

# Software Product Description

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**PRODUCT NAME: MU BASIC-11/RT-11, Version 2**

**SPD 12.20.3**

**DESCRIPTION:**

BASIC is a high-level conversational programming language developed at Dartmouth College that uses simple English statements and familiar mathematical notations to perform an operation. Because its conversational structure, BASIC is simple enough for the inexperienced programmer to use while having capability sufficient to control system resources. Because of its simplicity, BASIC reduces the programming time needed to develop applications programs.

MU BASIC-11/RT-11 is an interpreter operating under the RT-11 operating system FB monitor with multi-terminal capability (up to eight).

MU BASIC-11/RT-11 features include:

- One to eight users with equal size memory partitions; no swapping.
- A variety of program manipulation commands, including commands for saving, editing, running, and retrieving BASIC programs.
- Support for real (single or double precision), integer, and string data types.
- Ability to run in either the foreground or background under the RT-11 FB monitor concurrently with another job; supports all RT-11 supported devices (except VT11).
- Support for all terminals supported by RT-11.
- User identification and file protection scheme to control system access and utilization (optional); public and group libraries for file sharing; privileged user capability.
- All peripheral devices can be used by any user at any terminal. However, the ASSIGN and DEASSIGN commands permit restricted use of a non-public device to a single user.
- Limited ability for a user to ASSIGN a terminal (that is currently not in use) as an input or output device.
- Sequential data storage using the RT-11 file system. The maximum number of simultaneously open files is limited only by available memory and RT-11 channel considerations.
- Virtual arrays on disk (integer, real, and string) for processing quantities of data too large to fit in available memory, or for performing random-access I/O.
- Program chaining and overlaying with COMMON to accommodate large programs.
- Formatted output with "PRINT USING" statement.

- String support, complete with string arrays and functions.
- A "CALL" statement that allows easy interfacing of assembly language routines. These routines can be called by name and passed multiple arguments. These routines must be included at link time.
- Immediate mode execution for "desk calculator" operation and program debugging.
- Privileged mode to protect applications programs.

**MINIMUM HARDWARE REQUIRED:**

Any valid RT-11 Version 03B (FB monitor with multi-terminal support) configuration with

- RK11, RX11, or RL11 controller and drive
- line frequency clock
- 56K bytes of memory

Total memory required depends on the number of users, length of programs, BASIC features included, devices used, and number of simultaneously open files. A maximum of four users is recommended for LSI-11 based systems.

DECtape is not recommended as the system device.

**OPTIONAL HARDWARE SUPPORTED:**

Supports any device supported by the prerequisite software.

**PREREQUISITE SOFTWARE:**

One of the following:

- RT-11, Version 03B, operating system
- RT<sup>2</sup>, Version 03B

**OPTIONAL SOFTWARE SUPPORTED:**

None

**TRAINING CREDITS:**

None

**SUPPORT CATEGORY:**

A — Software Support will be provided as stated in the Software Support Categories Addendum to this SPD.

**UPDATE POLICY:**

Software Updates, if any, released by DIGITAL during the one (1) year period following installation, will be provided to the customer without additional charge (includes no installation). After the first year, updates, if any, will be made available according to then prevailing DIGITAL policies.

**ORDERING INFORMATION:**

All binary licensed software, including any subsequent updates, is furnished under the licensing provisions of DIGITAL's Standard Terms and Conditions of Sale, which provide in part that the software and any part thereof may be used on only the single CPU on which the software is first installed, and may be copied, in whole or in part (with the proper inclusion of the DIGITAL copyright notice and any DIGITAL proprietary notices on the software) only for use on such CPU. All source licensed software is furnished only under the terms and conditions of a separate Software Program Sources Agreement between Purchaser and DIGITAL.

Standard options with no support services are only available after the purchase of one supported license. When a software license is ordered without support services, the category of support applicable to such software is Category C.

A single-use license only option is a license to copy the software previously obtained under license, and use such software in accordance with DIGITAL's Standard Terms and Conditions of Sale. The category of support applicable to such copied software is Category C.

Source and/or listing options are only available after the purchase of at least one binary license and after a source license agreement is in effect.

The following key (E, Q, R, Y, Z) represents the distribution media for the product and must be specified at the end of the order number, e.g., QJ921-AY = binaries on floppy disk.

- E = RK05 Disk Cartridge
- Q = RL01 Disk Cartridge
- R = Microfiche
- Y = RX01 Floppy Diskette
- Z = No hardware dependency

*Standard Options*

- QJ921 -A— Single-use license, binaries, documentation, support services (media: E, Q, Y)
- QJ921 -C— Single-use license, binaries, documentation, no support services (media: E, Q, Y)
- QJ921 -D— Single-use license only, no binaries, no documentation, no support services (media: Z)

*Source/Listing Options*

- QJ921 -E— All sources (media: E, Q, Y)
- QJ921 -F— Listings (media: R)

*Update Options:*

Users of MU BASIC/RT-11 whose specified Support Category warranty has expired may order the following software update for the then current charge for such update, for use under the existing license. Except where the medium is designated as Z, the update is distributed in source or binary form on the appropriate medium. A software update where the medium is designated as Z grants the user of MU BASIC/RT-11 the right to copy the previously ordered QJ921-H or QJ921-W software update for use on an additional single CPU for which an MU BASIC/RT-11 license has been obtained. No installation or other services are included unless specifically stated otherwise.

- QJ921 -H— Binaries, documentation (media: E, Q, Y)
- QJ921 -H— Right to copy for single use (under existing license), no binaries, no documentation, no support services (media: Z)

Users of MU BASIC/RT-11 whose specified Support Category warranty has not expired may order under license the following software update for the then current media charge. The update is distributed in source and binary form on the appropriate medium and includes no installation or other services unless specifically stated otherwise.

- QJ921 -W— Binaries, documentation (media: E, Q, Y)

*Source/Listing Update Options*

The following options are available to licensed users as updates to source/listing options. The update is distributed in source form on the appropriate medium and includes no installation or other services unless specifically stated otherwise.

- QJ921 -N— Sources update (media: E, Q, Y)

*Miscellaneous Options*

- QJ921 -G— Pre-delivery kit (media: Z)

**ADDITIONAL SERVICES:**

None

ADDENDUM  
SOFTWARE SUPPORT CATEGORIES

Each software product (hereinafter 'SOFTWARE') with a designated Support Category A or B in the applicable Software Product Description (SPD) existing at the time of order will be the current release at the time of delivery and will conform to the SPD. DIGITAL's sole obligation shall be to correct defects (nonconformance of the SOFTWARE to the SPD) as described below. Any SOFTWARE with a designated Support Category C will be furnished on an 'as is' basis.

For SOFTWARE with a designated Support Category A or B, DIGITAL will provide the services set forth below without additional charge.

CATEGORY A

1. Upon notification by customer to the nearest DIGITAL office that the computer system, including all required prerequisite hardware and software, is ready for the installation of the SOFTWARE, DIGITAL will install such SOFTWARE in any location within the contiguous forty-eight (48) United States, the District of Columbia, or a country in which DIGITAL or a subsidiary of DIGITAL has a software service facility. The notification must be received by DIGITAL and the system must be ready for installation within thirty (30) days after the delivery of the SOFTWARE to customer or DIGITAL will have no obligation to install. Installation will consist of: (1) verification that all components of the SOFTWARE have been received by customer, (2) loading the SOFTWARE, and (3) executing a DIGITAL sample procedure.
2. During the ninety (90) day period after installation, if the customer encounters a problem with the current unaltered release of the SOFTWARE which DIGITAL determines to be a defect in the SOFTWARE, DIGITAL will provide the following remedial service (on site where necessary): (1) if the SOFTWARE is inoperable, apply a temporary correction (TC) or make a reasonable attempt to develop an emergency by-pass, and (2) assist the customer to prepare a Software Performance Report (SPR) and submit it to DIGITAL.
3. During the one (1) year period following installation, if the customer encounters a problem with the SOFTWARE which his diagnosis indicates is caused by a SOFTWARE defect, the customer may submit an SPR to DIGITAL. DIGITAL will respond to problems reported in SPRs which are caused by defects in the current unaltered release of the SOFTWARE via the Maintenance Periodical for the SOFTWARE, which reports SPRs received, code corrections, temporary corrections, generally useful emergency by-passes and/or notice of the availability of corrected code. Software Updates, if any, released by DIGITAL during the one (1) year period, will be provided to the customer on DIGITAL's standard distribution media as specified in the applicable SPD. The customer will be charged only for the media on which such updates are provided, unless otherwise stated in the applicable SPD, at DIGITAL's then current media prices.

CATEGORY B

During the one (1) year period following delivery, the services provided to the customer will be the same as set forth in 3 above.

CATEGORY C

SOFTWARE is provided on an 'as is' basis. Any software services, if available, will be provided at the then current charges.

DIGITAL shall have the right to make additional charges for any additional effort required to provide services resulting from customer use of other than current unaltered release of the SOFTWARE operated in accordance with the SPD.