

NMS 520 Series

Premier Network-Managed, Universal Rate Data Service Units

- Auto adaption to line rate, interface and service type
- Full array of line measurements
- Migration to SNMP using SpectraComm 5000 system
- Up to 6 to 1 compression option saves on line costs
- Optional compatibility with IBM LPDA-2 DSUs
- Integral dial restoral via the PSTN, Switched 56, or ISDN services



Overview The NMS 520 Series is General DataComm's premier family of network managed data service units (DSUs). It delivers the capabilities today's private line, digital networks need to remain agile and robust, from universal rate access and totally non-intrusive network management to three integral dial restoral choices— analog switched network, Switched 56 or ISDN. Distinguished by extensive line measurement functions, which allow precise assessment of circuit quality, the NMS 520 Series also provides a selection of powerful interface options. IBM networks, for example, will benefit from an LPDA-2 feature, while a synchronous/asynchronous data compression option can boost throughput by up to 6 to 1.

Models equipped with the Intelligent Front Panel put a simple and cost-effective management alternative at operators' fingertips. The NMS 520 Series is also ready for migration to SNMP via introduction of the SpectraComm 5000 System for T1 integrated access. Standalone and rackmount packaging in the modular DataComm format.

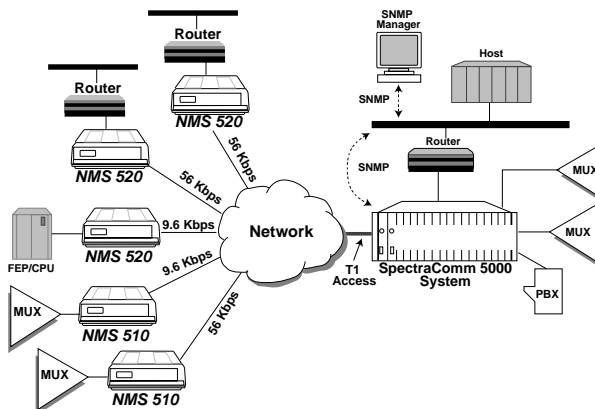
Legacy and LAN Applications

The NMS 520 Series can be used alone with the SpectraComm 5000 System, in pairs, or on secondary channel circuits with GDC's NMS 510 Series universal rate DSUs. It can operate not only in traditional point-to-point or multipoint applications with multiplexers and FEPs, but also in LAN environments with routers and servers. Equipped with the data compression option, the NMS 520 Series can be used to compress up to 384

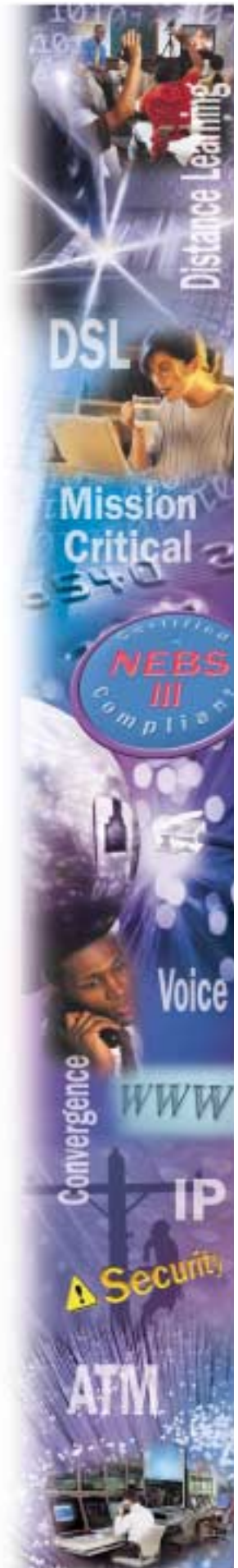
Kbps of traffic for cost-effective transmission over 56 and 64 Kbps circuits. It also supports Link Problem Determination Aid (LPDA-2) diagnostics, providing compatibility with IBM 5822 series DSUs. LPDA-2-equipped NMS 520s can not only be mixed with 5822s on the same circuit, but also managed from IBM's NetView.

Interface Flexibility The NMS 520 Series' interface flexibility is a valuable asset in controlling line and equipment upgrade costs and making installation easier. The NMS 520 Series supports synchronous data rates from 2.4 to 64 Kbps and asynchronous rates from 600 bps to 19.2 Kbps. It can operate over standard digital, 64K clear channel, and secondary channel circuits. In fact, it can detect and automatically adapt to service type (standard or secondary channel), interface (EIA/TIA-232-E,V.35, or EIA-530) and line data rates (up to 56 Kbps).

Non-intrusive Control A key feature of the NMS 520 Series is its ability to provide totally non-intrusive management on multipoint digital circuits. On digital circuits with secondary channel, diagnostic and control data is transported on the channel pro-



MIXED LAN AND LEGACY ACCESS WITH SNMP MANAGEMENT



NMS 520 Series

vided by the carrier for auxiliary purposes. On conventional digital circuits, an on-demand, in-band derived secondary channel enables remote site conditions to be reported without "bit stealing" or otherwise impacting bandwidth—even with the data compression option.

IFP or SNMP Management When remote NMS 520s are combined with a central-site SpectraComm 5000 System, SNMP management under HP OpenView is achieved via the LAN-based SNMP Manager. As an alternative, limited management can be accomplished via an optional Intelligent Front Panel (IFP), a simple-to-use yet powerful tool for basic configuration, testing, optioning, and installation.

Integral Restoral The NMS 520 Series supports highly flexible, integral dial restoral options including the DBU-89 for point-to-point dial backup via the PSTN, and the DBU-56FW for point-

to-point/multipoint restoral via Switched 56 services. Point-to-point restoral via ISDN services is also possible using the NMS 520 IFP/ISDN and its Intelligent Front Panel. Restoral can be manual, using the DSM, SSC, or IFP, or automatic, upon loss of Data Carrier Detect (DCD) for a designated time. In automatic restoral, after a given number of calls to the first of up to 10 stored numbers, the next stored number is automatically dialed. After the primary circuit's DCD has been active for a specified time, the call is terminated, and data is automatically transferred back to the private line. The DCD-loss and DCD-active time periods are user programmable. In units with the DBU-56 FW or DBU-ISDN option, the maximum time in restoral mode can also be set. Security features when entering dial backup mode include password protection, dialer identification and a call-back feature.

Specifications

DIGITAL SERVICES:

Conventional DDS and GDS, secondary channel services; 64K clear channel, wireline; PSTN, Switched 56 K, or ISDN in dial restoral mode

DATA RATES:

Synchronous: 2.4, 4.8, 9.6, 19.2, 56 and 64 kbps
Asynchronous: 600, 1.2, 2.4, 4.8, 9.6, 19.2 kbps

DATA FORMATS

Synchronous: Binary, serial
Asynchronous: Binary, serial; 8, 9, 10 and 11-bit characters (V.14 compliant)

OPERATING MODE:

Full duplex; point-to-point and multipoint; point-to-point only at 64 Kbps

DATA ENCODING:

Bipolar, return to zero

LINE REQUIREMENTS:

4-wire, non-loaded metallic circuits

LINE IMPEDANCE:

135 ohms (nominal)

BUSINESS MACHINE INTERFACE:

V.35/EIA/TIA-232-E (optional EIA-530 interface)

TRANSMITTER TIMING:

Internal, external or network timing; optional + 8-bit transmit buffer

RTS/CTS DELAY:

8, 30, 60 or 90 ms at 2.4 Kbps; 4 ms at 4.8 Kbps; 2 ms at 9.6 Kbps; 1 ms at 19.2 Kbps; 0.4 ms at 56 Kbps

LINE MEASUREMENTS:

Signal Level, Bipolar Violations, Error Probability, Jitter, Receive Level, Transmit Level, Sealing Current, Signal to Noise Ratio, Round Trip Delay

NETWORK MANAGEMENT:

SSC Controller; Intelligent Front Panel (Standalone only) or SNMP management via the SC 5000 System

DIAL RESTORAL OPTIONS:

DBU-89: Point-to-point, single-call analog dial backup via the PSTN
DBU-56FW: Point-to-point and multipoint 4-wire restoral via Switched 56K services
DBU-ISDN: Point-to-point restoral via ISDN services, compliant with the North American National-1 ISDN Network interface

DATA COMPRESSION OPTION:

Compression ratio of up to 6 to 1 (typically 4 to 1 for X.25); maximum rate of 384 Kbps synchronous, 230.4 Kbps, asynchronous
Accepts most standard protocols, with automatic recognition up to 5,000 bytes/block, including HDLC, SDLC, APPN, TCP/IP, ASYNC, X.25, DEC LAT (Async)

POWER REQUIREMENTS:

100-240 VAC, 50/60 Hz, 7.5 W nominal

HUMIDITY:

Up to 95% without condensation

PHYSICAL CHARACTERISTICS

	Standalone	Rackmount†
Height:	99 mm (3.9 in.)	267 mm (10.5 in.)
Width:	277 mm (10.9 in.)	483 mm (19.0 in.)
Depth:	18 mm (12.5 in.)	343 mm (13.5 in.)
Weight:	3.2 kg (7.1 lb)	18 kg (40.2 lb)
Shipping Weight:	3.6 kg (8.1 lb)	19 kg (42 lb)
Operating Temperature:	0° to 45° C (32° to 113° F)	0° to 45° C (32° to 113° F)
Storage Temperature:	-40° to 70° C (-40° to 158° F)	-40° to 85° C (-40° to 185° F)

† (full shelf with 16 standard front panel units)

SAFETY PROTECTION:

UL recognized and CSA approved

INTERFERENCE PROTECTION:

Verified to comply with FCC Part 15, Class A requirements and FCC Part 68