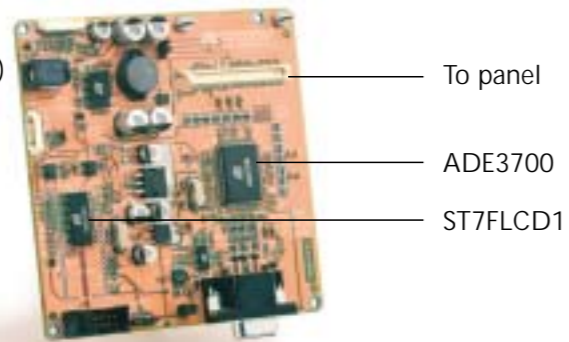


ADE3700 development board

The ADE3700 development board (DEV3700) serves as a reference platform for evaluating the ADE3700 LCD scaling engine in a highly integrated, cost effective design for an analog input LCD monitor.

The board comes pre-configured with :

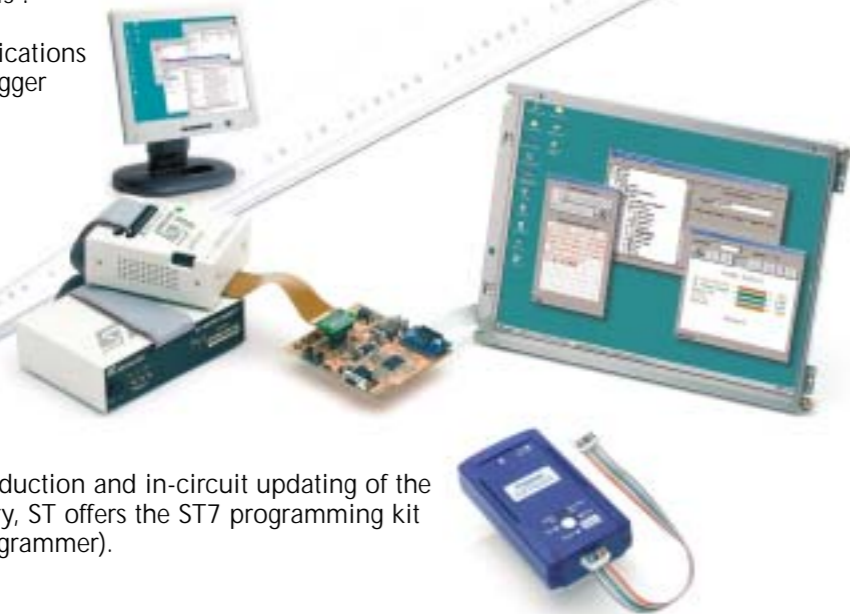
- Panel-specific firmware
- Corresponding panel adapter board
- Cables
- Compatible power supply



ST7 development and support tools

The ST7 family of microcontrollers is supported by a wide variety of tools :

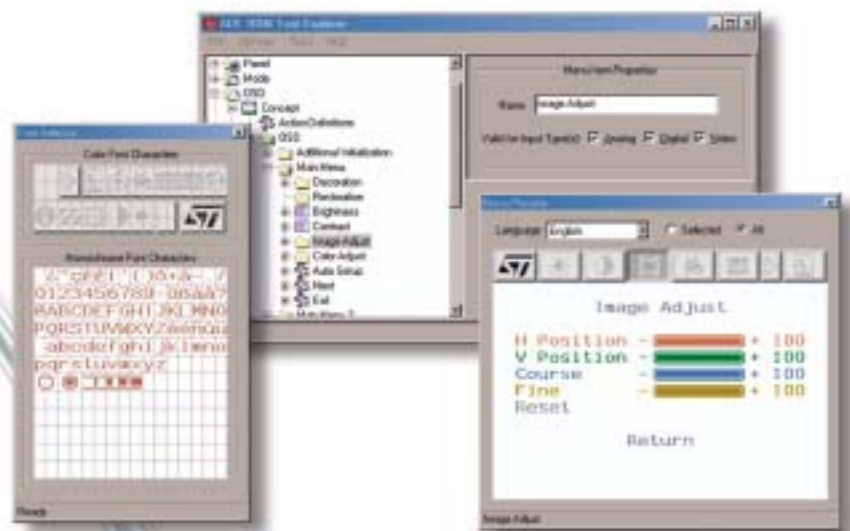
- C-Compiler
- Assembler/linker applications
- Windows-based debugger
- Real-time emulator
- Flash programmer



For programming in-production and in-circuit updating of the ST7FLCD1 Flash memory, ST offers the ST7 programming kit (ST7 stick and Flash programmer).

ADE Rom Tools (A.R.T.) software utilities suite

This Windows based software suite provides easy LCD firmware development. With all multiple modules included free of charge, you can create all the necessary software for your LCD display in a fraction of the time. Graphical user interfaces allow for a "drag and drop" environment. Once completed, A.R.T. automatically generates the code that can be compiled and programmed to the microcontroller. The A.R.T. software utility suite allows rapid software development minimizing time-to-market and overall development costs.



STMicroelectronics offers a wide range of complementary peripheral devices to the LCD monitor controllers.

ADE family of LCD monitor controller devices

Features	ADE3000	ADE3000T	ADE3000SX	ADE3000SXT	ADE3050	ADE3050T	ADE3050SX	ADE3050SXT	ADE3100	ADE3200	ADE3250	ADE3300	ADE3700X	ADE3700XT	ADE3700SX
Analog input	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓
DVI input					✓	✓	✓	✓	✓	✓	✓	✓			
YUV input	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
XGA, 110 MHz	✓	✓			✓	✓			✓	✓			✓	✓	
SXGA, 140 MHz			✓	✓			✓	✓			✓	✓			✓
TCON		✓		✓		✓	✓			✓	✓			✓	
PQFP208	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
LQFP128													✓	✓	✓

Microcontrollers

Devices	Flash size	DDC interface	RAM size	Timer	IFR	Packages
ST7FLCD1	60k	2	2k	2	yes	SO28
ST7FLCD0	60k	1	1.5k	2	no	SO28

LVDS transmitter

Device	Description	Packages
STVLVDS385	3.3V programmable LVDS transmitter 24/18-bits flat panel display link-85 MHz	TSSOP56 - FBGA64

Non-volatile memories

Devices	Description	Packages
M24C08/16	8/16 kbit serial EEPROM, I ² C	DIL-SO-TSSOP-MSOP 8
ST24FC21B	1 kbit serial EEPROM, VESA 2.0 compatible	DIL-SO 8

Voltage regulators

Devices	Description	Packages
L4973	3.5V step down switching regulators	POWERDIP - SO20
L78L00 series	Positive voltage regulators	TO92 - SO8 - SOT89
LD1086 series	1.5A low dropout positive voltage regulators	TO220 - DPAK - D ² PAK



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Full product information at www.st.com

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Optimized Solutions for LCD Monitors



Helping lead the way

STMicroelectronics offers multiple solutions for LCD monitor displays

STMicroelectronics, the 3rd largest worldwide semi-conductor manufacturer, offers complete solutions for LCD monitor applications.

ST offers leading edge technology and continuous supply thanks to its own wafer fabs and final assembly factories in Europe, US and Asia, where the most advanced technologies are used (0.18 and 0.13 μm). Final assembly and testing are done in-house at our packaging facilities located throughout the world. This allows fast ramp-up, continuous supply and volume shipment support required by large OEM-based manufacturers.

Complete solutions offering

For both CRT-based and LCD monitors, ST has many years of experience with large volume customers in all aspects of monitor applications:

- Scalars with built-in analog or DVI receivers
- Microcontrollers including Flash and non-volatile memories (EEPROM and Flash)
- LVDS transmitters
- Voltage regulators.

Our expertise in design and manufacturing of mixed signal ICs is complemented by state-of-the-art development tools including optimized evaluation boards, Windows based software development tools, C-Compilers and debugging tools. All of this is backed by our regional support offices located throughout the world.

As a result, our customers benefit from ST's proven experience in IC design, cost-effective solutions and the convenience of doing business with a single reliable supplier for all major components.



ST7FLCD1 8-bit microcontroller with built-in Flash memory and DDC interfaces

The new ST7FLCD1 MCU controls the application via its built-in I²C bus interface and also offers two separate DDC interfaces. The built-in Flash memory allows up to the last minute software updates even when the IC is already soldered on the final PCB (in-circuit programming capability)

ST7FLCD1 main features:

- 60 kbytes of Flash memory
- 2 kbytes of RAM memory
- Two separate DDC interfaces for dual input LCD monitor application
- Two 8-bit timers with prescaler, external trigger and buzzer output
- Infra-red controller
- System protection preventing illegal opcode execution
- Programmable watchdog for system reliability
- 4-channel 8-bit analog-to-digital converter
- Six 8-bit PWM digital-to-analog output for backlight control or other needs
- 22 I/O ports
- In-circuit programming and debugging
- In-application programming
- Small-footprint, surface-mounted SO28 package

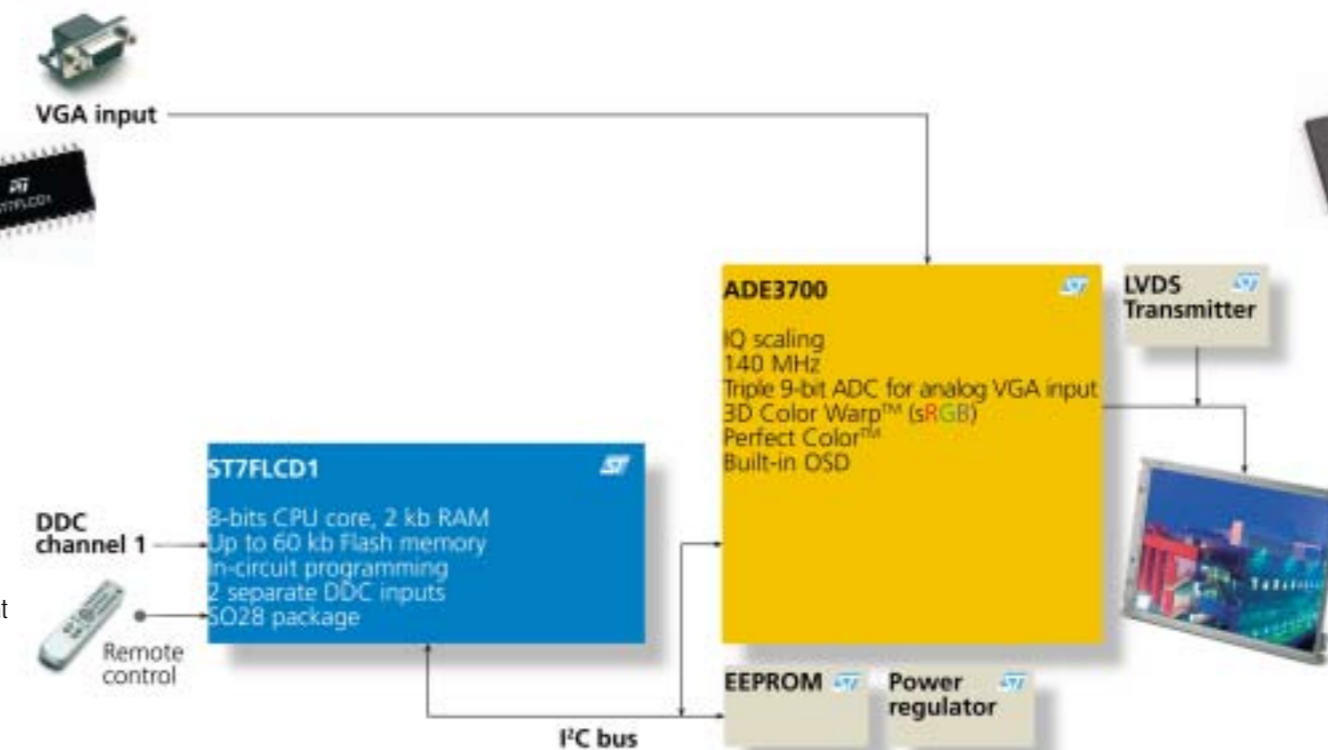
Solution for video input

The STV2310 digital video decoder supports multi-standard TV signals to offer a worldwide solution.

STV2310 main features:

- Compatible with worldwide TV standards
- Adaptive 4H/2D comb filter
- Able to interface RGB and Fast Blanking (FB) from SCART plugs
- Able to process analog YPbPr inputs with tint control
- High-quality video conversion using a 10-bit analog-to-digital converter to create an ITU-R BT.656 (YUV 4:2:2) digital output
- Horizontal scaling (zoom-in and zoom-out) including non-linear scaling for 4:3 to 16:9 conversion (panorama mode)
- On-board data slicer
- TQFP64 package

The ADE 3700 family of LCD controllers coupled with the ST7FLCD1 microcontroller provide a complete solution of cost-effective components for an analog input XGA/SXGA LCD monitor.



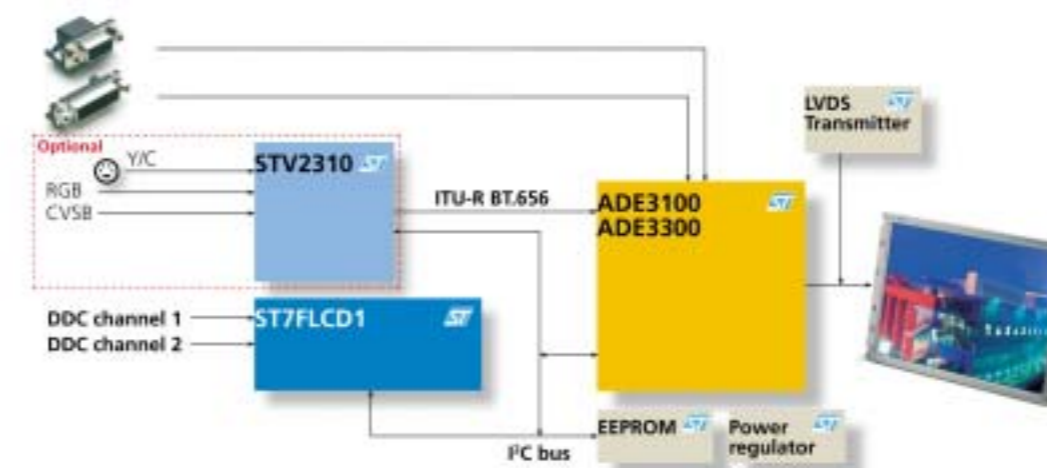
ADE3700 family of analog-only input controllers

This new family is optimized for the mainstream analog-only LCD monitor market segment (products outlined in the ADE family table on the back page).

ADE3700 main features:

- Triple 9-bit ADC input (VGA input)
- IQsync™ auto-adjustment (3rd generation)
- Context Sensitive Scaling2™ with edge enhancement
- Perfect Color™ dithering technology
- 3D Color Warp™ = sRGB
- Perfect Picture™ – independent picture/video window adjustment and detection
- Timing Controller (TCON) with RSDS
- Multiple EMI reduction techniques
- Low power 1.8V/3.3V split supply
- Software compatible with existing ADE3000 product family
- LOFP128 package allowing cost-effective 2-layer PCB implementation

ST also offers XGA/SXGA dual input LCD controllers with optional digital video input for a full featured multimedia LCD monitor solution.



Dual-input LCD monitor solutions

In addition to optimized solutions for analog-only LCD monitor applications, ST offers the ADE3000 family of dual-input LCD monitor controllers. These ICs already used in production by major LCD monitor manufacturers in Korea and Taiwan, enable R&D experts to quickly design a higher-end LCD monitor applications.

ADE3300 main features:

- Direct interface to LCD panel up to SXGA resolution (140 MHz)
- Context-sensitive scaling
- Three inputs for analog VGA, DVI or ITU-R BT.656 digital video interfaces
- 3D Color Warp™ (sRGB)
- Integrated timing controller with dual output TTL or RSDRS signaling
- Multiple EMI reduction techniques for easy agency certification
- Software and pin-to-pin compatible
- PQFP208 package