 2000 CompactPCI V.35 Cable	# 76000554
DataFire SYNC 2000 CompactPCI V.24 Cable	# 76000553
DataFire SYNC 2000 CompactPCI V.36/EIA-449 Cable	# 76000555

DataFire SYNC/570 and DataFire SYNC/570i (ISA Bus)

DataFire SYNC/570 2P EIA-232	# 70500133
DataFire SYNC/570i 2P EIA-232	# 70500153
DataFire SYNC/570i 2P V.35	# 70500134
DataFire SYNC/570i 2P X.21	# 70500216
DataFire SYNC/570i 4P EIA-232	# 70500135
DataFire SYNC/570i 4P V.35	# 70500239

Above part numbers are bundled with one host card and cables as shown.

DataFire SYNC/570i (PCI Bus)

DataFire SYNC/570i 2P UIB*	# 77000536
DataFire SYNC/570i 4P UIB*	# 70001321

*Requires cables below

UIB Cables for DataFire SYNC/570i

DataFire SYNC/570i EIA-232 DB-25 Cable	# 76000293
DataFire SYNC/570i X.21 DB-15 Cable	# 76000294
DataFire SYNC/570i EIA-530 DB-25 Cable	# 76000369
DataFire SYNC/570i V.35 Cable	# 76000292

DataFire SYNC/570i-56 w/Integrated CSU/DSU (ISA Bus)

DataFire SYNC/570i-56 EIA-232 RJ-45	# 70001273
DataFire SYNC/570i-56 V.35 RJ-45	# 70001274

Additional Cables for DataFire SYNC/570i-56

DataFire SYNC/570i-56 EIA-232 DB-25 Cable	# 76000296
DataFire SYNC/570i-56 V.35 Cable	# 76000295

Software Options for SYNC/570 Family

Novell 2-Port MPR BranchLink Software	# 75000261
Novell 4-Port MPR Enterprise Software	# 75000262

SOFTWARE FEATURES

- > Includes protocol support for Frame Relay, X.25, PPP and SNA
- > Easy to use graphical user interface
- > Supports IP/IPX routing
- > DTE/DCE support
- > Supports up to 256 virtual circuits (X.25)
- > Full tracking and monitoring functions via GUI diagnostic utility
- > BECN and LMI flow control
- > Multiple CIR options for transmit
- > Supports up to 64 DLCIs per board (Frame Relay)
- > Complies with Microsoft's NDIS and WAN Miniport driver specification

POWER REQUIREMENTS

DataFire SYNC 2000 (CompactPCI)

- > 1.1 A @ +3.3 Volts +/-5%,
1.3 A @ +5 Volts +/-5%,
100 mA @ +12 VDC

DataFire SYNC 2000 (PCI)

- > 2 A @ +5 Volts +/-5%,
20 mA @ +12 VDC

DataFire SYNC/570

- > .75 A @ +5 Volts +/-5%,
40 mA @ +/-12 VDC

DataFire SYNC/570i - Two-Port

- > 1.0 A @ +5 Volts +/- 5%,
40 mA @ +12 VDC, 65 mA @ -12 VDC

DataFire SYNC/570i - Four-Port

- > 1.5 A @ +5 Volts +/- 5%,
75 mA @ +120 VDC
125 mA @ -12 VDC

DataFire SYNC/570i-56

- > 1.5 A @ +5 VDC, 40 mA @ -12 VDC,
25 mA @ +12 VDC

DataFire SYNC/570i PCI UIB and

DataFire SYNC/570i PCI Four-Port

- > 1.5 A @ +5 VDC,
90 mA @ +12 VDC

DIMENSIONS

	Height	Width	Depth	Weight
DataFire SYNC 2000 (CompactPCI)	9.25 in. (23.5 cm)	.787 in. (2 cm)	6.29 in. (16 cm)	10 oz. (268 g)
DataFire SYNC 2000 (PCI)	4.2 in. (10.6 cm)	5 in. (12.7 cm)	6.9 in. (17.5 cm)	9 oz. (255.1 g)
DataFire SYNC/570 (ISA)	3.7 in. (9.4 cm)	.75 in. (1.9 cm)	11.3 in. (28.7 cm)	8.9 oz. (252 g)
DataFire SYNC/570i (ISA)	3.7 in. (9.4 cm)	.75 in. (1.9 cm)	11.3 in. (28.7 cm)	9.6 oz. (272 g)
DataFire SYNC/570 (PCI)	4.2 in. (10.7 cm)	.68 in. (1.7 cm)	7.4 in. (18.7 cm)	8 oz. (210.2 g)
DataFire SYNC/570i-56 (ISA)	3.7 in. (9.4 cm)	.68 in. (1.7 cm)	11.7 in. (29.7 cm)	8.8 oz. (231.2 g)

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CERTIFICATIONS

DataFire SYNC 2000

- > FCC Class B
- > EN55022 Class B
- > EN50082-1 -2
- > EN61000-3-2, 3
- > EN60950
- > VCCI Class II
- > AS3548
- > ICES-003
- > UL 1950
- > DOC
- > CSA 22.2 No. 950
- > AS3260
- > CTR2

DataFire SYNC/570

- > UL 1950
- > CSA 22.2 No. 950
- > EN60950
- > EN50082
- > I-CTR2

DataFire SYNC/570 and SYNC/570i (ISA only)

- > FCC Part 15
- > FCC ICES-003
- > FCC EN55022 Class B

OPERATING SYSTEMS

DataFire SYNC 2000 Family

- (PCI and CompactPCI)
- > SCO UnixWare 7
- > Microsoft Windows NT 4.0

DataFire SYNC/570 Family

- (PCI and CompactPCI)
- > Novell NetWare
- > Microsoft Windows NT 4.0
- > Sun Solaris x86
- > Third Party, X.25, Frame Relay and SNA solutions for UNIX, UnixWare, OS/2, QNX, Linux, AIX and DOS

ENVIRONMENTAL

- > Ambient temperature: 10°C to 55°C (50°F TO 131°F)
- > Relative humidity: 5% to 90%
- > Altitude: 0 to 3,660 meters (0 to 12,000 feet)

DIGI SERVICE AND SUPPORT

You can purchase with confidence knowing that Digi is here to support you with expert technical support, a strong five-year warranty and a 30-day money-back guarantee.

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