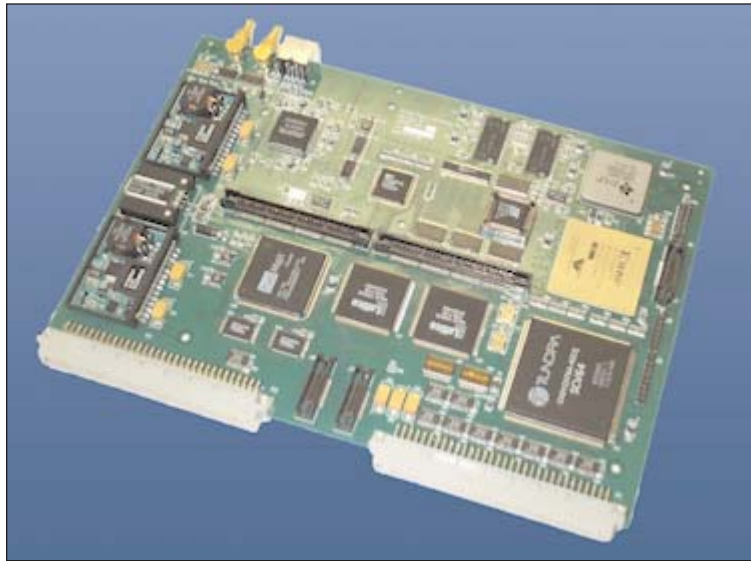


## DVE-201 Digital Video Engine™



### **Full Resolution RGB/NTSC/PAL Video Acquisition and Replay - with Real-Time JPEG Compression/Decompression**

The AP Labs **Digital Video Engine™ (DVE-201)** card is the next generation solution to full resolution video acquisition/replay requirements.

In acquisition mode, The DVE-201 allows the simultaneous capture, display, and compression of either RGB workstation screen images or NTSC/PAL/SECAM camera inputs. Several standard resolutions are supported up to 1600 x 1280, and custom formats up to 2k by 2k pixels (with a maximum pixel clock rate of 216 MHz) can also be supported. Data is made available immediately through the on-board standard VME-64 interface. Two channels of audio are acquired in synchronization with the video stream.

In replay mode, the original screen image data is decompressed and replayed at the original screen resolution and capture rate.

Commercial-off-the-shelf JPEG codec technology achieves the required reduction in raw data rates necessary for the efficient processing, archival, and replay of the video data to standard SCSI devices (disks and/or tapes). When used in the AP Labs Digital Video System, the DVE-201 enables real-time networked distribution of video and audio to other users.

As a standard off-the-shelf VME-based card, the DVE-201 is an ideal "building block" for your system.

- *Full-Resolution screen video data capture, replay, and networked distribution, with applications in:*

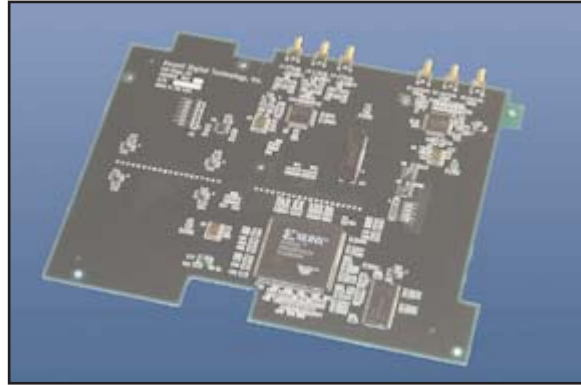
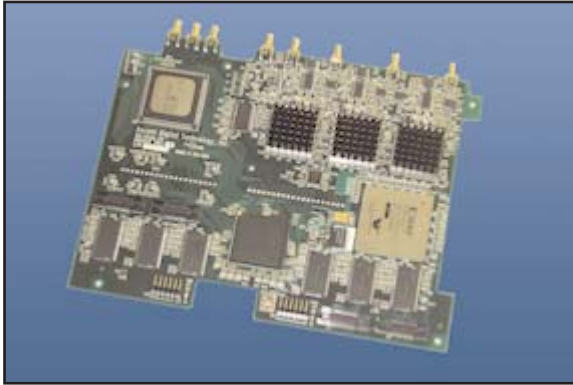
- *Range Training (RDT&E, OT&E)*
- *Sonar Trainers*
- *Weapons Systems Trainers*
- *Mission Brief/Debrief*
- *Commercial Digital Video*

- *JPEG compression and decompression*

- *Standard 6U VME card, extensive software support available.*

- *Available as a card-level product or as a complete "turnkey" system.*

- *Ability to mix and match RGB, NTSC, PAL video and other data types in the same system.*



## **RGB and NTSC/PAL video capture daughtercards**

### **Specifications** (Applicable to all versions):

#### **Video Capture/Compression:**

- uncompressed video outputs available at video output port for real-time monitoring
- real-time JPEG compression of video data, with programmable compression factors of 2 to 100

#### **Video Replay/Decompression:**

- playback frame buffer rate updated at the programmed decompression frame rate
- still-frame or out-of-sequence frame may be played at any time

#### **Audio Interface:**

- capture and playback of two audio channels
- 16-bit audio samples at 8KHz to 48KHz
- audio synchronized with video

#### **VMEbus Interface:**

- memory-mapped register interface
- >50 MBytes/sec data transfer rate in MBLT mode, 1 Mbyte block size
- programmable rate VMEbus interrupt support
- standard 6U high, 160mm deep card, single-slot with video daughtercard installed

#### **Software/Programmability:**

Unless detected automatically from the video format, the following characteristics are under software control:

- video refresh rate
- number of active pixels per line
- number of active lines per frame
- horizontal and vertical blanking regions
- video frame compression/decompression rate
- audio sampling rate and encoding type

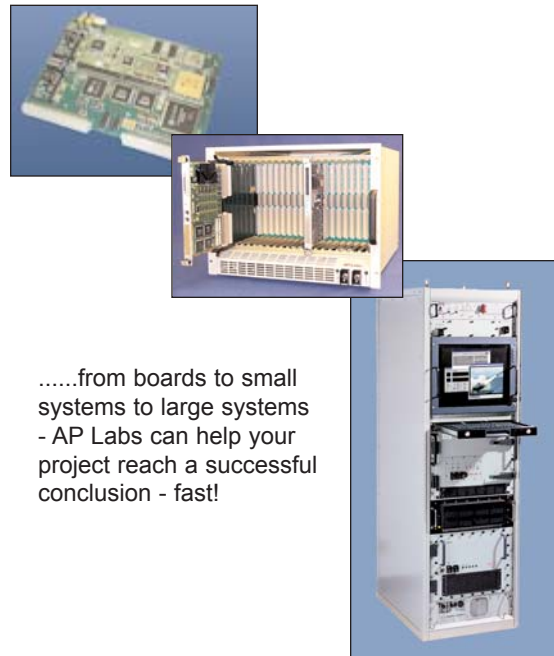
### **Daughtercard-Specific Features:**

#### **RGB:**

- pixel clock rates up to 216 MHz, for frame sizes up to 2048 x 2048
- sync-on-green, composite sync, and separate horizontal/vertical sync strategies (supported with companion sync combiner card)
- 24-bits per pixel, 8-bits per color

#### **NTSC/PAL/SECAM:**

- accepts analog video inputs as Composite Video Broadcast Signal (CVBS) or S-Video
- auto sync lock to NTSC, PAL, and SECAM video signals
- full frame rate compression/decompression



.....from boards to small systems to large systems  
 - AP Labs can help your project reach a successful conclusion - fast!