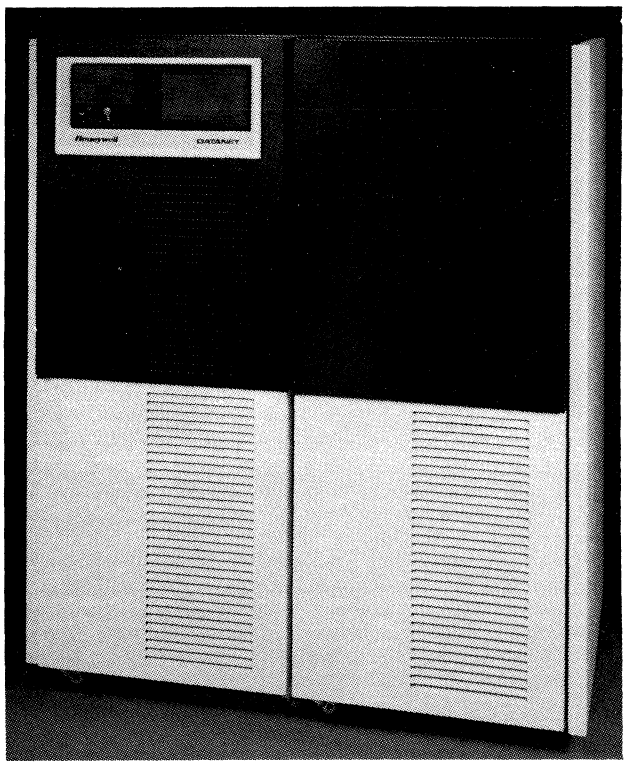
Honeywell DATANET 8 Series Network Processors

MANAGEMENT SUMMARY

UPDATE: *This report is being updated to show changes that have occurred since the last update. The DATANET 8 has been replaced by a series of communications processors that include the DATANET 8/10, 8/20, and 8/30. New pricing information has also been included in this report.*

The DATANET 8 Series of network processors were introduced by Honeywell in September 1985 as new products designed for use in conjunction with its Distributed Systems Architecture (DSA). DSA supports the rules and protocols of the International Standards Organization (ISO) "open system architecture," in which all components in a network function cooperatively as peers and no hierarchical or other specific structure is required. DSA supports X.25 packet switched and X.21 circuit switched networks, and uses the international standard HDLC protocol. While the principal application is as a front-end processor, the DATANET 8 Series network processors may also serve as remote concentrators or as standalone network switches.

The DATANET 8/10, 8/20, and 8/30 make up the DATANET 8 Series. They form a dedicated communications processor system that is based on Honeywell Level 6 ➢



Honeywell's DATANET 8/30 is the high-end model in the DATANET 8 Series of network processors. It offers cache memory, support for up to 255 data communications ports, and memory size form 2MB to 4MB. The processors can be used as a front-end network processor, a network switch, and a remote concentrator.

Honeywell's DATANET 8 Series of Communications Processors offers three models, the DATANET 8/10, 8/20, and 8/30. These processors are designed to work with Honeywell mainframes operating in a DSA-based network. By offering this series of processors, Honeywell can suit the needs of the small data comm center with minimal processing, as well as the big center with very large volumes of data communications and networking. The DATANET 8 Series processors can operate as front-end network processors, network switches, or remote concentrators.

FUNCTION: Front-end processor, remote concentrator, or network switch
HOST-COMPUTERS SUPPORTED: Honeywell DPS 7, DPS 8, DPS 88, DPS 90 computers.
ARCHITECTURE SUPPORTED: Honeywell Distributed Systems Architecture (DSA).
OPERATING SOFTWARE: Distributed Network Supervisor (DNS); GCOS 8, GCOS 64 Operating System.
PRICE: DATANET 8/10—$23,900; DATANET 8/20—$38,000; DATANET 8/30—$80,000.

CHARACTERISTICS

VENDOR: Honeywell, Incorporated, Honeywell Plaza, Minneapolis, MN 33408. Telephone (612) 870-5200.

DATE OF ANNOUNCEMENT: September 1985.

DATE OF FIRST DELIVERY: 1985.

NUMBER DELIVERED TO DATE: Information not available.

SERVICED BY: Honeywell, Incorporated.

MODELS

The Honeywell DATANET 8 Series of dedicated communications processors consists of three models: the DATANET 8/10, 8/20, and 8/30. They are single processors with central memory and cache memory in the 8/20 and 8/30. These processors can be used as a front-end processor, concentrator, switch, or any combination of these configurations. The DATANET 8/10 supports up to 31 ports, the 8/20 supports 31 ports and may be extended up to 127 ports, and the basic 8/30 supports up to 159 data communications ports with expansion up to 255 ports.

CONFIGURATION

The DATANET 8 Series processors are dedicated communications systems that are part of Honeywell's Distributed Systems Architecture network. The basic configuration for each model is discussed below. ➢

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TABLE 1. CHANNEL INTERFACE AND COMMUNICATIONS OPTIONS

Feature Number	Port Type	Interface Description	Ports No.	Cables No.	Cables Length	Max Port Speed (kbps)
Communications Interface Adapters:						
DCF8073	RS-232-C	Integrated, Asynchronous/Character-Synchronous CIA	4	4	50 ft	19.2
DCF8049	RS-232-C	Integrated, HDLC, Bit-Synchronous CIA	2	2	50 ft	19.2
DCF8053		Non-Integrated, Low-/Medium-Speed Asynchronous/Character-Synchronous CIA (Accommodates up to four LIM Connections)				
DCF8061		Non-Integrated, Medium-/High-Speed Bit-Synchronous/Character-Synchronous CIA (Accommodates one LIM Connection)				
Line Interface Modules:						
DCF8055	RS-232-C/V.24	Asynchronous/Character-Synchronous LIM	1	1	50 ft	19.2
DCF8059	MIL-STD-188C	Asynchronous/Character-Synchronous LIM	1	1	50 ft	19.2
Line Interface Modules:						
DCF8062	RS=232-C/V./24	Medium-Speed, Bit-Synchronous, HDLC LIM	1	1	50 ft	19.2
DCF8064	X.21	HIgh-Speed, Bit-Synchronous, HDLC LIM	1	1	50 ft	64
DCF8067	MIL-STD-188C	High-Speed, Bit-Synchronous, HDLC/ Character-Synchronous LIM	1	1	50 ft	64
DCF8069	V.35	High-Speed, Bit-Synchronous, HDLC/ Character-Synchronous LIM	1	1	50 ft	64
DCF8071	AT&T 301/303	High-Speed, Bit-Synchronous, HDLC/	1	1	50 ft	64
DC8024	RS-232-C	Direct Connect capability for Asynchronous or Character-Synchronous line	1	—	—	
DCF8026	RS-232-C	Universal modem bypass	1	—	—	19.2

minicomputer architecture and designed for use with the DPS 8, DPS 88, DPS 90, and DPS 7 computer systems. The basic DATANET 8/10 system consists of the Megabus connection, System Control Facility (SCF), the Multiple Device Controller-III, a 650K byte diskette, up to 1MB of main memory, the Multi-Line Communications Controller-16 (MLC-16), MLC-16 Communications Adapters, and support for up to 15 communications ports. The DATANET 8/10 also requires a display console with keyboard. The system can be expanded to include another megabyte of main memory, another network processor channel connection, additional support for up to 31 ports, a second diskette drive, LIM chassis for up to 23 lines, an optional console table, and an optional 100-cps, read-only printer for the console.

The basic configuration for the DATANET 8/20 is the same as the 8/10 with some additions. The single processor module offers an 8K-byte cache memory and a 20-slot chassis as opposed to the 5-slot chassis in the 8/10. Up to

DATANET 8/10

The DATANET 8/10 consists of a single processor and cabinet with five slot chassis; Megabus connection among all elements; 1MB of central memory that can be expanded to 2MB; an Automatic Function Control with Cross-Net Load/Dump feature; a Multiple Device Controller-III; integrated diskette unit; a System Control Facility (SCF); and support, through the Multi-Line communications Controller-16 (MLC-16), for up to 15 communications ports. A console and all necessary Channel Interface Bases and Channel Interfaces must be added to the basic system. When the DATANET 8/10 is to function as a front-end processor, it must also include at least one host interface.

DATANET 8/20

Standard features of the DATANET 8/20 include a single processor with 8K byte cache memory and a cabinet with 20 slot chassis; Megabus connection; 1MB of main memory; integrated diskette drive; System Control Facility (SCF); Automatic Function Control with Cross-Net Load/Dump feature; up to seven Communications Interface Adapters (CIAs) and Line Interface Module (LIM) options for MLC-

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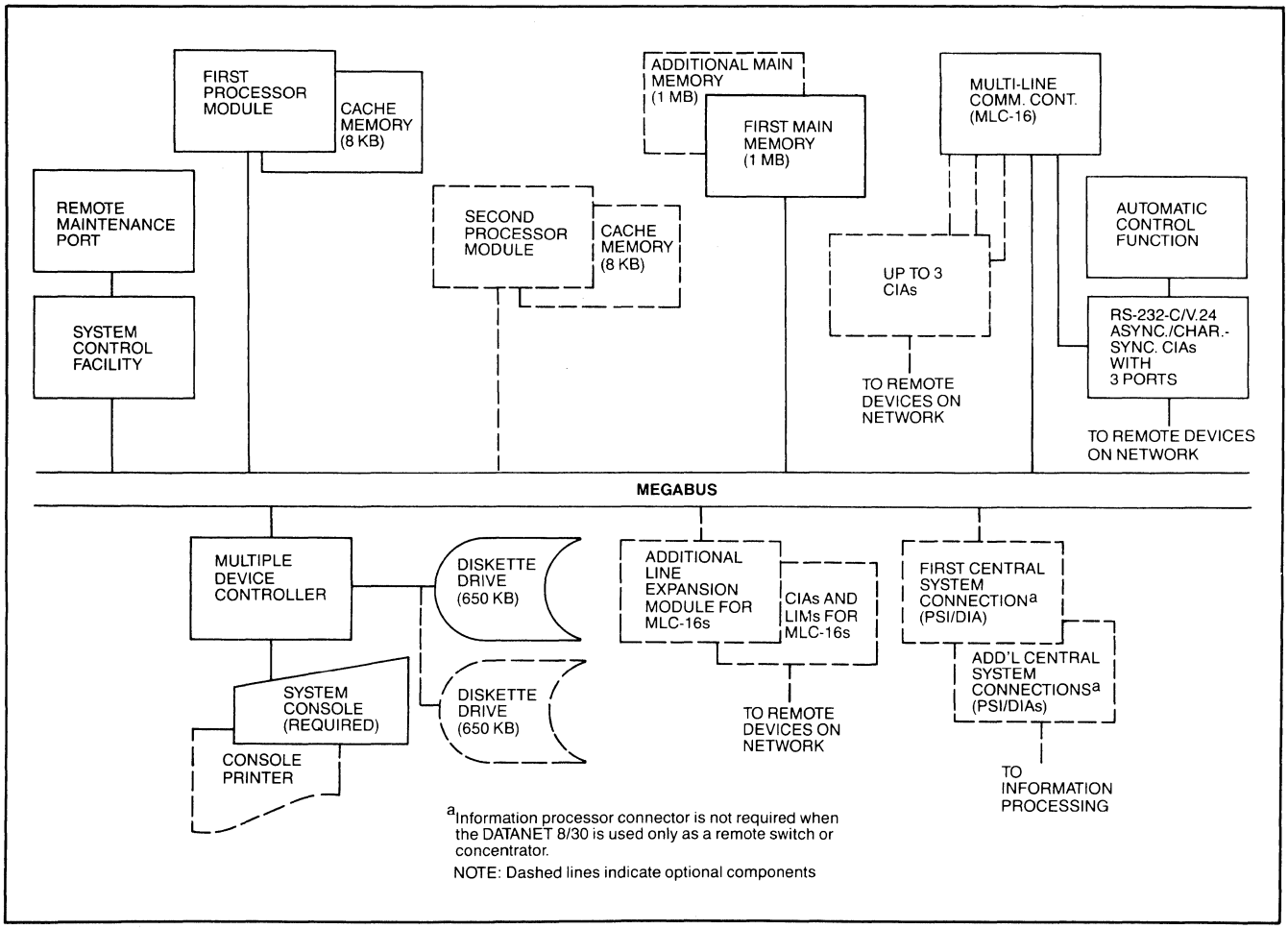

Figure 1. DATANET 8/30 configuration.

seven CIAs, plus LIM options for MLC-16s are also part of the DATANET 10/20. Expansion of the network processor allows it to go from supporting up to 63 lines to supporting up to 127 communications lines. It can also support up to eight additional MLC-16s and up to four CIAs per MLC-16, plus LIM options, and up to four additional processor connections can be made.

The DATANET 8/30 has the same configuration as the 8/20, but it also offers two megabytes of main memory, a 30-slot chassis in dual cabinets, and support for 159 data communications ports. The capacity of the 8/30 can be expanded up to 255 lines. Expansion options include the addition of a second processor subsystem and 8K byte cache memory, another two megabytes of main memory, a Line Expansion module with a third cabinet, a Network Processor Channel Connection, and another diskette drive. An expanded 8/30 can also support up to 16 MLC-16s, up to four CIAs per MLC-16, up to four additional information processor connections, and an optional 100-cps, read-only printer.

The software used to control the DATANET 8 Series is the Distributed Network Supervisor (DNS), a package that had

16s; a Multi-Line Communications Controller-16 (MLC-16) that connects remote and network devices to the processor; and Multiple Device Controller-III (MDC-III) that supports diskette drive and DATANET console.

DATANET 8/30

The components that make up the DATANET 8/30 include a single processor subsystem that has 8K byte cache memory and a dual cabinet with a 30 slot chassis; a Megabus connection; 2MB of main memory; one integrated diskette drive; a System Control Facility; Automatic Functions Control with Cross-Net Load/Dump feature; a Multiple Device Controller-III that supports two 5¼-inch diskette drives and one system console; and a Multi-Line Communications Controller-16.

The *Megabus*, common to the three systems, is the "heart" of the communications processor. The main components of the systems are connected to the Megabus and data transfers among the components are done through the Megabus. The System Control Facility, cache memory (for the DATANET 8/20 and 8/30), processor modules, MDC-III, information processor connections, main memory, and MLC-16s are all attached to the Megabus.

The *System Control Facility (SCF)*, part of the communications processor's hardware, provides basic system operation control panel functions, DATANET display console inter-

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been designed specifically for the DATANET 8. DNS, in conjunction with the system, provides for remote job entry, timesharing, and transaction processing. When Honeywell's Distributed Systems Satellite (DSS) system is included in the network, the DNS software controls the network connections to the DSS processors, and supports DSS facilities such as terminal concentration, file transfer, distributed transaction processing, remote batch operations, and local DSS data entry functions. In addition, DNS supports X.25 packet switched and X.21 circuit switched networks. DNS also incorporates the DSA-based network management and control functions shared in common with all DSA-based systems, such as network monitoring, software loading, dumping, data logging for statistical, billing, and maintenance purposes, inline testing, and software generation.

COMPETITIVE POSITION

As a communications processor for Honeywell networks, the DATANET 8 Series network processors' competition is strictly intramural. It competes only with Honeywell's DATANET 6661. The choice between the processors depends entirely on the user's networking requirements. For simple, single-network configurations containing only Honeywell equipment (and some asynchronous ASCII terminals), the non-DSA DATANET 6661 suffices. For users who require such DSA advantages as remote switching and concentrating and public network support, the DATANET 8 Series is a must.

ADVANTAGES AND RESTRICTIONS

The DATANET 8 Series of network processors have the advantage of being the only processors on the market that handle communications in a Honeywell DSA network. As full-scale communications processors go, the DATANET 8 Series are relatively elegant machines, physically small, configurationally simple, and entirely capable. The wide range of specially tailored software interfaces for X.25 and X.21 public data networks is a definite plus.

The DATANET 8 Series' restrictions are the restrictions of the architecture it supports, Honeywell's DSA, which is designed to comply more closely with the ISO Open Systems Interconnection reference model than any competing vendor's architecture. Although the ISO model has defined the Physical through Transport Layers in detail, work is still being done on implementing the higer layers. As the ISO arrives at detailed models for the higher layers, Honeywell will face the choice of continuing to comply, perhaps at the cost of major software revisions, or to go its own way, thus risking incompatibility with a potential industry standard. □

face, and support for remote console and control panel maintenance functions, which are used by Honeywell's Technical Assistance Center (TAC) to provide remote support to users.

The *Processor Module* operates asynchronously under firmware control as well as DNS networking software. In the DATANET 8/10, it includes a cabinet with space for the expansion options. In the 8/20 and 8/30, the module includes an 8K byte cache memory as well as an extended performance option that has a second processor module with 8K byte cache memory.

The *Multi-Line Communications Controller-16 (MLC-16)* is used to connect network and remote devices to the DATANET communications processors. Space is available for three RS-232-C/V.24 ports; and additional MLC-16s, Communications Interface Adapters, and Line Interface Module options that support additional communications ports (number available depends upon which DATANET model is used).

The *Multiple Device Controller-III's (MDC-III)* function is to support operation of the 5¼-inch diskette drive units and to support the functions of the system console.

The *Diskette Drive Unit* is for 5¼-inch diskettes. The unit has the capacity of 650K bytes for executive software storage. There is also an optional second diskette drive for additional storage capacity.

The *Automatic Control Function (ACF)* has a read-only (PROM) extension to the main memory, a group of switchable setting for the operating software, and a system time that is used to restart and to detect DATANET 8 series malfunctions. The Cross-Net Load/Dump feature that offers support for remotely loading or dumping the DNS executive software is also included in the ACF.

The DATANET *Console* features a 24 lines of 80 characters display and keyboard. Each DATANET 8 Series processor requires a console. Each processor site also needs a printer and an optional console table.

CONNECTION TO HOST AND PERIPHERALS

The processors The DATANET 8 Series can be channel-attached to a local DPS 8, DPS 88, or DPS 90 computer operating under the GCOS 8 Operating system. It can also be attached to a Level 64/DPS system using the GCOS 64 or GCOS operating system, or a DPS 7 system using the GCOS 64 operating system.

The physical connections are done through network processor channel connections options, such as the Peripheral Subsystem Interface (PSI) or Direct Interface Adapter (DIA) channels. The choice of which option to use is made by the central system. If two central system connections are optioned for only one DATANET 8/30 (medium systems only), the maximum communications line capacity is reduced to 15 lines.

CONNECTION TO THE NETWORK

The *Multi-Line Communications Controller-16* offers the line-interface functions that are needed to accommodate the remote computer connections and terminals. Each line-interface function may have different data transfer rates, communications control procedures, and character size. The controller supports low-, medium-, and high-speed data transfer with other computers and terminals and data rates up to 64K bps. The MLC-16 also supports asynchronous, bit-synchronous, and character-synchronous transmissions, as well as two-way alternate and two-way simultaneous transmission modes combinations. The DATANET 8 Series processors can support up to two MCL-16s, depending upon options ordered and configuration demands. The controller can provide support for up to 16 communications lines through four Communications Interface Adapters (CIAs), which are each able to support from one to four data communications lines.

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Channel Interface Bases provide the interfacing between the Megabus and the Channel Interfaces. Each Channel Interface Base contains four slots for Channel Interfaces. Each Channel Interface generally occupies one slot; the exception is that the HDLC Wideband and HDLC CCITT/V.35 Wideband Channel Interfaces each require two Channel Interface Base slots. Two different types of Channel Interfaces may be mixed on a single Channel Interface Base with a DATANET 8 Series processor, depending on the Line Configurability options selected. Honeywell offers a variety of Channel Interfaces to accommodate the data requirements of various line types.

The four CIAs are divided into two types that can be used with the MLC-16: integrated types that do not need Line Interface Modules (LIMs), and non-integrated types that do require LIMs. The four-line, RS-232-C, integrated, asynchronous/character synchronous adapter and the two-line RS-232-C, integrated, bit-synchronous adapters do not need LIMs. The four-line, non-integrated, low-/medium-speed, asynchronous/character synchronous adapter and the single-line, non-integrated, medium-/high-speed, character synchronous or bit synchronous adapter require a LIM. These integrated CIAs accommodate both physical and line functions within the adapter. The line positions are connected through an internal cable to a communications bulkhead, which is where the external data cable is connected. Depending on the type of Channel Interface, either one or two communications lines can be connected. *See Table 1* for specifications of the various Channel Interfaces.

The LIMs, used by the CIAs, are each mounted in a LIM chassis that provides a connection to the external data cable. LIMs available include RS-232-C/V.24, MIL-188C, V.35, X.21, and AT&T 301/303.

TRANSMISSION SPECIFICATIONS

Asynchronous, bisynchronous, or synchronous transmissions are supported at up to 19.2K bps using RS-232-C/V.24, or MIL-188C interfaces. HDLC support is provided for RS-232-C transmission at up to 19.2K bps. HDLC support is also provided for X.21, MIL-188C, and for domestic or CCITT V.35-compatible wideband transmissions at up to 6400 bps. HDLC support for AT&T 301/303 is also at 6400 bps. Synchronous and asynchronous direct cable connections and a Universal Modem Bypass option are also offered.

SOFTWARE

DNS operates in the DATANET 8 Series in conjunction with a DPS 8, DPS 88, or DPS 90 host running the GCOS 8 operating system, or a DPS 7 host running under a GCOS 64 operating system to provide support for transaction processing, distributed transaction processing, terminal concentration, timesharing, remote job entry, file transfer, direct program access, and host-to-satellite/satellite-to-host support for DM-IV Transaction Processing. DNS supports Public Data Networks (PDNs) and Value Added Networks (VANs), including X.25 packet-switched and X.21 circuit-switched networks. Honeywell offers specific interface software for a number of U.S. and overseas public data networks.

The administrative functions distributed throughout the various systems that make up the DSA network include network monitoring, software loading, dumping, data logging for statistics, billing and maintenance, in-line tests, and software generation.

DNS supports a variety of terminals such as the Honeywell TWU/PRU 1003, 1005, and 1901, VIP 7100/7200/7801/7802, VIP 7700R/7760/7804/7805, 7813, 7814, HDS2, and VTS 77XX. Also supported is the DSA 6), which is a hardware/software system that allows a DPS 6 system to function as a satellite processor and to communicate with a medium or large system in a DSA network.

Optional software packages are required to support some processor functions, such as cross-network loading and distributed file transfer, and to drive all host, terminal, and internetworking connections. Please see PRICING for a complete list of all available packages.

PRICING

The DATANET 8 Series is available for purchase or for rental under a one-, three-, or five-year agreement. The standard maintenance contract provides for service during the period from Monday through Friday from 8 a.m. to 6 p.m. Contracts for service beyond the standard price are available; the additional charge is based on a fixed percentage of the basic monthly maintenance fee. Alternatively, the user can obtain on-call maintenance service at hourly rates.

EQUIPMENT PRICES

Models		Purchase Price ($)	5-Year Lease ($)	3-Year Lease ($)	1-Year Lease ($)	Monthly Maint. ($)
DCU8110	DATANET 8/10 Network Processor—w/ 1MB central memory that can be expanded to 2MB; supports 31 data communications ports; 3 RS-232-C async/character synchronous ports are included with basic system.	23,900	795	950	1,195	130
DCU8120	DATANET 8/20 Network Processor—contains cache memory and 1MB central memory; can be upgraded to a dual processor system with dual cache memory; central memory can be expanded to 2MB; supports 31 ports and may be extended to 127 ports; 3 RS-232-C/V.24 async/char. sync ports are included with basic system.	38,000	1,275	1,525	1,900	215
DCU8130	DATANET 8/30 Network Processor—cache memory and 2MB of central memory; basic system can be upgraded to a dual processor system with dual cache memory and 4MB central memory; supports 159 ports and may be expanded to 255 ports; 3 async/char. sync ports are included with basic system.	80,000	2,675	3,200	4,000	350

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		Purchase Price ($)	5-Year Lease ($)	3-Year Lease ($)	1-Year Lease ($)	Monthly Maint. ($)
DATANET 8/10 Options						
DCM8110	One Megabyte Memory Expansion Module	7,000	230	280	350	50
DCE8105	Multiple network Processor Channel Connection Adapter for DATANET 8/10 to Medium systems only; adapter needed to support multiple network process channel connections to medium systems (DPS 7 or DPS 7E).	25	1	1	2	N/A
DATANET 8/20 Options						
DCP8120	Extended performance option consisting of 2nd processor and associated cache memory.	14,000	475	560	700	115
DCM8120	One Megabyte Memory Expansion Module.	7,000	235	280	350	50
DCE8121	First Line Expansion Module; provides support for up to 32 additional data communications ports, to 63 ports maximum per DATANET 8/20.	2,500	85	100	125	5
DCE8122	Second Line Expansion Module; provides support for up to 64 additional data communications ports, to 127 ports maximum per DATANET 8/20; prerequisites are DCM8120 and DCE8121.	5,000	170	200	250	10
DATANET 8/30 Options						
DCP8130	Extended Performance Option consisting of 2nd processor and associated cache memory for DATANET 8/30.	27,000	900	1,080	1,350	220
DCM8130	Two Megabyte Memory Expansion module.	14,000	470	560	700	100
DCE8131	Line Expansion module; provides support for up to 96 additional data communication ports, to 255 ports maximum per 8/30; prerequisite is DCM8130.	7,500	250	300	375	15
DATANET 8 Series options						
DCF8002	Console Visual Display Terminal, 24 x 80 characters; one console visual display terminal is required with each DATANET.	795	30	35	40	20
DCF8003	100 Character Per Second Hard copy Console Printer (receive only printer); one is required for each system number which utilizes DATANET 8, 8/10, 8/20, or 8/30 network processors.	1,195	40	50	60	22
DCF8004	Console Table for Console components.	750	25	30	40	N/A
DCF8005	Second 5¼-inch diskette drive.	800	25	30	40	16
DCE8103	Network Processor Channel Connection (*see notes) (Host Connect) to DPS 7 System, maximum of two.	8,000	288	319	339	65
DCE8104	Network Processor Channel Connection (Host Connect) to DPS 7E System.	8,000	288	319	339	65
DCE8107	Network Processor Channel Connection (Host Connect) to L66 DPS System.	8,000	288	319	339	65
DCE8106	Network Processor Channel Connection (Host Connect) to DPS 8 with Input/Output Multiplexer (IOM).	8,000	288	319	339	65
DCE8109	Network Processor Channel Connection (Host Connect) to DPS 88 System with Channel Adapter Unit (CAU).	8,000	288	319	339	65
DCE8108	Network Processor Channel Connection to DPS 8 with Input/Output Processor (IOP) or DPS 88 with Channel Buffer Unit (CBU).	8,000	288	319	339	65
DCE8111	Network Processor Channel Connection (Host Connect) to DPS 90 System with Input/Output Processor (IOP).	8,000	288	319	339	65
DCF8052	Multiline Communications Controller-16 (MLC-16) accommodates up to four Communications Interface Adapters (CIAs); max. of 16 data communication ports per MLC-16.	2,700	90	110	135	15
Low/Medium Speed options						
DCF8073	RS-232-C Asynchronous/Character Synchronous Integrated Communications Interface Adapter with four RS-232-C Data Communications ports; includes 50 ft. cables with maximum port speed of 19.2K bps.	2,000	70	80	100	16
DCF8049	RS-232-C Bit Synchronous HDLC Integrated Communications Interface Adapter with two RS-232-C Data Communications ports. Includes two 50 ft. cables; max. port speed is 19.2K bps.	3,200	110	130	160	26
DCF8053	Low/medium speed Asynchronous/Character Synchronous Communications Interface Adapter; accommodates up to four line interface module connections; any combination of DCF8055 and DCF8059 is allowed.	1,000	35	40	50	7
DCF8055	RS-232-C/V.24 Asynchronous/Character Synchronous Line Interface Module with one RS-232-C/V.24 Data Communications port; includes one 50 ft. cable and max. speed is 19.2K bps.	275	10	12	15	3
DCF8059	MIL-188C Asynchronous/Character Synchronous Line Interface Module with one MIL-188C Data Communications port; includes one 50 ft. cable and max. port speed is 19.2K bps.	275	10	12	15	3
Medium/High Speed options						
DCF8061	Medium/High Speed Character Synchronous or Bit Synchronous Communications Interface adapter; accommodates one Line Interface module connection; DCF8062 or DCF8064 or DCF8067 or DCF8069 or DCF8071.	2,200	75	90	110	16

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		Purchase Price ($)	5-Year Lease ($)	3-Year Lease ($)	1-Year Lease ($)	Monthly Maint. ($)
Medium Speed options for DCF8061						
DCF8062	RS-232-C/V.24 Bit Synchronous (HDLC) Line Interface module with one RS-232-C/V.24 Data Communications ports.	275	10	12	15	3
High Speed options for DCF8061						
DCF8064	X.21 Bit Synchronous (HDLC) Line Interface with one X.21 Data Communications port; max. port speed is 64K bps.	450	15	20	25	3
DCF8067	MIL-188C Bit Synchronous (HDLC)/Character Synchronous Line Interface module with one MIL-188C Data Communications port; max. port speed is 64K bps.	450	15	20	25	3
DCF8069	V.35 Bit Synchronous (HDLC)/Character Synchronous Line Interface Module with one V.35 Data Communications port; max. port speed is 64K bps.	450	15	20	25	3
DCF8071	AT&T 301/303 Bit Synchronous (HDLC)/Character Synchronous Line Interface Module with one AT&T 301/303 Data Communications port; max. port speed is 64K bps.	450	15	20	25	3

*(notes) DATANET 8/20 and DATANET 8/30 can accommodate a max. of 4 Network Processor Channel Connections to GCOS 8 based systems or 2 Network Processor Channel Connections to GCOS 7 based systems.

DATANET 8/10 can accommodate a maximum of 1 Network Processor Channel Connection to DPS 8, 88, or 90 systems.

DATANET 8/10 can accommodate a maximum of 2 Network Processor Channel connections to DPS 7 or 7E systems. Multiple Network Processor Channel Connections on DATANET 8/10 require DCE8105 in addition to the second Network Processor Channel Connection DCE8103 or DCE8104.

SOFTWARE PRICES

		Monthly Charge ($)	Support Service ($)
Migration Aid			
SNV8001	DNS 200 to DNS 300 configuration; aid 8	N/A	N/A
DNS Basic Functions			
SNC8120	Distributed Network Supervisor (DNS); basic functions, NAD, Async and Sync terminal support, Cross-Net Load/Dump.	560	99
SNC8121	Network Operator Interface (NOI); needs SNC8120.	11	5
DNS Host Connections			
SNC8123	Level 66/DPS, DPS8, DPS 88, DPS 90 host and multiple host connect; requires SNC8120.	60	11
SNC8124	DPS 7 Host and Multiple Host Connect; requires SNC8120.	60	11
DNS Primary Network Connections			
SNC8131	High Level Data Link Control (HDLC) point-to-point, and NRM; requires SNC8120.	95	18
SNC8122	Value Added Network SNC8120 (Packet Switch X.25), PBX, LAN, and PAD support; requires SNC8131.	185	33
SNC8126	Primary Network Support X.21 interface; requires SNC8131.	185	33
Secondary Network Functions			
SNC8127	Interactive Binary Synchronous Terminal Support (3270); requires SNC8120.	90	17
SNC8128	Remote Batch Binary Synchronous (2780/3780) workstation support; requires SNC8120.	80	14
SNC8125	Binary Synchronous (2780) support for DPS 7; requires 8120.	60	11
SNC8129	Remote Computer Interface (RCI) terminal support; requires SNC8120.	50	9
SNC8130	Logical High-Level Data Link Control; requires SNC8120.	125	22

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		Monthly Charge ($)	Support Service ($)
DNS Host Executable Software products			
SNC8190	Host Administrative Facilities (GCOS Admin, GCOS 8-8 Min); requires SNC8120, SNC8123, SNC8193.	155	28
SNC3193	Network Administration Facility (Log File Formatter - V5, one needed for each DSA Network using DNS 300); requires SNC8190 or SNC8195.	35	6
SCC3201	GCOS 7 Front-End Network Processor Support (FNPS); requires SNC8120, SNC8124.	17	5
SCU3230	Administrative Utilities Programmatic Interface (AUPI 7) for GCOS 7 systems; requires SNC8120.	35	6
File Transfer Utilities			
SVC8051	Unified File transfer 8 (UFT8).	200	75
SNC8094	Host to Host File Transfer GCOS/GCOS 8 (FILTRN).	17	5
SEC6202	Level 6 Host File Transceiver Facility GCOS (FTF66).	18	7
SVC8006	Host File Transceiver for Level 6 GCOS 8 (FTF66).	18	6
SCC3207	Unified File transfer 7 (UFT7).	17	5
SCC3206	File Transfer Facility/6 (FTF/6) - GCOS 7.	51	5
Remote Batch Utilities			
SCC3209	Remote Batch Facility/6 (RBF/6); requires SCC3206.	32	6
SCC3210	Distributed Job Processing; requires SCC3207.	67	14
Distributed Network Supervisor Entry (DNS/E) Packaging			
SNC8195	Distributed Network Supervisor/Entry GCOS 3/GCOS 8.	450	80
SNC8196	Distributed Network Supervisor/Entry (DNS/E/7) GCOS 7.	450	80
SNC8197	Remote Switch/Concentrator.	375	66
DNS Software Update options			
SNC8118	Diskette (8-inch) software updates for DN8.	10	N/C
SNC8119	Diskette (5¼-inch) software updates.	10	N/C ■

Honeywell Datanet 8 Network Processor

A network processor for Honeywell DPS 8, DPS 88, DPS 7, and Level 64/DPS mainframes operating in a DSA-based network.

The Datanet 8 features 512K or 1.5M bytes of main memory and support for up to 128 communications lines. The system can communicate with up to two hosts concurrently, and can function as a front-end processor, a switching node, or a remote concentrator.

An entry-level Datanet 8, including 512K bytes of memory, a 30-cps console, one diskette drive, one host interface, and support for 16 communications lines is priced at $52,010, plus $320 per month for maintenance. One-, three-, and five-year leasing is available.

MANAGEMENT SUMMARY

The Datanet 8 Network Processor was introduced in October 1980 as one of several new products designed for use in conjunction with Honeywell's Distributed Systems Architecture (DSA), which was announced at the same time. DSA is the second phase of Honeywell's Distributed Systems Enviornment (DSE) network architecture. It supports the rules and protocols of the International Standards Organization (ISO) "open system architecture," in which all components in a network function cooperatively as peers and no hierarchical or other specific structure is required. DSA supports X.25 packet-switched and X.21 circuit-switched networks, and uses the international standard HDLC protocol. While its principal application is as a front-end processor, the Datanet 8 may also serve as a remote concentrator or as a standalone network switch.

The Datanet 8 itself is a dedicated communications processor system based on Honeywell Level 6 minicomputer architecture and designed for use with the DPS 8, DPS/88, DPS 7, and Level 64/DPS computer systems. The basic Datanet 8 system consists of the processor, 512K bytes of memory, a 256K-byte diskette, and support for up to 16 communications lines. Either a 30-cps or 120-cps keyboard/printer terminal is required as a console. The system can be expanded to include enhanced processor power, one to four host interfaces, and support for up to 128 communications lines. When more than one host interface is configured, all paths can operate concurrently. If additional

CHARACTERISTICS

VENDOR: Honeywell Incorporated, Honeywell Plaza, Minneapolis, MN 33408. Telephone (612) 870-5200.

DATE OF ANNOUNCEMENT: October 1980.

DATE OF FIRST DELIVERY: First quarter 1981.

NUMBER DELIVERED TO DATE: Information not available.

SERVICED BY: Honeywell Incorporated.

CONFIGURATION

The Datanet 8 processor is a dedicated communications system based on Honeywell's Level 6 minicomputer architecture and designed to operate in a Honeywell Distributed Systems Architecture network. The basic Datanet 8 consists of a processor, 512K bytes of memory, an Automatic Control Function, a Multiple Device Controller, a 256K-byte diskette drive, and support for up to 16 communications lines. A console and all necessary Channel Interface Bases and Channel Interfaces must be added to the basic system. When the Datanet 8 is to function as a front-end processor, it must also include at least one host interface.

The Datanet 8's central processor operates asynchronously under firmware control and utilizes a 16-bit internal word structure. The high-speed RAM memory subsystem performs all storage functions without restrictions on address sequences, data patterns, or repetition rates. Memory features include single- and double-word fetch, self-contained initialize and refresh logic, and standard EDAC (error detection and correction) capabilities. The Automatic Control Function provides a PROM extension to the main memory, a system timer, and a set of control settings for software load control, detection of system failure, and automatic restart after failure.

The Multiple Device Controller provides for attachment of the 256K-byte diskette drive and the system console, which may be a 30-cps or 120-cps keyboard/printer terminal. A second 256K-byte diskette drive can also be added as an option.

Honeywell Datanet 8 Network Processor

TABLE 1. DATANET 8 INTERFACE OPTIONS

Type of Line Interface	Maximum Speed, bps	Feature Number	Number of Lines Supported
Dual RS-422-A asynchronous interface to an auto-call unit	9600	DCF8009	2
Dual RS-232-C synchronous	9600	DCF8011	2
Dual RS-232-C asynchronous	9600	DCF8012	2
MIL-188-C synchronous	9600	DCF8014	1
Dual MIL-188-C asynchronous	9600	DCF8015	2
MIL-188-C sync. HDLC wideband*	56,000	DCF8016	1
MIL-188-C sync. HDLC	9600	DCF8017	1
Dual RS-232-C bisynchronous	9600	DCF8018	2
RS-232-C sync. HDLC	19,200	DCF8020	1
Bell 301/303 sync. HDLC wideband*	56,000	DCF8022	1
V.35 sync. HDLC wideband*	56,000	DCF8023	1
Dual async. current loop	9600	DCF8036	2
RS-232-C direct connect async. or sync.	9600	DCF8024	1
Universal modem bypass	19,200 (sync.) 1800 (async.)	DCF8026	1

*Requires two Channel Interface Base slots.

communications processing support, beyond what a single Datanet 8 can handle, is required, a second Datanet 8 can be configured with either type of host.

The software used to control the Datanet 8 is the Distributed Network Supervisor (DNS), a package designed specifically for, and introduced with, the Datanet 8. DNS, in conjuction with the system, provides for remote job entry, time-sharing, and transaction processing. When Honeywell's Distributed Systems Satellite (DSS) system is included in the network, the DNS software controls the network connections to the DSS processors, and supports DSS facilities such as terminal concentration, file transfer, distributed transaction processing, remote batch operations, and local DSS data entry functions. In addition, DNS supports X.25 packet-switched and X.21 circuit-switched networks. DNS also incorporates the DSA-based network management and control functions shared in common with all DSA-based systems, such as network monitoring, software loading, dumping, data logging for statistical, billing, and maintenance purposes, inline testing, and software generation.

COMPETITIVE POSITION

As a communications processor for Honeywell networks, the Datanet 8's competition is strictly intramural. It competes only with Honeywell's Datanet 6661. The choice between the two depends entirely on the user's networking requirements. For simple, single-network configurations containing only Honeywell equipment (and some asynchronous ASCII terminals), the non-DSA Datanet 6661 suffices. For users who require such DSA advantages as remote switching and concentrating and public network support, the Datanet 8 is a must.

ADVANTAGES AND RESTRICITIONS

The Datanet 8 is the only processor on the market that does the job it was designed to do: to handle communications in a Honeywell DSA network. As full-scale communications

One host interface is required for connection to a local mainframe. Up to three additional host interfaces may be added if more than one path to a single host or channels to other hosts are desired. All four channels can operate concurrently.

Each Channel Interface Base provides the logical interfacing for up to eight communications lines; each Channel Interface provides for physical connection of one or two lines to the Channel Interface Base. The maximum system configuration allows for a total of up to 16 Channel Interface Bases and up to 64 Channel Interfaces. For more information on Channel Interface Bases and Channel Interfaces, see "TRANSMISSION SPECIFICATIONS" and Table 1.

A Megabus system-and-I/O bus is inherent in the Datanet 8's basic architecture, and provides interfacing among all system components. The maximum internal data transfer rate is approximately 6M bytes per second.

A memory increment, a processor performance module, and two line configurability enhancements provide for the expansion of the basic system. The memory increment increases the main memory capacity from the basic 512K bytes to the maximum of 1536K bytes in two steps. The processor performance and line configurability options can be implemented sequentially in three steps. First, a Line Configurability Enhancement (feature DCE8002) can be added to extend the system support to 64 communications lines. Next, a Processor Power Module Enhancement (feature DCE8003) can be added to boost processor performance; with the appropriate configuration and optimum instruction mix, this option can support execution of up to one million instructions per second. Third, an Additional Line Configurability Enhancement (feature DCE8004) can be added to increase the system support to the maximum of 128 lines.

If a network configuration demands more front-end processor power or capacity than a single Datanet 8 can deliver, a second Datanet 8, with its own memory and with or without its own Power Module Enhancement option, can be configured with a single host.

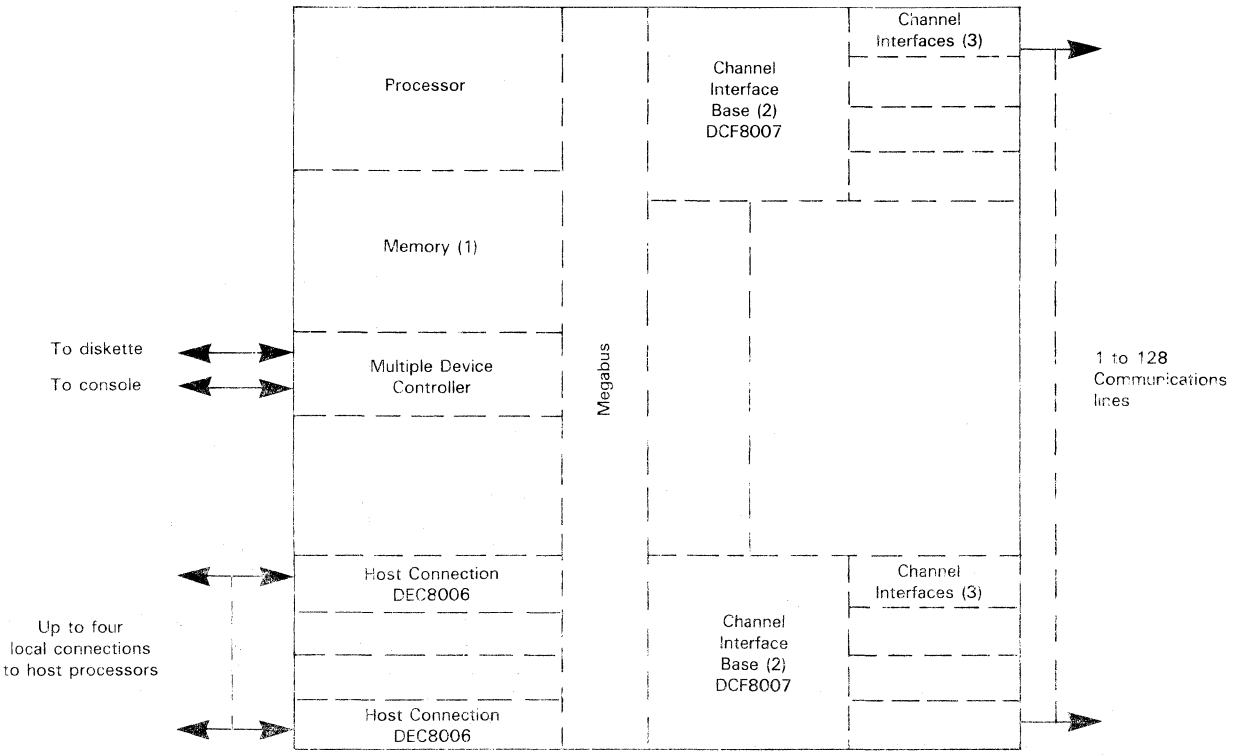
TRANSMISSION SPECIFICATIONS

Channel Interface Bases provide the interfacing between the Megabus and the Channel Interfaces. Each Channel Interface Base contains four slots for Channel Interfaces. Each

Honeywell Datanet 8 Network Processor

Configuration

Datanet 8 Network Processor



(1) Basic memory is 512K bytes, expandable to 1,536K bytes in two increments.
(2) Up to 16 Channel Interface Bases may be included in a maximum system configuration.
(3) Up to four Channel Interfaces can be attached to one Channel Interface Base. Depending on the type of line to be connected, each interface can support one or two lines; see Table 1.

processors go, the Datanet 8 is a relatively elegant machine, physically small, configurationally simple, and entirely capable. Its wide range of specially-tailored software interfaces for X.25 and X.21 public data networks is a definite plus.

The Datanet 8's restrictions are the restrictions of the architecture it supports, Honeywell's DSA. That architecture is designed to comply more closely with the ISO Open Systems Interconnection reference model than any competing vendor's architecture. However, the ISO model now covers only the Physical through Transport Layers in detail. As the ISO arrives at detailed models for the higher layers, Honeywell will face the choice between continuing to comply (perhaps at the cost of major software revisions) or to go its own way (risking incompatability with a potential industry standard).

USER REACTION

Honeywell provided Datapro with a list of Datanet 8 users, of whom we were able to contact four by telephone. All but one use the Datanet 8 as a front-end processor for DPS 8 systems. The lone exception uses the Datanet 8 as a front-end processor for a Level 64 system. The users' ratings are as follows:

Channel Interface generally occupies one slot; the exception is that the HDLC Wideband and HDLC CCITT-V.35 Wideband Channel Interfaces each require two Channel Interface Base slots. Two different types of Channel Interface may be mixed on a single Channel Interface Base with a Datanet 8, depending on the Line Configurability options selected, providing support for up to 64 Channel Interfaces.

Honeywell currently offers 14 different Datanet 8 Channel Interfaces to accommodate the data requirements of various line types. Asynchronous, bisynchronous, or syncronous transmissions are supported at up to 9600 bps using RS-232-C, RS-422-A, or MIL-188-C interfaces. HDLC support is provided for RS-232-C transmission at up to 19.2K bps, and for domestic or CCITT-V.35-compatible wideband transmissions at up to 56K bps. Synchronous and asynchronous direct cable connection, an auto-dial unit interface, a current loop interface, and a Universal Modem Bypass option are also offered. Depending on the type of Channel Interface, either one or two communications lines can be connected. See Table 1 for specifications of the various Channel Interfaces.

CONNECTION TO HOST COMPUTER: The Datanet 8 can be channel-attached to a local DPS 8 or DPS 88 computer operating under the GCOS 8 Operating system. It can also be attached to a Level 64/DPS system using the GCOS 64 or GCOS operating system, or a DPS 7 system using the GCOS 64 operating system. A DPS 8 Host Connection (feature DCE8006) or a Level 64/DPS Peripheral Subsystem Interface is required on a locally connected Datanet 8 as a host interface. Up to three host interfaces

Honeywell Datanet 8 Network Processor

	Excellent	Good	Fair	Poor	WA*
Overall performance	2	2	0	0	3.5
Ease of installation	1	3	0	0	3.3
Ease of operation	2	2	0	0	3.5
Ease of expansion	1	3	0	0	3.3
Hardware reliability	2	2	0	0	3.5
Quality of vendor's software/firmware	0	4	0	0	3.0
Ease of programming	0	0	0	0	**
Quality of vendor's maintenance service	2	1	1	0	3.3
Quality of vendor's technical support***	0	4	0	0	3.0

*Weighted average based on a scale of 4.0 for Excellent.
**The Datanet 8 is basically a turnkey system. None of the users had done any programming for the Datanet 8.
***Technical support includes documentation, training, and trouble-shooting performed by the vendor.

All of the users we interviewed were quite happy with the Datanet 8. All praised its breadth of functionality; one user summarized this reaction by saying that he "Hadn't even scratched the surface of what it can do." Another user praised the unit's compactness. For another user, the Datanet 8 was a small but significant factor in the decision to buy a Honeywell mainframe after examining a number of competitors.

Two of the users were mildly dissatisfied with Honeywell's promptness of delivery for Datanet 8 software. One blamed the "newness" of many software products, while the other, a Level 64 user, claimed that Honeywell was concentrating its development efforts on support for the DPS 8 series. All of the users would recommend the Datanet 8 to another potential buyer.□

can be added for a total of four paths to one or more host computers; these paths can operate concurrently, enabling one Datanet 8 to serve up to four hosts at the same time.

SOFTWARE

The software used to drive the Datanet 8 is the Distributed Network Supervisor (DNS), a product specifically designed for use with the Datanet 8 in a Honeywell Distributed Systems Architecture (DSA) network.

DNS operates in the Datanet 8 in conjuction with a DPS 8 or DPS 88 host running the GCOS 8 operating system, a Level 64/DPS host running under the GCOS 64 or GCOS operating system, or a DPS 7 host running under a GCOS 64 operating system to provide support for transaction processing, distributed transaction processing, terminal concentration, time-sharing, remote job entry, file transfer, direct program access, and host-to-satellite/satellite-to-host support for DM-IV Transaction Processing. DNS supports Public Data Networks (PDNs) and Value Added Networks (VANs), including X.25 packet-switched and X.21 circuit-switched networks. Honeywell offers specific interface software for a number of U.S. and overseas public data networks.

The administrative functions distributed throughout the various systems that make up the DSA network include network monitoring, software loading, dumping, data logging for statistics, billing and maintenance, in-line tests, and software generation.

DNS supports a variety of terminals such as the Honeywell TWU/PRU 1003, 1005, and 1901, VIP 7100/7200/7801/7802, VIP 7700R/7760/7804/7805, and VTS 77XX. Also supported is the Distributed System Satellite (DDS), which is a hardware/software system that allows a Level 6 system to function as a satellite processor and to communicate with a DPS 8 host in a DSA network.

Optional software packages are required to support some processor functions, such as cross-network loading and distributed file transfer, and to drive all host, terminal, and internetwork connections. Please see PRICING for a complete list of all available packages.

PERIPHERALS

CONSOLE: The Multiple Device Controller serves as the interface between the Megabus, the console, and one or two diskette drives. The diskette units are used to load system test and diagnostic programs.

PRICING

The Datanet 8 is available for purchase or for rental under a one-, three-, or five-year agreement. The standard maintenance contract provides for service during the period from Monday through Friday from 8 a.m. to 6 p.m. Contracts for service beyond the standard price are available; the additional charge is based on a fixed pecentage of the basic monthly maintenance fee. Alternatively, the user can obtain on-call maintenance service at hourly rates.

		Monthly Charge*				
		1-Year Lease	3-Year Lease	5-Year Lease	Purchase	Monthly Maint.
DCU8010	Basic Datanet 8; includes 512K byte memory, diskette drive, and support for up to 16 communications lines. Requires DCF8008 or DCF 8006 console.	$1,123	$1,049	$937	$29,000	$135
DCM8005	First 512K bytes additional memory; expands memory from 512K to 1024K bytes	622	585	534	6,000	21
DCM8008	Second 512K bytes additional memory; expands memory from 1025K to 1536K bytes	622	585	534	6,000	21
DCE8002	Additional line configurability; increases line capacity to 64 lines	106	98	86	3,000	5
DCE8003	Processor Power Module Enhancement; requires DCE8002	293	274	245	7,400	40
DCE8004	Additional line configurability, second increment; increases line capacity to 128 lines; requires DCE8002 and DCE8003	179	166	147	5,000	10
DCP8010	Extended Processor Performance Enhancement; requires DCE8003 and DCE8004	664	620	554	18,500	86

*Includes prime shift maintenance.

Honeywell Datanet 8 Network Processor

		Monthly Charge*				
		1-Year Lease	3-Year Lease	5-Year Lease	Purchase	Monthly Maint.
DCE8005	Additional Diskette Unit	$ 79	$ 75	$ 68	$ 1,785	$ 18
DCE8006	DPS 8 Host Connection; max. 4 (third and fourth require DCE8002)	339	319	288	8,000	65
DCE8007	DPS 7 Host Connection; max. 4 (third and fourth require DCE8002)	339	317	288	8,000	65
DCF8007	Channel Interface Base; max. 16 (third through seventh require DCE8002; eighth through sixteenth require DCE8003 and DCE8004)	99	93	83	2,500	14
DCF8006	120-cps Communications Console (keyboard/printer)	197	189	178	2,888	92
DCF8008	30-cps Communications Console (keyboard/printer)	143	136	126	2,520	54
DCF8019	Cross-Net Load/Dump Feature	40	37	33	1,000	6
	Channel Interface Options					
DCF8009	Dual asynchronous RS-422-A	41	38	35	1,000	7
DCF8011	Dual synchronous RS-232-C	58	55	49	1,500	8
DCF8012	Dual asynchronous RS-232-C	39	36	32	1,000	5
DCF8014	Synchronous MIL-188-C	40	37	33	1,000	6
DCF8015	Dual asynchronous MIL-188-C	41	38	35	1,000	7
DCF8016	Synchronous HDLC wideband MIL-188-C	83	79	70	1,000	15
DCF8017	Synchronous HDLC MIL-188-C	99	91	82	2,500	12
DCF8018	Dual bisynchronous RS-232-C	58	54	49	1,500	7
DCF8020	Synchronous HDLC RS-232-C	58	55	49	1,500	8
DCF8022	Synchronous HDLC wideband Bell 301/303	118	110	98	3,000	16
DCF8023	Synchronous HDLC wideband V.35	118	110	98	3,000	16
DCF8036	Dual asynchronous current loop	41	38	35	1,000	6
DCF8024	Direct connect; synchronous or asynchronous	14	13	12	350	2
DCF8026	Universal Modem Bypass	16	15	13	415	2

	Software	Monthly Charge	Support Service
SNC8020	Distributed Network Supervisor (DNS)	$490	$86
SNC8021	Network Operator Interface (NOI)	10	5
SNC8022	Cross-Net Load/Dump Facility	10	5
SNC8023	Accommodation Mode, Host connection (DPS 8)	42	7
SNC8024	Host Connection (DPS 7)	42	7
SNC 8028	Multiple Host Connection	20	8
SNC 8031	HDLC Primary Network Support	82	15
SNC8033	Primary Network Private Virtual Circuit (Endpoint)	166	29
SNC8034	Primary Network Private Virtual Circuit (Switching)	170	30
SNC8035	TRANSPAC (France) Connection (16 vir. circuits max.)	166	29
SNC8036	TRANSPAC (France) Connection (over 16 vir. circuits; requires SNC8035)	20	5
SNC8037	Telenet (USA) Connection	166	29
SNC8038	TYMNET (USA) Connection	166	29
SNC8039	DATAPAC (Canada) Connection	166	29
SNC8040	DDX-P (Japan) Connection	166	29
SNC8041	AUSTPAC (Australia) Connection	166	29
SNC8044	EDWP (Switzerland) Connection	166	29
SNC8045	DN-1 (Netherlands) Connection	166	29
SNC8046	EURONET (European Economic Community) Connection	166	29
SNC8047	DATEX-P (West Germany) Connection	166	29
SNC8052	PSS (United Kingdom) Connection	166	29
SNC8053	NPDN (Scandinavia) X.21 Connection (basic)	166	29
SNC8054	NPDN (Scandinavia) X.21 Connection (extended)	20	5
SNC8056	Extended X.25 Public Network Support (more than 16 virtual circuits)	20	5
SNC8060	Interactive BSC (IBM 3270) Terminal Support	76	14
SNC8061	Remote Batch BSC (IBM 2780) Terminal Support	52	9
SNC8062	Remote Computer Interface Terminal Support	20	5
SNC8065	TRANSPAC (France) Asynchronous PAD Support	20	5
SNC8067	Telenet (USA) Asynchronous PAD Support	20	5
SNC8068	TYMNET (USA) Asynchronous PAD Support	20	5
SNC8069	DATAPAC (Canada) Asynchronous PAD Support	20	5
SNC8070	DDX-P (Japan) Asynchronous PAD Support	20	5
SNC8071	AUSTPAC (Australia) Asynchronous PAD Support	20	5
SNC8072	PSS (United Kingdom) Asynchronous PAD Support	20	5
SNC8073	Logical HDLC (for remote communications w. DPS 6 systems)	85	15
SNC8074	EDWP (Switzerland) Asynchronous PAD Support	20	5
SNC8075	DN-1 (Netherlands) Asynchronous PAD Support	20	5
SNC8076	EURONET (European Economic Community) Asynchronous Pad Support	20	5
SNC8077	DATEX-P (West Germany) Asynchronous PAD Support	20	5

*Includes prime shift maintenance.

Honeywell Datanet 8 Network Processor

		Monthly Charge	Support Service
	Entry-level Packaged Software—		
SNC8095	DNS for DPS 8/20 through 8/49 (entry level); includes Network Operating Interface, GCOS 8 Host Connection, and GCOS/GCOS 8 Administration	$396	$ 70
SNC8096	DNS for DPS 7 (entry level); includes Network Operator Interface, DPS 7 GCOS 64 Host Connection, and GCOS 64 Administration	396	70
	Host-resident Software—		
SNC8090	GCOS Administration	136	24
SNC8091	GCOS 8 Administration	136	24
SNC8094	DPS 8 Host to Host File Transfer	15	5
SCC1220	GCOS 64 FNP Support	15	5
SCU1618	GCOS 64 Distributed File Transfer	15	5

Honeywell Datanet 8

A front-end network processor for Honeywell DPS 8 and Level 64/DPS mainframes operating in a DSA-based network.

The Datanet 8 features 256K or 512K bytes of main memory and support for up to 128 communications lines. The system can communicate with up to two hosts concurrently.

An entry-level Datanet 8, including 256K bytes of memory, a 30-cps console, a 256K-byte diskette, one host interface, and support for 16 communications lines is priced at $52,520, plus $322 per month for maintenance. One-, three-, and five-year leasing is also available.

MANAGEMENT SUMMARY

The Datanet 8 Front-End Network Processor (FNP) was introduced in October 1980 as one of several new products designed for use in conjunction with Honeywell's Distributed Systems Architecture (DSA), which was announced at the same time. DSA is the second phase of Honeywell's Distributed Systems Environment (DSE) network architecture. It supports the rules and protocols of the International Standards Organization (ISO) "open system architecture," in which all components in a network function cooperatively as peers and no hierarchical or other specific structure is required. DSA supports the X.25 packet-switched and X.21 curcuit-switched networks, and utilizes the international standard HDLC protocol.

The Datanet 8 itself is a dedicated communications processor system based on Honeywell Level 6 minicomputer architecture and designed for use with the DPS 8 and Level 64/DPS computer systems. The basic Datanet 8 system consists of the processor, 256K bytes of memory, a 256K-byte diskette, and support for up to 16 communications lines. Required options include a host connection and either a 30-cps or 120-cps keyboard/printer console. The system can be expanded to include enhanced processor power, up to 512K bytes of memory, two host interfaces, and support for up to 128 communications lines. When two host interfaces are con- ▷

CHARACTERISTICS

VENDOR: Honeywell Incorporated, Honeywell Plaza, Minneapolis, MN 33408. Telephone (612) 870-5200.

DATE OF ANNOUNCEMENT: October 1980.

DATE OF FIRST DELIVERY: First quarter 1981.

NUMBER DELIVERED TO DATE: Information not available.

SERVICED BY: Honeywell Incorporated.

CONFIGURATION

The Datanet 8 front-end processor is a dedicated communications system based on Honeywell's Level 6 minicomputer architecture and designed to operate in a Honeywell Distributed Systems Architecture network. The basic Datanet 8 consists of a processor, 256K bytes of memory, an Automatic Control Function, a Multiple Device Controller, a 256K-byte diskette drive, and support for up to 16 communications lines. A console, a host interface, and all necessary Channel Interface Bases and Channel Interfaces are required to be added to the basic system.

The Datanet 8's central processor operates asynchronously under firmware control and utilizes a 16-bit internal word structure. The high-speed RAM memory subsystem performs all storage functions without restrictions on address sequences, data patterns, or repetition rates. Memory features include single- and double-word fetch, self-contained initialize and refresh logic, and standard EDAC (error detection and correction) capabilities. The Automatic Control Function provides a PROM extension to the main memory, a system timer, and a set of control settings for software load control, detection of system failure, and automatic restart after failure.

The Multiple Device Controller provides for attachment of the 256K-byte diskette drive and the system console, which may be a 30-cps or 120-cps keyboard/printer terminal. A second 256K-byte diskette drive can also be added as an option. ▶

Honeywell Datanet 8

Table 1. Datanet 8 Channel Interfaces

Type of Line Interface	Maximum Speed, bps	Feature Number	Number of Lines Supported
RS-232-C Synchronous	9600	DCF8011	2
RS-232-C Asynchronous	9600	DCF8012	2
RS-232-C HDLC	9600	DCF8020	1
HDLC Wideband*	56,000	DCF8022	1
CCITT-V.35 HDLC Wideband*	56,000	DCF8023	1
Direct Connect, sync. or async.	9600	DCF8024	1
Universal Modem Bypass	1800 (asynchronous); 19,200 (synchronous)	DCF8026	1

*Requires two Channel Interface Base slots.

figured, both paths operate concurrently. If additional communications processing support, beyond what a single Datanet 8 can handle, is required, a second Datanet 8 can be configured with either type of host.

The software used to control the Datanet 8 is the Distributed Network Supervisor (DNS), a package designed specifically for, and introduced with, the Datanet 8. DNS, in conjunction with the host operating system, provides for remote job entry, time-sharing, and transaction processing. When Honeywell's Distributed Systems Satellite (DSS) system is included in the network, the DNS software controls the network connections to the DSS processors, and supports DSS facilities such as terminal concentration, file transfer, distributed transaction processing, remote batch operations, and local DSS data entry functions. In addition, DNS supports X.25 packet-switched and X.21 circuit-switched networks. DNS also incorporates the DSA-based network management and control functions shared in common with all DSA-based systems, such as network monitoring, software loading, dumping, data logging for statistical, billing, and maintenance purposes, inline testing, and software generation.

As of the publication date of this report, Datanet 8 deliveries had just begun. Therefore no user reaction appears in the report.□

One host interface is required for connection to a local mainframe. A second host interface may be added if two paths to a single host or a channel to a second host is desired. The two channels can operate concurrently.

Each Channel Interface Base provides the logical interfacing for up to eight communications lines; each Channel Interface provides for physical connection of one or two lines to the Channel Interface Base. The maximum system configuration allows for a total of up to 16 Channel Interface Bases and up to 64 Channel Interfaces. For more information on Channel Interface Bases and Channel Interfaces, see "TRANSMISSION SPECIFICATIONS" and Table 1.

A Megabus system and I/O bus is inherent to the Datanet 8's basic system architecture, and provides interfacing for data exchanges between all system components. The maximum data transfer rate is approximately 6M bytes per second.

A memory increment, a processor performance module, and two line configurability enhancements provide for the expansion of the basic system. The memory increment increases the main memory capacity from the basic 256K bytes to the maximum of 512K bytes in a single step. The processor performance and line configurability options are sequentially implemented in three steps. First, a Line Configurability Enhancement (feature DCE8002) can be added to extend the system support to 64 communications lines. Next, a Processor Power Module Enhancement (feature DCE8003) can be added to boost processor performance; under appropriate configuration and optimum instruction mix, this option can support execution of up to 1M instructions per second. Third, an Additional Line Configurability Enhancement (feature DCE8004) can be added to increase the system support to the maximum of 128 lines.

If network configuration demands more front-end processor power or capacity than a single Datanet 8 FNP can deliver, a second Datanet 8, with its own memory and with or without its own Power Module Enhancement option, can be configured with a single host.

TRANSMISSION SPECIFICATIONS

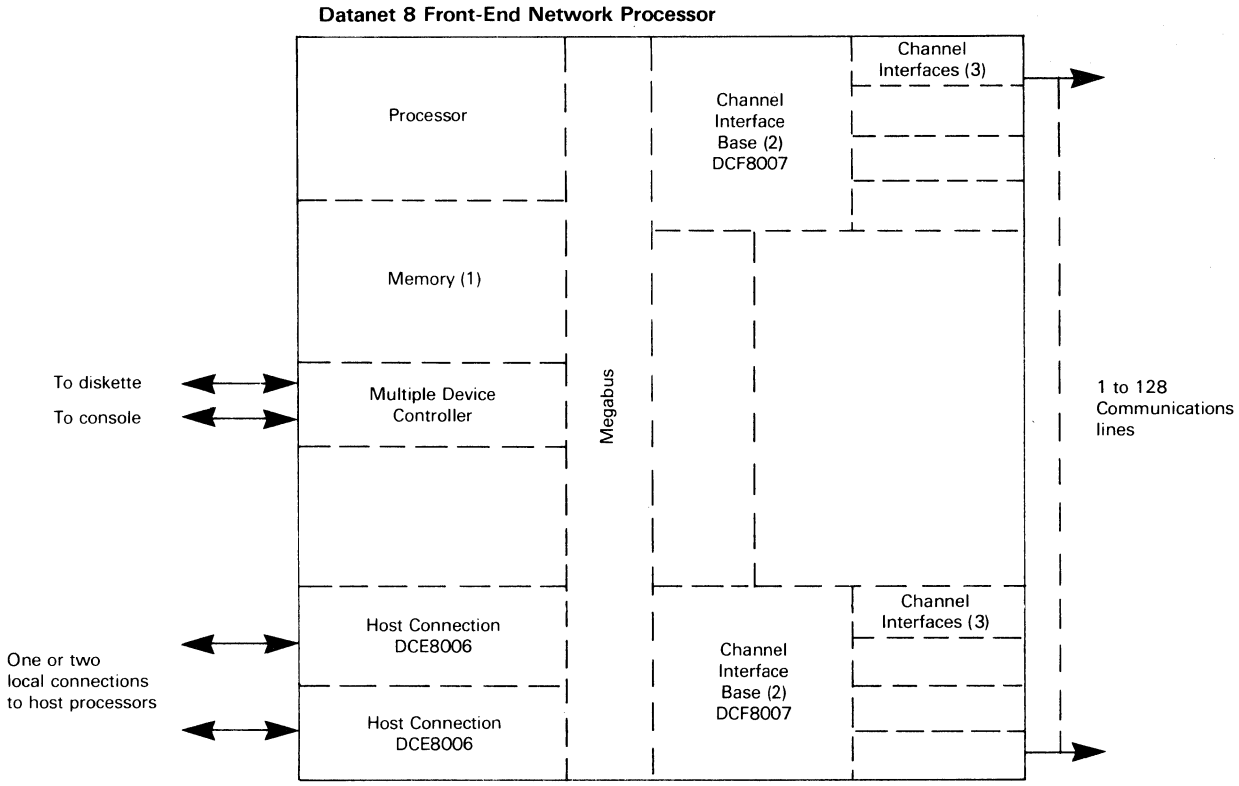
Channel Interface Bases provide the interfacing between the Megabus and the Channel Interfaces. Each Channel Interface Base contains four slots for Channel Interfaces. Each Channel Interface generally occupies one slot; the exception is that the HDLC Wideband and HDLC CCITT-V.35 Wideband Channel Interfaces each require two Channel Interface Base slots. Two different Channel Interface types may be mixed on a single Channel Interface Base. Up to 16 Channel Interface Bases can be configured with a Datanet 8, depending on the Line Configurability options selected, providing support for up to 64 Channel Interfaces.

Honeywell currently offers seven different Datanet 8 Channel Interfaces to accommodate the data requirements of various line types. Asynchronous or synchronous transmissions are supported at up to 9600 bps using an RS-232-C interface. HDLC support is provided for RS-232-C transmission at up to 9600 bps, and for domestic or CCITT-V.35-compatible wideband transmissions at up to 56K bps. Synchronous and asynchronous direct cable connection and a Universal Modem Bypass option are also offered. Depending on the type of Channel Interface, either one or two communications lines can be connected. See Table 1 for specifications of the various Channel Interfaces.

CONNECTION TO HOST COMPUTER: The Datanet 8 can be channel-attached to a local DPS 8 computer operating under the GCOS 8 operating system. It can also be attached to a Level 64/DPS system using the GCOS 64 operating system. A DPS 8 Host Connection (feature DCE8006) or a Level 64/DPS Peripheral Subsystem Interface is required on the basic Datanet 8 as a host interface. A second host interface can be added for a total of two paths to one or two host computers; the two paths can operate concurrently, enabling one Datanet 8 to serve two hosts or applications at the same time.

Honeywell Datanet 8

Configuration



(1) Basic memory is 256K bytes, expandable to 512K bytes via a single DCM8004 increment.
(2) Up to 16 Channel Interface Bases may be included in a maximum system configuration.
(3) Up to four Channel Interfaces can be attached to one Channel Interface Base. Depending on the type of line to be connected, each Interface can support one or two lines; see Table 1.

SOFTWARE

The software used to drive the Datanet 8 is the Distributed Network Supervisor (DNS), a product specifically designed for use with the Datanet 8 in a Honeywell Distributed Systems Architecture (DSA) network.

DNS operates in the DATANET 8 in conjunction with a DPS 8 host running the GCOS 8 operating system or a Level 64/DPS host running under the GCOS 64 operating system to provide support for transaction processing, distributed transaction processing, terminal concentration, time-sharing, remote job entry, file transfer, direct program access, and host-to-satellite/satellite-to-host support for DM-IV Transaction Processing. DNS supports Public Data Networks (PDNs) and Value Added Networks (VANs), including X.25 packet-switched and X.21 circuit-switched networks.

The administrative functions distributed throughout the various systems that make up the DSA network include network monitoring, software loading, dumping, data logging for statistics, billing and maintenance, in-line tests, and software generation.

DNS supports a variety of terminals such as the Honeywell TWU/PRU 1003, 1005, and 1901, VIP 7100/7200/7801/7802, VIP 7700R/7760/7804/7805, and VTS 77XX. Also supported is the Distributed System Satellite (DSS), which is a hardware/software system that allows a Level 6 system to function as a satellite processor and to communicate with a DPS 8 host in a DSA network.

PERIPHERALS

CONSOLE: The Multiple Device Controller serves as the interface between the Megabus, the console, and one or two diskette drives. The diskette units are used to load system test and diagnostic programs.

PRICING

The Datanet 8 is available for purchase or for rental under a one-, three-, or five-year agreement. The standard maintenance contract provides for service during the period from Monday through Friday from 8 a.m. to 6 p.m. Contracts for service beyond the standard period are available; the additional charge is based on a fixed percentage of the basic monthly maintenance fee. Alternatively, the user can obtain on-call maintenance service at standard hourly rates of $109 per man-hour.

Honeywell Datanet 8

		Monthly Charge* 1-Year Lease	3-Year Lease	5-Year Lease	Purchase	Monthly Maint.
DCU8010	Basic Datanet 8; includes processor, 256K bytes of memory, Automatic Device Controller, single 256K-byte diskette drive, and support for up to 16 communications lines; requires one host interface and either DCF8008 or DCF8006 console	$1,040	$971	$868	$29,000	$135
DCM8004	Memory Increment; expands main memory from 256K to 512K bytes; max. 1	288	271	247	7,000	70
DCE8002	Line Configurability Enhancement; increases line configurability to 64 lines	98	91	80	3,000	5
DCE8003	Processor Power Module Enhancement; requires DCE8002	740	692	620	20,200	110
DCE8004	Line Configurability Enhancement; increases line configurability to 128 lines; requires DCE8002 and DCE8003	166	154	136	5,000	10
DCE8005	Second Diskette Drive; provides additional 256K bytes of diskette storage	73	69	63	1,785	18
DCE8006	DPS 8 Host Connection; max. 2	314	295	267	8,000	65
DCF8006	Console; 120-cps keyboard/printer terminal	182	175	165	2,888	92
DCF8008	Console; 30-cps keyboard/printer terminal	132	126	117	2,520	54
DCF8007	Channel Interface Base; max. 16	92	86	77	2,500	14
	Channel Interface Options—					
DCF8011	Synchronous RS-232-C	54	51	45	1,500	8
DCF8012	Asynchronous RS-232-C	36	33	30	1,000	5
DCF8020	HDLC RS-232-C	54	51	45	1,500	8
DCF8022	HDLC Wideband	109	102	91	3,000	16
DCF8023	HDLC Wideband CCITT-V.35	109	102	91	3,000	16
DCF8024	Direct Connect; synchronous or asynchronous	13	12	11	350	1
DCF8026	Universal Modem Bypass	15	14	12	415	2

Software

		Monthly Charge	Support Service
SVC8020	Distributed Network Supervisor (DNS); requires SVC8021	$ 53	$ 13
SVC8021	Host Network Administration Facility (HNAF): host-resident; requires SVC8020	516	117
SVC8025	Node Administration (NAD); required with each copy of SVC8020	11	5
SVC8026	Network Operator Interface (NOI); one required per network; additional copies may be implemented in multiple FNPs	11	5
SVC8027	HDLC System Support (ISO Standard)	97	11
SVC8030	Asynchronous Terminal Support	99	20
SVC8031	Synchronous Terminal Support	NC	NC
SVC8028	X.25 Public Data Networks Connection; requires SVC8027	91	17

*Includes prime-shift maintenance.■

Honeywell DATANET 8 Network Processor

MANAGEMENT SUMMARY

UPDATE: *This report is being updated to show changes that have occurred since the report was last updated. Software products have been added and deleted, and some price changes have been incorporated for existing products. The 1985 Network Users' Survey showing the results for the DATANET 8 is also included in this report.*

Honeywell introduced the DATANET 8 Network Processor in October 1980 as one of several new products designed for use in conjunction with its Distributed Systems Architecture (DSA), which was announced at the same time. It supports the rules and protocols of the International Standards Organization (ISO) "open system architecture," in which all components in a network function cooperatively as peers and no hierarchical or other specific structure is required. DSA supports X.25 packet switched and X.21 circuit switched networks, and uses the international standard HDLC protocol. While its principal application is as a front-end processor, the DATANET 8 may also serve as a remote concentrator or as a standalone network switch.

The DATANET 8 itself is a dedicated communications processor system based on Honeywell Level 6 minicomputer architecture and designed for use with the DPS 8, DPS 88, DPS 90, DPS 7, and Level 64/DPS computer systems. The basic DATANET 8 system consists of the pro-➢

Honeywell's DATANET 8 Network Processor operates in a DSA environment. It can communicate with up to two hosts concurrently, and functions as a front-end processor, remote concentrator, or switching node.

The DATANET 8 serves as a network processor for Honeywell DPS 8, DPS 88, DPS 90, DPS 7, and Level 64/DPS mainframes operating in a DSA-based network. It features 512K or 1.5M bytes of main memory and support for up to 128 communications lines. The system can communicate with up to two hosts concurrently, and can function as a front-end processor, a switching node, or a remote concentrator.

An entry-level DATANET 8, including 512K bytes of memory, a 30-cps console, one diskette drive, one host interface, and support for 16 communications lines is priced at $52,010, plus $320 per month for maintenance. One-, three-, and five-year leasing is available.

CHARACTERISTICS

VENDOR: Honeywell, Incorporated, Honeywell Plaza, Minneapolis, MN 33408. Telephone (612) 870-5200.

DATE OF ANNOUNCEMENT: October 1980.

DATE OF FIRST DELIVERY: First quarter 1981.

NUMBER DELIVERED TO DATE: Information not available.

SERVICED BY: Honeywell, Incorporated.

CONFIGURATION

The DATANET 8 processor is a dedicated communications system based on Honeywell's Level 6 minicomputer architecture and designed to operate in a Honeywell Distributed Systems Architecture network. The basic DATANET 8 consists of a processor, 512K bytes of memory, an Automatic Control Function, a Multiple Device Controller, a 256K-byte diskette drive, and support for up to 16 communications lines. A console and all necessary Channel Interface Bases and Channel Interfaces must be added to the basic system. When the DATANET 8 is to function as a front-end processor, it must also include at least one host interface.

The DATANET 8's central processor operates asynchronously under firmware control and utilizes a 16-bit internal word structure. The high-speed RAM memory subsystem performs all storage functions without restrictions on address sequences, data patterns, or repetition rates. Memory features include single- and double-word fetch, self-contained initialize and refresh logic, and standard EDAC (Error Detection And Correction) capabilities. The Automatic Control Function provides a PROM extension to the main memory, a system timer, and a set of control settings for software load control, detection of system failure, and automatic restart after failure.

The Multiple Device Controller provides for attachment of the 256K-byte diskette drive and the system console, which may be a 30-cps or 120-cps keyboard/printer terminal. A second 256K-byte diskette drive can also be added as an option. ➢

Honeywell DATANET 8 Network Processor

TABLE 1. DATANET 8 INTERFACE OPTIONS

Type of Line Interface	Maximum Speed, bps	Feature Number	Number of Lines Supported
Dual EIA RS-422-A asynchronous interface to an auto-call unit	9600	DCF8009	2
Dual EIA RS-232-C synchronous	9600	DCF8011	2
Dual EIA RS-232-C asynchronous	9600	DCF8012	2
MIL-188-C synchronous	9600	DCF8014	1
Dual MIL-188-C asynchronous	9600	DCF8015	2
MIL-188-C synchronous HDLC wideband*	56,000	DCF8016	1
MIL-188-C synchronous HDLC	9600	DCF8017	1
Dual EIA RS-232-C bisynchronous	9600	DCF8018	2
EIA RS-232-C synchronous HDLC	19,200	DCF8020	1
AT&T 301/303 synchronous HDLC wideband*	56,000	DCF8022	1
V.35 synchronous HDLC wideband*	56,000	DCF8023	1
Dual asynchronous current loop	9600	DCF8036	2
EIA RS-232-C direct connect asynchronous or synchronous	9600	DCF8024	1
Universal modem bypass	19,200 (sync.) 1800 (async.)	DCF8026	1

**Requires two Channel Interface Base slots.*

cessor, 512K bytes of memory, a 256K-byte diskette, and support for up to 16 communications lines. Either a 30-cps or 120-cps keyboard/printer terminal is required as a console. The system can be expanded to include enhanced processor power, one to four host interfaces, and support for up to 128 communications lines. When more than one host interface is configured, all paths can operate concurrently. If additional communications processing support, beyond what a single DATANET 8 can handle, is required, a second DATANET 8 can be configured with either type of host.

The software used to control the DATANET 8 is the Distributed Network Supervisor (DNS), a package designed specifically for, and introduced with, the DATANET 8. DNS, in conjuction with the system, provides for remote job entry, timesharing, and transaction processing. When Honeywell's Distributed Systems Satellite (DSS) system is included in the network, the DNS software controls the network connections to the DSS processors, and supports DSS facilities such as terminal concentration, file transfer, distributed transaction processing, remote batch operations, and local DSS data entry functions. In addition, DNS supports X.25 packet switched and X.21 circuit switched networks. DNS also incorporates the DSA-based network management and control functions shared in common with all DSA-based systems, such as network monitoring, software loading, dumping, data logging for statistical, billing, and maintenance purposes, inline testing, and software generation.

COMPETITIVE POSITION

As a communications processor for Honeywell networks, the DATANET 8's competition is strictly intramural. It competes only with Honeywell's DATANET 6661. The choice between the two depends entirely on the user's networking requirements. For simple, single-network configurations containing only Honeywell equipment (and some asynchronous ASCII terminals), the non-DSA

One host interface is required for connection to a local mainframe. Up to three additional host interfaces may be added if more than one path to a single host or channels to other hosts are desired. All four channels can operate concurrently.

Each Channel Interface Base provides the logical interfacing for up to eight communications lines; each Channel Interface provides for physical connection of one or two lines to the Channel Interface Base. The maximum system configuration allows for a total of up to 16 Channel Interface Bases and up to 64 Channel Interfaces. For more information on Channel Interface Bases and Channel Interfaces, see "TRANSMISSION SPECIFICATIONS" and Table 1.

A Megabus system and I/O bus is inherent in the DATANET 8's basic architecture, and provides interfacing among all system components. The maximum internal data transfer rate is approximately 6M bytes per second.

A memory increment, a processor performance module, and two line configurability enhancements provide for the expansion of the basic system. The memory increment increases the main memory capacity from the basic 512K bytes to the maximum of 1536K bytes in two steps. The processor performance and line configurability options can be implemented sequentially in three steps. First, a Line Configurability Enhancement (feature DCE8002) can be added to extend the system support to 64 communications lines. Next, a Processor Power Module Enhancement (feature DCE8003) can be added to boost processor performance; with the appropriate configuration and optimum instruction mix, this option can support execution of up to one million instructions per second. Third, an Additional Line Configurability Enhancement (feature DCE8004) can be added to increase the system support to the maximum of 128 lines.

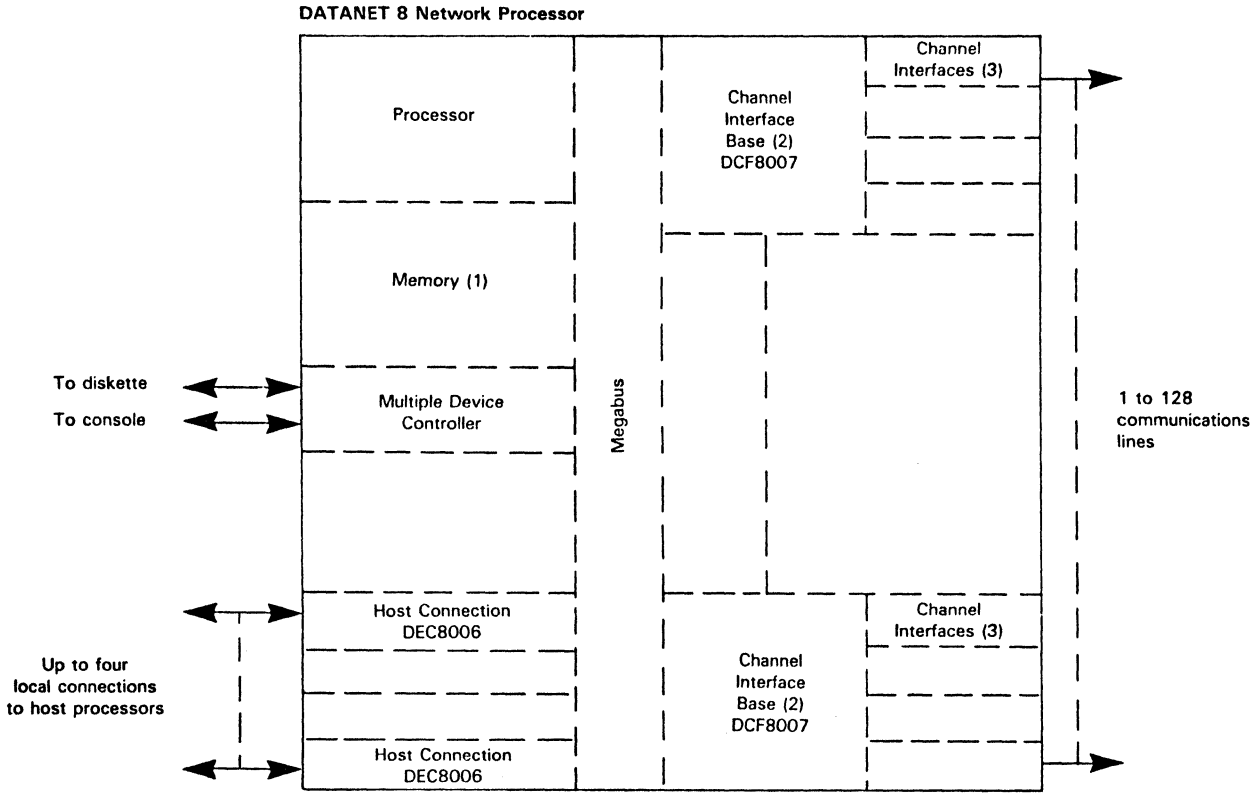
If a network configuration demands more front-end processor power or capacity than a single DATANET 8 can deliver, a second DATANET 8, with its own memory and with or without its own Power Module Enhancement option, can be configured with a single host.

TRANSMISSION SPECIFICATIONS

Channel Interface Bases provide the interfacing between the Megabus and the Channel Interfaces. Each Channel Inter-

Honeywell DATANET 8 Network Processor

Configuration



(1) Basic memory is 512K bytes, expandable to 1,536K bytes in two increments.
(2) Up to 16 Channel Interface Bases may be included in a maximum system configuration.
(3) Up to four Channel Interfaces can be attached to one Channel Interface Base. Depending on the type of line to be connected, each interface can support one or two lines; see Table 1.

DATANET 6661 suffices. For users who require such DSA advantages as remote switching and concentrating and public network support, the DATANET 8 is a must.

ADVANTAGES AND RESTRICITIONS

The DATANET 8 is the only processor on the market that does the job it was designed to do: to handle communications in a Honeywell DSA network. As full-scale communications processors go, the DATANET 8 is a relatively elegant machine, physically small, configurationally simple, and entirely capable. Its wide range of specially tailored software interfaces for X.25 and X.21 public data networks is a definite plus.

The DATANET 8's restrictions are the restrictions of the architecture it supports, Honeywell's DSA. That architecture is designed to comply more closely with the ISO Open Systems Interconnection reference model than any competing vendor's architecture. However, the ISO model now covers only the Physical through Transport Layers in detail. As the ISO arrives at detailed models for the higher layers, Honeywell will face the choice between continuing to comply (perhaps at the cost of major software revisions) or to go its own way (risking incompatability with a potential industry standard).

face Base contains four slots for Channel Interfaces. Each Channel Interface generally occupies one slot; the exception is that the HDLC Wideband and HDLC CCITT/V.35 Wideband Channel Interfaces each require two Channel Interface Base slots. Two different types of Channel Interfaces may be mixed on a single Channel Interface Base with a DATANET 8, depending on the Line Configurability options selected, providing support for up to 64 Channel Interfaces.

Honeywell currently offers 14 different DATANET 8 Channel Interfaces to accommodate the data requirements of various line types. Asynchronous, bisynchronous, or synchronous transmissions are supported at up to 9600 bps using RS-232-C, RS-422-A, or MIL-188-C interfaces. HDLC support is provided for RS-232-C transmission at up to 19.2K bps, and for domestic or CCITT V.35-compatible wideband transmissions at up to 56K bps. Synchronous and asynchronous direct cable connection, an autodial unit interface, a current loop interface, and a Universal Modem Bypass option are also offered. Depending on the type of Channel Interface, either one or two communications lines can be connected. See Table 1 for specifications of the various Channel Interfaces.

CONNECTION TO HOST COMPUTER: The DATANET 8 can be channel-attached to a local DPS 8, DPS 88, or DPS 90 computer operating under the GCOS 8 Operating system. It can also be attached to a Level 64/DPS system using the GCOS 64 or GCOS operating system, or a DPS 7 system using the GCOS 64 operating system. A

Honeywell DATANET 8 Network Processor

USER REACTION

In Datapro's 1985 Network Users' Survey, 12 Honeywell DATANET 8 users responded, reporting on a total of 42 processors. The ratings are as follows:

	Excellent	Good	Fair	Poor	WA*
Overall performance	3	9	0	0	3.3
Ease of installation	2	8	1	1	2.9
Ease of operation	2	8	2	0	3.0
Ease of expansion	3	7	2	0	3.1
Hardware reliability	5	6	1	0	3.3
Quality of vendor's software/firmware	1	9	2	0	2.9
Ease of programming	2	2	3	1	2.6
Quality of vendor's maintenance service	3	7	2	0	3.1
Quality of vendor's technical support**	3	7	2	0	3.1

*Weighted average based on a scale of 4.0 for Excellent.
**Technical support includes documentation, training, and troubleshooting performed by the vendor.

Datapro was unable to contact any of the respondents for additional comments. □

DPS 8 Host Connection (feature DCE8006) or a Level 64/DPS Peripheral Subsystem Interface is required on a locally connected DATANET 8 as a host interface. Up to three host interfaces can be added for a total of four paths to one or more host computers; these paths can operate concurrently, enabling one DATANET 8 to serve up to four hosts at the same time.

SOFTWARE

The software used to drive the DATANET 8 is the Distributed Network Supervisor (DNS), a product specifically designed for use with the DATANET 8 in a Honeywell Distributed Systems Architecture (DSA) network.

DNS operates in the DATANET 8 in conjuction with a DPS 8, DPS 88, or DPS 90 host running the GCOS 8 operating system, a Level 64/DPS host running under the GCOS 64 or GCOS operating system, or a DPS 7 host running under a GCOS 64 operating system to provide support for transaction processing, distributed transaction processing, terminal concentration, timesharing, remote job entry, file transfer, direct program access, and host-to-satellite/satellite-to-host support for DM-IV Transaction Processing. DNS supports Public Data Networks (PDNs) and Value Added Networks (VANs), including X.25 packet-switched and X.21 circuit-switched networks. Honeywell offers specific interface software for a number of U.S. and overseas public data networks.

The administrative functions distributed throughout the various systems that make up the DSA network include network monitoring, software loading, dumping, data logging for statistics, billing and maintenance, in-line tests, and software generation.

DNS supports a variety of terminals such as the Honeywell TWU/PRU 1003, 1005, and 1901, VIP 7100/7200/7801/7802, VIP 7700R/7760/7804/7805, and VTS 77XX. Also supported is the Distributed System Satellite (DSS), which is a hardware/software system that allows a Level 6 system to function as a satellite processor and to communicate with a DPS 8 host in a DSA network.

Optional software packages are required to support some processor functions, such as cross-network loading and distributed file transfer, and to drive all host, terminal, and internetwork connections. Please see PRICING for a complete list of all available packages.

PERIPHERALS

CONSOLE: The Multiple Device Controller serves as the interface between the Megabus, the console, and one or two diskette drives. The diskette units are used to load system test and diagnostic programs.

PRICING

The DATANET 8 is available for purchase or for rental under a one-, three-, or five-year agreement. The standard maintenance contract provides for service during the period from Monday through Friday from 8 a.m. to 6 p.m. Contracts for service beyond the standard price are available; the additional charge is based on a fixed pecentage of the basic monthly maintenance fee. Alternatively, the user can obtain on-call maintenance service at hourly rates.

EQUIPMENT PRICES

		Monthly Charge*				
		1-Year Lease ($)	3-Year Lease ($)	5-Year Lease ($)	Purchase Prices ($)	Monthly Maint. ($)
DCU8010	Basic DATANET 8; includes 512K-byte memory, diskette drive, and support for up to 16 communications lines; requires DCF8008 or DCF8006 console	1,123	1,049	937	29,000	135
DCM8005	First 512K bytes additional memory; expands memory from 512K to 1024K bytes	622	585	534	6,000	21
DCM8008	Second 512K bytes additional memory; expands memory from 1025K to 1536K bytes	622	585	534	6,000	21
DCE8002	Additional line configurability; increases line capacity to 64 lines	106	98	86	3,000	5
DCE8003	Processor Power Module Enhancement; requires DCE8002	293	274	245	7,400	40
DCE8004	Additional line configurability, second increment; increases line capacity to 128 lines; requires DCE8002 and DCE8003	179	166	147	5,000	10
DCP8010	Extended Processor Performance Enhancement; requires DCE8003 and DCE8004	664	620	554	18,500	86
DCE8005	Additional Diskette Unit	79	75	68	1,785	18
DCE8006	DPS 8 Host Connection; max. 4 (third and fourth require DCE8002)	339	319	288	8,000	65
DCE8007	DPS 7 Host Connection; max. 4 (third and fourth require DCE8002)	339	317	288	8,000	65
DCE8015	DATANET 8 Host Connection for DPS 88 CAU systems	339	319	288	8,000	65

Honeywell DATANET 8 Network Processor

EQUIPMENT PRICES

		Monthly Charge*				
		1-Year Lease ($)	3-Year Lease ($)	5-Year Lease ($)	Purchase Prices ($)	Monthly Maint. ($)
DCE8018	DPS 90 Host Connection	500	—	372	8,000	50
DCF8001	100 CPS Communications Console	105	100	92	2,065	40
DCF8007	Channel Interface Base; max. 16 (third through seventh require DCE8002; eighth through sixteenth require DCE8003 and DCE8004)	99	93	83	2,500	14
DCF8019	Cross-Net Load/Dump Feature	40	37	33	1,000	6
Channel Interface Options						
DCF8009	Dual asynchronous EIA RS-422-A	41	38	35	1,000	7
DCF8011	Dual synchronous EIA RS-232-C	58	55	49	1,500	8
DCF8012	Dual asynchronous EIA RS-232-C	39	36	32	1,000	5
DCF8014	Synchronous MIL-188-C	40	37	33	1,000	6
DCF8015	Dual asynchronous MIL-188-C	41	38	35	1,000	7
DCF8016	Synchronous HDLC wideband MIL-188-C	83	79	70	1,995	15
DCF8017	Synchronous HDLC MIL-188-C	99	91	82	2,500	12
DCF8018	Dual bisynchronous RS-232-C	58	54	49	1,500	7
DCF8020	Synchronous HDLC RS-232-C	58	55	49	1,500	8
DCF8022	Synchronous HDLC wideband AT&T 301/303	118	110	98	3,000	16
DCF8023	Synchronous HDLC wideband V.35	118	110	98	3,000	16
DCF8036	Dual asynchronous current loop	41	38	35	1,000	6
DCF8024	Direct connect; synchronous or asynchronous	14	13	12	350	2
DCF8026	Universal Modem Bypass	16	15	13	415	2

SOFTWARE PRICES

		Monthly Charge ($)	Support Service ($)
SNC8020	Distributed Network Supervisor (DNS)	490	86
SNC8021	Network Operator Interface (NOI)	10	5
SNC8022	Cross-Net Load/Dump Facility	10	5
SNC8023	Accommodation Mode, Host Connection (DPS 8)	42	7
SNC8024	Host Connection (DPS 7)	42	7
SNC8025	CompuServe Connection (U.S.)	166	29
SNC8026	CompuServe Async PAD Support (U.S.)	20	5
SNC8028	Multiple Host Connection	20	8
SNC8029	ITAPAC Async PAD Support (Italy)	20	5
SNC8031	HDLC Primary Network Support	82	15
SNC8032	INFOSWITCH Async PAD Support (Canada)	20	5
SNC8033	Primary Network Private Virtual Circuit (Endpoint)	166	29
SNC8034	Primary Network Private Virtual Circuit (Switching)	170	30
SNC8035	TRANSPAC (France) Connection (16 virtual circuits max.)	166	29
SNC8036	TRANSPAC (France) Connection (over 16 virtual circuits; requires SNC8035)	20	5
SNC8037	Telenet (U.S.) Connection	166	29
SNC8038	TYMNET (U.S.) Connection	166	29
SNC8039	DATAPAC (Canada) Connection	166	29
SNC8040	DDX-P (Japan) Connection	166	29
SNC8041	AUSTPAC (Australia) Connection	166	29
SNC8043	INFOSWITCH Connection (Canada)	166	29
SNC8044	EDWP (Switzerland) Connection	166	29
SNC8045	DN-1 (Netherlands) Connection	166	29
SNC8046	EURONET (European Economic Community) Connection	166	29
SNC8047	DATEX-P (West Germany) Connection	166	29
SNC8048	VENUS-P Connection (Japan)	166	29
SNC8049	UNINET Connection (U.S.)	166	29
SNC8050	ITAPAC Connection (Italy)	166	29
SNC8051	Primary Network Connection to LAN	15	5
SNC8052	PSS (U.K.) Connection	166	29
SNC8053	NPDN (Scandinavia) X.21 Connection (basic)	166	29
SNC8054	NPDN (Scandinavia) X.21 Connection (extended)	20	5
SNC8056	Extended X.25 Public Network Support (more than 16 virtual circuits)	20	5
SNC8057	Asynchronous Terminal Support	NSC	—
SNC8058	VIP Synchronous Terminal Support	NSC	—
SNC8060	Interactive BSC (IBM 3270) Terminal Support	76	14
SNC8061	Remote Batch BSC (IBM 2780) Terminal Support	52	9

*Includes prime shift maintenance.

Honeywell DATANET 8 Network Processor

SOFTWARE PRICES

		Monthly Charge ($)	Support Service ($)
SNC8062	Remote Computer Interface Terminal Support	20	5
SNC8065	TRANSPAC (France) Asynchronous PAD Support	20	5
SNC8067	Telenet (U.S.) Asynchronous PAD Support	20	5
SNC8068	TYMNET (U.S.) Asynchronous PAD Support	20	5
SNC8069	DATAPAC (Canada) Asynchronous PAD Support	20	5
SNC8070	DDX-P (Japan) Asynchronous PAD Support	20	5
SNC8071	AUSTPAC (Australia) Asynchronous PAD Support	20	5
SNC8072	PSS (U.K.) Asynchronous PAD Support	20	5
SNC8073	Logical HDLC (for remote communications with DPS 6 systems)	85	15
SNC8074	EDWP (Switzerland) Asynchronous PAD Support	20	5
SNC8075	DN-1 (Netherlands) Asynchronous PAD Support	20	5
SNC8076	EURONET (European Economic Community) Asynchronous Pad Support	20	5
SNC8077	DATEX-P (West Germany) Asynchronous PAD Support	20	5
SNC8078	PAD Support for LAN	20	5
SNC8079	UNINET Async PAD Support (U.S.)	15	5
	Entry-level Packaged Software—		
SNC8095	DNS for DPS 8/20 through 8/49 (entry level); includes Network Operating Interface, GCOS 8 Host Connection, and GCOS/GCOS 8 Administration	396	70
SNC8096	DNS for DPS 7 (entry level); includes Network Operator Interface, DPS 7 GCOS 64 Host Connection, and GCOS 64 Administration	396	70
	Host-resident Software—		
SNC8090	GCOS Administration	136	24
SNC8091	GCOS 8 Administration	136	24
SNC8093	Log File Formatter (GCOS/GCOS 8)	NSC	—
SNC8094	DPS 8 Host to Host File Transfer	15	5
SCC1220	GCOS 64 FNP Support	15	5
SCU1618	GCOS 64 Distributed File Transfer	15	5

*Includes prime shift maintenance. ■