

STB130x0 A/V Transport/Decoders

Highlights

Complement IBM set-top box (STB) controllers, enabling manufacturers to offer a wider range of products

Support applications incorporating digital video recording on a hard drive or VCR

Simplify the design of applications requiring recording/playing of two independent streams

Help our customers:

- Improve time-to-market
- Reduce software development cycle

Powerful companion chips extend STB capabilities

IBM STB 130x0 digital STB companion chips integrate a transport/demultiplexing function and audio/video decoders on a single chip. An advanced companion chip to be used with members of IBM's family of STB controllers, these devices allow designers to architect a range of emerging applications, including those incorporating digital video recording on an external hard drive.

New members of IBM's family of digital audio/video decoders, these two advanced chips — the IBM STB 13000 and the IBM STB 13010 — feature an integrated transport stream demultiplexer, MPEG-2 video decoder, MPEG-2 audio decoder

and SDRAM interface. The chips can decode MPEG-2 Main Profile at Main Level (MP @ ML) video and MPEG-2 Layer I & II (CD quality) audio. The IBM STB 13010 offers the added ability to decode Dolby® Digital audio*.

By integrating these features on a single chip, the decoders enable complex designs while helping to reduce design time.

Audio/video decoding features support robust designs

IBM STB130x0 decoders deliver the highquality video and sound that consumers expect from advanced digital television applications. Additionally, decoder features support robust designs. For example, a multi-plane on-screen display (OSD) can provide a richer interactive user interface. The on-chip SDRAM memory interface, supporting 4-MB and 8-MB memory configurations, enables more flexible, cost-effective designs. The built-in PLL generates the audio clock for audio and video synchronization.

Used in conjunction with IBM STB controllers, STB 130x0 decoders provide the additional, separately controllable decoder needed to support multifunction STB applications. These include playing one stream on a TV while recording another on a VCR, picture-inpicture support, or playing one stream on a TV while storing another encoded stream on a hard drive.



STB130x0 single-chip decoders enable full-function STB designs.

Specifications	IBM STB130x0**
Technology	0.25-μm CMOS
Supply voltage	3.3 V (supports 3-V and 5-V I/Os)
Power dissipation	1 watt (nominal)
Operating temperature range	0° C to 70° C (ambient)
Package	208-pin, 28-mm PQFP
** Dolby Digital is available only on STB130	010. (Dolby Digital license required.)

Digital audio and video capabilities support high-end applications

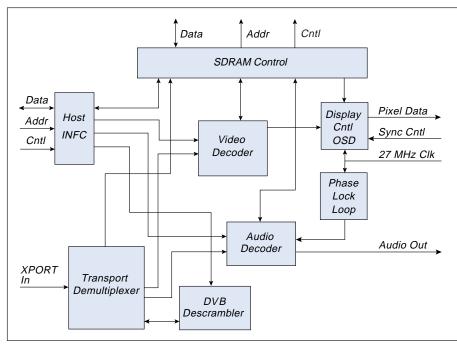
- MPEG-2 transport and DVB descrambler
- MPEG-2 video decoder with on-screen display (OSD); decodes MPEG-2 Main Profile at Main Level (MP @ ML) video
- MPEG-2 audio decoder; decodes
 MPEG-2 Layer I and Layer II (CD quality)
 audio
- Dolby Digital-compliant audio decoding (IBM STB 13010 controller only*)

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IBM STB130x0 block diagram



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