4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS:
Ascend Communications, Inc. 1275 Harbor Bay Parkway Alameda, CA 94501 (510) 769-6001	Multiband Plus	Inverse multiplexing for videoconferencing LAN internetworking leased line backup and overflow, Disaster recovery, imaging
NI-1 Date: 11/92 NI-2 Date: 10/93	Price: Starts at $5K	- 2 or 4 application ports; - up to 2 T1/PRI ports, - up to 8 BRI - up to 7 SW 56 (2-w & 4-w)
Voice Interfaces: PBX support T1 drop & insert T1 to PRI conversion	Data Interfaces: RS-449 V.35 X.21	Split and combine B channels? Yes Bonding? Yes - also AIM (proprietary) ISDN Interface: S/T, PRI Power: 90-130 VAC, 0.2 - 0.4A 220-240 VAC, 0.1 - 0.2A 47-63 HZ

Additional Features:

- Remote management
- Field activation of Software features
- Call detail recording
- SNMP on T1/PRI & E1 models
- carrier diversity

Software/Operating Systems:

Flash memory, field upgradable

4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS:
Ascend Communications, Inc. 1275 Harbor Bay Parkway Alameda, CA 94501 (510) 769-6001	Multiband MAX	Bandwidth manager for data networking, PBX integration and videoconferencing; dial in WAN hub for telecommuting and remote access to Corp-LAN
NI-1 Date: N/A NI-2 Date: 10/93	Price: starts at $10K	Ports T1/E1, up to 4 PRI
Voice Interfaces: T1 Drop & Insert PRI to T1 conversion	Data Interfaces: RS-449 V.35 X.21	Split and combine B channels? Yes Bonding? Packet Inverse Multiplexing ISDN Interface: PRI Power: 90-130 VAC, 0.7-1.4 A, 220-240 VAC, 0.34-0.7 A, 47-63 Hz

Additional Features:

- LAN-to-LAN routing for TCP/IP
- Remote access routing functionality
- Call management - CDR (Call Detail Recording)
- Network Management - such as SNMP + WAN loopback
- Optional digital modems to support analog dial-in modems

Software/Operating Systems:

Flash memory, field upgradable

4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS:
Controlware Communications Systems, Inc. 1325 Campus Parkway Neptune, NJ 07753 Gene Litt (908) 919 - 0400	TAXI System	• Leased Line Backup • Switched Digital Networking Apps • Inverse Multiplexing
NI-1 Date: 3Q93 NI-2 Date: 1H94	Price: Varies based on configuration	Ports Up to 52 DTE Up to 15 BRI Up to 2 PRI
Voice Interfaces: No	Data Interfaces: V.35, RS232, X.21	Split and combine B channels? Nx64, 1 ≤ N ≤30 Bonding? (Proprietary Now) 1Q94 SDN Interface: BRI S/T, PRI S/T Power: Internal Redundant

Additional Features:

- Leased Line Backup Features:
  Flexible Leased Line Failure Detection
  Automatic Backup Qualifiers
  Automatic Leased Line Restoration
  Incoming Call Security
  Multirate Backup (56/64 Kbps through T1/E1 rates)
- Switched Digital Networking Application Features:
  Inverse Multiplexing
  V.25 bis , X.21, AT Command, Interface Lead Dialing
  Incoming Call Security
  Incoming Call Routing
  56/64 Autobaud for international interoperability
- Remote Management and SNMP support
- F ull Interworking in over 16 countries

4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS
Newbridge Networks Inc. 15 Ridge Road Upper Saddle River, NJ 07458 Albert Merwede (201) 818-8688 Fax: (201) 818-2766	TAP System	Universal Access Multiplexer (Inverse Mux, Dedicated B/W Drop and Insert, etc.)
NI-1 Date: TBD NI-2 Date: TBD	Price: $3000 - $10,000 $4500 - $10,000	Ports Up to four PRI Up to sixteen BRI
Voice Interfaces: N/A	Data Interfaces: V.35 RS-422 RS-530	Split and combine B channels? Yes, Nx64 (Max 30B, Max 30 B & D) Bonding? Yes, Modes 0, 1 & 3 ISDN Interface: S/T Power: 115V AC 220V AC 48V DC

Additional Features:

The TAP System is a universal access platform that provides support for both bandwidth on demand and dedicated bandwidth applications. In addition, the TAP System also supports, DES compliant encryption and is manageable from either the Newbridge Mainstreet 4601 or 4602 NMS System.

Software/Operating Systems:

The Mainstreet 4601:	DOS
The Mainstreet 4602:	SUN OS

This information is subject to change without notice.
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4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS:
Primary Rate Incorporated 5 Manor Parkway Salem, NH 03079 (603) 898 - 1800 Sales 1- 800- 950 - ISDN (4736)	PRI-48XP™ Dual T1/ISDN VME Controller	T1/ISDN Communications Controller with non-blocking DS0 Switching matrix
NI-1 Date: N/A NI-2 Date: 07/01/93	Price: $8550	Ports: • Two T1 Interfaces
Voice Interfaces: 23 Channels	Data Interfaces: •VME Bus •STET •Optional DS1, V.35, RS.449, DSX.1	Split and combine B channels? Yes Bonding? Yes Mode 0,1 ISDN Interface: S/T or U (dual) Power: From Bus

Additional Features:

- Direct access to T1, fractional T1, and Primary Rate
- VME slave interface to host
- Supports 32 full duplex HDLC data streams
- D and B channel packet
- V.120 Multiplexing onto channels from 64 Kbps to 1.5 Mbps
- Suited for frame relay and call relay circuits
- Also supports SW56 robbed-bit dialing modes and on-Board DS0 switching.

Software/Operating Systems:

- Complete ISDN Software
- UNIX, VRTX, VXWorks, OS9, VME Exec, POS
- PRI's SMI Programming Interface

4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS:
Primary Rate Incorporated 5 Manor Parkway Salem, NH 03079 (603) 898 - 1800 Sales 1- 800- 950 - ISDN (4736)	PRI-64™ Dual E1/ISDN VME Controller	E1/ISDN Communications Controller with non-blocking DS0 Switching matrix
NI-1 Date: N/A NI-2 Date: 07/01/93	Price: $6250	Ports: • Two E1 Interfaces
Voice Interfaces: 30 Channels	Data Interfaces: •VMEBus •TDM Highway •Optional DS1, V.35, RS.449, DSX.1	Split and combine B channels? Yes Bonding? Yes Mode 0,1 ISDN Interface: S/T or U (dual) Power: From Bus

Additional Features:

- Direct access to E1, fractional E1, and Primary Rate
- VME slave interface to host
- Supports 24 full duplex HDLC data streams
- D and B channel packet
- V.120 Multiplexing onto channels from 64 Kbps to 1.5 Mbps
- Suited for frame relay and call relay circuits
- Also supports SW56 robbed_bit dialing modes and on-Board DS0 switching.

Software/Operating Systems:

- Complete ISDN Software
- UNIX, VRTX, VXWorks, OS9, VME Exec, POS
- PRI's SMI Programming Interface

4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS:
Primary Rate Incorporated 5 Manor Parkway Salem, NH 03079 (603) 898 - 1800 Sales 1- 800- 950 - ISDN (4736)	PRI-ISA64 ™ Dual E1/ISDN Controller	E1/ISDN Communications Controller
NI-1 Date: N/A NI-2 Date: 07/01/93	Price: $3950	Ports: • Two E1 Interfaces
Voice Interfaces: 30 Channels	Data Interfaces: •ISA Bus • MVIP interface •Optional V.35, RS530, RS.449	Split and combine B channels? Yes Bonding? Yes Mode 0,1 ISDN Interface: S/T or U (dual) Power: From Bus

Additional Features:

- Direct access to T1, fractional T1, and Primary Rate
- ISA slave interface to host
- Supports 24 full duplex HDLC data streams
- D and B channel packet
- V.120 Multiplexing onto channels from 64 Kbps to 1.5 Mbps
- Suited for frame relay and call relay circuits
- Also supports SW56 robbed-bit dialing modes and on-Board DS0 switching.

Software/Operating Systems:

- Complete ISDN Software
- SCO Unix, OS2, DOS
- PRI’s SMI Programming Interface

4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS:	
Primary Rate Incorporated 5 Manor Parkway Salem, NH 03079 (603) 898 - 1800 Sales 1- 800- 950 - ISDN (4736)	Odyssey ™	• Video Hub • Integrated Access Point to Network • Packet Concentration • Terminal and Router Adapter	
NI-1 Date: 09/01/93 NI-2 Date: 07/01/93	Price: $6950 - $11,145	Ports	Two S/T or U
Voice Interfaces: No	Data Interfaces: • V.35 • RS-449 • RS-530 Ethernet	Split and combine B channels?	Yes, Nx56, Nx64, H0 H10 H11
		Bonding?	Yes Modes 0, 1
		ISDN Interface:	S/T or U
		Power:	110 VAC (5 amps)

Additional Features:

- Drop and insert for PBX or channel bank connections
- Frame relay capable
- Cell relay capable
- Switched 56 dialing capable

Software/Operating Systems:

4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS:
Promptus Communications, Inc. 207 High Point Avenue Portsmouth, RI 02871 (401) 683-6100 FAX: (401) 683-6105	OASIS 200B	Inverse Multiplexer/ Switched Bandwidth Controller
NI-1 Date: Now NI-2 Date:	Price: $6900	
Voice Interfaces:	Data Interfaces: V.35 RS-449 X.21	Split and combine B channels? Yes Bonding? Yes ISDN Interface: BRI (4) Power: 110/220

Additional Features:

- Four (4) ISDN Basic Rate lines
- Two independent data ports w/selectable V.35, RS-449 or X.21
- Choice of RS-366, X.21 or V.25 bis dialing interface
- Bonding inverse multiplexing
- Dynamic bandwidth allocation

Software/Operating Systems:

4.2.7 Inverse multiplexers, multiplexers, and communications controllers

<table>
<tr><th>COMPANY NAME</th><th>PRODUCT NAME</th><th>FUNCTIONS:</th></tr>
<tr><td>Promptus Communications, Inc.
207 High Point Avenue
Portsmouth, RI 02871

(401) 683-6100
FAX: (401) 683-6105</td><td>OASIS 1000</td><td>Inverse Multiplexer/Bandwidth Manager</td></tr>
<tr><td>NI-1 Date: 4Q93

NI-2 Date: Now</td><td>Price: $6500</td><td></td></tr>
<tr><td>Voice Interfaces: T1</td><td rowspan="2">Data Interfaces:

V.35
RS-449
X.21</td><td rowspan="2">Split and combine B channels? Yes

Bonding? Yes

ISDN Interface: PRI & BRI

Power:</td></tr>
<tr><td></td></tr>
<tr><td colspan="3">Additional Features:

• Up to Eight (8) T1/PRI Network Interfaces
• Up to 32 independent data ports w/selectable V.35, RS-449 or X.21
• Choice of RS-366, X.21 or V.25 bis dialing interface
• Bonding inverse multiplexing
• Dynamic bandwidth allocation

Software/Operating Systems:</td></tr>
</table>

4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS:
Promptus Communications, Inc. 207 High Point Avenue Portsmouth, RI 02871 (401) 683-6100 FAX: (401) 683-6105	OASIS 200T	Inverse Multiplexer/Switched Bandwidth Controller
NI-1 Date: NI-2 Date: Now	Price: $5500	
Voice Interfaces: T1	Data Interfaces: V.35 RS-449 X.21	Split and combine B channels? Yes Bonding? Yes ISDN Interface: PRI & BRI Power: 110/220

Additional Features:

- Up to two (2) T1/PRI Network Interfaces
- Two independent data ports w/selectable V.35, RS-449 or X.21
- Choice of RS-366, X.21 or V.25 bis dialing interface
- Bonding inverse multiplexing
- Dynamic bandwidth allocation

Software/Operating Systems:

4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS:
TyLink Corporation 10 Commerce Way Norton, MA 02766 (508) 285-0033	SNS 400	1. ISDN PRI Mux 2. Bellcore 1203 or multirate ISDN TA 3. ISDN PRI CSU
NI-1 Date: April 1992 NI-2 Date: 4Q93	Price: $4,995	Ports: 2 or 4 DTE Ports
Voice Interfaces: Digital PBX	Data Interfaces: V.35,RS449 RS232 RS-366	Split and combine B channels? Yes, 56k, 64k, 384k, Nx64k using Bellcore 1203 Bonding? No ISDN Interface: PRI Power: 115 VAC

Additional Features:

- Is a 2 or 4 port ISDN PRI Mux for LAN access.
- Compatible with AT&T's SW56, 64, 384K service.
- Compatible with Bellcore 1203 or multirate ISDN.
- Internal ESF CSU.
- Dialing from front panel keypad, on time of day, on DTE control signal, or ASCII terminal or RS366.
- Compatible with all video codecs

Software/Operating Systems:

Uses Flash Prom technology.

4.2.7 Inverse multiplexers, multiplexers, and communications controllers

COMPANY NAME	PRODUCT NAME	FUNCTIONS:
TyLink Corporation 10 Commerce Way Norton, MA 02766 (508) 285-0033	SNS 4000	1. Inverse multiplexer 2. ISDN PRI Mux 3. Bellcore 1203 or multirate ISDN TA 4. ISDN PRI CSU
NI-1 Date: April 1992 NI-2 Date: 4Q93	Price: $6,995	Ports: 2 or 4
Voice Interfaces: Digital PBX	Data Interfaces: V.35 RS449, RS232 , RS-366 V.25bis	Split and combine B channels? Yes, 56k, 64k, 384k, Nx64k using Imux or Bellcore 1203 Bonding? Yes ISDN Interface: PRI Power: 115 VAC

Additional Features:

- Is a 2 or 4 port ISDN PRI Inverse Mux.
- Compatible with AT&T's SW56, 64, 384K service.
- Compatible with Bellcore 1203 or multirate ISDN.
- Internal ESF CSU.
- Dialing from front panel keypad, on time of day, on DTE control signal, or ASCII terminal, RS366, V.25bis.
- Compatible with all video codecs

Software/Operating Systems:

Uses Flash Prom technology.