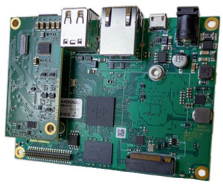


# EMAC SBC-554V Single Board Computer User Guide

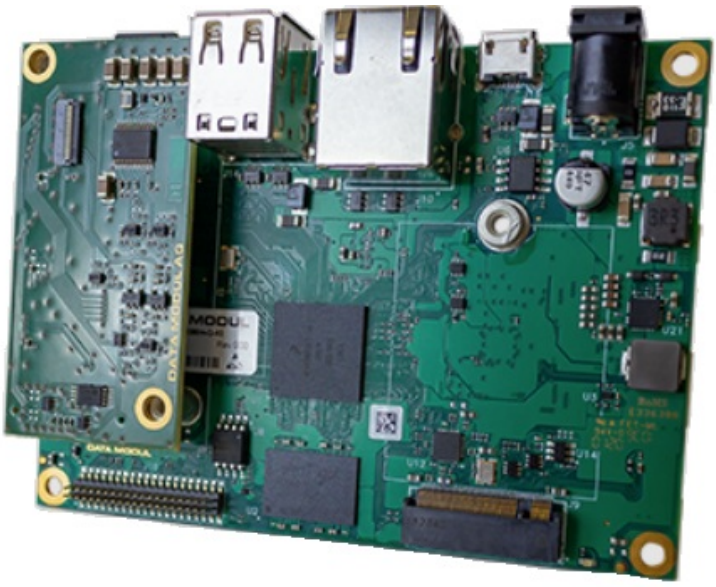


Contents

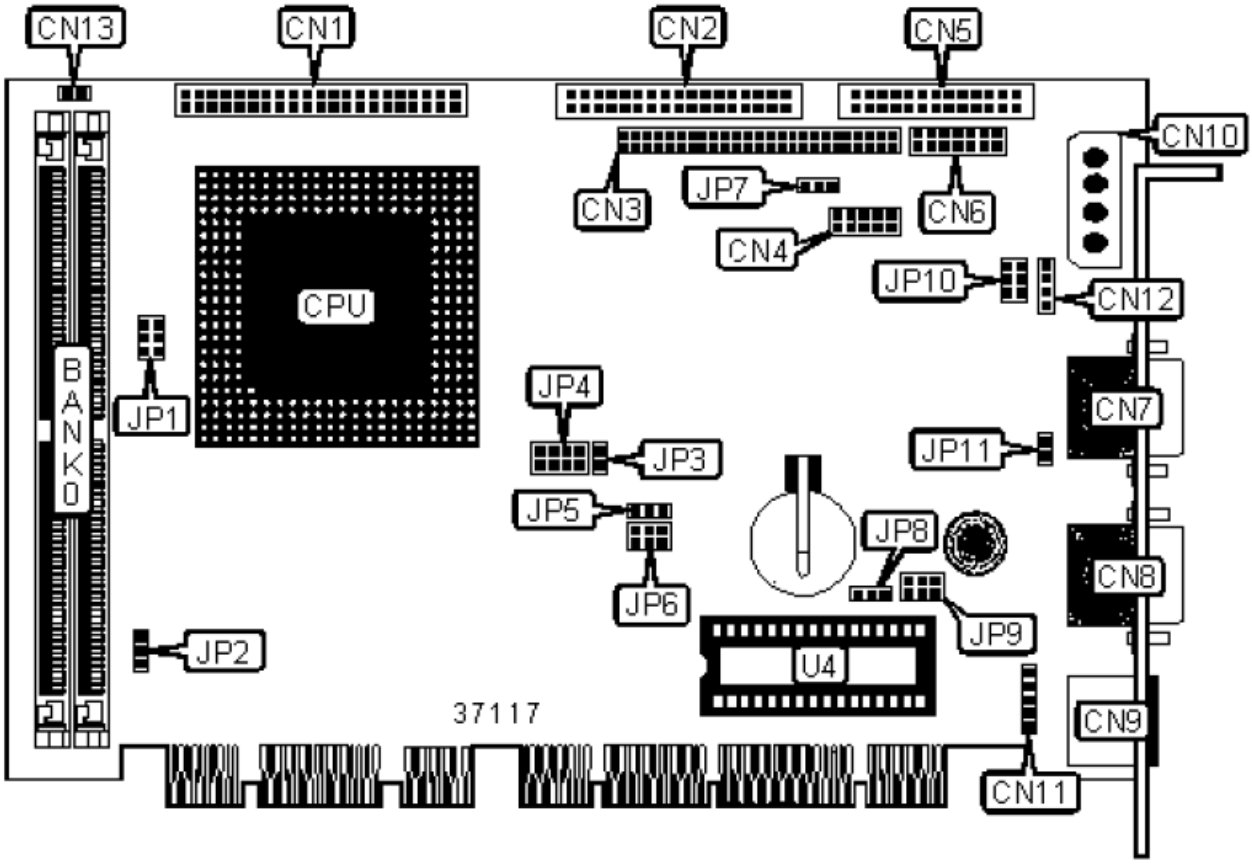


EMAC, inc.
EQUIPMENT MONITOR AND CONTROL

## EMAC SBC-554V Single Board Computer



## OVERVIEW




## FEATURE

- **Device Type** Single Board Computer
- **Processor** CX 6X86/IBM 6X86/AM K5/AM K6/Pentium/Pentium MMX
- **Processor Speed** 75/90/100/120/133/150/166/180/200/225/233MHz
- **Chip Set** SIS
- **Video Chip Set** Chips and Technology
- **Maximum Onboard Memory** 128MB (EDO supported)
- **Maximum Video Memory** 2MB

- **Cache** 512KB
- **BIOS** Award
- **Dimensions** 185mm x 122mm
- **I/O Options** Flat panel connector, Floppy drive interface, IDE interface, Inverter connector, IR connector, Parallel interface, Power connector, PS/2 mouse/AT keyboard port, Serial interface, Serial port, Solid-state disk socket, USB interface, VGA port

## CONNECTIONS

| Purpose | Location | Purpose | Location |
|---|---|---|---|
| IDE interface | CN1 | PS/2 mouse/AT keyboard port | CN9 |
| Floppy drive interface | CN2 | Power connector | CN10 |
| Flat panel connector | CN3 | Inverter connector | CN11 |
| USB interface | CN4 | IR connector (optional) | CN12 |
| Parallel interface | CN5 | IDE interface LED | CN13 |
| Serial interface | CN6 | Reset switch | JP11 |

| | | | |
|---|---|---|---|
| Serial port | CN7 | Solid-state disk socket (DOC) | U4 |
| VGA port | CN8 | | |

## USER CONFIGURABLE SETTINGS

| Function | Label | Position |
|---|---|---|
| DRAM voltage select 5V | JP2 | Pins 1 & 2 closed |
| DRAM voltage select 3.3V | JP2 | Pins 2 & 3 closed |
| CPU I/O voltage select 3.3V | JP3 | Closed |
| CPU I/O voltage select 3.5V | JP3 | Open |
| PCI clock select synchronous mode (25/30/33MHz) | JP5 | Pins 2 & 3 closed |
| PCI clock select asynchronous mode (33MHz) | JP5 | Pins 1 & 2 closed |
| Flat panel voltage select 5V | JP7 | Pins 1 & 2 closed |
| Flat panel voltage select 3.3V | JP7 | Pins 2 & 3 closed |
| CMOS memory normal operation | JP8 | Pins 1 & 2 closed |
| CMOS memory clear | JP8 | Pins 2 & 3 closed |
| Note: Synchronous PCI clock is equal to half of the CPU external clock. Asynchronous PCI clock is fixed at 33MHz. Note: Pin 1 locations of JP3, JP5, JP7 and JP8 are unidentified. | | |

**SIMM CONFIGURATION**

| Size | Bank 0 |
|---|---|
| 8MB | (2) 1M x 32 |
| 16MB | (2) 2M x 32 |
| 32MB | (2) 4M x 32 |
| 64MB | (2) 8M x 32 |
| 128MB | (2) 16M x 32 |
| Note: Board supports EDO memory. | |

**CPU SPEED**

**CPU SPEED SELECTION (CX 6X86)**

| CPU Speed | Clock Speed | Multiplier | JP1/ Pins 1 & 2 | JP1/ Pins 3 & 4 | JP1/ Pins 5 & 6 | JP6/ Pins 1 & 2 | JP6/ Pins 3 & 4 | JP6/ Pins 5 & 6 |
|---|---|---|---|---|---|---|---|---|
| 120MHz | 60MHz | 2.0x | Open | Open | Closed | Open | Closed | Closed |
| 133MHz | 66MHz | 2.0x | Open | Open | Closed | Closed | Open | Closed |
| 150MHz | 60MHz | 2.0x | Open | Open | Closed | Open | Closed | Closed |
| 166MHz | 66MHz | 2.0x | Open | Open | Closed | Closed | Open | Closed |
| Note: Pin 1 locations of JP1 & JP6 are unidentified. | | | | | | | | |

**CPU SPEED SELECTION (IBM 6X86)**

| CPU Speed | Clock Speed | Multiplier | JP1/ Pins 1 & 2 | JP1/ Pins 3 & 4 | JP1/ Pins 5 & 6 | JP6/ Pins 1 & 2 | JP6/ Pins 3 & 4 | JP6/ Pins 5 & 6 |
|---|---|---|---|---|---|---|---|---|
| 120MHz | 60MHz | 2.0x | Open | Open | Closed | Open | Closed | Closed |
| 133MHz | 66MHz | 2.0x | Open | Open | Closed | Closed | Open | Closed |
| 150MHz | 60MHz | 2.0x | Open | Open | Closed | Open | Closed | Closed |
| 166MHz | 66MHz | 2.0x | Open | Open | Closed | Closed | Open | Closed |
| Note: Pin 1 locations of JP1 & JP6 are unidentified. | | | | | | | | |

**CPU SPEED SELECTION (AM K5)**

| CPU Speed | Clock Speed | Multiplier | JP1/ Pins 1 & 2 | JP1/ Pins 3 & 4 | JP1/ Pins 5 & 6 | JP6/ Pins 1 & 2 | JP6/ Pins 3 & 4 | JP6/ Pins 5 & 6 |
|---|---|---|---|---|---|---|---|---|
| 75MHz | 50MHz | 1.5x | Open | Open | Open | Closed | Closed | Closed |
| 100MHz | 66MHz | 1.5x | Open | Open | Open | Closed | Open | Closed |
| 120MHz | 60MHz | 1.5x | Open | Open | Open | Open | Closed | Closed |
| 133MHz | 66MHz | 1.5x | Open | Open | Open | Closed | Open | Closed |
| 150MHz | 60MHz | 2.5x | Open | Closed | Closed | Open | Closed | Closed |
| 166MHz | 66MHz | 2.5x | Open | Closed | Closed | Closed | Open | Closed |
| Note: Pin 1 locations of JP1 & JP6 are unidentified. | | | | | | | | |

**CPU SPEED SELECTION (AM K6)**

| CPU Speed | Clock Speed | Multiplier | JP1/ Pins 1 | JP1/ Pins 3 | JP1/ Pins 5 | JP6/ Pins 1 | JP6/ Pins 3 | JP6/ Pins 5 |
|---|---|---|---|---|---|---|---|---|
| | | | & 2 | & 4 | & 6 | & 2 | & 4 | & 6 |
| 166MHz | 66MHz | 2.5x | Open | Closed | Closed | Closed | Open | Closed |
| 200MHz | 66MHz | 3.0x | Open | Closed | Open | Closed | Open | Closed |
| 233MHz | 60MHz | 3.5x | Open | Open | Open | Closed | Open | Closed |
| Note: Pin 1 locations of JP1 & JP6 are unidentified. | | | | | | | | |

**CPU SPEED SELECTION (PENTIUM)**

| CPU Speed | Clock Speed | Multiplier | JP1/ Pins 1 & 2 | JP1/ Pins 3 & 4 | JP1/ Pins 5 & 6 | JP6/ Pins 1 & 2 | JP6/ Pins 3 & 4 | JP6/ Pins 5 & 6 |
|---|---|---|---|---|---|---|---|---|
| 75MHz | 50MHz | 1.5x | Open | Open | Open | Closed | Closed | Closed |
| 90MHz | 60MHz | 1.5x | Open | Open | Open | Open | Closed | Closed |
| 100MHz | 66MHz | 1.5x | Open | Open | Open | Closed | Open | Closed |
| 120MHz | 60MHz | 2.0x | Open | Open | Closed | Open | Closed | Closed |
| 133MHz | 66MHz | 2.0x | Open | Open | Closed | Closed | Open | Closed |
| 150MHz | 60MHz | 2.5x | Open | Closed | Closed | Open | Closed | Closed |
| 166MHz | 66MHz | 2.5x | Open | Closed | Closed | Closed | Open | Closed |
| 180MHz | 60MHz | 3.0x | Open | Closed | Open | Open | Closed | Closed |
| 200MHz | 66MHz | 3.0x | Open | Closed | Open | Closed | Open | Closed |
| Note: Pin 1 locations of JP1 & JP6 are unidentified. | | | | | | | | |

**CPU SPEED SELECTION (PENTIUM MMX)**

| CPU Speed | Clock Speed | Multiplier | JP1/ Pins 1 & 2 | JP1/ Pins 3 & 4 | JP1/ Pins 5 & 6 | JP6/ Pins 1 & 2 | JP6/ Pins 3 & 4 | JP6/ Pins 5 & 6 |
|---|---|---|---|---|---|---|---|---|
| 166MHz | 66MHz | 2.5x | Open | Closed | Closed | Closed | Open | Closed |
| 200MHz | 66MHz | 3.0x | Open | Closed | Open | Closed | Open | Closed |
| 233MHz | 60MHz | 3.5x | Open | Open | Open | Closed | Open | Closed |
| Note: Pin 1 locations of JP1 & JP6 are unidentified. | | | | | | | | |

**CPU VOLTAGE SELECTION**

| Voltage | | JP4/Pins 1 & 2 | JP4/Pins 3 & 4 | JP4/Pins 5 & 6 | JP4/Pins 7 & 8 |
|---|---|---|---|---|---|
| | 2.0V | Open | Open | Open | Open |
| | 2.1V | Closed | Open | Open | Open |
| | 2.2V | Open | Closed | Open | Open |
| | 2.3V | Closed | Closed | Open | Open |
| | 2.4V | Open | Open | Closed | Open |
| | 2.5V | Closed | Open | Closed | Open |
| | 2.6V | Open | Closed | Closed | Open |
| | 2.7V | Closed | Closed | Closed | Open |
| » | 2.8V | Open | Open | Open | Closed |
| | 2.9V | Closed | Open | Open | Closed |
| | 3.0V | Open | Closed | Open | Closed |
| | 3.1V | Closed | Closed | Open | Closed |
| | 3.2V | Open | Open | Closed | Closed |
| | 3.3V | Open | Closed | Closed | Closed |
| | 3.4V | Closed | Closed | Closed | Closed |
| Note: Pin 1 location of JP4 is unidentified. | | | | | |

**SOLID-STATE DISK (DOC) ADDRESS SELECTION**

| Address | JP9/Pins 1 & 2 | JP9/Pins 3 & 4 | JP9/Pins 5 & 6 | |
|---|---|---|---|---|
| CC000 | Open | Open | Open | |
| D0000 | Open | Open | Closed | |
| D4000 | Open | Closed | Open | |
| D8000 | Open | Closed | Closed | |
| DC000 | Closed | Open | Open | |
| Note: Pin 1 location of JP9 is unidentified. | | | | |

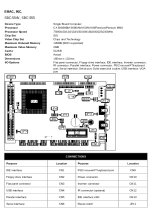
**SERIAL INTERFACE 2 SELECTION**

| Setting | JP10/Pins 1 & 2 | JP10/Pins 3 & 4 | JP10/Pins 5 & 6 |
|---|---|---|---|
| RS-232 | Closed | Open | Open |
| RS-422 | Open | Closed | Open |
| RS-485 | Open | Open | Closed |
| Note: Pin 1 location of JP10 is unidentified. | | | |

**MISCELLANEOUS TECHNICAL NOTES**

The SBC-554V board utilizes a PISA bus whereas the SBC-555 board utilizes an ISA bus.

## Documents / Resources

| | |
|---|---|
|  | EMAC SBC-554V Single Board Computer [pdf] User Guide<br>SBC-554V Single Board Computer, SBC-554V, Single Board Computer, Board Computer |