



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 STB130x0 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 STB13000 and the IBM STB13010 — 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 STB13010 offers the added ability to decode Dolby® Digital audio*.

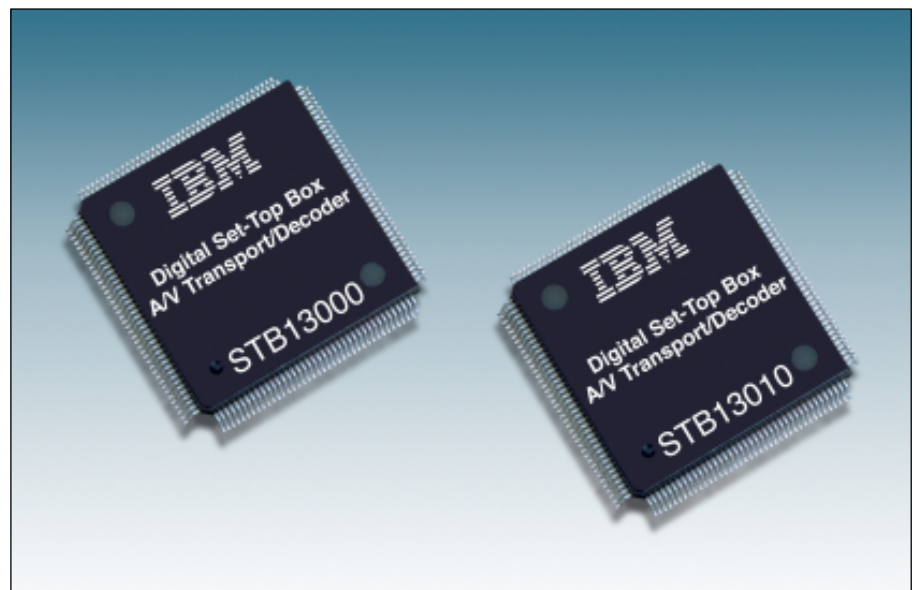
By integrating these features on a single chip, the decoders enable complex designs while helping to reduce design time.

Audio/video decoding features support robust designs

IBM STB130x0 decoders deliver the high-quality 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, STB130x0 decoders provide the additional, separately controllable decoder needed to support multi-function STB applications. These include playing one stream on a TV while recording another on a VCR, picture-in-picture 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.



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Specifications	IBM STB130x0**
Technology	0.25- μ m 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 STB13010. (Dolby Digital license required.)*

Digital audio and video capabilities support high-end applications

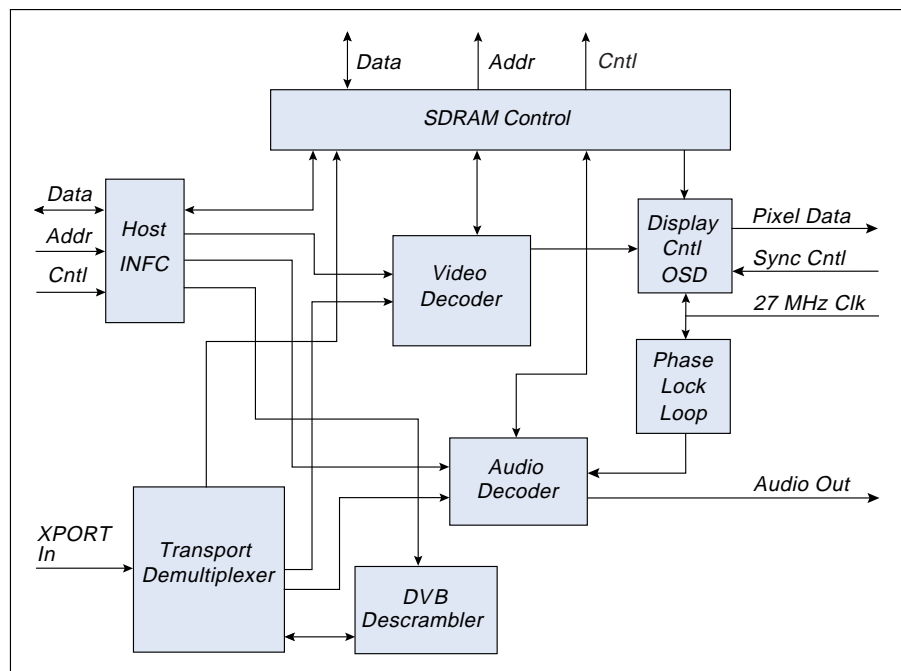
- MPEG-2 transport and DVB descrambler
- MPEG-2 video decoder with on-screen display (OSD); decodes MPEG-2 Main Profile at Main Level (MP @ ML) video
- MPEG-2 audio decoder; decodes MPEG-2 Layer I and Layer II (CD quality) audio
- Dolby Digital-compliant audio decoding (IBM STB13010 controller only*)

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IBM STB130x0 block diagram



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