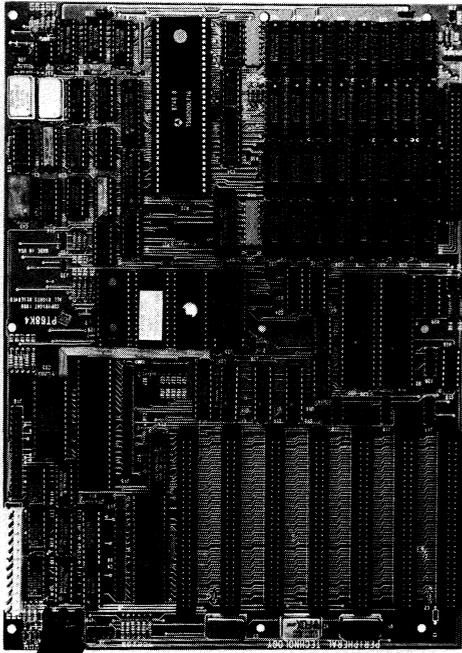# PT 68K-4 SINGLE BOARD COMPUTER

FEATURES

- MC68000 Processor, 16MHZ Clock.
- 512K to 4096K of DRAM (0 wait state).
- Optional memory board supports an additional 6MB of memory.
- 4K or 64K of SRAM (2K×8 or 32K×8).
- 32K, 64K or 128K of EPROM.
- Four RS-232 serial ports; uses the MC68681 DUART CHIP.
- Winchester Interface — supports a Western Digital MFM XT hard disk controller.
- Floppy Disk Controller
  Supports 2 360K, 720K, 1.2M or 1.44 drives.
- Clock with on-board battery.
- Two programmable interrupt timers.
- 2 — 8 bit Parallel Ports. May be used with a parallel printer.
- Supports VGA (up to 1024×768 resolution) with OS9 Operating System
- 4 layer board — 12.0×8.5 inches.
- Board may be mounted in an XT or Baby AT cabinet. Power connector matches an IBM type power supply.
- Expansion ports — 7 IBM PC/XT compatible I/O ports. One memory expansion port. Use of the memory expansion port also requires use of one of the XT slots.

PERIPHERAL TECHNOLOGY
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SYSTEM OVERVIEW

The PT68K4 single board computer is a high performance, low cost single board computer. The PT68K4 is available as a kit, an assembled board or in complete systems.

Complete systems feature the PT68K4 board mounted in a Baby AT type cabinet with a 200 watt switching power supply. The Baby AT cabinet includes an LED display panel to monitor power and "HALT" status. A reset switch is also contained on the panel. The cabinet has space for three 5¼" external, one 3½" external and one 3½" internal drive.

Terminal connection is accomplished by either selecting an RS-232 type terminal or an IBM XT compatible peripheral. An IBM XT/AT keyboard plus your choice of monochrome, CGA, EGA or VGA video cards and monitors are required if a serial terminal is not used. The CGA/EGA/VGA driver is auto-configuring and includes graphics support. Due to the fact that this driver bypasses the BIOS on the video card, these boards must be selected based on specific requirements. It is strongly recommended that Peripheral Technology be consulted before the initial purchase.

The PT68K4 can contain from 512K to 4096K of on-board memory. The memory can be expanded in 512K increments. An additional 6MB of memory can be added with an optional plug-in memory card. The memory chip used on-board and in the expansion card is a 256K×4 memory chip.

The PT68K4 supports the Western Digital MFM XT type of hard disk controllers. The Western Digital controller will support drives with up to 1024 cylinders and 16 heads. IDE controllers will soon be supported.

The PC/XT compatible slots are designed for use with I/O type cards and a memory card specifically designed for this machine. Additional types of cards such as A-to-D, D-to-A, RS232, speech cards, and music cards can be used.

The PT68K4 supports two drives with 5¼ inch 360K or 1.2Meg capacity or 3.5 inch 720K or 1.44Meg. Both OS9 and REX support these drives in the combination of your choice.

The PT68K4 has a special type of real-time clock. This chip contains 2K of RAM, a battery and crystal. Up to 64K of battery backed-up RAM is possible with optional chips.

PROFESSIONAL OS9/68000 OPERATING SYSTEM

PRODUCT OVERVIEW

OS-9 is an advanced high-performance multitasking operating system for the 68000 microprocessor. OS-9 and its companion programming languages and software tools can play a crucial role in unlocking the performance of your PT68K4 system. OS-9 is optimized for low-cost high performance applications in real-time control systems, personal computers, and general purpose multiuser systems. OS-9 is compact, highly efficient, and delivers outstanding performance on any system size.

OS-9 combines significant new operating system concepts and real-time capabilities with the overall architecture of the popular Unix operating system, yet OS-9 is much smaller and far more efficient. OS-9 provides key Unix features such as tree-structured file system, device independent I/O and full multitasking facilities. In fact, most Unix application software written in the C language can be easily recompiled to run on OS-9.

Microware's C Compiler is included with OS-9. The OS-9 C Compiler system represents what is perhaps the most advanced C language technology for the 68000 microprocessor. The compiler is a complete implementation of the C language according to the industry-standard Kernighan and Ritchie specifications.

Optional languages for OS-9 include Pascal, Basic, and Fortran.

OS-9 for the PT68K4 supports up to 10MB of memory and five users. Up to four RS-232 terminals and one IBM style keyboard and monitor are supported. The monitor may be either amber or color. Any size hard disk with up to 1024 cylinders and 16 heads can be supported. Floppy support can include up to four floppy drives. The real-time clock on the PT68K4 automatically sets the time in OS-9 during the boot process.

Professional OS-9 for the PT68K4 includes a C compiler, uMACS editor, assembler and linker and over 70 utilities. A partial list of the utilities is included below.

ATTR	DATE	EDIT	KILL	MERGE	SAVE
BACKUP	DCHECK	EX	LINK	MFREE	SET
BINEX	DEINIZ	FORMAT	LIST	OS9GEN	SETENV
BUILD	DEL	FREE	LOAD	PD	SETIME
CHD	DELDIR	GREP	LOGIN	PR	TMODE
CHX	DIR	HELP	LOGOUT	PRINTENV	TSMON
CMP	DSAVE	IDENT	MAKDIR	PROCS	UNLINK
COPY	ECHO	INIZ	MDIR	RENAME	XMODE

REX OPERATING SYSTEM

REX is a single user operating system for the Motorola 68000 family of microprocessors. REX is simple and easy to use and will run on PT68K2 or PT68K4 computers with at least 512K of RAM. REX supports advanced features such as ramdisk and track buffering and includes over 50 utilities. Full source code is also available.

OPTIONAL LANGUAGES/UTILITIES

BASIC   ASSEMBLER   EDITOR

SUPPLIED UTILITIES

ACAT	APPEND	ASN	CAT	CHECK	CMPBNY
CMPMEM	CS	DATE	DELETE	DISKNAME	DRIVESET
DUMP	DUP	ECHO	EDD	EJ	EPBURN
EXAMINE	EXEC	FORMAT	FORMATDD	HARD20	HDF20
HECHO	KEYCHECK	KRACK	LINK	LIST	MAP
MEMEND	MAKDISK	NEWDISK	OLOAD	P10	PDEL
P12STAR	PDEL	PE2	PN2	PNLQ	PRDVR
PS	PS2	REDATE	RENAME	SAVE	SAVETEXT
SCAN	SETIME	SYSTEM	TCOPY	TIME	TURBO
VIEW	WORK	YEAR	ZAP		

MONK MONITOR PROGRAM

MONK is a BIOS and debugging monitor for the 68000 family of microprocessors. MONK supports RS232 terminals, PC compatible MONO, CGA, EGA or VGA display cards, and PC compatible keyboards. The MONK monitor includes 21 commands which are listed below.

B - Set Breakpoint
C - Change Register
D - Display Memory
F - Restart REXDOS
G - Continue after Breakpoint
J - Jump to an address
K - Kill Breakpoints

M - Memory examine and change
N - Calculate Checksum
O - OS9 Boot Menu
P - Display Breakpoint
Q - Set quick breakpoint
R - Display registers
S - Execute one instruction

T - Test memory
U - Load REXDOS from 1772
V - Load REXDOS from 37C65
W - Load REXDOS from Hard Disk
X - Select Monitor type
Z - Fill memory with data
? - Help command

SYSTEMS AVAILABLE FROM:

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