

IP-9500

High performance H.264 AVC encoder

Fujitsu Advanced MPEG-4 AVC Technology

High performance over a wide range of encoded data rates providing exceptional video and audio fidelity

- ▶ 4:2:2/4:2:0 Simulcast Capability
- ▶ HD and SD Simulcast Capability
- ▶ Region of Interest Processing - Provides Best Picture Fidelity
- ▶ Low Encode-Decode Latency
- ▶ Non-Degrading 4:2:0 Concatenation Protection (SMPTE Draft RP2050-1 and EG 2050-2)
- ▶ Data Stream Protection with Advanced FEC/ARQ
- ▶ VoIP Full Duplex Communication
- ▶ Auto-sensing Gigabit Ethernet Output with DVB-ASI or DVB-S/S2 Built-in Modulator (option)



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The Fujitsu IP-9500 high performance encoder is field proven by global television networks to provide superior performance over a wide range of encoded data rates, making it highly suitable for applications ranging from low data rate <12Mbps 4:2:0 format News Gathering to high value live events at high data rates >30Mbps in 4:2:2 format. It is also highly suited to IP backhaul where a high degree of protection and fidelity is afforded to high value content. The IP-9500's robust MPEG4 compression technology enables high value HD content to be carried within an existing SD channel. When combined with the optional built-in DVB-S2 modulator provides up to 70% bandwidth savings compared with older MPEG-2 systems.

The IP-9500 high performance encoder utilizes advanced Fujitsu technology to provide industry standard MPEG-4 AVC encoding for real-time transmission of HD/SD content at the highest bandwidth efficiency. Powerful error correction and retransmission technology protect the integrity over IP networks by preventing corruption and loss of data. The IP-9500 provides field proven superior performance and robustness making it perfectly suited for demanding fixed site operations.

IP-9500 provides flexible transmission options using 10T/100T/1G Ethernet for IP connectivity, DVB-ASI or DVB-S/S2 transports. With a low (280ms) encode-decode latency, IP-9500 is well suited for delay-sensitive live-event applications. Standard HD/SD-SDI and HDMI allow quick interconnects with HD/SD devices. A full-duplex VoIP intercom provides interactive communications between encoder and decoder locations.

IP-9500 Specifications		
Video	Input	1 x SDI (HD/SD) 1 x HDMI (HD/SD) 1 x External Sync I/F
	Output	1 x SDI (HD/SD) 1 x HDMI (HD/SD) 1 x NTSC/PAL [HD down-converted]
	Input Format	1080i (59.94 / 50 / 60 Hz) 720p (59.94 / 50 / 60 Hz) 480i (59.94 Hz) 576i (50 Hz)
	Output Resolution/Video Bitrate	[1920 / 1440 / 960] x 1080i - 3 - 33 Mbps* [1280 / 960 / 640] x 720p - 3 - 33 Mbps* 720 x [576i / 480i] - 1.3 - 10 Mbps 352 x 240 / 256 or 384 kbps (VBR) 192 x 192 / 256 or 384 kbps (VBR) 96 x 96 / 192 or 256 kbps (VBR) TS rate adjustment at 1kbps increments
	Color Format	4:2:0 (Non-Degraded) 4:2:2 Chroma Scalable Coding
	Profile	HD SD HP@L4; MP@L4; 422CSC (Proprietary) HP@L3; MP@L3; MP@L1.3; 422CSC
	GOP	Changeable GOP - Scene Change Detection
Audio	Latency Modes	Standard Mode: IP - <1.3 sec; DVB - <1.15 sec Low Latency Mode: IP - <0.5 sec; DVB - <0.3 sec
	Input/Output	SDI Embedded - 4 Pairs Analog Stereo (Balanced) - 1 Pair HDMI - 1 Pair
	Coding	MPEG-1-Layer 2 MPEG2-AAC Pass-thru (SMPTE-302M) Pass-thru (AC-3/ATSC) Pass-thru (AC-3/DVB)
Multiplexing	Quantization Format	Sampling Rate: 48 kHz Quantization: 16 / 20 bit MPEG-2 TTS: 1 - 50Mbps* MPEG-2 TS: 1 - 50Mbps*
	Ancillary Data Transmission	Private PES (SMPTE RDD 11-2007) DID/SDID filtering ATSC Annex F (Closed Caption) Line 21 and 261
Auxiliary Data		RS-232C (pass-thru)
Network Interface	LAN	2 x 10BASE-T / 100BASE-TX / 1000BASE-T MDI / MDI-X AUTO Support
	DVB-ASI (Optional)	2 x Outputs ; 1 x Input
	DVB-S/S2 (Optional)	IF-Band Modulator L-Band Modulator
Encryption		BISS Mode1/E
Error Correction		Pro-MPEG COP3 Fujitsu FEC and ARQ
Streaming Protocols		UDP, RTP, Multicast and Unicast TOS bit setting
Configuration and Control		SNMP v2c Front Panel Control WEB GUI
Voice Intercom		Full Duplex VoIP; G.711 8 kHz Sampling Rate at 64 kbps
Size		1RU x 16.7"W x 13.8"D
Weight		13.2lb (6 kg)
Power Supply		100 - 240 VAC
Power Consumption		Max. 60W (w/o Option)
Operating Temperature		-10° to 55° C
Certifications		UL, CE, FCC, RoHS

* Minimum and Maximum limits will vary based upon system configuration.

