

UNISYS

## CTOS B39-D/E

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# Section 1

## Introduction

UNISYS is pleased to announce the immediate availability of two new 25MHz B39 systems with inbuilt VGA controller; the B39-D, and B39-E.

The B39-D and B39-E, two new powerful CTOS servers, represent UNISYS' continued commitment to offer state of the art technology to our CTOS customers. Customers will enjoy the benefits of increased disk capacity, performance, and reliability as well as inbuilt VGA graphics capability.

These new B39 products are positioned, from a price/performance perspective, just above the powerful new B38-GXL workstation/server and below the SG-5000 high-end 80486 workstation/server products.

## Product Overview

While a part of the B25/NGEN family of CTOS products, the B39 differs from the other processors in that it is a highly integrated 14" wide processor module. It includes an inbuilt worldwide power supply, floppy drive, SCSI controller with inbuilt SCSI disk drive, and VGA graphics controller. In addition, there are two available internal XBUS slots for optional cards. Of course, the B39 is compatible with all current CTOS XBUS modules, as well, to facilitate a smooth migration from predecessor products to the new B39 offerings.

At the heart of the new B39 products is an Intel 80386 processor running at 25Mhz, a 64KB instruction cache, and a full 32 bit path to main memory. With BTOS II 3.0 (VAM 3.1.3) or later, the B39 user can take advantage of a protected mode, multi-tasking operating environment. By upgrading to the CTOS II operating environment, the B39 user can support 3.68Mbps cluster speed, disk caching, and concurrent with CTOS applications load multiple DOS applications in a second-to-none PC emulation environment via VPC 1.0.

## Main Memory

Using standard SIMM technology, the B39 product family offers up to 24 megabytes of main memory with parity error detection logic built into the hardware. Base memory on the B39 is 4MB, expandable to 24MB in 4MB increments (B39-4MB). The 24MB maximum memory is more than any other B25 processor product offers today. This allows the CTOS customer to take full advantage of the CTOS multi-tasking environment, the many new CTOS applications (both Unisys and third-party), and finally, access to virtually any DOS application via excellent DOS emulation under VPC. With the large memory capacity of the B39, the CTOS user can run multiple DOS applications concurrently with multiple CTOS applications.

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## **Inbuilt SCSI Disk Drive**

Unlike other B25 processors, the B39 has an inbuilt SCSI disk drive and controller. The inbuilt SCSI controller supports up to six additional SCSI expansion modules. The XBus limitation of 24 inches still applies, however. If an XBus module or SCSI controller module is added to the system, the maximum number of SCSI expansion devices on the inbuilt SCSI controller is reduced to four six-inch SCSI expansion modules. With the addition of a SCSI controller module, an additional six SCSI expansion modules may be configured, offering a maximum of 12 SCSI devices on a single B39 system. For full configuration details, see the B39 hardware installation manual (B39-IG, or 4359 3375-000)

All other B25 processors support only one SCSI controller module for a maximum of seven SCSI devices per system. In addition to improved capacity, there may also be performance improvements in some application environments when utilizing two SCSI controllers on the same system.

## **Floppy Disk Drive**

A single inbuilt 5.25" floppy disk drive in the base B39 system supports capacities of 630KB and 1.2MB for both CTOS and DOS (IBM AT compatible) formatted floppies. A minimum operating environment of BTOS II 3.2 or CTOS/VM 2.4 is required to take full advantage of the 1.2MB capacity.

## **Inbuilt VGA Graphics Controller**

Unlike predecessor B39 processors, the B39-D and B39-E feature in-built video graphics capability. Installed at the factory, the B25-VG3 graphics controller card features 512KB video RAM.

The B25-VG3 is a multiresolution graphics controller that provides up to 1024 x 768 x 4 resolution, is compatible with all previous CTOS video modes, and is register-level compatible with the IBM® VGA® graphics standard.

In addition to older supported, but discontinued monitors (B25-CD3, B25-GS1, B25-CA1, etc.), the B25-VG3 supports the SG-130-D 1024 x 768 14" color monitor and the SG-120-D 640 x 480 STD VGA 14" grey scale monitor. In addition, the SG-100-D 9" grey scale monitor is supported. The B25-VKA video keyboard adapter is required to support these monitors.

## **Inbuilt Worldwide Power Supply**

An AC power supply (switchable between 120VAC and 240VAC) is packaged in the B39 processor cabinet, and is capable of powering all internal components. As additional external X-Bus or SCSI modules are added to the configuration, B25-PS1 power modules, or "bricks", must be attached.

## **Internal X-Bus Modules**

The B39 has three internal X-Bus slots. For the B39-D and B39-E, one of these slots is occupied by the inbuilt B25-VG3 VGA Graphics controller. The other two may be used for other X-Bus cards that are available. At the time of release of the B39-D and B39-E, the B25-DN1 ISDN Terminal Adapter Card and XC-102 four port expander card (for Convergent customers only) are optional X-Bus cards.

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## **Communications Support**

One RS-485 (RS-422 compatible) cluster communications port, with two connectors and operational speeds of 307Kbps, 1.8Mbps, and 3.68Mbps, is included on the base B39 system. CTOS II is the minimum operating environment required to support the B39 as a server on a 3.68Mbps cluster. See the CTOS Cluster and Network Hardware installation guide (4358 6940-000) for CTOS Cluster configuration details.

Two internal DMA driven RS232-C communications ports with an aggregate bandpass of 38.4Kbps and an individual bandpass of 19.2Kbps, are included on the base B39 system. These communications ports support both synchronous and asynchronous protocols. One port supports NRZI.

The B39 base system is the ONLY B25 series processor that offers DMA capable communications on the base system. Other B25 processors require the addition of a B25-ID2 communications module for this capability. When DMA is utilized by CTOS communications applications in synchronous packet oriented protocols, the main processor is offloaded to some extent. This allows the processor more free time to execute other system activities, thus improving overall system performance.

## **Bi-directional Parallel port**

One bidirectional Parallel Printer port is included as part of the B39 base system. The printer interface can be configured to operate with input (such as scanners) or output devices (such as line printers). For output, this interface is Centronix compatible.

## **Operating System Support**

The B39-D and B39-E require BTOS II 3.0 (with VAM 3.1.3), or CTOS/VM 2.4 or higher. It is highly recommended that BTOS II 3.0 customers upgrade to BTOS II 3.2 for full floppy and video support. For support of 3.68Mbps cluster operation and disk caching capabilities, customers must upgrade to CTOS II, or later.

## **Hard ID Support**

To permit specific unit identification via software applications, the B39 base system contains an internal Hard ID feature.

## **Battery Backup Real-time Clock**

The B39 contains a real time clock that has battery backup. Date and time are retained when the system is powered off. An application program interface is also available in CTOS for utilizing this hardware feature.

No other CTOS B25 processor product offers this capability.

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## Section 2 Features and Benefits

	B39-D	B39-E
Cache Memory	64 KB	64 KB
Base Main Memory	4 MB	4 MB
Max Main Memory	24 MB	24 MB
Disk Drive/Avg. Access time*	240MB/16msec	425MB/14msec
Floppy Drive	630KB/1.2MB	630KB/1.2MB
Replaces B39-3	B39-5	B39-4
Video Options included	B25-VG3	B25-VG3
Math Coprocessor Option	B38-MEX	B38-MEX

\* Average access times for the B39-3 and B39-4 disks are 23msec and 18msec, respectively.

The B39-D 25MHz system features an inbuilt 240MB SCSI disk, and inbuilt B25- VG3 graphics controller board with 512KB video RAM.

The B39-E 25MHz system features an inbuilt 425MB SCSI disk, and inbuilt B25- VG3 graphics controller board with 512KB video RAM.

Other than the larger, faster and more reliable disk drives and inbuilt VGA controller, the new B39's (B39-D, B39-E) are identical to the predecessor 25MHz B39's (B39-3, B39-4, B39-5). They feature an Intel 25MHz 80386 microprocessor, 64KB high-speed write-through hardware cache, 4MB base parity memory expandable to 24MB total, and an inbuilt worldwide power supply. Each of the new systems supports up to 23 client workstations and cluster speeds of 1.8Mbps and 3.68Mbps.

Consistent with the incredible modularity of all CTOS B25 systems, the B39 supports all currently marketed X-Bus and SCSI modules.

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## Section 3 Marketing Strategy

The B39-D and B39-E processors will replace the current B39-3, B39-4 and B39-5 products. With the availability of the new B39-D system in May, 1992, the older B39-3 will remain orderable through May 31, 1992, with shipments continuing through August 31, 1992. The B39-5 has already been discontinued. With the availability of the new B39-E system in June, 1992, the older B39-4 will remain orderable through July 31, 1992, with shipments continuing through October 31, 1992.

The B39 servers are positioned at the high end of the B25/NGEN family of workstation/servers. Featuring memory expansion to 24MB, DMA communications capability built into the base system, two available internal XBus slots, and battery backed-up clock, the B39 products command a small price premium over the exciting new B38-GXL workstation/server.

One additional feature of the B39, not offered by the B38-GXL, is local bus access to SCSI devices. The benefit here is twofold. First, the B39 is the only CTOS B25/NGEN system that allows two SCSI controllers (one internal to the B39; the other external via an XBus SCSI Controller module). Second, in the case of the internal SCSI controller, the XBus is not required to access SCSI devices. This offloads the XBus for other activity, and may improve overall system performance in some configurations.

B39 server products function well as workgroup servers for organizations that have a large number of system services installed on the server, have heavy data communications requirements, and/or have large database requirements utilizing products such as ORACLE, MAPPER, or PROGRESS.

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## Section 4 Software Interdependencies

BTOS II 3.0 with VAM 3.1.3 or later are required.

CTOS/VM 2.4 or later is required.

### Documentation/ Sales Aids

CTOS B39 25MHz VGA Workstation/Server Specification Sheet (Part Number 4124 4732-000)

CTOS Cluster and Network Hardware Installation Guide (Part Number 4358 6940-000)

B39 Hardware Installation Guide (Style B39-IG, see below; Part Number 4359 3375-000)

### Marketing Orderables

Style Id	Description
B39-D	25MHz B39 w/240MB & VGA Controller
B39-E	25MHz B39 w/425MB & VGA Controller
B39-4MB	B39 4MB Upgrade Kit
B38-MEX	80387 Math Coprocessor option
B39-IG	B39 Hardware Installation Guide

For current pricing and maintenance information, please refer to the online pricebook.

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Title of This Document

**CTOS B39-D/E**

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**4124 5622-000**

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