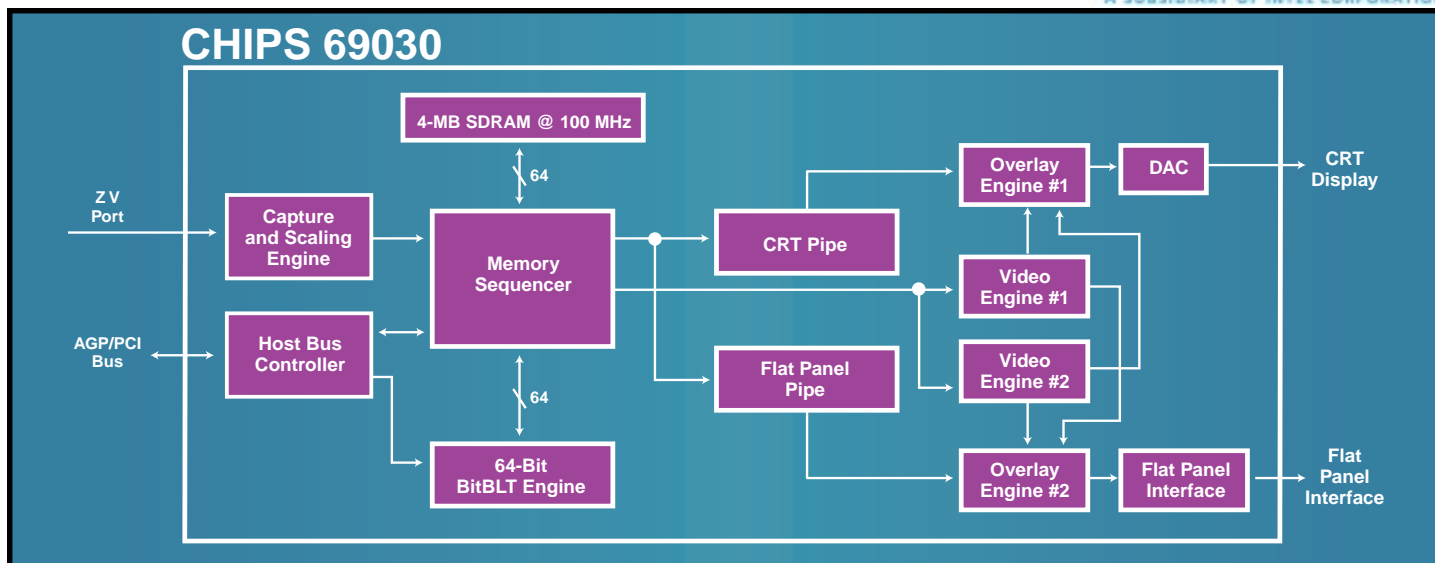


Product Overview

CHIPS

A SUBSIDIARY OF INTEL CORPORATION



Embedded SDRAM Memory

- 4-MB embedded memory
- 100-MHz SDRAM operation

Low-Power Consumption

Dual Independent Display

- Different or same display image on CRT/TV and Flat Panel
- Independent display timing and resolution for CRT/TV and Flat Panel

Single View Display Mode

- Up to 1600x1200 64K color @ 60 Hz

Dual Independent Display Mode

- Up to 1280x1024 256 color @ 60 Hz

HiQColor™ Technology

The 69030 uses CHIPS' proprietary TMED™ algorithm on STN displays to produce:

- 256 Gray Shades
- 16.7M Colors
- Reduced Motion Artifacts
- Crisper Display

Graphics Acceleration

- 64-bit Single Cycle BitBLT Engine
- System/Screen-Screen BitBLTs
- Transparent, Source, Destination BitBLT
- 256 3-Op Raster Operations
- Color Expansion
- Instant Full Screen Page Flip

Simultaneous Hardware Cursor and Pop-up Window

- 64x64 pixels by 4 colors
- 128x128 pixels by 2 colors
- 2 hardware cursors & 1 pop-up icon

External LVDS and PanelLink™ Support for TFT and DSTN Panels

Dual Multimedia Accelerator Engines

- Color Space Conversion (YUV422-RGB)
- Horizontal and Vertical Interpolation
- Color Key Video Overlay
- Double Buffering support for YUV and 15/16 RGB

Industry-Standard Host Bus Interface Support

- Frame AGP 1.x Rev. 2.0
- PCI 2.1

Flexible Panel Support

- TFT, DSTN, SSTN, EL, Plasma
- Color and Monochrome
- Resolution Support for: VGA, SVGA, XGA, SXGA, UXGA
- Quarter VGA 320x240, 320x200
- 16:9 Aspect Ratio Panels: 1024x600
- Auto Panel Power On/Off Sequencing

Standards Support

- Fully IBM® VGA Compatible
- VESA DPMS and DDC 1/2
- Advanced Power Management
- ACPI Compliant

NTSC/PAL TV-Out Support

- Advanced Flicker Reduction Filter Circuitry
- Underscan Compensation

Integrated Clock Synthesizers

- 170-MHz RAMDAC
- 100-MHz Memory Clock with PLL

Advance On-Chip Power Management

- Standby Mode
- Panel-off power-saving mode
- 0V Suspend
- 8 GPIO Pins
- Activity Detection Output Pin

Accelerated Driver Support

- Windows* 3.1, Windows 95, Windows 98, NT4.0, and NT5.0, etc.
- CD-I, Video CD, Open MPEG

Multimedia Capture Features

- Zoom Video Port
- YUV/RGB data capture from video port or host bus
- Hardware interrupt support for VPE (Microsoft®, Video Port Extension)
- Interlaced/Frame/Bob Video Capture

Other Features

- 3.3 Volt Operation, 5.0V Tolerant I/O's
- 256-ball BGA Package
- 256-ball mini-BGA Package

Microsoft PC98 and PC99 Compliant

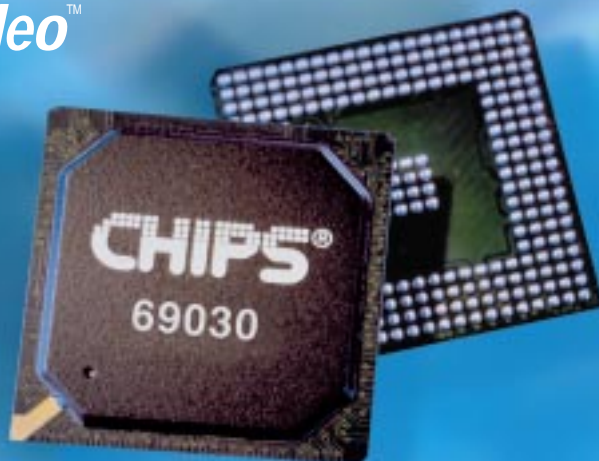
Ordering Information

Contact your CHIPS (Intel) representative and ask for either part: B69030 (BGA) or M69030 (mini-BGA).

Chips and Technologies, Inc., a subsidiary of Intel Corporation

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HiQVideo™ 69030



The 69030 Dual HiQVideo™ Accelerator with 4-MB Embedded Memory

The 69030 extends CHIPS' HiQVideo series of mobile graphics/video accelerated controllers by embedding 4-MBytes of high-speed SDRAM memory into the chip.

High-Performance Embedded Memory

The 69030 is the second generation of the HiQVideo family to integrate high-performance SDRAM frame buffer memory by using leading edge embedded memory logic technology. By embedding SDRAM memory and graphics controller logic on the same die, the 69030 delivers uncompromised performance at the same time consuming much less power than the discrete solution. The integrated 4-MB SDRAM supports 100-MHz operation and provides up to 800-MB/s frame buffer bandwidth. The increase in frame buffer bandwidth enables the 69030 to support hi-color, hi-resolution graphics modes, dual displays for CRT/TV and Flat Panel and real-time video acceleration. The additional bandwidth and memory size also allows more flexibility in the other graphics functions intensely used in Graphical User Interfaces (GUIs).

Introduction

The 69030 is a highly integrated graphics/flat panel controller solution for mainstream notebooks, mini-notebook, industrial PC's, and palmtop applications. The 69030 supports both Frame AGP 1x and PCI bus which enables wide range of system platforms.

Software Support

CHIPS provides a full suite of drivers and utilities to support the 69030.

Dual Independent Display

Combining 4 MBytes of integrated SDRAM and up to 800-MByte/second frame buffer bandwidth, the 69030 enables true dual display support up to 1280x1024 256-color at 60 Hz.

Dual display permits either the same image or a different image to be displayed on CRT/TV and Flat Panel while allowing CRT/TV and Flat Panel display timing to be adjusted independently of each other. Two multimedia engines are implemented to enable video acceleration on both display pipelines.

Multimedia Video

The 69030 implements a variety of features to deliver high-quality, full-screen, full frame-rate video capture playback for MPEG1, MPEG2, V-CD and DVD.

The 69030 supports wide range of video stream input formats by supporting frame, field and Bob video capture modes. The 69030 supports both RGB or YUV video stream capture from either AGP/PCI bus or video capture port. For YUV video string input, the color space converters convert the data to 24-bit RGB data on the fly without loading up the frame buffer bandwidth and without saving the converted data into the frame buffer for later retrieval.

To improve video playback quality, the 69030 continuously scales video data with horizontal and vertical interpolation. Double buffering is provided to eliminate video tearing resulting from displaying an unfinished captured frame or field. To enable VPE kernel transport mode and video capture/

playback auto-flipping, the 69030 provides a hardware interrupt pin, which can be programmed to activate at either display vertical sync or video capture vertical sync signal. A PC-Card Zoom Video port is implemented which allows a direct connection to a PC-Card video string decoders, thus enabling full frame-rate video capture of MPEG1, MPEG2 and DVD contents without increasing data loading on PCI or AGP bus.

Flexible Host Bus Support

The 69030 provides glueless interface for both PCI and Frame AGP host bus which enables a wide range of system platform applications. The PCI interface is fully compliant with PCI 2.1 specifications. All I/O registers and frame buffer addresses can be relocated to any system address. Memory mapped I/O access is also supported. By supporting Frame AGP bus, the 69030 improves both the graphics subsystem performance and the overall system performance. Frame AGP interface is fully compliant with AGP 2.0 specifications.

2D Acceleration for All Modes

The 69030 graphics engine boosts the 2D performance through specialized hardware, which accelerates the most frequently used 2D GUI operations. These operations include color expansion, system-to-screen BitBLT, screen-to-screen BitBLT, transparent source/destination BitBLT, rectangle fill, and 256 raster operations. 2D acceleration is supported in all graphics modes up to 1600x1200, all color depths up to 24-bit/color, and for both display pipelines.

Embedded SDRAM • Low-Power Consumption • PCI / AGP • PC98-99 Compatible • 16 Million Colors • TMED Algorithm
Dual Independent Display • 24 bpp Color • Flicker Reduction Circuitry • 64-bit SDRAM Accelerator • 36-bit Direct Panel Interface