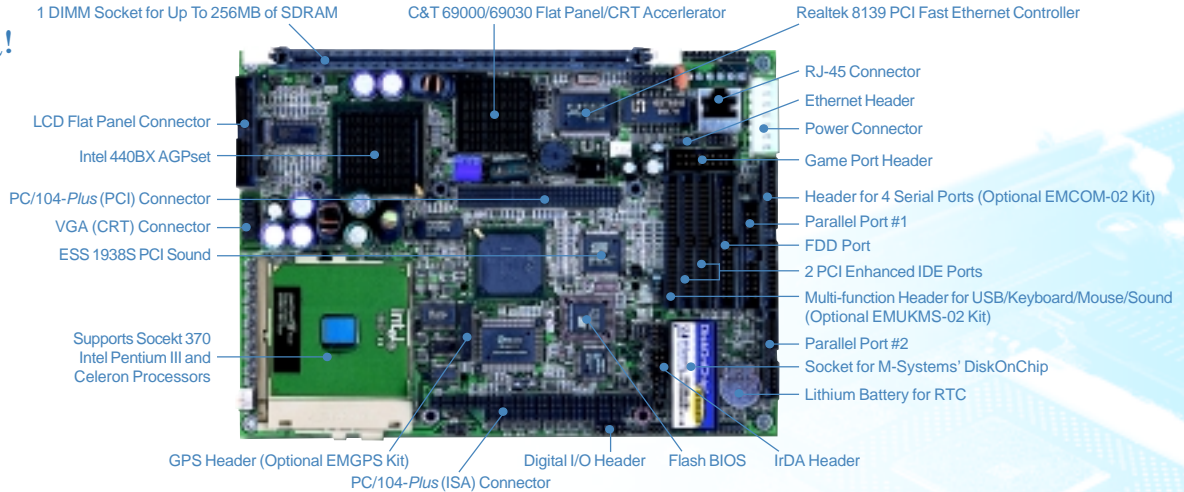


# EM370

## Socket 370 SBC with LCD/VGA, Fast Ethernet and Audio EBX-compliant Embedded SBC

Newly Revised!



### ■ Introduction

Lanner Electronics introduced the first EBX-compliant Socket 370 Celeron EM370 v1.0 in 1999. The newly revised EM370 v2.0 now supports Intel Pentium III FC-PGA “Flip Chip Coppermine” and Celeron FC-PGA/PPGA processors.

The EM370 builds on the proven Intel 440BX chipset for top reliability and scalable performance. The board features many on-board functions, such as Flat Panel/CRT graphics accelerator, Fast Ethernet, Audio, Super I/O, PC/104-Plus expansion and even a GPS option. The board is designed for a variety of applications, such as multimedia Panel PC, POS, and set-top box.

### ■ Highlights

- EBX-compliant form factor
- Supports Intel Pentium III FC-PGA and Celeron processors
- Up to 256MB SDRAM
- On-board LCD/CRT graphics accelerator
- On-board Fast Ethernet (10Base-T and 100Base-TX)
- On-board SoundBlaster compatible Audio
- 4 Serial, 2 Parallel, 2 USB and D I/O
- DiskOnChip flash memory support
- Multi-level watchdog timer
- System health monitoring
- PC/104-Plus expansion
- GPS receiver option

### ■ Features

- **Processor**  
Supports Intel Pentium III “Coppermine” FC-PGA and Celeron processors up to 800MHz.
- **Chipset**  
Intel 440BX AGPset 66/100MHz FSB & Winbond 83977F I/O chip.
- **System BIOS**  
256KB Award licensed flashable BIOS.
- **System Memory**  
One 168-pin DIMM socket supports up to 256MB of SDRAM (ECC capable).
- **Solid State Disk / Flash Memory**  
One 32-pin DIP socket supports M-Systems’ DiskOnChip up to 144MB.
- **Video**  
C&T 69000 PCI LCD Flat Panel/CRT graphics accelerator with integrated 2MB video memory, supports resolutions and color depth: 640x480 & 800x600 x 16mil, 1024x768 x 65K, 1280x1024 x 256.  
  
\*Optional C&T 69030 with 4MB memory, supports resolutions and color depth: VGA, SVGA, XVGA, & SXVGA up to 16mil, and UXVGA 1600x1200 x 64K.
- **Fast Ethernet**  
Realtek RTL8139C PCI Fast Ethernet (10/100Base-T) controller with on-board RJ-45 connector and 10-pin header.
- **Audio**  
On-board ESS 1938S PCI interface, Sound Blaster compatible sound chip. On-board input/output header. Phone jacks for input/output via optional EMUKMS kit.

### • IDE Interface

Two PCI Enhanced IDE interface supports up to four (PCI Bus Master, Ultra DMA/33, Multiword DMA & PIO mode 0-4) IDE devices.

### • Floppy Interface

One floppy interface supports up to two floppy devices.

### • Serial Interface

Four 16550 compatible serial ports: three RS-232 and one RS-232/422/485, Selectable independent IRQ.

### • Parallel Interface

Two parallel port supports for EPP, ECP and SPP modes.

### • Digital I/O and IR

Headers for 4 bit digital input / 4 bit digital output and IrDa V1.1 interface.

### • Keyboard, Mouse and USB

Header for keyboard, mouse and two USB ports. Connectors via optional EM-UKMS-02 kit.

### • Expansion Bus

Built-in PC/104-Plus (ISA & PCI) expansion and GPS option.

### • Watchdog Timer

Software triggered 16 level time-out intervals from 0~30 seconds in 2-second interval.

### • Health Monitoring

On-board Winbond W83783S health monitoring with CPU temperature alarm.

### • Real Time Clock

Internal RTC with Lithium battery.

### • Power Connector

7-pin external power connectors.

## ■ Specifications

### • Electrical

- Power Consumption:  
 w/ Pentium III 700MHz CPU and 64MB RAM  
 5.28A at +5V, 0.29A at +12V (29.88W)  
 w/ Celeron 433MHz CPU and 64MB RAM  
 4.45A at +5V, 0.38A at +12V (26.81W)

### • Mechanical

- EBX compliant  
 Dimension: 146mm x 203mm (5.75" x 8")  
 Weight: 317.5g (0.700lbs)

### • Environmental

- Operating Temperature: 0° to 60° Celsius  
 Storage Temperature: -20°C to 70° Celsius  
 Operating Humidity: 10% to 90% relative  
 humidity, non-condensing

### • Reliability

- MTBF: >40,000 hours

### • Safety Approvals

- CE Certification

### • Warranty

- Two years (Contact Lanner for detail)

## ■ Software

The EM370 is compatible with operating systems developed for x86 PC. The board has been tested with Windows 9x, Windows NT, Windows 2000, Red Hat Linux, OS/2 Warp, and SCO Unix. Lanner also provides support for Windows NT Embedded and Windows CE. Drivers for various OSes are included on a CD-ROM with every package.

## ■ OEM/ODM

Lanner can depopulate a standard product to fit your project needs and reduce your time-to-market. We also provide OEM/ODM design and manufacturing service to meet your specific project requirements. Please contact Lanner USA for more information.

## ■ Ordering Information

### • EM370 v2.0

EBX 370 SBC with LCD/VGA, Fast Ethernet and Audio for Intel Socket 370 PentiumIII and Celeron processors

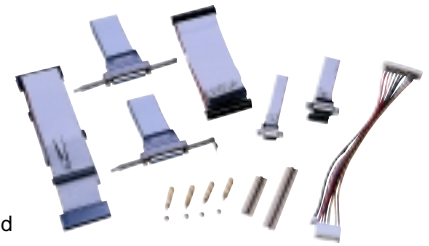
### • EM370B

EM370 v2.0 with C&T 69030 (4MB embedded video memory). Special order only, contact Lanner USA for detail.

## ■ Optional Accessories

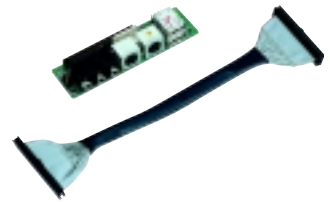
### • EM370CB FDD/IDE/CRT/LPT Cable Kit

- Includes  
 Floppy cable (34-pin to 34-pin),  
 EIDE cable (44-pin to 40-pin),  
 CRT cable (12-pin to DB15),  
 LPT1 cable (26-pin to DB25),  
 LPT2 cable (2.0mm 26-pin to DB25),  
 Game port cable (16-pin to DB15),  
 Power converter cable (AT P8/P9 to EBX) and  
 PC/104 mounting kit.



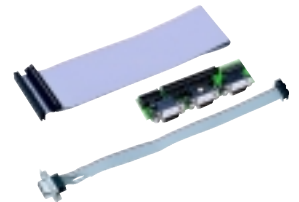
### • EMUKMS-02 USB/KB/Mouse/Sound Adapter Kit

- Includes  
 EMUKMS-02 Board  
 (with 2 USB, 1 PS/2 keyboard, 1PS/2 mouse &  
 3 sound phone jacks 92.92mmx27.00mm),  
 UKMS cable (50-pin to 50-pin) and  
 Keyboard adapter cable (PS/2 to AT).



### • EMCOM-02 Serial Ports Adapter Kit

- Includes  
 EM-COM-02 Board  
 (DB9 connectors for COM2-4 and header for COM1),  
 4-COM cable (50-pin to 50-pin) and  
 COM1 cable (10-pin to DB9).



### • EMGPS GPS Kit

- Includes  
 GPS-952NU5 (12 channel GPS receiver module),  
 GPS-P1MAL (1" active antenna with 5M cable &  
 BNC connector) and  
 GPS-SC15 (20cm MCX R/A to BNC switching cable).



### • LK02x LCD Kit

- LK028 is prewired for Sharp LQ121S1DG11 or similar TFT LCD panel with Hirose DF9-41 connector.  
 LK029 is prewired for Sharp LQ10D42 or similar TFT LCD panel with Hirose DF9-31 connector.  
 For custom cable, please call Lanner USA.

