

PRODUCT MODEL NUMBER: TL-9542A RF ENCODER MODULATOR

4*HDMI/SDI → Digital RF



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PRODUCT OVERVIEW

TL-9542A series products are TRANSLITE GLOBAL's new breakthrough all-in-one devices which integrate encoding (MPEG-2 HD/SD, MPEG-4/AVC H.264 HD/SD) and modulating to convert V/A signals into Digital RF output. It has equipped with 4 HDMI (4 SDI optional) channels input and 1 ASI input and output with 2 ASI ports and 1 IP (4*SPTS or 1 MPTS) output over UDP, RTP/RTSP through data port.

The latency problem has been greatly reduced to achieve an extremely low value from the encoding progress to the decoding terminals. It adopts inner drawer-type structural design which greatly facilitates the change of encoding modules (HDMI/SDI /...) as needed. The signals source could be from satellite receivers, closed-circuit television cameras, Blue-ray players, and antenna etc. Its output signals are to be received by DVB-C TVs or STBs and etc.

FEATURES

- MPEG2 & MPEG4 AVC/H.264 HD/SD video encoding
- Huge video buffer (for SDI interface), free to switch video sources
- MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC, AC3 2.0 (Optional) audio encoding
- Up to 1920*1080@50P/60P (MPEG4 AVC/H.264)
Up to 1920*1080@50I/60I (MPEG2 HD)
- 4* HDMI/SDI input
- 1*ASI input for re-mux; 1*RF input for mix
- Support CC (closed caption) for SDI interface (Optional)
- Simultaneously encoding each channel
more than 10Mbps
- DVB-C/DVB-T/ATSC-T/ISDB-T RF out
- Support EAS control for DVB-C and ATSC--Optional
- Support IP (4 * SPTS or 1 MPTS) output over UDP, RTP/RTSP protocol

- Extremely low latency
- LCN support (Logical Channel Number)
- Excellent modulation quality MER≥42dB
- RF Frequency range 30Mhz~960Mhz
- LCD display, Remote control and firmware
- Web NMS management; Updates via web
- Lowest cost per channel

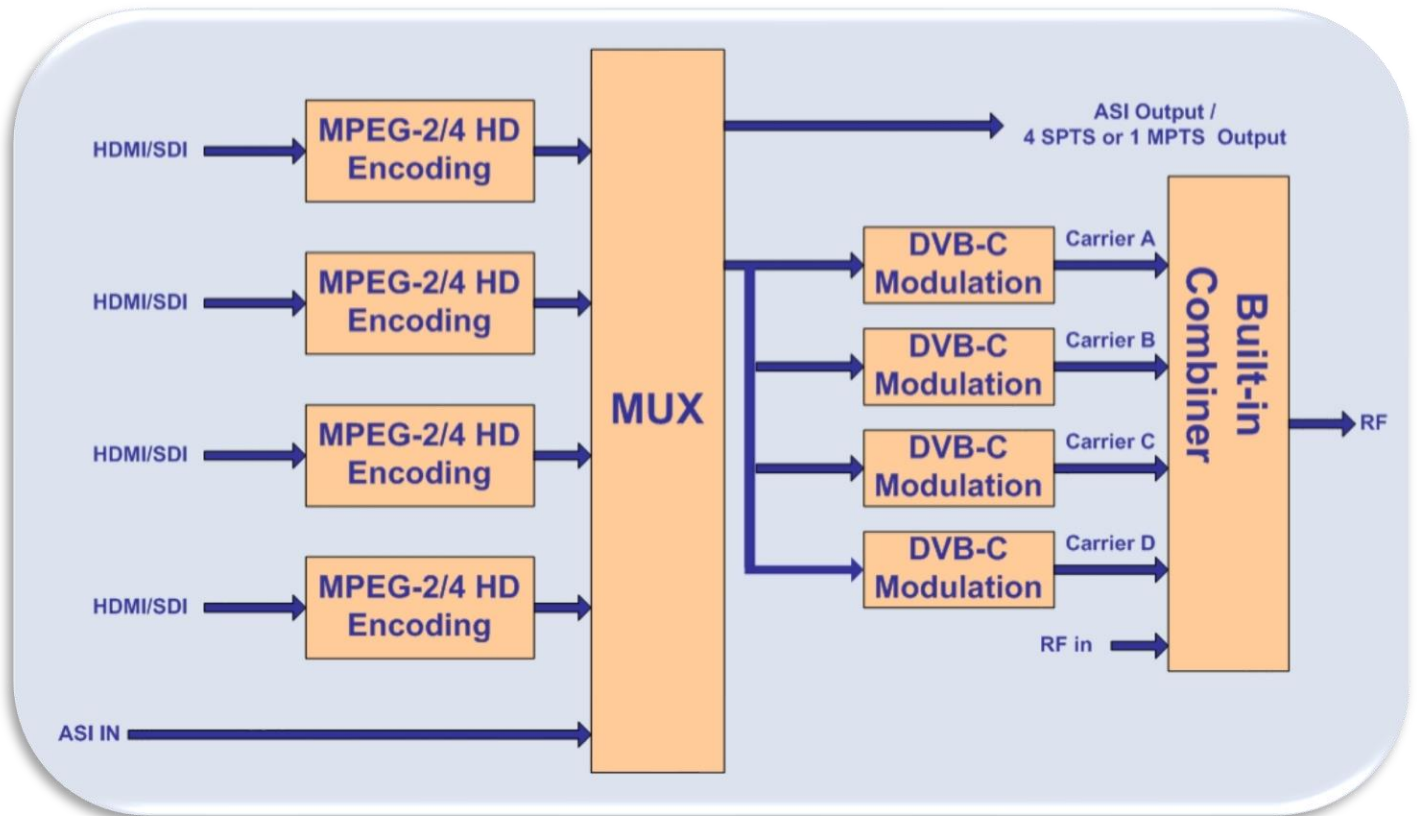
SPECIFICATIONS

Encoding Section - Video	
Encoding	MPEG2, MPEG4 AVC/H.264
Input	HDMI*4 (or SDI*4)
Resolution	1920*1080_60P, 1920*1080_50P, (-for MPEG4 AVC/H.264 only) 1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P 720*480_60i, 720*576_50i
Low delay	Normal, mode 1 mode 2
Encoding Section - Audio	
Encoding	MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC, AC3 2.0 (Optional)
Sample rate	48KHz
Bit rate	64kbps, 96kbps, 128kbps, 192kbps, 256kbps, 320kbps
Functions	PID re-mapping (auto/manually optional) PCR accurate adjusting PSI/SI table automatically generating
Modulator Section – DVB-C	
Standard	J.83A , J.83B, J.83C
MER	≥42dB
RF frequency	4 carriers combined output; 30~960MHz, 1KHz step
RF output level	-30~ -10dbm(77~97 dbμV), 0.1db step
Symbol rate	5.000~9.000Msps adjustable
J.83A	
Constellation	16/32/64/128/256QAM
bandwidth	8M

J.83B	
Constellation	64QAM/ 256QAM
bandwidth	6M
J.83C	
Constellation	64QAM/ 256QAM
bandwidth	6M
Modulator Section – DVB-T	
Standard	EN300744
Bandwidth	6M, 7M, 8M
Constellation	QPSK, 16QAM, 64QAM,
Code rate	1/2, 2/3, 3/4, 5/6, 7/8.
Guard Interval	1/32, 1/16, 1/8, 1/4
Transmission Mode:	2K, 8K
MER	≥42dB
RF frequency	30~960MHz, 1KHz step
RF Out	2 carriers combined output; COFDM DVB-T out
RF output level	-30~ -10dbm (77~97 dBμV), 0.1db step
ATSC	
Standard	ATSC A/53
MER	≥42dB
RF frequency	4 carriers combined output; 30~960MHz, 1KHz step
RF output level	-26~-10dbm (81~97dBμV), 0.1db step
Constellation	8VSB
ISDB-T	
Standard	ARIB STD-B31
Bandwidth	6M
Constellation	DQPSK,QPSK, 16QAM, 64QAM
Guard Interval	1/32, 1/16, 1/8, 1/4
Transmission Mode	2K, 4K, 8K
MER	≥42dB
RF frequency	1/2 carriers combined output; 30~960MHz, 1KHz step
RF output level	-30~ -10dbm (77~97 dBμV), 0.1db step
SYSTEM	
Local interface	LCD + control buttons
Remote management	Web NMS
output	ASI out (BNC type); 1 IP (4*SPTS or 1 MPTS) out over DUP, RTP/RTSP (RJ45, 100M)

NMS interface	RJ45, 100M
Language	English
Local interface	LCD + control buttons
GENERAL	
Power supply	AC 100V~240V
Dimensions	420*400*44mm
Weight	4.5 kgs
Operation temperature	0~45°C

PRINCIPLE CHART



Internal Test Report of Latency
The values cover the progress from Encoding → Decoding

Decoding Terminal	Encoding Details					Average Latency (ms)
	Resolution	Encoding Bit Rate	Low Latency Mode	Signal Source	Encoding Type	
DVB-C HD STB	1080i@50	14M	MODE 1	HDMI	mpeg2	170
					H.264	347.5
				SDI	mpeg2	227.5
			MODE 2	HDMI	H.264	367.5
					mpeg2	222.5
				SDI	mpeg2	240
DVB-C HD STB	720p@50	14M	MODE 1	HDMI	mpeg2	85.75
					H.264	237.5
				SDI	mpeg2	127.5
			MODE 2	HDMI	H.264	295
					mpeg2	182.5
				SDI	mpeg2	167.5
DVB-C HD STB	576i@50	14M	MODE 1	HDMI	mpeg2	310
					H.264	600
				SDI	mpeg2	330
			MODE 2	HDMI	H.264	620
					mpeg2	270
				SDI	mpeg2	280
				H.264	620	

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