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Find the *Curtiss-Wright / Primagraphics CAT* at our website: *Click HERE*

CAT FAMILY

CAT VIDEO PROCESSOR AND GRAPHICS ACCELERATOR

FEATURES

- Single board video processor and graphics accelerator with expansion capability
- Display daughterboards allow up to 4 layers with digital switching and mixing
- Scan converter input to display daughterboard
- Full software support available: PARIS, Primalib Graphics Library, RACE, CAT-Track and X11R6 Server
- Extensive O/S support: LynxOS, VxWorks, Solaris, HP/UX
- Embedded radar tracking and compression software
- Up to two application daughterboards for system expansion (e.g. video or radar input)
- VME64 interface
- BIT and monitor software

APPLICATIONS

- Command and Control Consoles
- Radar Plot Extraction and Tracking
- Sonar displays
- Video Windowing
- Radar Video Compression and Decompression
- Radar Head Monitors
- Video replay systems



The CAT provides a single board solution to a wide range of demanding radar, sonar and video processing and display applications in a 6U VME form factor. The CAT combines extremely flexible multilayered graphics with an expandable design that allows a number of input/output daughterboards to be used. The CAT can perform realtime data processing functions such as radar tracking, live TV windows and radar video compression or decompression. Radar scan conversion can be performed in software by the CAT or externally by one of Primagraphics' family of Vantage cards.

The TMS320C80 (C80) Multimedia Video Processor (MVP) provides up to 2 billion operations per second (BOPS) of processing power, together with optimised block data copy modes. During each second of processing, the C80 can move 2.4GB of data and 1.8GB of instructions within the chip. The C80 is a powerful RISC processor supported by four on-chip advanced DSP processors. The DSPs are particularly suited to graphics and radar processing applications where fully parallel processing can be employed.

The CAT board can act as a VME64 master or slave and supports the 64-bit VME block transfer mode. A 512KB block of shared SRAM between the VME interface and the processor decouples processor activity from bus activity. The board includes 32MB of SDRAM.

The CAT can operate either under the control of a VME host or in a stand-alone configuration. In support of standalone operation, 1MB of flash EPROM memory is included, as well as four serial channels for keyboard and mouse control and general I/O.

The CAT can accommodate up to two application daughterboards, to perform acquisition and processing of a number of types of data such as TV video, radar, sonar and linescan video. A range of display daughterboards allows multi-layered interlaced or non-interlaced displays to be generated at resolutions from VGA to 2048x2048. Separate datasheets are available for each daughterboard.

Software support for the CAT includes specially optimised releases of PARIS, Primalib Graphics Library and X11R6 Server.

Prima GRAPHICS

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CAT FAMILY

SPECIFICATION

Architectural

- Texas Instruments TMS320C80 MVP
- 2 BOPS Performance
- 32MB SDRAM (Program Memory)
- 400MB/s Burst Read/Write from/to Program Memory
- Up to 1MB Flash EPROM
- VME64 Master or Slave
- 512KB Dual-ported SRAM (VME to internal bus)

Input/Output

- 2x RS-232 Serial I/O (RTS/CTS/DTR on Chan A)
- 2x TTL (Keyboard/Mouse)
- Optional CAT Application Daughterboard:
  - Jaguar: Digital Input and Polar Store
  - Leopard: Dual Channel Video Grabber
  - Lynx: Digital Input/Output

  Note: A second application daughterboard may be stacked (1)
- Optional Multilayer Display Daughterboard:
  - Lion: Up to 1600x1280
  - Tiger: Up to 2048x2048 (2)
  - Panther: Dual-screen, Up to 1600x1280 (2)

Connectors, Switches and Indicators

- Front Panel: (3)
  - RS-232 Serial I/O Connector (Chan A and B combined): 9-way micro D-type
  - Keyboard/Mouse Connector (Optional): Standard Sun style
  - Push-button reset switch
  - Activity, S/W and Power LEDs
- Mezzanine I/O:
  - CAT Display Daughterboard Site
  - CAT Application Daughterboard Site
- Rear I/O:
  - CAT Application Daughterboard I/O: VME P2

Software, O/S and Host Support

- API Software Libraries: PARIS, Primalib Graphics Library, RACE Compression/Decompression
- Application Software: CAT-Track, X11R6 Server, Radar Head Monitor, Sonar Display
- Built-In Test (BIT) and Monitor Software: BIT and CAT Monitor supplied as standard
- O/S and Environment Support: LynxOS, VxWorks, Solaris, HP/UX, X-Windows (4)
- VME Host Support: PowerPC, SPARC, Intel x86, HP PA-RISC (4)

Physical and Mechanical

- Standard 6U VME card
- Single or Double Slot (Depends upon daughterboard configuration)
- Dimensions: 233mm x 160mm (9.1in x 6.3in)
- Weight: approx. 0.4Kg (0.9lbs) (5)
- Ruggedization Options: Conformal coating and strengthening brackets/plates

Electrical

- Maximum power consumption: 12.4W (5)
- Power supply tolerance and current requirements (Typical / Maximum): (5)

  +5V: ±5% 1.50A / 2.00A
  +12V: ±10% 0.05A / 0.10A
  -12V: ±10% 0.05A / 0.10A
- Standard VME P1/P2 interface

Environmental

- Operating Temp: 0°C to +55°C
- Non-operating/Storage Temp: -40°C to +75°C
- Humidity: 5% to 95% non-condensing
- Shock: 30G Peak, 11ms duration
- Airflow, Altitude, and Vibration: Please consult factory.

Reliability

- MTBF: Depends on configuration and environment. MIL-217-F calculated and field-based figures may be requested from factory.

(1) Application daughterboards may be stacked only if Lion or no display daughterboard is fitted. Also, two VME slots will be required.
(2) CAT fitted with Tiger or Panther will require two VME slots
(3) Front panel I/O of optional daughterboard(s) is not listed.
(4) Please consult factory to check if your particular combination of O/S and host is currently supported.
(5) CAT baseboard only (no display or application daughterboard fitted).

Primagraphics reserves the right to modify specifications without notice

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