

Ordering Information

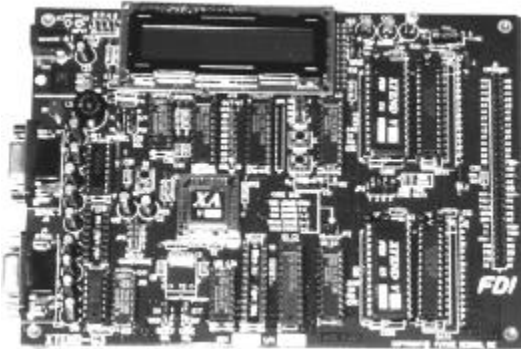
Part Number: XTEND-G3
Price: \$249.00 (USD) complete
Warranty: 30-day money back guarantee
Availability: Stock

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XTEND-G3 Board

XA-G3 Highlights

The Philips XA-G3 Microcontroller is the new 16 bit extension to the popular 80C51 family of microcontrollers. This powerful single-chip device includes the following features:

- 20-bit address range for up to 1MB each of code and data memory (the *XTEND-G3* supports up to 256KB each of code and data memory)
- 512 bytes of on-chip RAM
- 24 MHz operation for 10 to 100 times 80C51 performance
- Fully static operation with support for idle and power down modes
- Three standard 80C51 type timers with enhanced features + Watch-dog-timer
- Two standard 80C51 type UARTs with enhanced features
- Four 8-bit I/O ports with 4 state capability
- Hardware support for multi-tasking software
- Instruction set tailored for C and high level language support

XTEND-G3

by *FDI*



**XA
Trainer &
Expandable
Narrative
Design**

FDI *Future Designs, Inc.*
Your Development Partner

XTEND-G3

Introduction

The *XTEND*, *XA Trainer* and *Expandable Narrative Design*, is designed to provide the user with a stable hardware and software platform for application development with the XA-G3. In many cases the *XTEND* may serve as a quick prototype for the actual user application. With the on-board prototype area or optional expansion boards, the user can quickly and easily get a new customized design running with the XA-G3.

The *XTEND* hardware, software and documentation are designed and written with your ease of use in mind. The intent is to provide the user with a well documented platform which can easily be modified to support different user and application requirements.

The XA-G3 assembly language or reference design software is structured and thoroughly documented so that any user can easily modify the basic functions to suit their needs. The CMX RTX Real-Time Operating System which is running on the board is also well documented and thoroughly explained so that a user can easily add or modify functions of the basic operating system. The external XA-G3 monitor allows host communication with a PC and provides an easy platform for user software development and modification. Complete software for all the *XTEND* functions is provided on the enclosed disks and may be freely modified and used.

For flexibility the *XTEND* supports both internal and external memory operation on the XA-G3. This allows the user to operate in single-chip mode, if memory allows, and thus preserve the XA-G3's I/O and hardware functions for other uses. The *XTEND* also supports external memory operation with up to 256KB each of code and data memory. The external code space can be populated with EPROM, FLASH or NVSRAM for flexibility.

The *XTEND* provides two RS232 serial communications ports which are connected to the two high-speed UART's on the XA-G3. This allows rate conversion between two RS232 devices, or serial buffering between a host computer and a printer, and intelligent data stream monitoring.

Through software, the *XTEND* also supports an optional I2C interface and bus monitor. This allows communication between any I2C compatible source and the *XTEND* and also allows the user to monitor I2C bus activity between other devices

Specifications

Philips XA-G3 Microcontroller Socket for 44-pin PLCC supporting both internal and external code execution

128KB Standard FLASH ROM Code Space, expandable to 256KB (dual sockets for 16-bit access)

Code Space supports EPROM, FLASH (5V), NVSRAM, or SRAM

64KB Standard High-Speed Data Space SRAM, expandable to 256KB (dual sockets for 16-bit access)

Two DB-9 RS232 Serial Communications Ports with Optional Hardware Handshake. RS232 Cable and DB25 adapter included.

On-board speaker for tone generation

LCD Interface for character type LCD Modules with 16 character LCD included

60-pin Expansion Header for Full Expansion Capability (1MB memory and I/O supported)

9 VDC Input with on-board 5V regulator, UL Approved Power Supply included

5.25" x 7.25" 2-layer PCB with Full Silkscreen Information

2.5" x 1" wire-wrap area on-board

Four TTL User Inputs via double-row header

Two User Input Pushbuttons

Eight TTL User Outputs via single-row header

Users Manual and Schematics Included

Optional I2C Interface/Monitor

Planned Expansion Boards Include:

- I2C Expansion Board with LCD, Keypad, Real Time Clock and EEPROM
- Prototype Board with 'Pad-per-hole' Area
- Virtually any type may be custom designed

Standard Software Includes the Following:

- Internal XA-G3 Monitor (XMON) Supporting
 - ◆ Serial Host Communication
 - ◆ Register Dump/modify
 - ◆ External Data Memory Dump/Modify
 - ◆ External Code Memory Load (from RS232)
 - ◆ Code Disassembly
 - ◆ Execute Code with up to 4 user defined breakpoints
 - ◆ Single-step through Code
- Example Routines for Applications
 - ◆ XA-G3 Initialization and Setup Routines
 - ◆ Serial Port Drivers
 - ◆ Timer/Counter Drivers
 - ◆ Watchdog Timer Setup
 - ◆ Interrupt Routines
 - ◆ 8051 to XA Translation Examples
- CMX Evaluation Package
 - ◆ CMX RTOS XA Demo for XTEND
 - ◆ CMX RTOS Demo for the PC
 - ◆ HiTech XA C Compiler Demo
- Philips XA Assembler, Simulator and 8051 to XA Translator