



MPEG-2 Enhanced IPB Encoder Chip Set

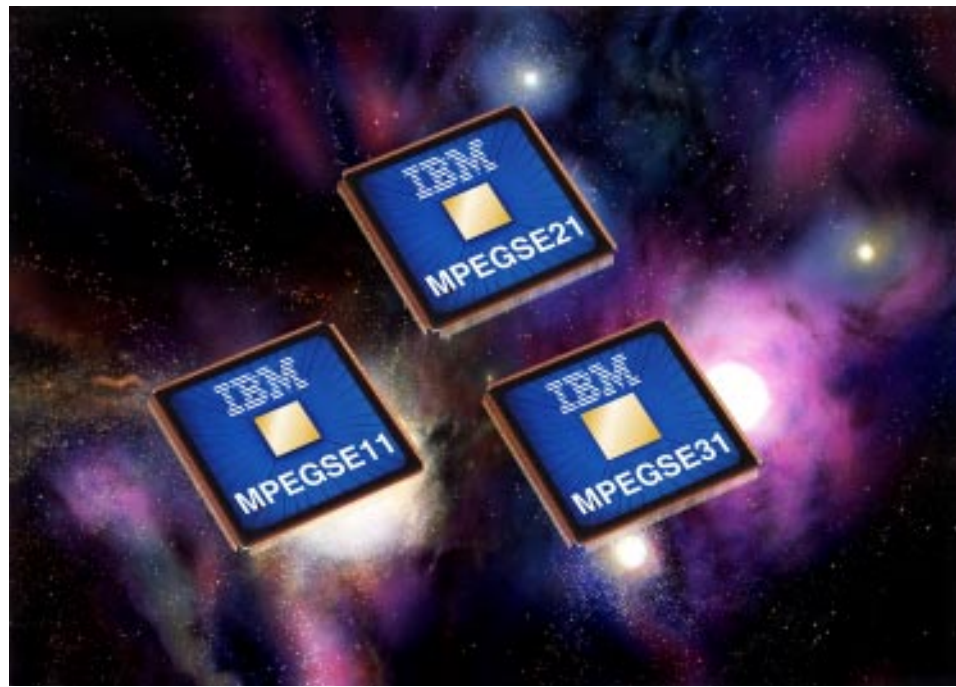
The ME31 Encoder Chip Set provides MPEG-2 encoding of digital video with enhancements to allow for function beyond the MPEG-2 Main Profile at Main Level standard. This high performance MPEG-2 encoder addresses the quality level required by broadcasters for encoding data up to 50 Mb/s.

Overview:

The ME31 is providing increased performance beyond the existing Encoder Chip Set (ME30) by supporting these features of the 4:2:2 Profile specification:

- 4:2:2 field/frame encoding
- 11 bit intra DC precision
- 50 Mb/s (based on content)
- 32 additional lines of vertical scan for support up to 512 lines (NTSC) and 608 lines (PAL)

The encoder operates in a combination of one to three chips depending upon your application needs. It is comprised of three chips: the SE11, SE21, and SE31. All three chips provide MPEG-2 IPB encoding and operate at a system clock cycle of 62MHz.





Additional Features:

- Maximum Search Size

	Horizontal	Vertical
SE 11,SE21,SE31	±64	±56
SE 11,SE21	±8	±7
- Real-time encoding of 4:2:2 and 4:2:0 chroma format
- Field or frame encoding
- Selectable MPEG-1 or MPEG-2 encoding
- Adaptive field or frame motion estimation
- Adaptive field or frame DCT
- Dual prime motion estimation in IP encoding
- 16- or 24-bits YCbCr input
- Supports host command buffering
- 16-bit generic host interface
- Output compressed data to FIFO
- External FIFO feedback for dynamic rate controls
- Insertion of user data in encoded stream
- User-specifiable quantizer tables
- Optimization of luma and chroma utilizing separate quantizer tables
- Conversion of 4:2:2 chroma format to 4:2:0 chroma format

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Digital Video Products quality is demonstrated by the certification of its quality management system in accordance with the ISO 9001 standard.

IBM Microelectronics Division
1580 Route 52, Bldg. 504
Hopewell Junction, NY
12533-6531

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G522-0197-00

Specifications:

Technology	0.5 micron CMOS process, 4 levels of metal
Memory Management	60 ns DRAM or faster (6.5MB)
	12 ns SRAM or faster (256KB)
Ambient Temperature	0 - 40°C
Nominal Supply Voltage	3.4 Volts ±3%
Power Dissipation	SE11 = 3.0 Watts
	SE21 = 4.8 Watts
	SE31 = 4.8 Watts
Packaging	40 mm ceramic quad flat pack (304 pins)

Note: These chips are not interchangeable with the standard IBM IPB Encoder Chip Set (SE10, SE20, SE30).

Part Numbers:

MPEGME31 (SE 11,SE21,SE31) Three chip set	IBM39 MPEGME31 CFB 16C
MPEGME21 (SE11,SE21) Two chip set	IBM39 MPEGME21 CFB 16C
MPEGSE 11	IBM39 MPEGSE11 CFD 16C
MPEGSE21	IBM39 MPEGSE21 CFB 16C
MPEGSE31	IBM39 MPEGSE31 CFB 16C