

Product Profile

MB86H22

SmartMPEG

November 2003

Edition 0.55

MPEG-2 Decoder for ext. Temperature Range

FME/MM/PP/1103

INTRODUCTION:

This **SmartMPEG** is an integrated MPEG-2 set-top-box decoder which includes the hardware extensions demultiplexers with integrated DVB descramblers, a PAL/NTSC/SECAM digital video encoder and a display controller, which overlays up to four layers of graphic data. A specially designed, shared SDRAM memory interface for the CPU and MPEG decoder connects to a single SDRAM device using either a 16 or 32-bit data bus depending on customer bandwidth requirements. The included universal processor interface allows simple connection to FLASH, hard disk drives (IDE), Common Interface and other asynchronous devices.

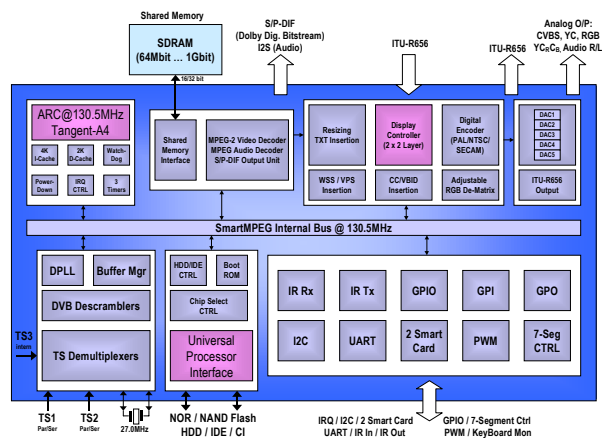
Highlights of the SmartMPEG include an ARC RISC CPU (@130.5MHz), two transport stream demultiplexers with integrated DVB descramblers, a PAL/NTSC/SECAM digital video encoder and a display controller, which overlays up to four layers of graphic data. A specially designed, shared SDRAM memory interface for the CPU and MPEG decoder connects to a single SDRAM device using either a 16 or 32-bit data bus depending on customer bandwidth requirements. The included universal processor interface allows simple connection to FLASH, hard disk drives (IDE), Common Interface and other asynchronous devices.

The **SmartMPEG** is part of Fujitsu's MPEG decoder family, and is the successor to the MB87L2250. The **SmartMPEG** offers several advantages over the MB87L2250, including support for 16/32-bit SDRAM devices up to 128Mbytes, an integrated S/P-DIF interface, DPLL, and internal audio DAC's. This helps to reduce product cost by eliminating the need for external components. The **SmartMPEG** adds also DPLL functionality, SECAM encoding, and two Smart-card interface to former MPEG devices.

To help our customers achieve the shortest possible time-to-market, the **SmartMPEG** comes with the **Fujitsu Driver Application Programming Interface (FAPI)**. FAPI is a complete driver set, allowing fast and efficient customer software design. In addition, FAPI is now the standard programming interface for Fujitsu DVB components, easing migration to future devices.

FEATURES

- MPEG2 video ISO/IEC 13818-2 (MP@ML...SP@ML)
- MPEG audio layer 1/2
- 32-bit RISC CPU (ARC Tangent A4 @130.5MHz)
- 4K I-cache, 2K D-cache
- Three timers / watchdog / power-down mode
- Shared memory interface (SDRAM, 16/32 bit data), 64Mbit...1Gbit
- Universal processor interface (IDE, NAND/NOR FLASH & Common Interface)
- Two transport stream decoders (decoding/recording) including two DVB descrambler
- Flexible MPEG video resizing (factor 1/16 to 2)
- Display controller with up to 4 true colour graphic or CLUT layers (total 6 layers)
- Flexible frame rate conversion (e.g. 50/60Hz)
- Flicker fixer for better on-screen text clarity
- Teletext / WSS / VPS / CC / VBI insertion
- PAL/NTSC/SECAM digital encoder
- RGB De-matrix (RGB or YCrCb output)
- Control of brightness, contrast and colour saturation of RGB and YCrCb output
- 5 video DAC's @10bit for analogue video / audio O/P
- ITU-R 656 video input/output (shared with TS2 input)
- S/P DIF output for PCM/AC3/MPEG
- UART / 2 x Smart Card IF / I2C / GPIO / PWM Output
- 7-segment LED controller for 5 digits / KeyBoard mon.
- Infra Red receiver / transmitter
- On-chip DPLL, requiring only 27.0MHz crystal
- Bootable from NOR Flash or I2CPROM
- FPT-208P-M06 (LQFP-Package)
- Ambient Temperature Range: -40°C to +85°C
- Advanced Technology: Fujitsu CMOS Cx81 (0.18µm)
- 1.8 volt device with 3.3 volt I/O
- Power consumption: typ. 700mW (Standby: 100mW)



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