

digital

Software Product Description

PRODUCT NAME: REMOTE/RT-11, Version 1, Real-time Multiprocessor Oriented Editor SPD 10.69.0

DESCRIPTION:

REMOTE/RT-11 is an RT-11 based system using a DECNET compatible protocol which allows users having a minimum 16K word (28K word for Foreground/Background) RT-11 host system to communicate with a maximum of eight satellite PDP-11's with terminals. A satellite system has the facility to develop programs (edit, assemble, compile and link) using RT-11 Foreground/Background (F/B) in the host system. Additionally, a satellite system can down-line load absolute programs into itself. DDCMP bootstrap format is used to transfer data to and from satellite systems.

Two modes of transfer are available: terminal mode and DDCMP mode. In terminal mode, the satellite system appears to the host system to be a locally-connected terminal. The satellite system initially bootstraps into this mode.

All data and program transfers, however, take place in DDCMP mode. To minimize overhead in the satellite system, the system uses the Data Access Protocol (DAP) embedded in the DDCMP bootstrap message. Full 256-word blocks are transferred with each DDCMP envelope so that approximately 400 data words per second are transferred using a 9600 baud line. A PDP-11/40 host with a KG11 will handle eight such lines.

Upon bootstrapping the satellite system, the user is automatically connected to the REMOTE Editor, and the query "FILE:" is displayed on the terminal. To commence editing, a standard RT-11 file specification is entered. There are several commands that allow the user to load programs through the serial line interface, execute programs, send messages, etc. The operator can use the background for any normal RT-11 operation if the host system is running the RT-11 Foreground/Background monitor. An alternate bootstrap address can be used to effect immediate down-line load of a preselected program.

During the execution of a program in the satellite system, data transfers can take place both to and from the host system using DDCMP. Modular design enables a user having only local terminals to remove the protocol-generating portions of the system. A user not needing the Editor can remove it and still maintain communication with a satellite station.

Additionally, a module which interprets and acts on a number of RT-11 EMT's can be linked into programs which are run on the satellite system. The actions which this module performs can consist of formatting and transmitting messages in DAP. This module provides upward compatibility to a user who later acquires sufficient mass storage to run stand-alone RT-11, and provides compatibility with existing languages supported under RT-11 that can be loaded into the satellite system. In particular, FORTRAN programs can be developed on the host system and run in the satellite system by using the RT-11 EMT interpreter module.

A set of diagnostics is included with REMOTE/RT-11 to verify the operation of the satellite, host, and communication links.

NOTE: The REMOTE/RT-11 software will not directly interconnect with general DECNET software.

MINIMUM HARDWARE REQUIRED:

Host System:

Any valid RT-11 system configuration with:

- at least 16K words of memory for Single-Job operation (up to 7 remote lines)
- at least 24K words of memory for Foreground/Background operation (up to 4 remote lines)
- at least 28K words of memory for Foreground/Background operation (up to 8 remote lines)
- one DL11 asynchronous line interface for each remote line (configured for 8-bit transmission)
- one H312A null modem for each DL11-B, -D, or -E line interface
- one DF11-K optical coupler for each DL11-A or -C line interface

Satellite Systems:

For program development only:

- one terminal (LA30, LA36, VT05, VT50, VT52, LT33, or LT35)
- one DL11 asynchronous line interface

For program development, down-line loading, and satellite program execution:

- any PDP-11
- 4K words of memory
- one terminal (as above)
- DL11 asynchronous line interface

OPTIONAL HARDWARE SUPPORTED:

Host System:

Any RT-11 supported device
 Additional DL11 line interfaces (with H312A or DF11-K as appropriate) to a maximum of eight
 Additional terminals to a maximum of eight
 KG11 CRC/LRC Arithmetic Element (for increased communications speed)
 KT11 Memory Management Unit and additional memory to 64K words (for support of larger edit buffers only)

Satellite Systems:

Additional memory to a system total of 28K words
 M9301-YD (for any PDP-11 except LSI-11 based) or REV11-YH (for LSI-based) bootstrap and DDCMP support for convenient down-line loading (highly recommended)
 LPS11 Laboratory Peripheral System (supported under BASIC/RT-11, FOCAL/RT-11, FORTRAN/RT-11 and LA-11)
 AR11 Analog Real-time System (supported under FOCAL/RT-11, FORTRAN/RT-11 and LA-11)
 VT11 Graphics Display Processor (supported under BASIC/RT-11, FOCAL/RT-11, FORTRAN/RT-11, and LA-11)
 DR11-K Digital I/O System (supported under FOCAL/RT-11 and FORTRAN/RT-11)

PREREQUISITE SOFTWARE:

RT-11 operating system, Version 2B or later

OPTIONAL SOFTWARE SUPPORTED:

BASIC/RT-11¹ relinked with RTSIM
 FOCAL/RT-11¹ relinked with RTSIM
 FORTRAN/RT-11 relinked with RTSIM
 LA-11 Lab Applications Library

TRAINING CREDITS:

None

SUPPORT CATEGORY:

B, Software Support will be provided as listed in the Software Support Categories Addendum to this SPD.

UPDATE POLICY:

During the first year, Update Policy shall be in accordance with the Software Support Categories Addendum to this SPD. After the first year, updates, if any, will be made available according to then prevailing DIGITAL policies.

ORDERING INFORMATION:

This software is furnished under a license for use on a single CPU and can be copied and modified (with inclusion of DIGITAL's copyright notice) only for use on such CPU, except as may otherwise be provided in writing by DIGITAL.

The following key (C, E, Y) represents the distribution media for the product and must be specified at the end of the "Q" number, i.e., QJ945-AC = binaries on DEC-tape.

- C = DECTape
- E = RK Disk (DECpack)
- Y = Floppy Disk

Standard Options

QJ945 -A— Single-use license, binaries, documentation, support services (media: C, E, Y)

ADDITIONAL SERVICES:

None

D10.69.0

¹License required for each satellite user.