

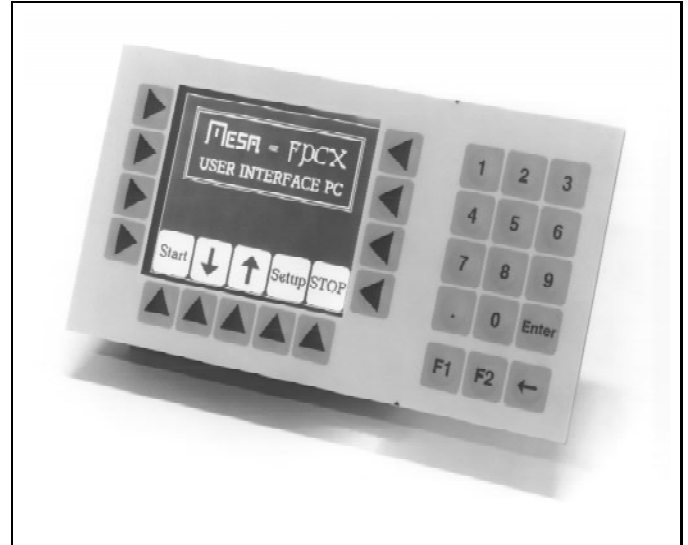


## MESA ELECTRONICS

## FPCX FLAT PANEL PC

### FEATURES:

- Small user interface PC
- 320 x 240 pixel LCD display
- Variable CCFL backlight
- 13 display-labeled soft-keys
- PC/104 expansion
- 14.7 MHz PC compatible CPU
- 640K bytes of RAM
- Up to 1.5M flash or RAM disk
- 3 RS-232/RS-485 serial ports
- Printer port & A-D converter



The FPCX is a small, low cost panel mount display computer for user interface applications. The overall dimensions of the FPCX are 4.6" H x 9.5"W x 1.5"D with the numeric keypad, and 4.6" H x 5.7"W x 1.5"D without.

The FPCX is a complete OEM embedded system user interface CPU with display, keyboard, serial and parallel I/O, solid state disk, and LCD power supply.

Since the FPCX is PC compatible, standard PC development tools and languages can be used for application programming.

The FPCX has ROM-DOS pre-installed in its BIOS EPROM, and needs only your application program to make a complete user interface.

The FPCX display is a 320 by 240 resolution monochrome, graphic, CCFL backlit LCD. Display dot pitch is .3 mm.

Text display modes include a 20 character by 8 line mode (16x28 font), a 40 character by 17 line mode (8X14 font) and a 53 character by 30 line mode (5X7 font).

Graphics are handled directly by the FPCX BIOS (drawdot, drawline, and bitblt.) A BGI graphics driver is supplied to support Borland compilers. Blinking graphics with no processor overhead are possible by using multiple frame buffers.

Extra RAM can be used for additional screen buffers, allowing nearly instantaneous changing between screen layouts.

FPCX display contrast and backlight intensity can be adjusted via built-in software commands. The keyswitch array surrounds the display area so that the keys can be labeled in the display.

The FPCX requires only +5V @ 850 mA max for operation, since all display and RS-232 interface power are generated on card.

The FPCX CPU is a 14.7 MHz PC compatible processor (NEC V40) with 640K of system RAM and a 192K BIOS EPROM

The disk emulator has three 32 pin sockets for EPROM, 5V flash, or battery backed RAM disk. The on card disk emulator is supported by the FPCX BIOS, and appears to the system as a standard hard disk. Multiple drives are supported. All utilities for using the disk are provided with the FPCX.

On card I/O includes a battery backed clock/calendar, floppy interface, three serial ports, two of which are 16C550 compatible, a bi-directional parallel printer port, 8 user I/O bits, a standard PC keyboard port, and an 8 input, 10 or 12 bit A-D converter.

Additional I/O can be added via the PC/104 expansion site on the back of the FPCX.

**PROCESSOR:** The FPCX uses a 14.7456 MHz NEC V40 processor. The V40 has a built in 82C59A compatible interrupt controller, and an 82C54 compatible timer counter.

**MEMORY:** The system RAM can be either 512K bytes, or 832K byte depending on FPCX model. 192K byte BIOS.

**DISPLAY:** 320H by 240V pixel CCFL backlit LCD display. Software controlled contrast and backlight brightness. Display always operates in graphics mode, but BIOS supports text output. Multi-plane screen buffer allows blinking graphics and overlays without redrawing the display. BIOS support for drawing graphic objects at arbitrary pixel boundaries (bitblt, drawdot, and line drawing.) Tools are supplied for embedding custom graphics in BIOS.

**KEYBOARD:** 13 key membrane switch surrounds display area, allowing display labeled keys. Optional numeric keypad adds 15 keys. BIOS scans keyboard and allows reassignment of keyboard generated characters. BIOS supports labeled key graphics. On card speaker provides audible feedback (key click). Also supports standard PC keyboard.

**DISK EMULATOR:** Three 32 pin DIP sockets for 128K byte to 512K byte EPROM, 5V flash EEPROM, or battery backed RAM chips. Total disk capacity of 1.5 Mb. Emulated drive appears exactly as normal hard drive. All tools for using disk emulator provided. Multiple drives supported (ie: flash drive + RAM drive)

**FLOPPY INTERFACE:** Built in support for two 1.44M floppy drives

**POWER SUPPLY:** The FPCX requires 4.5 to 5.5 VDC for operation. LCD and RS-232 power is generated on card. Maximum current is 850 mA with backlight on. Maximum current is 400 mA with backlight off. Current can be reduced to approximately 280 mA by halting the CPU. Display and keyboard scan remain active in halt state.

**SERIAL PORTS:** Three RS-232 / RS-485 serial ports. Two ports use 16C550 compatible FIFO'ed UARTS. Third port is the V40's built-in port. Each port can be RS-232 or RS-485 (OEM option). All ports are capable of interrupt driven operation and baud rates of up to 115.2K baud. RS-485 mode has driver disable capability for multi-drop applications.

**PC/104 EXPANSION SITE:** Female 64 pin PC/104 expansion site connector for user supplied I/O cards. Includes PC/104 mounting holes.

**PARALLEL PRINTER PORT:** Standard PC printer port. Supports bi-directional and ECP modes.

**I/O BITS:** 8 uncommitted I/O bits (port C of a 82C55). Can be programmed for 8 out, 8 in, or 4 in + 4 out.

**REMOTE LOAD:** Application program can be loaded over serial port for quick application development. Host for remote load is any PC with serial port and hard disk.

**ANALOG IN:** 8 input A-D converter with 12 bits of resolution. 3.75V full scale input. Capable of 20,000 conversions per second.

**CLOCK CALENDAR:** Lithium cell backed clock calendar. Minimum 2 year power off Lithium cell life.

## ORDERING INFORMATION:

FPCX-R640K

640K SYSTEM RAM

ADD -NK for numeric keypad