

# PDP-11/O3 PACKAGED SYSTEMS

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**TIVO3-L OEM  
MICRO/FLOPPY  
SYSTEM**



**TITO3-L OEM  
MICRO/DISK  
SYSTEM**

# PDP-11/03 PACKAGED SYSTEMS RX02-BASED and RL01-BASED

PROVEN SOFTWARE · ECONOMY · EASY-TO-USE HARDWARE

DIGITAL's 11V03-L is a floppy-disk-based microcomputer system, while the 11T03-L is a hard-disk-based microcomputer system, and both are designed to save money, time and effort for OEMs. These powerful, proven packages combine operating system software with complete hardware configurations at considerably lower cost than the sum of the component prices. They're simple to use, simple to install, and totally compatible with the rest of the PDP-11 family—so you can build larger or smaller systems without scrapping your original software.

And like all PDP-11s, our packaged systems give you the worldwide service and support that OEMs have come to expect from DIGITAL.

**APPLICATIONS**—These systems are ideal small business configurations, and allow OEMs in this field to buy the necessary hardware in one simple purchase. They are also perfect development tools for OEMs who plan to use smaller 11/03s or LSI-11s in instrumentation, control or communications systems.

## SYSTEM COMPONENTS

The 11V03-L\* packaged system includes:

- RX02 Disk Subsystem consisting of a control unit and two industry-standard RX02 Floppy Disk Drives with a combined storage capacity of one million bytes.
- Caster-equipped, 31-inch-tall (778 mm) equipment cabinet.
- 11/03-L central processor with 32KB of MOS memory, line frequency clock, BDV11-AA bootstrap/diagnostic/PROM-ROM module and serial line interface.
- Extended/floating-point instruction set that provides integer multiply and divide, arithmetic shifts and single or double precision floating-point arithmetic.
- Universal power supplies that permit easy conversion between 115 and 230V/50-60Hz.
- LA36 DECwriter II hardcopy terminal or VT100 or VT52 video terminal, with control unit.
- RT-11 single-user operating system and disk-based diagnostics.

The 11T03-L\* differs only in its disk subsystem, cabinet and memory; it includes:

- RL01 Disk Subsystem consisting of a control unit and two top-loading RL01 Disk Drives with a combined storage capacity of 10.4 million bytes; two cartridges are also included.
- Caster-equipped, 41-inch-tall (1051 mm) equipment cabinet.
- 11/03-L central processor with 64KB of MOS memory.

**OPTIONS** for both systems include:

- Writeable Control Store for enhanced performance and new functions.
- Programmable crystal clock.
- Additional terminals, including graphics CRTs and high-speed printers.
- A complete range of interfaces and peripherals.
- RSX-11S multiprogramming operating system.
- High-level language processors, such as FORTRAN BASIC and APL.

## PDP-11/03-L MICROCOMPUTER

11/03-L is a high performance, very versatile, boxed version of our popular LSI-11 microcomputer. The 16-bit LSI-11 provides the extensive instruction set, flexible addressing, automatic priority interrupt structure, and pushdown stack that make PDP-11s so easy and efficient to program. And the asynchronous, bidirectional Sub-UNIBUS permits easy configuring and addition of peripherals.

In its packaged system version, 11/03-L also includes an extended/floating-point instruction set that boosts the system's FORTRAN power, 32KB (in the 11V03 system) or 64KB (11T03) of MOS memory, and the BDV11-AA module, which provides bootstrap capabilities, efficient system diagnostics and space for up to 32KB of additional memory (as user-supplied ROM or UV-erasable PROM). A newly-designed 9-slot backplane leaves plenty of room and flexibility for expansion, while helping OEMs save logic space and money. All in all, it's the most powerful, easiest-to-use microcomputer you can buy.

## RX02 DISK SUBSYSTEM (11V03-L)

The 11V03-L system includes the RX02 double-density floppy disk—a highly reliable, low-cost device able to store up to 512K bytes per diskette in an industry-compatible format. The RX02 subsystem consists of two drives, a read/write module, microprogrammed control module and power supply, all housed in a 10-inch rack-mountable, self-cooled chassis. Direct Memory Access capability significantly enhances system throughput and response time in many applications.

To assure data integrity, RX02 performs parity checks and cyclic redundancy checks. Upon initialization, the controller automatically performs a wrap-around test of the read/write circuits and will initiate operation only upon satisfactory completion of the test. A variety of error messages combine with simplified mechanical design to help facilitate maintenance. In terms of performance, average access time (including head positioning and settling and rotational latency) is less than

483 milliseconds, and average transfer rate is 20K bytes per second.

## RL01 DISK SUBSYSTEM (11T03-L)

The RL01, DIGITAL's newest medium capacity cartridge disk subsystem, combines state-of-the-art technology and convenient top-loading design with reliability and maintainability features specifically designed to keep its cost of ownership low. Completely designed and built by DIGITAL, the RL01 Disk Subsystem includes a control unit capable of handling up to four rack-mounted cartridge disk drives. Each drive has an on-line storage capacity of 5.2 million bytes. Several features assure data integrity, and direct memory access capability enhances throughput and response time. Average access time, including both head positioning time and rotational latency, is less than 68 milliseconds, and average transfer rate is 512.5K bytes/second.

## TERMINALS

The systems include one of three terminals. All three are asynchronous, serial devices and are available in 20 mA (for inexpensive local data transmission) or EIA (for remote modem transmission) versions.

**LA36 DECwriter II** is a compact, quiet, 300-baud keyboard printer that serves as an economical hardcopy terminal in remote or local I/O applications. It offers improved throughput, reliability, print quality, and form handling versatility at a price well below comparable keyboard printers. It is fast—a true 30-cps with a full 132-character length—and versatile—uses six part forms from 3 to 14-7/8 inches (76-378 mm) wide. Standard on DECwriter II is a full 128-character ASCII keyboard, 96 upper and lower case characters, symbol printing set, 32 control characters, and a 14-key numeric keypad.

**VT100** is DIGITAL's newest entry-level video terminal, combining exceptional versatility and operator convenience with enhanced reliability and field upgradability. Its 132-column, 7 x 9 dot matrix display allows easy viewing of wide-format data, with upper and lower case characters including descenders. Selectable double-width/double-height characters, double intensity, normal or reverse video, blinking and underlining

provide useful visual emphasis. Smooth scrolling of the entire display or of selected portions, variable tabulation, and solid-line display of simple graphic forms add versatility. And the detached typewriter-like keyboard with 18-key numeric/function keypad adds operator convenience and allows a variety of viewing angles. Built-in self test diagnostics and easy maintainability round out the picture.

**VT52** is DIGITAL's popular standard video terminal, with an attached typewriter-like keyboard and numeric/function keypad. The 24-line, 80-column screen displays 96 ASCII characters (upper and lower case) and 32 graphic characters as white symbols (7 x 7 dot matrix) on a dark field. Transmission rates are switch-selectable from 75-9600 baud, and the simplified mechanics keep maintenance costs to a minimum.

## OPERATING SYSTEM SOFTWARE

**RT-11**, a single-user, full-function operating system, is a standard component of these packaged systems. Depending on your needs, you can order this software with your choice of support services, at corresponding prices.

RT-11 is a high-performance disk-based package designed for interactive program development and on-line applications. It supports both single job (SJ) and foreground/background (FB) processing, while providing fast response to real-time situations. The system provides SJ and FB monitors, a file management system, several utilities, and all the tools needed for program development and execution in MACRO assembly language. RT-11 can also support FORTRAN IV, BASIC, Multi-User BASIC, and APL language processors.

**RSX-11S**, available as an option, is a low-cost, low-overhead member of our real-time multiprogramming family, providing a dedicated, execute-only environment for monitoring and controlling many real-time processes concurrently. Program development, file creation and RSX-11S system generation take place off-line on a host RSX-11M system. Application tasks can be written in MACRO assembly language, BASIC-PLUS-2, FORTRAN IV or FORTRAN IV-PLUS.

These high performance, complete microcomputer systems offer OEMs great flexibility at very low prices. For further information or detailed literature, call your DIGITAL sales representative

\*To order these systems, refer to model number SR-VXLLA-\_\_\_\_ (11T03-L) or SR-VXSSA-\_\_\_\_ (11V03-L) in the price list and packaged systems summary. The last two digits of each number specify the choice of terminal, power supply and software support level.

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