DC71 REMOTE STATIONS

DIGITAL EQUIPMENT CORPORATION

DECsystem-10

DS10

SYNCHRONOUS MODEMS

OR

COMMUNICATION LINES

SYNCHRONOUS MODEM

DC71A OR DC71B

DC71 CONTROL UNIT (PDP-8)

LINE PRINTER (LPOBJ OR LPOBK)

CARD READER (CROB/I-F)

TELEPRINTER

DC71D OR DC71E

TTY CONCENTRATOR

UP TO 16 TTY'S
Features

- Remote Batch
- Remote Terminal Concentration
- Remote Real-Time capabilities
- Same control language as the DECsystem-10 central computer
- All software features available to the DECsystem-10 central computer user are available to the remote user.

The DC71 remote station brings the processing power of DECsystem-10 to remote locations via a communications link. Due to the DC71's modularity, DECsystem-10's processing power may be specifically tailored to an installation's computing requirements: the same station may provide any combination of batch programming, terminal concentration, or real-time capabilities. The DC71 provides a console teleprinter, high-speed line printer, card reader, and terminal concentrator as required. Because the DC71 remote station is programmable, custom equipment requirements may be easily satisfied.

From either the terminals or card reader, the control language used on the DECsystem-10 central processor may also be used to enter and control programs. Any program that operates on the DECsystem-10 needs no modification to operate through the DC71 remote station.

Batch

For remote batch operations, the operator at the remote site can initiate a stream of batch jobs in the same way they are initiated at the DECsystem-10 computer center; he merely loads the cards into the card reader. Jobs entered from the remote station are multiprogrammed and may operate concurrently with each other and with jobs from the central computer and other remote stations. Operating efficiency is high due to spooled card input and spooled line printer output.

With permission from other stations, operators can direct output to (or receive input from) other stations or the computer center. The operator merely indicates the desired station number. If the number is not specified, the system monitor assumes that the output is for the same station that started the program.

Terminal Concentration

When serving as a terminal concentrator, the DC71 remote station can concentrate up to sixteen devices. These devices may include higher speed teleprinters such as DEC's LA30 and keyboard CRT devices such as DEC's VT50, both of which are teletype compatible. Terminals on the concentrator may be dedicated to a single application, may be used for remote job entry, or may be used for timesharing operations such as interactive computation and program development.

Terminal concentrators eliminate the need for individual long distance phone lines between each terminal and the central computer. Through synchronous modems, one line services the concentrator which, in turn, services the terminals and the batch station peripherals. Unlike hard-wired multiplexing systems, the computer-based concentrator insures that line errors introduced during transmission do not result in data errors. Another benefit of using the computer-based remote station is that the low-speed terminals can be operating simultaneously with the card reader and the line printer. Transmission time on the high-speed line is allocated on a demand basis, allowing high-speed operation of the terminals most of the time under normal user loads. The remote concentrator will also handle high-speed CRT terminals, providing interleaved message transmission in a manner which gives the effect of increasing the speed of the lines when multiple terminals are used simultaneously.

Real-Time

For real-time applications, the user can incorporate his custom program in the communication software provided with the DC71 remote station. And, of course, the user has full availability of DECsystem-10 software capabilities. With the user's custom software, the DC71 remote station can perform a range of functions from simple realtime tasks such as buffering the communication line and performing error checking to complex realtime operations such as data acquisition, variable calculation, and parameter adjustment.
DC71A Remote Batch Station
This station interfaces to a DECSystenm-10 via modems and a DS10 or DC75 synchronous modem controller to provide remote batch processing. The following equipment permits the station to serve as a remote batch terminal:

- PDP-8 Terminal Processor
- Teleprinter: ASR33
- Card Reader: 300 CPM (CR08/I-F)
- Line Printer: 132 Column, 64 Character, 245 LPM* (LP08J)
- Modem Interface: Interface to RS232C compatible full-duplex modems (Prerequisite is a DS10 or DC75 on a DECSystenm-10)

DC71B Remote Batch Station
The difference in equipment from the DC71A station is that the DC71B printer has a larger character set:

132 Column, 96 Character, 173 LPM* (LP08K)

* Maximum hardware performance for 132 character lines. The actual performance is influenced by synchronous line speed, line loading from other devices, and length of printed line.

DC71 Remote Batch Station Specifications

<table>
<thead>
<tr>
<th>DC71 Control Unit</th>
<th>Teleprinter</th>
<th>Card Reader</th>
<th>Line Printer</th>
</tr>
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<tbody>
<tr>
<td>Voltage Current</td>
<td>115 or 220 VAC</td>
<td>115 or 230 VAC</td>
<td>115 or 230 VAC</td>
</tr>
<tr>
<td>Operating Current</td>
<td>15 A @ 115 V</td>
<td>2 A @ 115 V</td>
<td>2 A @ 115 V</td>
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<tr>
<td>Surge Current</td>
<td>7.5 A @ 220 V</td>
<td>1 A @ 230 V</td>
<td>2 A @ 230 V</td>
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<tr>
<td>Power</td>
<td>780 Watts</td>
<td>110 Watts</td>
<td>470 Watts</td>
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<tr>
<td>Heat</td>
<td>2700 BTU/s/hr.</td>
<td>375 BTU/s/hr.</td>
<td>1600 BTU/s/hr.</td>
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<table>
<thead>
<tr>
<th>Dimension</th>
<th>Voltage Current</th>
<th>Operating Current</th>
<th>Surge Current</th>
<th>Power</th>
<th>Heat</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>71.5 in., 1.8 m</td>
<td>45.0 in., 1.2 m</td>
<td>13.0 in., 0.33 m</td>
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<tr>
<td>Width</td>
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<td>22 in., 0.57 m</td>
<td>20 in., 0.5 m</td>
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<td>Depth</td>
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<td>Weight</td>
<td>400 lb., 182 kg</td>
<td>70 lb., 32 kg</td>
<td>70 lb., 32 kg</td>
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<td>Operating Temperature</td>
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<td>60° to 95° F</td>
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<tr>
<td></td>
<td>15° to 35° C</td>
<td>15° to 35° C</td>
<td>15° to 35° C</td>
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<tr>
<td>Storage Temperature</td>
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</tr>
<tr>
<td></td>
<td>5° to 45° C</td>
<td>5° to 45° C</td>
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<td>Relative Humidity</td>
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<td>30% to 80%</td>
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DC71D Teletype Concentration Package
This package provides for concentration of 8 teletype lines through the DC71 to the DECSystenm-10. (Prerequisite: DC71A or DC71B)

DC71E Teletype Concentration Expander Option
This option allows the addition of a second set of 8 teletype lines to the DC71D teletype concentration package for a total of 16 lines. (Prerequisite: DC71D)

Local terminals connected to the DC71 must be hardwired (up to 1500 feet) and meet the EIA or 20 mA specification. Terminals may operate at 110, 150, 300 or 150/2400 (split speed) Baud. Input Baud rate should be less than or equal to 300 Baud.

EIA terminal operation requires a BC01J-25 cable to terminals such as the Digital Equipment Corporation VT05 or a BC01A-25 cable to 102 modems or the equivalent. Manual data set control must be used.

Modems
A 4800-Baud modem is recommended for the DC71 system, particularly if multiple terminals are to be concentrated using the DC71D and E. Modems (not supplied by Digital Equipment Corporation) should meet the EIA-RS232-C standard and be equivalent to Bell 201 or 203 modems.