

ChromaCast

LCD Panel Controllers

82C200

Product Highlights

System Interfaces

- Analog RGB input to on-chip three-channel A/D converter (8-bit)
- Digital data input (8/16-bit) from external NTSC/PAL decoder
- 8051-compatible controller interface (8-bit)
- SDRAM or EDO DRAM memory controller interface (64-bit)
- Wide panel interface (up to 48-bit)

Panel Support

- TFT or DSTN
- Single and multiple pixels per clock
- Supports Flat Panel Display Interface standard (FPDI-1)
- Panel resolution range: 640x480 through 1280x1024

Incoming Video Support

- On-chip line-locked PLL
- On-chip video amplifier and clamping
- Dynamic scaling for full-screen display
- Accepts 15-70 kHz horizontal scan frequencies, and 40-85 Hz vertical refresh frequencies
- Incoming video resolution range: 640x480 through 1280x1024

Additional Information

- Incorporates on-chip On-Screen Display (OSD) logic
- Supports VESA Display Data Channel standards (DDC1, DDC2B)
- Supports Display Power Management Standard (DPMS) for Microsoft Plug & Play compliance
- 3.3V power supply
- 5V-tolerant I/O
- 324-ball PBGA package



Building Innovative IC Solutions



PTi ChromaCast LCD Panel Controller technology offers a super-integrated solution to interface the display panel in an LCD Monitor.

Only the ChromaCast system offers all of the following advantages:

Highest Level Of Integration. The ChromaCast approach offers a one-chip solution for LCD panel control, integrating the analog front end and digital back end on a single chip. The analog portion comprises a complete solution for digitizing analog RGB, including a three-channel A/D converter, line-locked PLL, video amplifier, and clamping circuit. The digital portion provides resolution detection, scaling, dither, On-Screen Display, and panel control. The entire ChromaCast system is controlled by an external 8051-compatible microcontroller.

On-Screen Display Feature. The ChromaCast architecture implements a versatile On-Screen Display feature that supports up to 256 different indices for attributes such as color, translucency, and blinking. The flexibility of this solution allows different manufacturers to each offer a unique user interface.

Scaling Engine. The high-quality scaling engine incorporated in ChromaCast technology dynamically maintains a full-screen display, regardless of the incoming image resolution. This feature works in conjunction with the external 8051-type controller to reprogram the ChromaCast registers as appropriate for the detected incoming resolution.

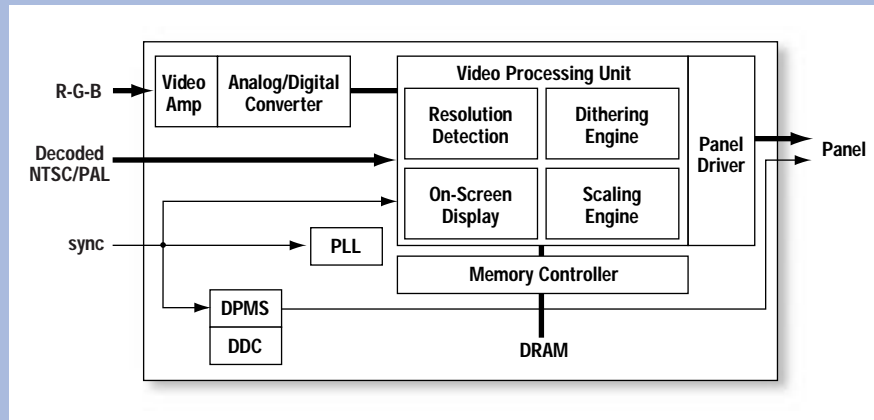
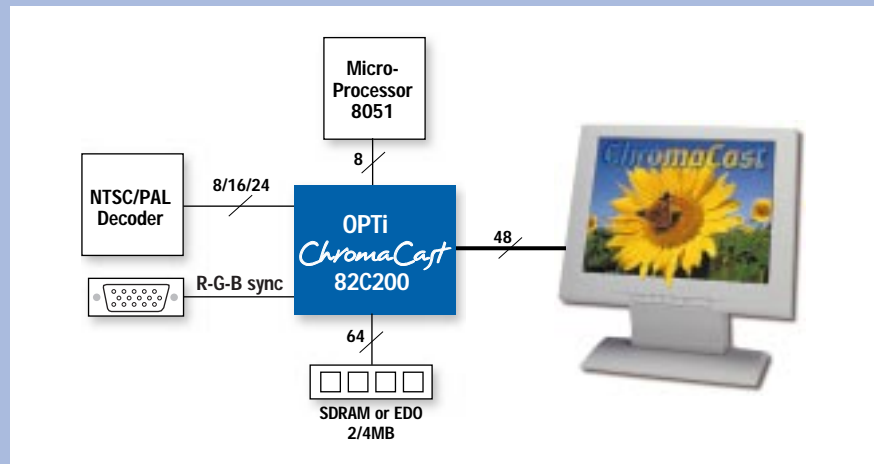
Power Management. ChromaCast hardware incorporates full power management support using the Display Power Management Standard (DPMS) interface defined for use by Microsoft Plug & Play operating systems. This feature allows the panel to be conveniently put in standby or sleep modes when not in use.

NTSC/PAL Digital Interface. The ChromaCast circuitry provides a digital interface accepting output from an external NTSC/PAL decoder chip. This feature allows an LCD Monitor to be connected directly to the composite or S-video output of a VCR or DVD player to provide a brilliant television image with no TV set required.

8051-compatible Interface. An 8051-type microcontroller initializes the ChromaCast system for use with specific panels, and assists in the dynamic scaling application that compensates for changes in the video input resolution. Additionally, the microcontroller provides software control for the DDC and Power Management subsystems. OPTi has developed libraries that can be used to further customize the total LCD monitor solution.



ChromaCast



About OPTi

OPTi's focus is on building innovative ASIC solutions for the technology of today and for the future. Our chipset solutions for the PC and consumer electronics markets include mobile, docking, USB, LCD control, and our embedded chipset program.



HEADQUARTERS

OPTi Inc.
1440 McCarthy Blvd.
Milpitas, CA 95035
tel: 408-486-8000
fax: 408-486-8022/8011
www.opti.com

INTERNATIONAL SALES LOCATIONS

Japan
OPTi Japan KK
Murata Building 6F, 2-22-7
Ohhashi Meguro-ku
Tokyo 153, Japan
tel: + 81-3-5454-0178
fax: + 81-3-5454-0168

Taiwan
OPTi Inc.
2F-1, No 189
Sec 2, Keelung Road
Taipei, Taiwan, ROC
tel: + 011-886-2-2378-1810
fax: + 011-886-2-2377-7488