Cyrix 386 to 486 Upgrade Microprocessor

638-857 TO 894

Upgrade Microprocessor Product Highlights

- *Single-chip upgrade solution for 386 desktop PCs*
- *Clock doubling technology for increased performance*
- *1K on-chip cache with cache coherency support (patent pending)*
- *Easy installation*
- *Compatible with DOS, Windows, Windows NT, and OS/2*
- *Toll-free support*
- *Limited lifetime warranty*
- *Proven Windows compatible by Microsoft*
- *Compatible in Novell, Banyan, and LAN Manager network nodes*
- *Low cost math coprocessor option*

Just when you think you're up to speed, technology changes. Today's system software puts more demands on your CPU, and graphics applications further slow your system's performance.

To keep up, you could dispose of your old 386 computer in favor of a flashy, new 486 model.

Or you could do the smarter, more cost-effective thing.

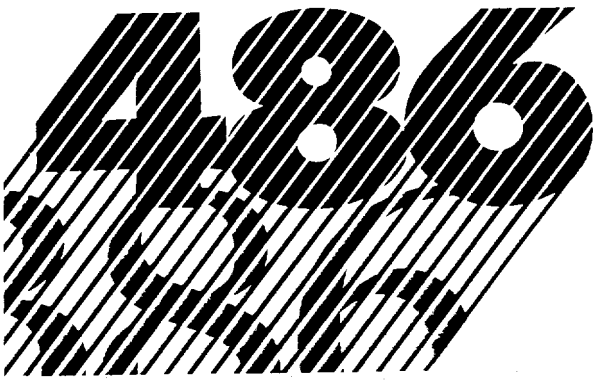
Plug in the new Cyrix 386 to 486 Upgrade Microprocessor. It's the first single-chip 486 microprocessor upgrade designed for 386SX and 386DX desktop PCs. It's the fastest, most cost-effective way to a 486 computer. And, rest assured, the Cyrix solution offers universal software compatibility. Which means it runs under DOS, Windows, Windows NT, and OS/2 operating systems and is compatible in Novell, Banyan, and LAN Manager network nodes.

The Sum of the Part. The upgrade is based on Cyrix's enhanced Cx486 technology. With its clock doubling feature, this new upgrade effectively doubles your computer's internal microprocessor speed, without requiring a new motherboard. (No small feat for so little cost.)

It also delivers other performance enhancements such as 1K on-chip cache with Cyrix cache coherency technology (patent pending), single cycle instruction execution and a hardware integer multiplier. These features can boost application performance up to 70% and more. This increased performance is especially beneficial in running graphical user interface software and other processor-intensive applications.

The hardware integer multiplier calculates up to eight times faster than the software multiply functions of 386 and non-Cyrix 486 microprocessors operating at the same frequency. Cyrix's hardware integer multiplier enhances video performance in graphical applications, making it up to two times faster than 386 software multipliers operating at the same speed.

What's the Cache? For higher performance with full data integrity, the Cyrix 386 to 486 Upgrade Microprocessor utilizes a 1K on-chip cache. The cache is a small memory area within the Cyrix upgrade that holds data ready for use by the processor's execution unit. Since the data is actually on the microprocessor itself, it can be accessed much quicker than if it had to be retrieved from the system's memory. This cache feature is not found on 386 microprocessors.



Easy Installation. Since the Cyrix 386 to 486 Upgrade Microprocessor is a single-chip solution, installation is easy and straightforward.

For 386DX systems, just remove the 386DX microprocessor and plug in Cyrix's Cx486DRx² in its place. For 386SX systems, simply snap the Cx486SRx² onto the 386SX microprocessor. The final step: load the easy-to-install cache utility software onto your hard drive. In about 15 minutes, you can transform your 386 computer into a 486-class machine.

Cyrix instead

Cx486DRx²

Upgrade Microprocessor For 386DX-16, 20, 25 and 33MHz Personal Computers

Benchmarks

Norton Sysinfo 6.0
(Relative index)

DRx² 48
i386 21

Performance increase = 129%

Landmark CPU Speed V2.0
(MHz speed)

DRx² 114
i386 24

Performance increase = 375%

Microsoft Word for Windows V2.0
(Relative performance)

DRx² 2.77
i386 1.0

Performance increase = 2.77x

Micrografx Designer V3.1
(Relative performance)

DRx² 2.64
i386 1.0

Performance increase = 2.64x

	Intel i386DX	Cyrix 486DRx²
Norton Sysinfo 6.0 (Relative index)	21	**48**
Landmark CPU Speed V2.0 (MHz)	24	**114**
Microsoft Word for Windows V2.0 (Relative performance)	1.0	**2.77**
Micrografx Designer V3.1 (Relative performance)	1.0	**2.64**

Benchmark tests run on an IBM PS/2 Model 70/20MHz

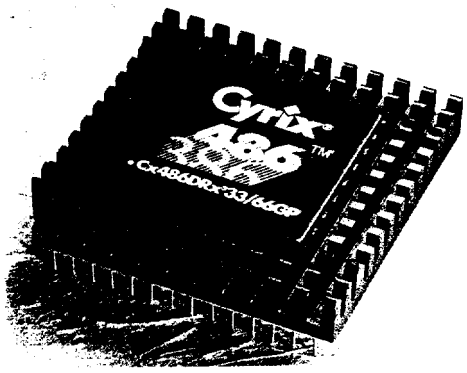
1993 BYTE AWARD OF MERIT

Computer Shopper 1993 Award Winner (UK)

COMPUTE SPECIAL TECHNOLOGY AWARD FINALIST

PC Requirements. To utilize our Cx486DRx² Upgrade Microprocessor, your computer must have a 386DX processor operating at 16, 20, 25 or 33MHz, and mounted in a standard 132-pin PGA socket.

Our Upgrade Processors include a heat sink and will require ½" clearance above the microprocessor socket. (See physical dimensions below.)

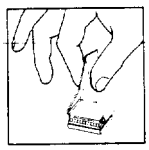


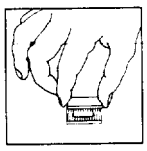
For maximum performance, we recommend installing a Cyrix FasMath Coprocessor. Other math coprocessors may not meet the increased performance specs of the 486DRx² Upgrade Microprocessor.

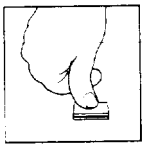
Package Contents. The package includes one Cx486DRx² Upgrade Microprocessor, heat sink, a 386DX microprocessor removal tool, installation manual, upgrade cache installation software (in both 3.5" and 5.25" media) and a "pin 1" locator arrow (for correctly aligning the upgrade processor in the socket).

"Upgrading 386 PCs is a critical issue for many corporations that have to amortize their older PCs for another 18 or 24 months."
Reprinted from *PC Week*, 8/23/93.

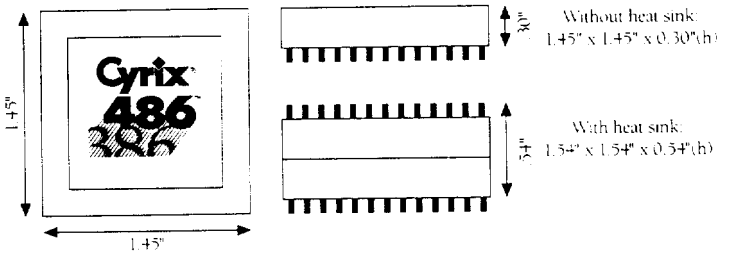
Installation. It's quick and easy with our easy-to-understand instructions. Most upgrades take about 15 minutes, including opening and closing the computer case.


1 Remove 386DX microprocessor


2 Place upgrade into socket


3 Press upgrade into socket

Physical Dimensions



Cx486SRx²

Upgrade Microprocessor For 386SX-16, 20 and 25MHz Personal Computers

Benchmarks

Norton Sysinfo 6.0
(Relative index)

SRx² 51
386 17

Performance increase = 200%

Landmark CPU Speed V2.0
(MHz speed)

SRx² 116
386 28

Performance increase = 314%

Byte 2.2 Benchmark

CPU—Sieve (Iterations per second)

SRx² 80
386 25

Performance increase = 220%

CPU—SORT (Iterations per second)

SRx² 11
386 3

Performance increase = 267%

CPU—Integer Math (Iterations per second x10³)

SRx² 487
386 226

Performance increase = 116%

	Intel 386SX	Cyrix 486SRx²
Norton Sysinfo 6.0 (Relative index)	17	**51**
Landmark CPU Speed V2.0 (MHz)	28	**116**
Byte 2.2 Benchmark		
CPU—Sieve (Iterations per second)	25	**80**
CPU—SORT (Iterations per second)	3	**11**
CPU—Integer Math (Iterations per second x10³)	226	**487**

Benchmark tests run on a Compaq Deskpro 386S-20MHz

PC Computing MVP FINALIST

1994 WIN AWARD W 100 WINDOWS MAGAZINE

PERSONAL COMPUTER INNOVATION OF THE YEAR 1993 AWARD (UK)

PC Requirements. To utilize our Cx486SRx² Upgrade Microprocessor, your computer must have a *surface mounted* 386SX microprocessor operating at 16,* 20 or 25MHz. (Socketed 386SX microprocessors will not accommodate the upgrade module.)

The 486SRx² is recommended for desktop systems only. Call Cyrix at 1-800-46-CYRIX (1-800-462-9749) for info on upgrading laptops. Laptop systems may not have the proper space above the microprocessor to allow installation of the Upgrade. At least 1" clearance is required up from the system board level to allow for both physical fit and proper air flow.

"Cyrix's clever design makes it possible to upgrade nearly any 386SX in existence, without hassle or high cost."
Reprinted from *PC/Computing*, 12/93. Copyright © 1993 Ziff-Davis Publishing Company, L.P.

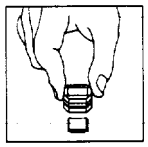
**Note: 386SX-16MHz computers manufactured before 1991 are not electrically compatible with Cyrix's 486SRx² Upgrade. To determine compatibility, a free verification disk is available from Cyrix's Technical Support at 1-800-46-CYRIX (1-800-462-9749). This test program is also available from Cyrix's Bulletin Board System at (214) 994-8610 for 2400 baud or 9600 baud users.*

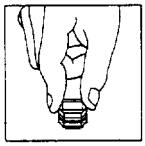
386SX-20 and 25MHz desktop systems are electrically compatible with the 486SRx² Upgrade and do not require prior system testing.

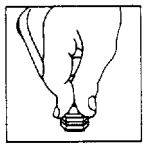
For maximum performance, we recommend installing a Cyrix FasMath Coprocessor. Other math coprocessors may not meet the increased performance specs of the 486SRx² Upgrade Microprocessor.

Package Contents. The package includes one Cx486SRx² Upgrade Microprocessor, heat sink, installation manual, upgrade cache utility installation software (in both 3.5" and 5.25" media), and an upgrade removal tool (in the event the Upgrade needs to be removed from the computer).

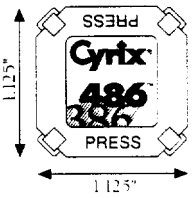
Installation. The pictures tell the story. It doesn't get much easier, and easy-to-understand instructions are included.

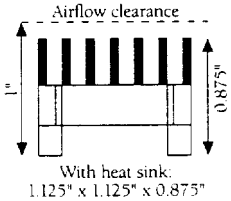

1 Align upgrade module with 386SX processor


2 Mount upgrade module onto 386SX processor


3 Snap upgrade module into place

Physical Dimensions

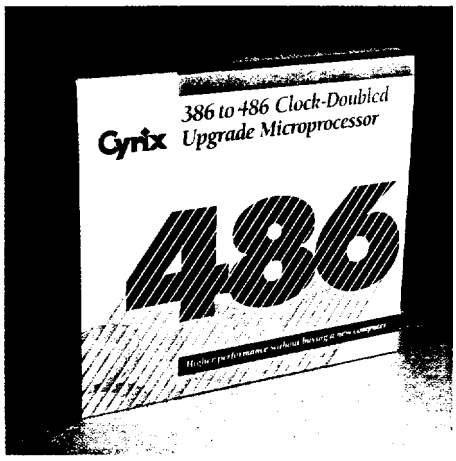




With heat sink:
1.125" x 1.125" x 0.875"

Ordering Information

Part Number	*Description*	*System Type*
DX Upgrades		
15061-02	Cx486DRx²-25/50	386DX-16, 20 or 25MHz
15071-02	Cx486DRx²-33/66	386DX-33MHz
10070-02	FasMath 387DX Coprocessor	386DX-16, 20, 25 or 33MHz
SX Upgrades		
15162-02	Cx486SRx²-25/50	386SX-16*, 20 or 25MHz
11160-02	FasMath 387SX Coprocessor	386SX-16, 20 or 25MHz



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