

## QUICK REFERENCE

### JUMPER SETTINGS (\* : Initial Setting)

#### CPU Related Jumpers: W2, W3

| ● W2 - Bus / Core Frequency                            |  |     |
|--|--|-----|
| Default Value Previously Set and Saved in CMOS *       |  | off |
| Force the Core Speed to Twice the Front Side Bus Speed |  | on  |

| ● W3 - Front Side Bus Speed                   |  |     |
|---|--|-----|
| 66MHz Override                                |  | on  |
| 66MHz or 100MHz, depending on the processor * |  | off |

**Careful attention should be taken when installing a processor:  
Faulty jumper settings may damage both your processor and your board.**

#### Other Jumpers:

| ● W1 - AGP Feature |  |     |
|--------------------|--|-----|
| Enable AGP *       |  | off |
| Disabled AGP       |  | on  |

| ● W4 - SCSI Mode                        |  |     |
|---|--|-----|
| 16-bit: Wide Ultra SCSI II *            |  | on  |
| 8-bit: Fast SCSI II and Fast-20 SCSI II |  | off |

| ● W5 - CMOS Backup Source  |     |     |
|----------------------------|-----|-----|
| Onboard Battery            | 1-2 |     |
| External Power (3.6V only) | 2-3 |     |
| No Power (clear CMOS) *    |     | off |

| ● W6 - SCSI Termination        |     |     |
|--------------------------------|-----|-----|
| Controlled by Software         | 1-2 |     |
| Board is hardware Terminated * | 2-3 |     |
| No Termination                 |     | off |

| ● W7 - Remote Reset Source |     |     |
|----------------------------|-----|-----|
| Controlled by RXD 1 (COM1) | 1-2 |     |
| Controlled by RXD 2 (COM2) | 2-3 |     |
| Disabled *                 |     | off |

| ● W8 - Power Fail Source Selection |     |  |
|------------------------------------|-----|--|
| User Defined Source                | 1-2 |  |
| CMOS Backup Source (see W12) *     | 2-3 |  |

To prevent the board from inopportune PFI, the jumper cap must always be installed at either 1-2 or 2-3 position.

| ● W9 - User Definable |               |               |
|-----------------------|---------------|---------------|
|                       | on            | off           |
| 1-2                   | User Defined  | User Defined  |
| 3-4                   | VT-100 Mode   | Normal Mode * |
| 5-6                   | Download Mode | Normal Mode * |

| ● W10 - SCSI and EIDE Leds |  |     |
|----------------------------|--|-----|
| Combined                   |  | on  |
| Independant *              |  | off |

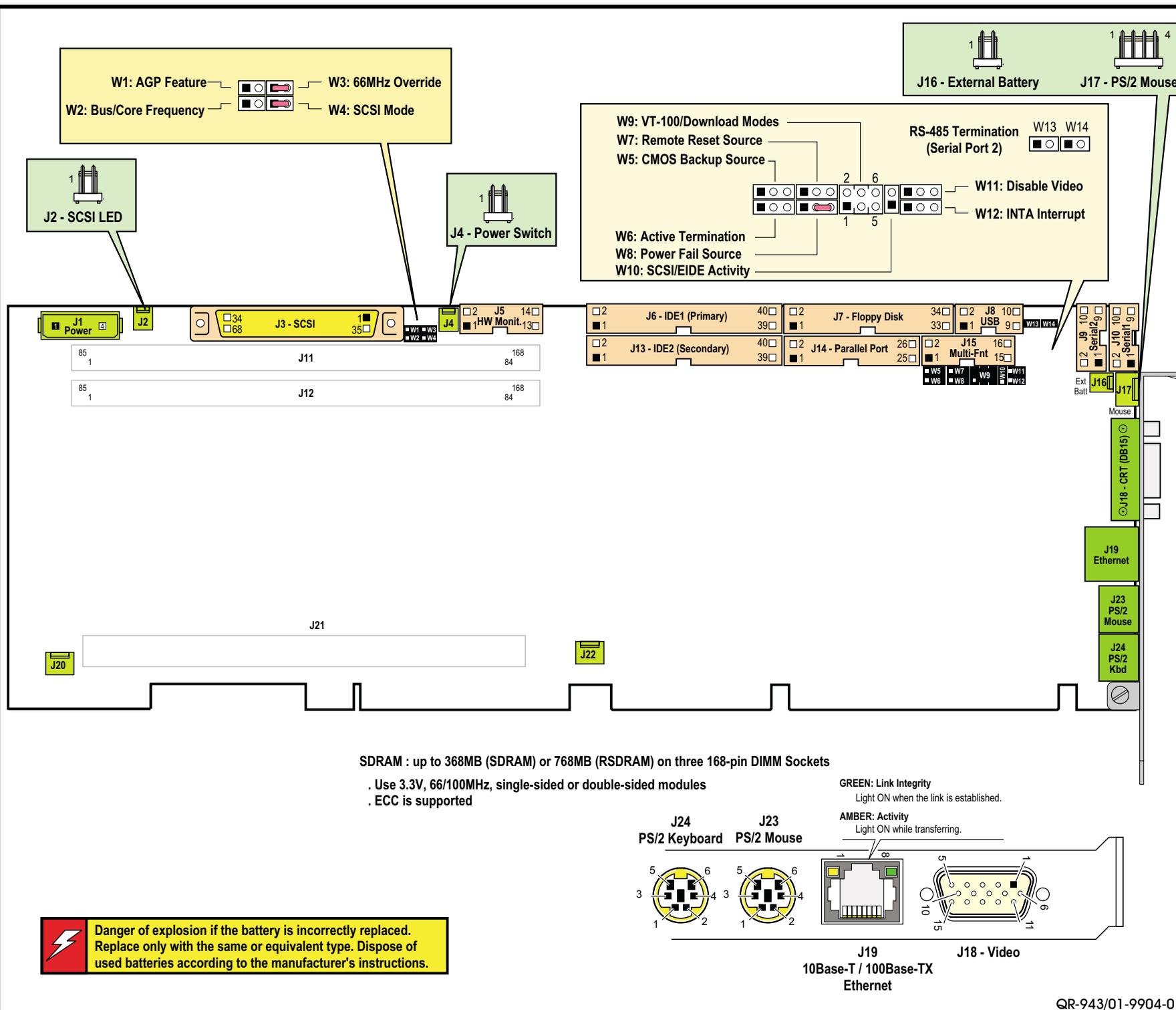
| ● W11 - Onboard Video |  |     |
|-----------------------|--|-----|
| Enabled *             |  | off |
| Disabled              |  | on  |

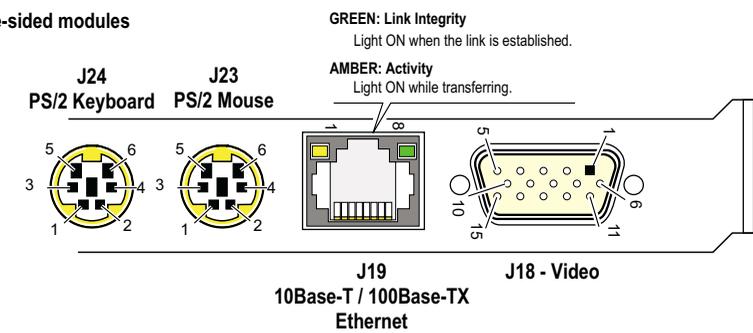
| ● W12 - INTA Assigned to Video Controller |  |     |
|---|--|-----|
| Enabled                                   |  | on  |
| Disabled *                                |  | off |

| ● W13, W14 - Serial Port 2 Termination |     |     |
|--|-----|-----|
| (set in RS-485 Mode only)              | W13 | W14 |
| Termination Enabled                    | on  | on  |
| Termination Disabled *                 | off | off |



SDRAM : up to 368MB (SDRAM) or 768MB (RSDRAM) on three 168-pin DIMM Sockets  
 . Use 3.3V, 66/100MHz, single-sided or double-sided modules  
 . ECC is supported



**Danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type. Dispose of used batteries according to the manufacturer's instructions.**

## CONNECTOR PINOUTS

| ◆ J1, J15 - CPU Fan |              |  |
|---------------------|--------------|--|
| 1                   | GND          |  |
| 2                   | +12V (fused) |  |
| 3                   | Sense        |  |

| ◆ J2 - SCSI LED |           |  |
|-----------------|-----------|--|
| 1               | VCC (+5V) |  |
| 2               | SCLED *   |  |

| ◆ J4 - Power Switch |        |  |
|---------------------|--------|--|
| 1                   | /PWRBT |  |
| 2                   | GND    |  |

| ◆ J5 - Hardware Monitoring |    |    |         |
|----------------------------|----|----|---------|
| GND                        | 1  | 2  | /PWRBT  |
| /SOFTOFF                   | 3  | 4  | GND     |
| GPIO1                      | 5  | 6  | GPIO2   |
| /APFLT                     | 7  | 8  | /CPUFLT |
| /EXTFLT                    | 9  | 10 | GND     |
| /FANFLT                    | 11 | 12 | N.C.    |
| /CHASINT                   | 13 | 14 | GND     |

| ◆ J6 - Enhanced IDE (Primary) |           |                 |            |
|-------------------------------|-----------|-----------------|------------|
| Odd Pin Number                | 25        | /IOR            | 39         |
| 1                             | /RESET    | 27              | IOCHRDY    |
| 3-17                          | [HD7-HD0] | 29              | /DACK      |
| 19                            | GND       | 31              | IRQ14      |
| 21                            | DREQ      | 33; 35          | ADD1; ADD0 |
| 23                            | /IOW      | 37              | /CS1       |
|                               |           | Even Pin Number | 30         |
|                               |           | 2; 22-26        | GND        |
|                               |           | 4-18            | [HD8-HD15] |
|                               |           | 20              | N.C.       |
|                               |           | 28              | /SEL1      |
|                               |           | 32              | N.C.       |
|                               |           | 34              | N.C.       |
|                               |           | 36              | ADD2       |
|                               |           | 38              | /CS3       |
|                               |           | 40              | GND        |

| ◆ J7 - Floppy Disk |          |        |                |
|--------------------|----------|--------|----------------|
| Odd Pin Number     | 8        | /INDEX | 22             |
| 1-25; 31           | GND      | 10     | /MTR 0         |
| 27; 33             | N.C.     | 12     | /DRIVE SEL. 1  |
| 29                 | FDETR    | 14     | /DRIVE SEL. 0  |
| Even Pin Number    | 16       | /MTR 1 | 30             |
| 2                  | /DRVEN 0 | 18     | /DIR CONTROL   |
| 4; 6               | N.C.     | 20     | /STEP          |
|                    |          | 26     | /TRACK 0       |
|                    |          | 28     | /WRITE PROTECT |
|                    |          | 32     | /RDATA         |
|                    |          | 34     | /DSKCHG        |

| ◆ J8 - USB |   |    |       |
|------------|---|----|-------|
| VCC        | 1 | 2  | VCC   |
| USB0-      | 3 | 4  | USB1- |
| USB0+      | 5 | 6  | USB1+ |
| GND        | 7 | 8  | GND   |
| GND        | 9 | 10 | GND   |

| ◆ J9 - Power |   |   |      |
|--------------|---|---|------|
| VCC          | 1 | 4 | GND  |
| VCC          | 2 | 5 | GND  |
| GND          | 3 | 6 | +12V |

| ◆ J12 - Serial Port 1 (RS-232) |   |    |        |
|--------------------------------|---|----|--------|
| /DCD 1                         | 1 | 2  | /DSR 1 |
| RXD 1                          | 3 | 4  | /RTS 1 |
| TXD 1                          | 5 | 6  | /CTS 1 |
| /DTR 1                         | 7 | 8  | /RI 1  |
| GND                            | 9 | 10 | N.C.   |

| ◆ J13 - Enhanced IDE (Secondary) |           |                 |            |
|----------------------------------|-----------|-----------------|------------|
| Odd Pin Number                   | 25        | /IOR            | 39         |
| 1                                | /RESET    | 27              | IOCHRDY    |
| 3-17                             | [HD7-HD0] | 29              | /DACK      |
| 19                               | GND       | 31              | IRQ15      |
| 21                               | DREQ      | 33; 35          | ADD1; ADD0 |
| 23                               | /IOW      | 37              | /CS1       |
|                                  |           | Even Pin Number | 30         |
|                                  |           | 2; 22-26        | GND        |
|                                  |           | 4-18            | [HD8-HD15] |
|                                  |           | 20              | N.C.       |
|                                  |           | 28              | /SEL2      |
|                                  |           | 32              | N.C.       |
|                                  |           | 34              | N.C.       |
|                                  |           | 36              | ADD2       |
|                                  |           | 38              | /CS3       |
|                                  |           | 40              | GND        |

| ◆ J3 - SCSI |       |    |        |
|-------------|-------|----|--------|
| GND         | 1-16  | 54 | GND    |
| Term Power  | 17-18 | 55 | /SATN  |
| N.C.        | 19    | 56 | GND    |
| GND         | 20-34 | 57 | /SBSY  |
| /SCD12      | 35    | 58 | /SACK  |
| /SCD13      | 36    | 59 | /SRST  |
| /SCD14      | 37    | 60 | /SMSG  |
| /SCD15      | 38    | 61 | /SSEL  |
| /SDPH       | 39    | 62 | /SCD   |
| /SCD0-SCD7  | 40-47 | 63 | /SREQ  |
| /SDPL       | 48    | 64 | /SIO   |
| GND         | 49-50 | 65 | /SCD8  |
| Term Power  | 51    | 66 | /SCD9  |
| Term Power  | 52    | 67 | /SCD10 |
| N.C.        | 53    | 68 | /SCD11 |

| J14 - Parallel Port (Std Mode) |      |       |           |
|--------------------------------|------|-------|-----------|
| /STROBE                        | 1    | 2     | /AUTOFD   |
| [D0-D7]                        | 3-17 | 4     | /ERROR    |
| /ACK                           | 19   | 6     | /INIT     |
| BUSY                           | 21   | 8     | /SELECTIN |
| PE                             | 23   | 10-18 | GND       |
| SELECT                         | 25   | 20-26 | GND       |

| ◆ J16 - Multi-Function |    |    |           |
|------------------------|----|----|-----------|
| KBCLK                  | 1  | 2  | GND       |
| KDATA                  | 3  | 4  | GND       |
| VCC (+5V)              | 5  | 6  | VCC (+5V) |
| SPEAKER                | 7  | 8  | VCC (+5V) |
| N.C.                   | 9  | 10 | GND       |
| /DOWNLD                | 11 | 12 | GND       |
| /PBRES                 | 13 | 14 | GND       |
| /HDACT                 | 15 | 16 | VCC (+5V) |

| ◆ J20 - PS/2 Mouse |       |  |  |
|--------------------|-------|--|--|
| 1                  | MCLK  |  |  |
| 2                  | GND   |  |  |
| 3                  | MDATA |  |  |
| 4                  | VCC   |  |  |

| ◆ J21 - External Battery |         |  |  |
|--------------------------|---------|--|--|
| 1                        | EXTBATT |  |  |
| 2                        | GND     |  |  |

| ◆ J24 - VGA CRT |       |      |         |
|-----------------|-------|------|---------|
| 1               | RED   | 9-11 | N.C.    |
| 2               | GREEN | 10   | GND     |
| 3               | BLUE  | 12   | I2CDATA |
| 4               | N.C.  | 13   | HSYNC   |
| 5               | GND   | 14   | VSYNC   |
| 6-8             | A_GND | 15   | I2CCLK  |

| ◆ J25 - Ethernet |   |   |      |
|------------------|---|---|------|
| TX+              | 1 | 5 | N.C. |
| TX-              | 2 | 6 | RX-  |
| RX+              | 3 | 7 | N.C. |
| N.C.             | 4 | 8 | N.C. |

| ◆ J27 - PS/2 Keyboard (DIN) |   |   |     |
|-----------------------------|---|---|-----|
| DATA                        | 1 | 4 | VCC |
| N.C.                        | 2 | 5 | CLK |
| GND                         | 3 | 6 | GND |

| ◆ J31 - PS/2 Mouse (DIN) |   |   |     |
|--------------------------|---|---|-----|
| DATA                     | 1 | 4 | VCC |
| N.C.                     | 2 | 5 | CLK |
| GND                      | 3 | 6 | GND |

| I/O MAPPING  |                        |                           |                                | MEMORY MAPPING |                   |
|--------------|------------------------|---------------------------|--------------------------------|----------------|-------------------|
| 000-01F      | DMA Controller 1       | 278-27A                   | Parallel Port (option)         | 00000-9FFFF    | 0-640KB DRAM      |
| 020-03F      | Interrupt controller 1 | 290-297                   | TEKNOR Ctrl Port (option)      | A0000-BFFFF    | Video DRAM        |
| 040-05F      | Timer                  | 2E8-2EF                   | COM4                           | C0000-CBFFF    | Video BIOS        |
| 060-06F      | Keyboard               | 2F8-2FF                   | COM2                           | D0000-DFFFF    | Free 64KB         |
| 070-07F      | Real Time Clock        | 370-377                   | Floppy Disk (option)           | E0000-EFFFF    | BIOS POST (64KB)  |
| 080-09F      | DMA Page Register      | 378-37A                   | Parallel Port (LPT1)           | F0000-FFFFF    | Main BIOS (64KB)  |
| 0A0-0BF      | Interrupt controller 2 | 390-397                   | TEKNOR Ctrl Port (option)      | 100000 to top  | 1MB to top of RAM |
| 0C0-0DF      | DMA controller 2       | 3BC-3BE                   | Parallel Port (option)         |                |                   |
| 0F0-0FF      | Math Coprocessor       | 3E8-3EF                   | COM3                           |                |                   |
| 190-197      | Teknor Control Port    | 3F0-3F7                   | Floppy Disk                    |                |                   |
| 170-177, 376 | Secondary IDE          | 3F8-3FF                   | COM1                           |                |                   |
| 1F0-1F7, 3F6 | Primary IDE            | 3C0-3CF, 3D0-3DF, 3B0-3BB | Graphics Controller (I2C Port) |                |                   |

The Technical Reference Manual can be downloaded from the  
TEKNOR Web Site at [www.teknor.com](http://www.teknor.com).

To order a hard copy of the Technical Reference Manual,  
contact Customer Service at (450) 437-5682.



### Before Powering ON the Board

1. Ensure the power supply connector is connected properly (+5V, +12V, -12V).
2. Make sure all cables are connected to the right connectors..



### First Level Debugging

1. Remove all peripheral boards from the backplane. Keep only the SBC.
2. Remove all cables from the SBC except the video cable.
3. Make sure the memory is working well and is properly inserted.

## PCI-943 TECHNICAL SPECIFICATIONS

**CPU TYPE & SPEED**  
PENTIUM II SEC ; Single / Dual configuration ; 350, 400 and 450MHz  
Temperature Monitoring with onboard sensors ; onboard Voltage Regulator Modules (VRM)

**MEMORY**  
SYSTEM MEMORY: up to 368MB (SDRAM) or 768MB (RSDRAM), 66/100MHz  
on three 168-pin DIMM sockets  
Standard 3.3V only; single-sided or double-sided ; ECC supported  
CACHE MEMORY: 512KB internal L2 cache  
48-bit Serial ID ; 4KB Serial User-EEPROM

**BUS INTERFACE**  
ISA Bus IEEE P996 ; PCI Local Bus Specification, Revision 2.1  
PICMG 2.0 specification ; SMBus ; I2C Bus ; USB

**DATA PATH**  
64-bit on CPU and memory bus; 32-bit on PCI bus; 16-bit on ISA bus

**VIDEO**  
C&T 69000 64-bit video controller with 2MB video memory (80MHz SDRAM)  
1280x1024x256 colors, CRT only  
CGA, EGA, Hercules, MDA, VGA, SVGA, XGA and SXVGA compatible

**I/O**  
SERIAL: two RS-232 ports configurable as COM1-4 with RS-422/485 available on COM2  
PARALLEL: multi-mode parallel port, EPP and ECP support  
HARD DISK: Enhanced IDE for up to 4 devices ; UDMA 33  
FLOPPY DISK: interface for two 360KB to 2.88MB floppy drives  
SCSI: Ultra-Wide SCSI (SCSI-3) 16-bit, 40MB/sec  
USB: supports two ports, serial transfers up to 1.5MB/s

**ETHERNET**  
10Base-T/100Base-TX through RJ-45 ; PCI Rev. 2.1 compliant bus master ; LAN bootable

**POWER**  
VOLTAGE: +5V ±5% ; +12V ±5%  
CURRENT - Typical (dual-CPU configuration):  
350MHz = 8.0A ; 400MHz = 9.0A ; 450MHz = 9.4A ;

**OPERATING CONDITIONS**  
T.B.D.

**ELECTRICAL / MECHANICAL**  
Board dimensions: 13.30" x 4.8" / 338mm x 122mm  
Conforms to IEEE P996 PC/AT bus spec ; PCI Rev.2.1 spec. ; PICMG Rev.2.0



### Contact TEKNOR INC. for Technical Support

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