EMI3443

12 channels HD SDI Encoder Modulator

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EMI3443 new breakthrough all-in-one devices which integrate encoding (MPEG-2 HD/SD, MPEG-4/AVC H.264 HD/SD) and modulating to convert SDI signals into DVB-T (DVB-C/ISDB-T/ATSC) RF output. Its equipped with 12*HD-SDI with CC inputs, one DVB-C tuner input and maximum 512*IP input through Data1 (GE) port. It also supports DVB-C RF out with 16 non-adjacent carries or DVB-T RF out with 8 non-adjacent carriers and supports 16*MPTS as mirror of 16 carriers or 8*MPTS as mirror of 8 carriers through Data2 (GE) output port.

EMI3443 SDI encoder modulator is a professional high integration device which includes encoding, multiplexing, scrambling and modulating. It provides ultra-high quality video for your contribution workflows, IP as well as the DVB ASI output that meets MPEG-TS stream standard. The product is ideal for a broad range of applications including contribution and distribution.

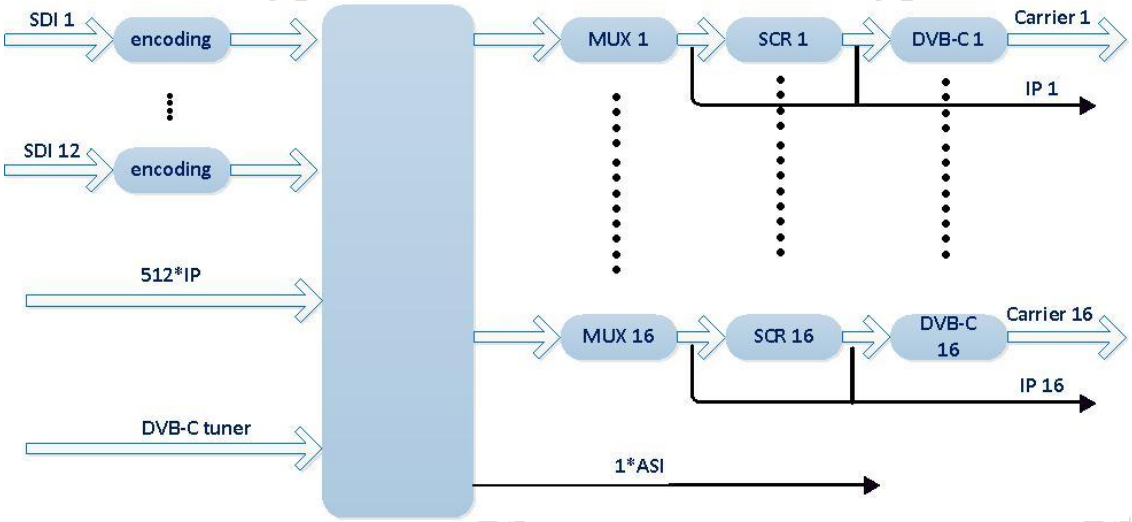
Features

- 12*HD-SDI inputs with MPEG2, MPEG4 AVC/H.264 Encoding
- 1*DVB-C(ATSC optional) tuner input for re-mux
- 16 groups multiplexing/Scrambling/DVB-C modulating
- 8 groups multiplexing/DVB-T/ATSC modulating---Optional
- 6 groups multiplexing/ISDB-T modulating---Optional
- 1 ASI out as mirror of one of RF output carriers---Optional
- 16*MPTS IP (DATA2 port only) output over UDP, RTP/RTSP
- 8*MPTS IP (DATA2 port only) output over UDP, RTP/RTSP-- DVB-T/ATSC RF out
- Support 6*MPTS IP (DATA2 port only) output over UDP, RTP/RTSP-- ISDB-T RF out
- Each carrier out channel process maximum 32*IP from DATA1 input port (UDP&RTP protocol)
- MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC, Dolby Digital AC3 (2.0) encoding (Optional), AC3 (2.0/5.1) passthrough
- Support PID remapping/ accurate PCR adjusting/PSI/SI editing and inserting
- Control via web management, and easy updates via web

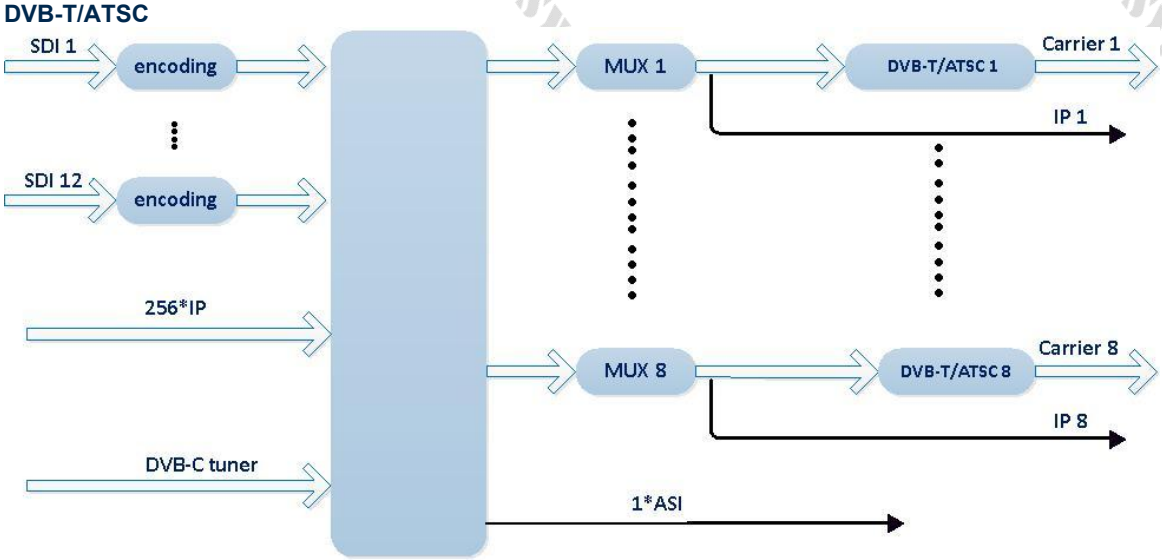
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Principle Chart

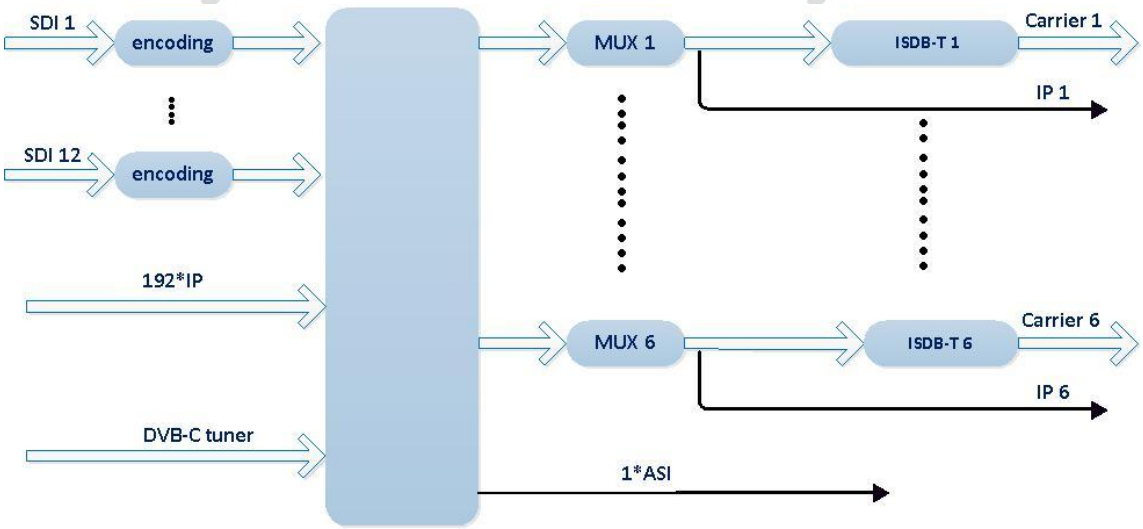
DVB-C



DVB-T/ATSC



ISDB-T



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TECHNICAL SPECIFICATIONS

Input

12*HD-SDI inputs with CC
1*DVB-C (ATSC optional)Tuner for re-mux, F type interface
512*IP input over UDP and RTP, DATA1, RJ45—DVB-C RF out
256*IP input over UDP and RTP, DATA1, RJ45—DVB-T/ATSC RF out
192*IP input over UDP and RTP, DATA1, RJ45—ISDB RF out

Video

Encoding	MPEG2 & MPEG4 AVC/H.264
Bitrate	0.8~19Mbps for H.264 encoding 1~19Mbps for MPEG-2 encoding
Resolution	
Input	1920*1080_60p, 1920*1080_50p, 1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P, 720*480_60i, 720*576_50i
Output	1920*1080_60p, 1920*1080_50p, 1920*1080_60i, 1920*1080_50i, 1440*1080_60i, 1440*1080_50i, 1280*720_60p, 1280*720_50P,720*576_50p, 720*576_50i, 720*576_30p, 720*576_25p, 720*480_60p, 720*480_60i, 720*480_30p, 720*480_25p,320*240_60p, 320*240_50p, 320*240_30p, 320*240_25p, 320*180_60p, 320*180_50p, 320*180_30p, 320*180_25p, 960*540_50i, 704*576_50i, 704*480_60i, 640*576_50i, 640*480_60i, 544*576_50i, 544*480_60i
Rate Control	VBR/CBR
GOP Structure	GOP B Frame: 0-3, GOP P Frame: 0-6
Advanced Pretreatment	De-interlacing, noise reduction

Audio

Encoding	MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC, Dolby Digital AC3 (2.0) encoding (Optional), AC3 (2.0/5.1) passthrough
Sample rate	48KHz
Bitrate	64Kbps-320kbps each channel

Multiplexing

Maximum PID	
Remapping	256 input per channel
Function	PID remapping (automatically or manually) Accurate PCR adjusting Generate PSI/ SI table automatically

Scrambling

Max simulcrypt CA	4
Standard	ETR289, ETSI 101197, ETSI 103197
Connection	Local/remote connection

Modulation

DVB-T

Standard	EN300744
FFT mode	2K, 4k, 8K
Bandwidth	6M, 7M, 8M
Constellation	QPSK, 16QAM, 64QAM
GI(Guard Interval)	1/4/, 1/8, 1/16, 1/32
FEC code	1/2, 2/3, 3/4, 5/6, 7/8
MER	≥42dB
RF OUT	8 non-adjacent carriers output (maximum bandwidth 192MHz)
RF frequency	50~960MHz, 1KHz step
RF output level	-20~+10 dBm, 0.1db step

DVB-C

J83.A (DVB-C)

Constellation	16/32/64/128/ 256 QAM
Bandwidth	8Mhz

J83.B;J83.C

Constellation	64QAM, 256QAM
Bandwidth	6Mhz
Standard	EN300 429/ITU-T J.83A/B
Symbol rate	5.0Msps~7.0Msps, 1ksps stepping
MER	≥40dB
RF OUT	16 non-adjacent carriers output (maximum bandwidth 192MHz)
RF frequency	50~960MHz, 1KHz step
RF output level	-20~ -+10dbm, 0.1db step

ISDB-T

Standard	ARIB STD-B31
Bandwidth	6Mhz
MER	≥40dB
RF OUT	6 non-adjacent carriers output (maximum bandwidth 192MHz)
Constellation	QPSK, 16QAM, 64QAM
Guard Interval	1/32, 1/16, 1/8, 1/4
FFT Mode	2K, 4K, 8K
FEC (Code Rate)	1/2, 2/3, 3/4, 5/6, 7/8
RF frequency	50~960MHz, 1KHz step
RF output level	-20dBm~+10dBm, 0.1dB stepping

ATSC

Standard	ATSC A/53
MER	≥40dB
Constellation	8VSB
RF OUT	8 non-adjacent carriers output (maximum bandwidth 192MHz)
RF frequency	50 ~ 960MHz, 1KHz step
FEC	RS(208 188)+Trellis
ACL	-55 dBc
RF output level	-20~+10dbm (for all carriers), 0.5db stepping

Stream output

1*ASI output as mirror of one of RF output carriers-Optional

16*MPTS output over UDP and RTP/RTSP as mirror of 16 DVB-C carriers,

8*MPTS output over UDP and RTP/RTSP as mirror of 8 DVB-T/ATSC carriers(Optional)

6*MPTS output over UDP and RTP/RTSP as mirror of 6 ISDB-T carriers(Optional)

1*1000M Base-T Ethernet interface

Control

Management	Web/NMS
upgrade	Ethernet software upgrade
Language	English, Chinese

Environment

Power requirement	AC 110V± 10%, 50/60Hz, AC 220 ± 10%, 50/60Hz
Temperature	0~45℃ (Operation), -20~80℃ (Storage)
Dimensions	482mm × 440mm × 44mm

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