READ ME FIRST

Dear new PALASM® 4 User,

PALASM 4 software contains all the features of previous PALASM releases with additional support for AMD's high-density, predictable performance MACH® 1 & 2 Device Family. New features include:

- o An automatic Fitter for MACH110, 120, 130, 210, 215, 220, and 230 devices.
  Note: MACH 3 and 4 devices are not supported by PALASM 4 software. See the information sheet on AMD's MACHXL_ software in this package.
- o Support for AMD's PALCE24V10 and PAL16V8HD devices.
- o Extended memory support, enhanced on-line help and recovery techniques.

Several manuals are included with this software:

- o *PALASM 4 Getting Started and MACH Workbook,* for the fundamentals of designing with PALASM, including language syntax and basic program operation.
- o *PALASM 4 Reference Guide,* a software and language reference for PALASM 4.
- o *MACH Technical Briefs,* covering more difficult MACH design topics where customers have requested additional documentation.
- o *PALASM 4 ver 1.5 Release Notes* , documenting new features of the PALASM 4 version 1.5 release.

The *MACH Casebook,* another text available from AMD Literature and AMD sales offices, illustrates the considerations and tradeoffs associated with MACH designs through a Logic State Analyzer design. AMD Literature (800-222-9323).

Schematic entry of MACH designs is available through AMD Literature (800-222-9323) or your local AMD sales office as a separate option: the **MACH Libraries and Interface to OrCAD/SDT III Software.** It includes a MACH-specific macro library, and an interface for OrCAD/SDT III ver 3.22 software. This interface does not support OrCAD/SDT version 4. For more information, refer to the *PALASM 4 Getting Started and MACH Workbook* manual, chapters 3 and 4, and the *PALASM 4 Reference Manual,* chapters 7 and 8.

Before using this release of PALASM 4 software

- o See the *PALASM 4 Ver1.5 Release Notes* for directions on installing from an alternate drive.
- o Review the README file on disk #1.
- o Read the *PALASM 4 Version 1.5 Release Notes* before you begin work. It contains information about software changes affecting both both PAL® and MACH devices.
- o Remove or relocate older versions of PALASM software before installing this version.

Finally, note

- o IF YOU HAVE RECEIVED THE WRONG SIZE DISKS or your computing environment has changed, contact AMD Tech Support (U.S. 800-222-9323, or U.K. 44-256811101) or your local AMD sales office to obtain the other size disks.
- o **AMD Technical support: U.S. 800-222-9323, or U.K. 44-256811101**
- o **Return your registration card.** All registered users receive free software maintenance updates and technical support for a period of one year, regardless of geographic location. Check off the appropriate disk size (3.5" or 5.25") for updates.

PAL, MACH and PALASM are registered trademarks, and MACHXL is a trademark of Advanced Micro Devices, Inc.

MACHXL Software now available!

AMD's tool for designing with MACH® 3 and 4 devices

AMD has recently introduced a second generation of MACH devices – the MACH 3 and 4 device family – and new software to accompany them.

Like the first generation EE CMOS MACH 1 and 2 devices, these new devices have the same, truly predictable pin-to-pin delays, but offer greater densities, increased flexibility, and higher pin count packages. MACH 3 and 4 devices feature synchronous or asynchronous operation, gate densities from 3700 to 10,000 gates, and 84 to 196 pins in PLCC and PQFP packages. The first member of the MACH 3 and 4 family is the 5,000-gate MACH435-15, which is pin compatible with the MACH130 and MACH230.

The MACH435 consists of eight "PAL33V16"-like blocks connected by a high-speed central switch matrix, making it well suited to 32-bit microprocessor bus interfaces and address decoding applications. The MACH435 has 128 synchronous or asynchronous configurable macrocells, built-in XOR, and up to 20 product terms per macrocell. *(See the MACH 3 and 4 Family Data Book for more details.)*

Like all MACH devices, MACH 3 and 4 devices are fully supported from design entry to JEDEC output by leading third-party design tools, such as Data I/O, MINC, ISDATA, Logical Devices, Mentor, Cadence, Viewlogic and others at little or no additional cost, **as well as by AMD's own software.**

AMD's software package for designing with MACH 3 and 4 devices is MACHXL(tm). Like PALASM® 4 software, MACHXL is a low-cost, entry-level integrated design tool. However, MACHXL will not support PAL® devices, and currently does not support MACH 1 and 2 devices. Support for MACH 1 and 2 devices is planned for future releases of MACHXL software.

Features of AMD's MACHXL Software

* Boolean equation and state machine design entry
* **Accepts PALASM 4 design files**
* Automatic design rule checking
* Sum of products and XOR optimization
* XOR and register mapping
* **New Fitter technology** which takes advantage of multi-tiered switch matrix architecture and **is more likely to preserve existing pinouts**
* **Automatic, hands-off partitioning, placement and routing**
* Manual intervention controls for fine-tuning partitioning, placement and routing
* Gate splitting controls
* JEDEC output
* **Redesigned, easy-to-read fitting reports**
* Functional unit-delay simulation
* **New 390 page manual**
* **PC 386/486-based** design environment: 8 MB RAM recommended

See the MACH 3 and 4 Family Data Book for a complete description of MACHXL software.

Please note that PALASM 4 software will not support MACH 3 and 4 devices and there is no automatic upgrade from PALASM 4 to MACHXL. The increased gate densities, built-in XOR, and multi-tiered switch matrix architecture of MACH 3 and 4 devices made it not feasible to

support both older PAL devices such as the PAL16R4 device and newer high density complex devices such as the upcoming 10,000 gate MACH465 in PALASM 4. PALASM 4 software will continue as a parallel product to MACHXL.

MACHXL software is available at a special introductory price of $395. You can order MACHXL software the same way you order AMD PAL or MACH devices. Simply contact your distributor or AMD representative and give them the part number below.

Disk Size	AMD Part Number	Retail
5.25" HD	AMPLDSW/MXLB1024	$395
3.5" HD	AMPLDSW/MXLB1322	$395

AMD will ship your order as soon as possible. If you are in a hurry, please request drop shipment directly to you when you place your order.

If you have any questions, please contact your local AMD representative or send us a note at FAX: 408-987-3144 or email us at machsup@mach1.amd.com

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