

Software Product Description

PRODUCT NAME: **RSX-11M-PLUS VSV21 Support Software,
Version 2.2**

SPD 13.65.03

DESCRIPTION

The VSV21 Support Software is the software component of the VSV21 Q-22 Bus Color Graphics Module. The VSV21 Module requires some elements of its microcode to be down-loaded prior to operation, in particular, certain code must be loaded into the module to allow on-board interpretation of graphics display commands. The VSV21 Support Software is a necessary option to enable use of the extensive capabilities of the VSV21 Module.

The VSV21 Support Software is comprised of the following components:

- Device Driver
- Software Modules
- Configuration and Control Utility Program (VCP)
- Installation Verification Procedure (IVP)
- VIVID Subroutine Library (VSL)
- ASCII readable release note file (VSV21.REL)

The software modules, which are loaded into the VSV21 Module using the VCP, allow Terminal Emulation, VSV11 Emulation or VSV21 VIVID display list processing.

Terminal Emulation

The VSV21 Module provides a serial port for connection to the host processor via the system console port or any other suitable serial port.

The Emulation operates via the host serial communications port of the VSV21 Module. Sufficient logic is resident within the module to enable the VSV21 to be used as the system console on power-up of the system.

The Emulation provides all the main features required to support Digital standard utilities. It provides the same VT100 functionality as the VT220 in VT100 Emulation mode.

VT100 features not supported by the Emulation include:

- VT100 Set-up Mode
- Selectable Tabs
- Interlace Operation
- Advanced Video Option (AVO)
- Double Height, Double Width Characters
- Changes to Host Terminal Port Options
- VT52 Emulation and Special ROMs
- 132 Column Operation
- Full Screen Reverse Video

In addition, the following VT220 features are emulated:

- 8-bit Multinational Character Sets
- Compose Key
- User definable (shifted) Function Keys are programmable under terminal Emulation (as specified in the *VT220 User Manual*.)

VSV11 Emulation

Utilizing the VCP, software modules may be down-loaded into the VSV21 Module to provide Emulation of the following fixed VSV11 hardware configuration:

- Single Channel Display
- 1 or 2 Memory Planes
- Single Sync Board

VSV11 features not supported by Emulation include:

- Dynamics
- VSV11 Color Look-up Option
- Direct Register Access
- Wrap
- Difference Bitmaps

VSV21 Instructions for Visual Display VIVID

Utilizing the VCP, software modules may be down-loaded into the VSV21 module to provide extensive display list processing as an alternative to VSV11 Emulation.

VSV21 Serial Port Device Drivers (Pointing and General)

Device Drivers are provided which support a specified range of pointing devices and other serial peripherals attached to two of the VSV21's serial ports. (Refer to the current Technical Data Sheet for further details.)

VSV21 Device Driver

The normal interface between the host software and the VSV21 Module is the VSV21 Device Driver which provides for up to four VSV21 Modules on one host processor.

This loadable Device Driver provides an Emulation of the VSV11 Device Driver at QIO function level and the GLUN\$ system service. This allows existing VSV11 applications software, which comply with the constraints described above, to run without source code change once the VSV21 Module has been configured for VSV11 Emulation. (Refer to *Configuration and Control Utility (VCP)* section.)

The Device Driver also permits use of VSV21 in VIVID display list processing and also provides a device control interface to allow loading of the on-board software and certain changes in the configuration of the on-board software.

Device error logging is provided to enable service personnel to monitor results of VSV21 Module self-test and potential driver to on-board software interface problems. The Device Driver also provides protection against unauthorized configuration changes by requiring certain functions to be issued by a privileged user.

Configuration and Control Utility (VCP)

The Configuration and Control Utility provides the facility to down-load the VSV21 software modules to a VSV21 Module. A maximum of four VSV21 Modules are supported.

VCP commands use a straightforward syntax and may be entered directly from a system terminal, which may be a VSV21 in terminal Emulation Mode, or may be included in the system or user start-up command file. In order to operate correctly, the VCP requires that the software modules are available to it within the system library area.

To assist system security, the VCP may only be operated from a system account.

In addition to the down-loading of on-board software, the VCP provides the facility to modify certain characteristics of the VSV21's serial port(s) operation, VSV11 and terminal Emulation.

The system manager can alter certain operational characteristics of the VSV21 device which may optionally retain their setting upon system power-down.

Installation Verification Procedure (IVP)

The Installation Verification Procedure is provided as an aid to the user in testing that the VSV21 Module has been correctly installed and is operational.

HARDWARE REQUIREMENTS

- PDP-11/23+, 11/73, or 11/83 processor based system with a minimum of 30K words of memory and at least one disk storage device
- At least one (maximum of four) VSV21 Modules

Block space requirement (Block Cluster Size =1):

The installed kit requires 1500 blocks, plus 1500 blocks during installation for temporary storage.

These block counts refer to the disk space required on the system disk. The sizes are approximate; actual sizes may vary depending on the user's system environment, configuration, and software options selected.

OPTIONAL HARDWARE

The following optional hardware is supported by the VSV21 Support Software.

- LK201 keyboard (mandatory if the VSV21 Module is to be used as an emulated VT100 terminal)
- A Digital-suggested color monitor
- A Digital-suggested pointing device

GROWTH CONSIDERATIONS

The minimum hardware/software requirements for any future version of this product may be different from the requirements for the current version.

SOFTWARE REQUIREMENTS

- RSX-11M-PLUS Operating System
- FORTRAN RTL if VSL is used

Refer to the RSX-11M-PLUS Optional Software Cross Reference Table (SPD 20.99.xx) for the required versions.

OPTIONAL SOFTWARE

None

SOFTWARE LICENSING

This software is furnished under the licensing provisions of Digital Equipment Corporation's Standard Terms and Conditions. For more information about Digital's licensing terms and policies, contact your local Digital office.

SOFTWARE PRODUCT SERVICES

A variety of service options are available. For more information, please contact your local Digital office.

SOFTWARE OPTIONS CHART

The distribution Media Codes used in the Software Options Chart are described below. You specify the desired Media Code at the end of the Order Number, e.g., QJ185-H3 = binaries on RX50 Floppy Diskette.

- 3 = RX50 Floppy Diskette
- H = RL02 Disk Cartridge
- M = 9-Track 1600 BPI Magtape (PE)
- Z = No hardware dependency

Note: The availability of these software product options and services may vary by country. Customers should contact their local Digital office for information on availability.

OPTIONS	ORDER NUMBER
LICENSE OPTIONS: A LICENSE IS REQUIRED FOR EACH CPU.	
Single-Use License	QJ185-UZ
MATERIALS AND SERVICE OPTIONS:	
Distribution and Documentation Option	QJ185-H*
Software Revision Right-To-Copy Option	QJ185-HZ
Documentation-Only Option	QJ185-GZ

SOFTWARE WARRANTY

Warranty for this software product is provided by Digital with the purchase of a license for the product as defined in the Software Warranty Addendum of this SPD.

® The DIGITAL Logo is a registered trademark of Digital Equipment Corporation.
™ PDP-11, RSX-11M-PLUS, VT and VT100 are trademarks of Digital Equipment Corporation.