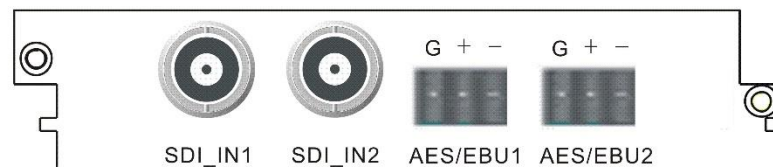


MPEG-2/H.264 Digital Encoding Card (C130DS)

User Guide



1. Product Introduction

This is the operation guide for C130DS card, which can realize 2 digital program encoding. This card can support digital MPEG-2/H.246 video encoding and MPEG-1 Layer II, AC-3, AAC-LC, HE-AAC audio encoding.

- SDI_IN1: the first digital video and embedded audio input.
- SDI_IN2: the second digital video and embedded audio input.
- AES/EBU1: the first digital stereo audio input.
- AES/EBU2: the second digital stereo audio input.

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2. Web Management Configuration



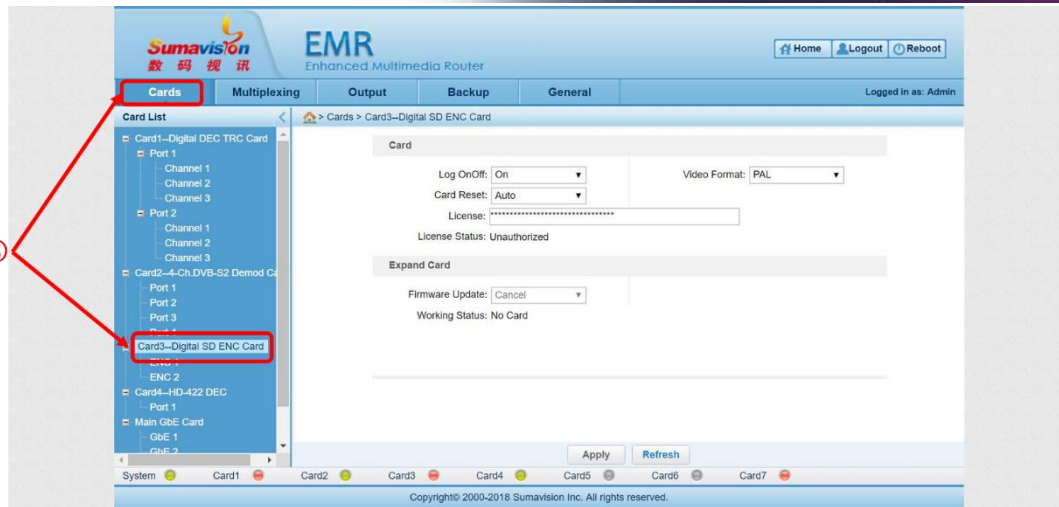
Step①: Open the web browser (e.g. IE 8 or above, Firefox, Chrome recommended), enter IP address of EMR 3.0 (check it from the front panel by pressing the button near the LCD display about 4 seconds) in the address bar, then type in a valid username and password to login.

Default username and password are as follows:

Username: Admin

Password: sumavisionrd

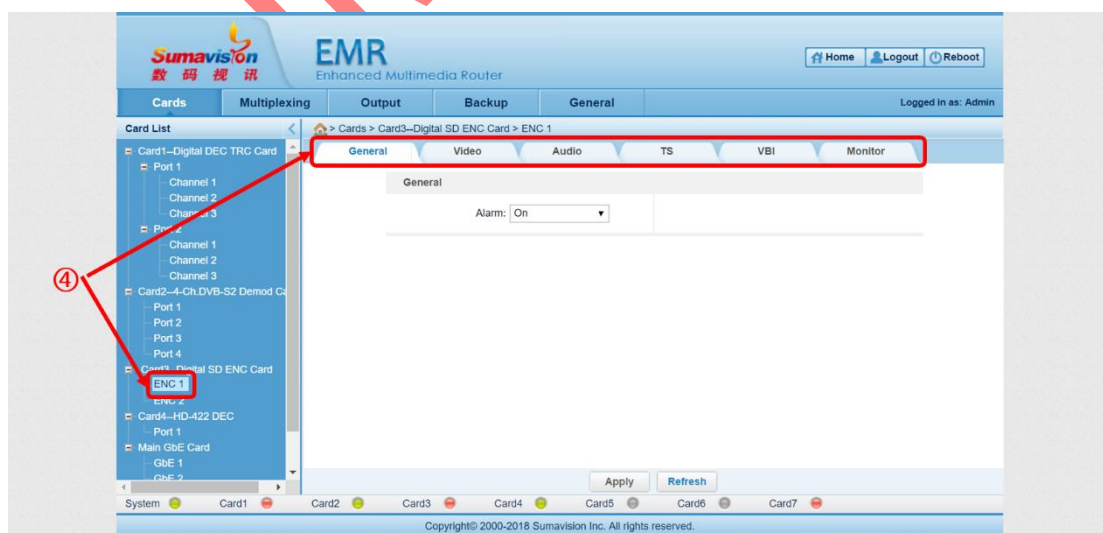
Step②: Choose a language, for example [**English**];



Step③: Click [Cards] to get the card list of EMR 3.0, choose [Digital SD ENC Card].

- Turn on [Log OnOff] to enable normal working.
- Choose [Video Format], PAL or NTSC.
- Choose [Card Reset], cancel, reset or auto. Auto is recommended.
- License needs authorization.

After that, please press “” to save.



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Step④: Take the first channel as example, click the [ENC 1] and the subtitles are as follows, including [general], [Video], [Audio], [TS], [VBI] and [Monitor].

Video	
On/Off:	On
Error Handle:	Color Bar
Down Scaling On/Off:	Off
Scale Method:	LetterBox
Encoding Type:	MPEG-2
H264 Profile:	Main
Resolution:	D1
Bitrate(bps):	4200000
GOP Structure:	Auto
GOP Size:	12
GOP Type:	Open GOP
Aspect Ratio:	4:3
Field Order:	Top Field First
IDR Frequency:	No IDR
Entropy Coding:	CAVLC

Step⑤: [Video]

- Keep the status of [On/Off] on to enable video encoding.
- Choose [Error Bar], color bar, black screen, no output, freeze. Color bar is recommended.
- Turn off the [Down Scaling On/Off].
- Choose [Scale Method], letterbox or full screen.
- Choose [Encoding Format], H.264 or MPEG-2 based on the demands of customers.
- Choose [H264 Profile], main or high. Main is recommended.
- Choose [Resolution], based on the actual situation. D1(704x576, 720x576) is fairly common.
- Type in a value on [Bitrate (bps)], around 4200000 is recommended, especially for CBR bitrate mode.

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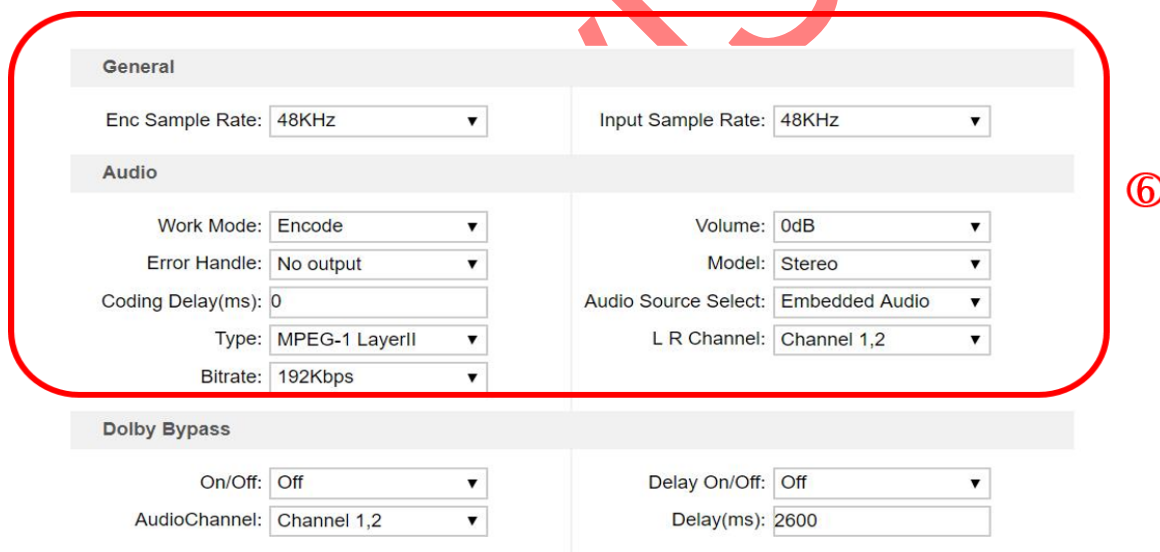
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- Choose [**GOP Structure**], IBBP is recommended.
- Type in [**GOP Size**], 12 is recommended.
- Choose [**GOP Type**], open GOP or closed GOP. Open GOP is recommended.
- Choose [**Aspect Ratio**], based on the actual situation.
- Choose [**Flie Order**], top flie first or bottom flie first.
- Choose [**IDR Frequency**], no IDR, one IDR every one I-frame, one IDR every two I-frames or one IDR every three I-frames.
- Choose [**Entropy Coding**], CAVLC or CABAC, based on the actual situation.

A screenshot of a software interface for audio settings, enclosed in a red rounded rectangle. The interface is divided into three sections: "General", "Audio", and "Dolby Bypass". The "General" section has two dropdown menus for "Enc Sample Rate" and "Input Sample Rate", both set to "48KHz". The "Audio" section contains several controls: "Work Mode" (Encode), "Error Handle" (No output), "Coding Delay(ms)" (0), "Type" (MPEG-1 LayerII), "Bitrate" (192Kbps), "Volume" (0dB), "Model" (Stereo), "Audio Source Select" (Embedded Audio), and "L R Channel" (Channel 1,2). The "Dolby Bypass" section has "On/Off" (Off), "AudioChannel" (Channel 1,2), "Delay On/Off" (Off), and "Delay(ms)" (2600). A red watermark "SUMAVISION" is overlaid on the right side of the screenshot, and a circled number "6" is in the bottom right corner of the red box.

Step⑥: [Audio]

- Choose [**Enc Sample Rate**] and [**Input Sample Rate**], 32KHz, 44.1KHz or 48KHz.
- Keep the status of [**Work Mode**] as encode.
- Type in a value of [**Coding Delay(ms)**], based on the actual situation.

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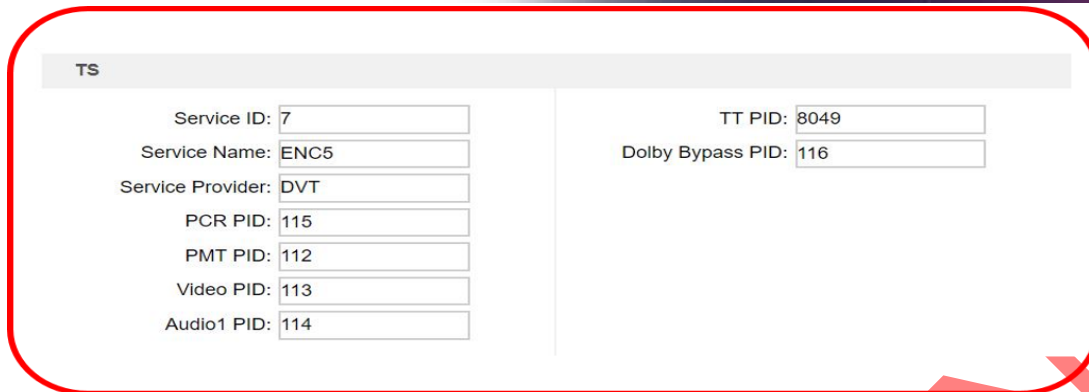
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- Choose audio encoding [**Type**], MPEG-1 Layer II, AAC-LC, HEAAC-V1 or HEAAC-V2.
- Choose [**Bitrate**] for audio bitrate. 192Kbps is recommended.
- Choose [**Volume**] for output gain.
- Choose [**Model**], stereo is fairly common.
- Choose [**Audio Source Select**], embedded audio or digital audio, based on the actual situation.
- Choose [**L R Channel**] based on the actual situation.

General	
Enc Sample Rate: 48KHz	Input Sample Rate: 48KHz
Audio	
Work Mode: Encode	Volume: 0dB
Error Handle: No output	Model: Stereo
Coding Delay(ms): 0	Audio Source Select: Embedded Audio
Type: MPEG-1 LayerII	L R Channel: Channel 1,2
Bitrate: 192Kbps	
Dolby Bypass	
On/Off: Off	Delay On/Off: Off
AudioChannel: Channel 1,2	Delay(ms): 2600

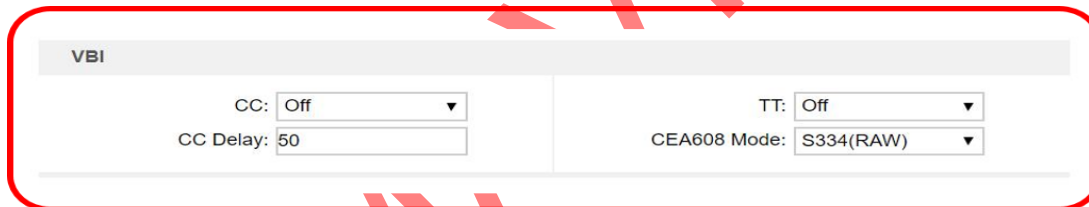
Step⑦: [Dolby Bypass]

- Choose the switch [**on/off**], on or off, based on the actual demands.
- Choose [**Audio Channel**] based on the actual situation.
- Choose the [**Delay On/Off**], on or off.
- Type in a value of [**Delay(ms)**] from 100 to 6000 based on the actual situation.

A screenshot of a "TS" (Transport-Streaming) configuration form. The form is enclosed in a red rounded rectangle. It contains two columns of input fields. The left column includes: Service ID (7), Service Name (ENC5), Service Provider (DVT), PCR PID (115), PMT PID (112), Video PID (113), and Audio1 PID (114). The right column includes: TT PID (8049) and Dolby Bypass PID (116). A red circled number "8" is positioned to the right of the form. A large, semi-transparent red watermark "SUMAVISION" is overlaid diagonally across the page.

Step⑧: [TS]

According to the operation of multiplexing, make some relevant edit of Transport-Streaming. Type in [Service ID], [Service Name], [Service Provider], and PID for PCR, PMT, Video, Audio, TT and Dolby Bypass.

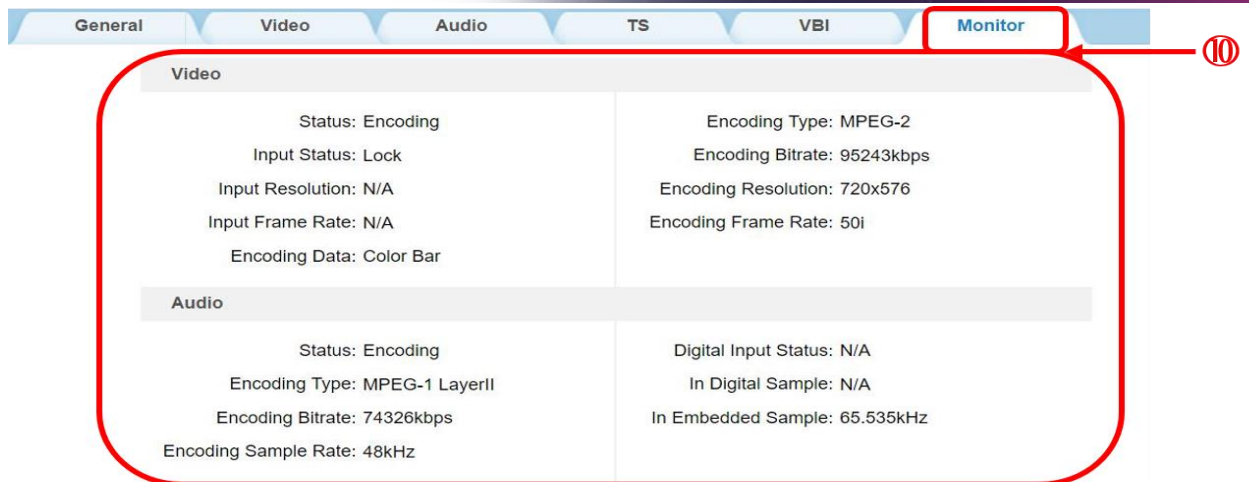
A screenshot of a "VBI" (Vertical Blanking Interval) configuration form. The form is enclosed in a red rounded rectangle. It contains two columns of controls. The left column includes: CC (Off) and CC Delay (50). The right column includes: TT (Off) and CEA608 Mode (S334(RAW)). A red circled number "9" is positioned to the right of the form. A large, semi-transparent red watermark "SUMAVISION" is overlaid diagonally across the page.

Step⑨: [VBI]

When CC or TT function is needed, please switch it on. And also you can type in a value of [CC Delay] based on the actual situation.

Note: CC and TT can not be switched on at the same time.

When all the settings finished, press [Apply] at the bottom of the page to save.



Step⑩: [Monitor] (Advanced function)

Support video and audio monitor function, which could keep the encoding processing normal. Provide various monitor modes including encoding type, encoding bitrate, resolution, encoding frame rate and so on.

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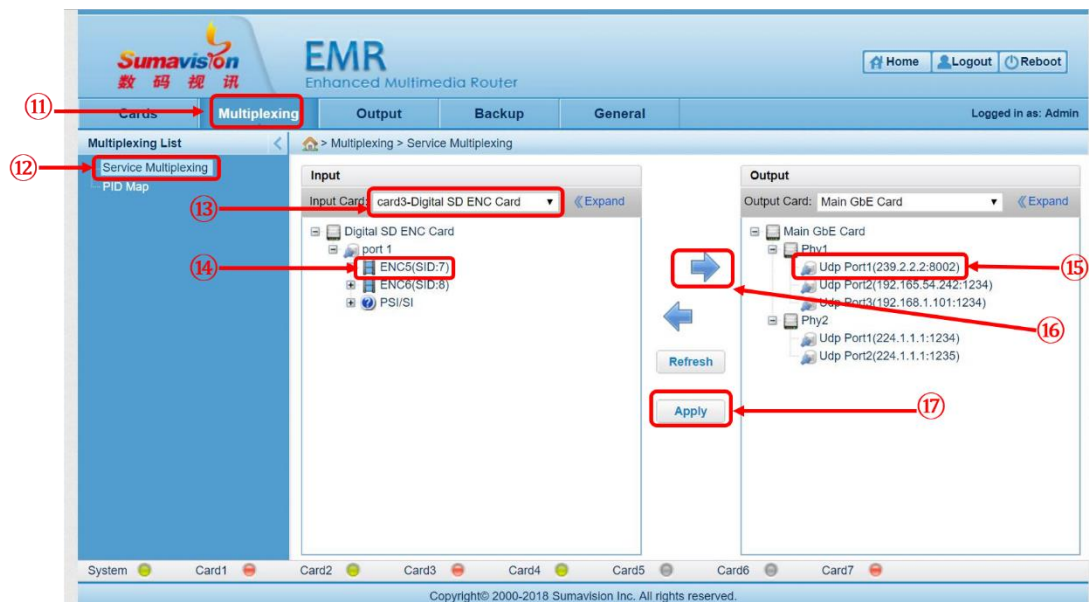
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3. Program Multiplexing



Step①①: Press [**Multiplexing**].

Step①②: Press [**Service Multiplexing**].

Step①③: Choose the encoding card.

Step①④: Choose the encoding program.

Step①⑤: Choose the output port.

Step①⑥: Click "➡" to multiplex the program to output.

Step①⑦: Click [**Apply**] to save.

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