DT2851 HIGH RESOLUTION FRAME GRABBER

Figure 9-6. Block diagram of the video acquisition board shown in Figure 9-5 (Data Translation Inc.).
COLOR FRAME GRABBER

ITEX-OFG subroutines are callable in an interactive mode using the ITEX Interpreter, a command-line software development tool. Because of this interactive ability, you can quickly develop applications based on the Overlay Frame Grabber.

ITEX-OFG allows you to process images with the look-up tables, and perform continuous and single-image acquisition operations, as well as convolutions and histograms.

All ITEX-OFG functions follow the same calling conventions as the other VISIONplus-AT software products, as well as Imaging Technology's high-level Series 151 ITEX. This preserves your investment in applications software development and ensures a smooth migration path to Imaging Technology's higher-performance product line.

ITEX-OFG Functions

- Hardware initialization
- Overlay control
- Acquire/clear/mask operations
- Image save/restore
- Look-up table operations
- Line and area operations
- Image filtering and processing
- Image geometry
- Graphics routines
- VISIONbus control

For a list of all ITEX-OFG functions, contact your local sales representative or Imaging Technology.
A DSP ARCHITECTURE

VIPA Memory Architecture
The VIPA is designed for flexibility, a feature especially evident in the memory architecture. The on-board frame memory is available with either 2 Mbytes or 4 Mbytes of dynamic RAM. Memory is accessed in a linear fashion supporting pixel depths of 8, 16, 24, or 32 bits. Because of this, any VISIONplus-AT frame grabber can be connected to the VIPA via the VISIONbus. Image data is transferred over the VISIONbus whether the data is interlaced, non-interlaced, or in Area-of-Interest (AOI) mode.

Bus Master Mode
To utilize system resources and communicate with the host, the VIPA uses the AT bus master mode. By becoming the bus master, the VIPA can communicate and/or control other boards resident on the AT bus. It can also utilize any system resources that may be resident on the bus, such as extended memory cards.

ITEX-VIPA Software
To complement the Image Processing Accelerator, Imaging Technology offers ITEX-VIPA, a software subroutine library that provides essential image processing functions.

ITEX-VIPA offers advanced image processing functions, including routines that perform frequency domain filtering, geometric image operations, and correlation. The architecture of the VIPA is ideal for executing these numerically-intensive functions. And, because of the VIPA’s DMA capability, you can download and execute successive functions without incurring additional host overhead.

ITEX-VIPA Functions

- Bus master control
- Image arithmetic
- Fourier processing
- Geometric transformations
- Spatial filtering
- Logical and bit-plane image processing
- Morphology
- VISIONbus control

For a list of all ITEX-VIPA functions, contact your local sales representative or Imaging Technology.