

## MD3411S

HD/SD Encoder

HDMI / SDI / 1080i HD / H264 / MPEG2

HD / SD / 1-SEG



English

## MD3411S

It is an advanced professional platform for ISDB-Tb applications in studio TV station, cable, satellite, IPTV, and terrestrial signals with high quality MPEG-2 and H.264 encoding.

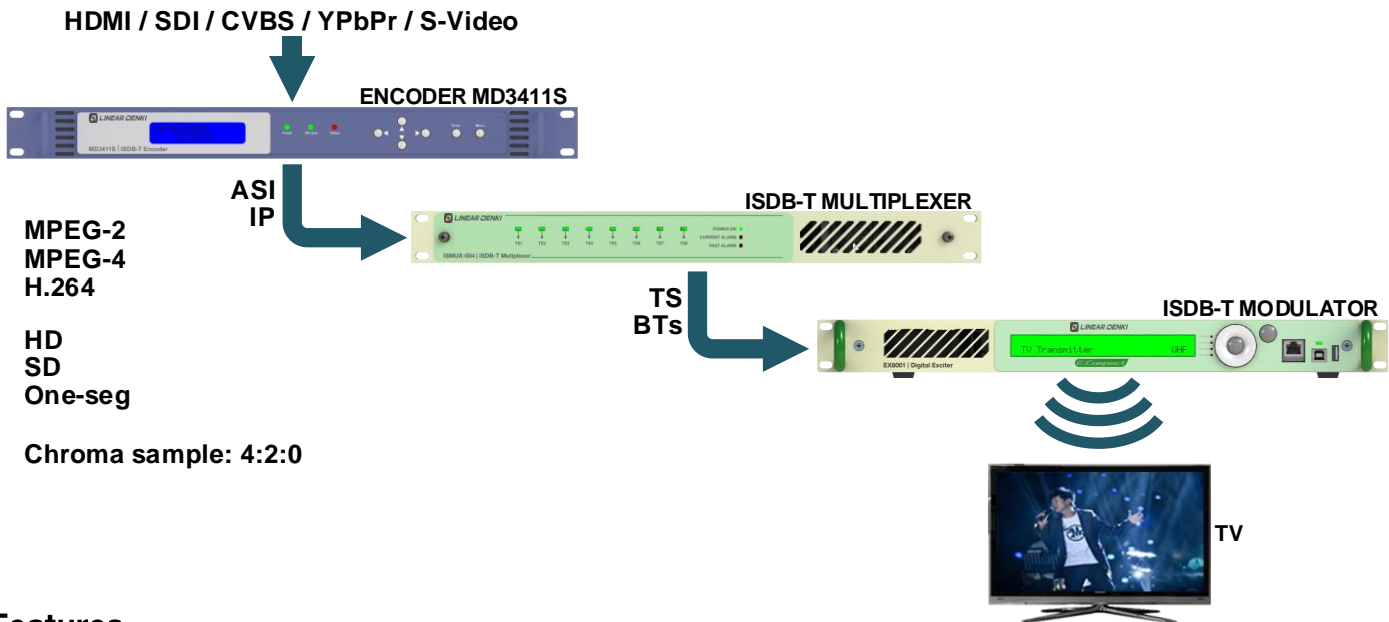
Supports encoding of input interfaces in HDMI, SDI, CVBS, YPbPr and CVBS standards and with high-resolution and high-framerate ASI and IP outputs simultaneously with low-resolution standards such as PIP (Picture-in-picture) and ISDB-T One-seg.

## Applications

Headend system for digital TV and IPTV;

Audio and video over IP peer-to-peer;

Remote live re-broadcasts and real-time broadcasting;



## Features

Two AC-DC converters: Operation with energy redundancy;

MPEG-2 MP@ML4:2:0 and MPGE-4 AVC 4:2:0 (h.264) video encoding;

ASIC technology. Recommended video bitrate:

SD ~ 1.2 Mbps  
720p ~ 2 Mbps  
1080i ~ 6 a 8 Mbps

HDMI 1.3A interface with auto input detection and resolution;

Supports SDI, HD-SDI, HD-MI, CVBS and YPbPr encoders;

Advanced cascading multiplexing and multiservice capabilities via DVB-ASI input (OPTIONAL);

Low resolution channels for applications such as Picture-in-picture (PIP) and ISDB-T One-seg;

Audio sampling rates: 44.1 kHz, 32 kHz and 48 kHz;

MPEG-1 Layer II audio encoding, MPEG-2 AAC-LC, MPEG-4 AAC-LC, MPEG-2 HE-AAC, MPEG-4 HE-AAC audio encoders;

Supports unicast and multicast IP outputs with UDP protocol as well as two identical ASI outputs;

Management via WEB Server or via the front panel of the equipment;

Supports resolutions:  
1080i@50/59.94/60fps  
720p@50/59.94/60fps  
480i  
576i

Conforms to 2 simultaneous stream output standards for One-sec and Full-sec;

Built-in time base correction and video pre-processing;

Standard cabinet 19", 1RU high. Low energy consumption;

## Technical Features

### Video input

<b>1xCVBS</b>	PAL, NTSC, BNC Unbalanced 75Ω BNC connector
<b>1xSDI</b>	HD-SDI (SMPTE 292M) Unbalanced 75Ω BNC connector
<b>HDMI</b>	HD-MI 1.3a
<b>1xYPbPr</b>	YPbPr – component video interface Unbalanced 75Ω BNC connector

### Audio input

<b>Analog</b>	Stereo analog audio balanced XLR connectors
<b>HDMI/SDI</b>	Embedded audio

### Stream Output

<b>DVB</b>	2 identical ASI outputs In 50083-9 ASI standard BNC / 75Ω
<b>IP</b>	100/1000M Base-T Ethernet <sup>1</sup> UDP/RTP Supports Unicast/Multicast
<b>Format</b>	188 / 204 bytes per UDP packet
<b>Bitrate</b>	0,25-20 Mbps

### One-seg / PIP video

<b>PAL</b>	352x288i 320x240i 320x180i
<b>Resolution</b>	176x144i 160x120i 160x90i @ 50 Hz
<b>NTSC</b>	352x288i 320x240i 320x180i
<b>Resolution</b>	176x144i 160x120i 160x90i @ 50 Hz
<b>Encoder</b>	MPEG-2; H.264; (Automatically follows main stream format)
<b>Aspect Ratio</b>	4:3; 16:9; (Automatically follows main stream format)
<b>Video PID</b>	32 – 8190
<b>Audio PID</b>	Follows the same format as the audio PID
<b>Frame Rates</b>	50 fps, 59.9 fps

### Full-Seg video

<b>Video</b>	MPEG-2 / H.264 MP@ML 4:2:0 1920x1080i @60/50 fps 1280x720p @60/50 fps 720x780i @60 fps 720x576i @050 fps
<b>Resolution</b>	
<b>Bit rate mode</b>	VBR, CBR
<b>GOP</b>	IBBP, IPPP, IBP, IBrBBP
<b>In MPEG-2 encoder only supports SD output</b>	

### Notes:

<sup>1</sup> Ethernet is a trademark of Xerox Corporation.

## KOKUSAI DENKI Electric Linear S/A

Avenida Frederico de Paula Cunha, 1001 – Maristela  
Santa Rita do Sapucaí – MG – Brasil – CEP: 37536-162  
Telephone: +55(35) 3473-3473  
www.lineardenki.com.br  
www.kokusai-denki.com.br

©Copyright 2025 KOKUSAI DENKI Electric Linear S/A. All rights reserved.

The Linear Denki brand and the products mentioned in this document are registered trademarks and the exclusive property of KOKUSAI DENKI Electric Linear S/A. Product specifications are subject to change without notice. The images shown are for illustrative purposes only.

REV03 – JANUARY/2025

### Audio Encoder

#### 1 pair audio channel processing

<b>Sampling rate</b>	48 kHz, 44,1 kHz, 32 kHz
<b>Bit rate</b>	64, 128, 192, 256, 320, 384 (kbps)
<b>Audio encoding</b>	MPEG-1 Layer II, MPEG-2 AAC-LC, MPEG-4 AAC-LC, MPEG-2 HE-AAC, MPEG-4 HE-AAC
<b>Quantization</b>	24 bits
<b>Audio gain</b>	0, ±6 dB, ±12 dB

### Data Processing

<b>PSI/SI Edition</b>	PMT PID, Video Audio, PCR PID, Service ID Program Name, Service Provider TS id PCR Interval
-----------------------	---

### Management

<b>Interface</b>	1x RJ-45, 10/100 Base-T, for equipment IP Control
<b>Remote</b>	Web management
<b>Local</b>	LCD display e keypad

### DVB-ASI input (OPTIONAL)

<b>DVB-ASI</b>	Advanced cascading multiplexing and multiservice capabilities via DVB-ASI input
----------------	---

### Electrical Features

<b>AC power</b>	100–250 VAC
<b>AC Frequency</b>	50 / 60 Hz
<b>Typical consumption</b>	20 W

### Mechanical Features

<b>Cabinet standard 19"</b>	1 RU
<b>Dimensions (Height x Width x Length)</b>	44 x 482 x 350 (mm) 1RU x 19 x 13,77 in
<b>Weight</b>	3,8 Kg / 8,37 lb

### Operating Environment Features

<b>Operating Altitude</b>	Up to 2500 meters above sea level
<b>Environment Temperature</b>	-10 °C to +50 °C 14 °F to 122 °F
<b>Relative humidity</b>	5 to 95% non-condensing