

# 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 EG2050-2)
- ▶ 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)



shaping tomorrow with you

# IP-9500

## High performance H.264 AVC encoder

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 4:2:0 format News Gathering to high value live events at high data rates 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 Technologies 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 protects content integrity over diverse IP networks. The IP-9500 provides field proven superior performance and robustness making it perfectly suited for demanding fixed or mobile 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 - 38 Mbps* [1280 / 960 / 640] x 720p - 3 - 38 Mbps* 720 x [576i / 480i] - 1.3 - 14 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 (SMPTE Draft RP2050-1 / EG2050-2) 4:2:2 Chroma Scalable Coding
Profile	HD SD HP@L4, MP@L4, CSC422 HP@L3, MP@L3, MP@L1.3
GOP	Changeable GOP - Scene Change Detection IBBP, IBP, IPPP and PPPP
Latency modes	Standard Mode: IP - <1.3 sec ASI - <1.15 sec  Low Latency Mode: IP - <0.5 sec ASI - <0.3 sec

\*dependant of system configuration

Audio	
Input / Output	SDI Embedded - 4 Pairs Analog Stereo (Balanced) - 1 Pair HDMI - 1 Pair
Coding	MPEG-1 Layer 2 MPEG-2 AAC Pass-thru (SMPTE-302M) Pass-thru (AC-3/ATSC) Pass-thru (AC-3/DVB)
Quantization Format	Sampling Rate: 48 kHz Quantization: 16 / 20 bit

Multiplexing	
MPEG-2 TS:1	- 50Mbps
MPEG-2 TTS: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 Sensing
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	
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	

For more information, call us at 800-626-4686 or visit us at: <http://us.fujitsu.com/video>

Fujitsu Frontech North America, Inc.

[www.fujitsufrontechna.com](http://www.fujitsufrontechna.com)

25902 Towne Centre Drive, Foothill Ranch, CA. 92610

©2011 Copyright 2011 Fujitsu Frontech North America Inc. All rights reserved. Fujitsu and the Fujitsu logo are registered trademarks. All other trademarks are the property of their respective owners. Statements herein are based on normal operating conditions and are not intended to create any implied warranty of merchantability or fitness for a particular purpose. Fujitsu Frontech North America Inc. reserves the right to modify at any time without notice these statements, our services, products, and their warranty and performance specifications.

**FUJITSU**

shaping tomorrow with you

**Fujitsu Frontech North America**