

Single-Channel MPEG-2 SD Encoder SCE-2100

User Manual



Contents

1 Introduction	1
1.1 Abstract	1
1.2 Main Features	1
1.3 Panel Design	1
1.3.1 Front Panel	1
1.3.2 Rear Panel	2
2 Power up	
3 Front Panel Control	4
3.1 Control Method	4
3.2 Menu Overview	5
3.3 Video Setting	6
3.4 Audio Setting	7
3.5 System Setting	8
3.6 TS IP Setting	9
3.7 Host IP Setting	
3.8 Advanced Setting	
4 Web Control	
4.1 Web Browser Configuration and Log In	
4.1.1 Web Browser Configuration	
4.1.2 Web Log In	
4.2 Video Setting	
4.3 Audio Setting	
4.4 System Setting	
4.5 TS IP Setting	
4.6 Host IP Setting	
4.7 System Information	
4.8 Save Default	
4.9 Load Default	20



4.10 Restore Initial	20
4.11 SW Upgrade	21
5 Head-end Manager Control	22
5.1 Set Up Head-end Manager	22
5.2 Head-end Manager Control	24
5.2.1 System Information	25
5.2.2 Encoder Setting	25
5.2.2.1 System Setting	25
5.2.2.2 Video Setting	26
5.2.2.3 Audio Setting	26
5.2.3 IP Setting	28
6 Technical Specifications	29
6.1 Video Encoding	29
6.2 Audio Encoding	29
6.3 Output	29
6.4 Control	29
6.5 Physical Specifications	



1 Introduction

1.1 Abstract

SCE-2100 is a broadcast-quality MPEG-2 Main Profile@Main Level single-channel SD encoder. 1U rack-mount design, cost-effective, it is capable of analog video audio and digital SDI signals in real-time encoding, compression, and generates the DVB standard TS stream output.

1.2 Main Features

- MPEG-2 standard DVB broadcast-quality digital compression coding
- Analog video and stereo audio input, digital SDI input
- Support MPEG -2 MP@ML 4:2:0 encoding, MPEG Layer I/ II audio encoding
- Bit rate 1.5M-15Mbps
- Support service id and service name modifying, advanced PSI/SI generating
- Network management interface for easy remote management

1.3 Panel Design

1.3.1 Front Panel



- 1) Indicator Light: Indicate the current device status. From left to right:
 - i. Power Light: Green indicates right power status, Red indicates abnormal power status.
 - ii. Kblock Light: Green indicates front panel is unlocked, Red indicates front



panel is locked.

- iii. Encoding Light: Green indicates right encoding status, Red indicates abnormal encoding status.
- 2) LCD Screen: Display the basic configuration & parameters of the device.
- 3) Control Buttons: Including Direction Key, Enter Button and Esc Button.

1.3.2 Rear Panel



- 1. Grounding point
- 2. Power port and switch
- 3. Analog video input interface, CVBS1
- 4. Analog video input interface, CVBS2
- 5. Analog audio input interface
- 6. HD/SD-SDI input interface
- 7. ASI OUT A
- 8. ASI OUT B
- 9. RJ45, TS IP output port
- 10. RJ45, Control port



2 Power up

- The device should be placed horizontally. The grounding equipment should be reliable.
- Fully connected power supplies, sources and other equipment to the device.
- If you want to use the Web page or Head-end Net Manager to control the device, please connect the control port of the device to your network.
- Please check out the standard of power before you power on the device.
- Connect the power then press the switch in the real panel to , you can boot the device.

3 Front Panel Control

3.1 Control Method

Through the HVE-2100 front panel, you can do the following operations:

- Unlock: Continuously press "OK" button twice and "Esc" button twice to unlock the front panel.
- "▲" "▼" : Select parameters to view or configure. Adjust configurable values in editable mode.
- • "◀" "▶": Move the cursor in editable mode. Choose an option in editable
 mode.
- OK: Enter editable mode or navigate to a sub menu.
- ESC: Exit editable mode or go back to a parent menu.

After the device is unlocked, press " \blacktriangle ", " \checkmark " keys to browse the main menu. Press "OK" key to enter the selected sub-menu. Press "OK" key to modify parameters of the selected item.

To choose an option, press " \blacktriangleleft ", " \blacktriangleright " keys to choose the option. Press "OK" key to confirm the modification. Press "ESC" key to cancel the modification. To change the parameter, use " \blacktriangleleft ", " \triangleright " keys to move the cursor and press " \blacktriangle ", " \blacktriangledown " keys to adjust the value. Press "OK" key to confirm the modification. Press "ESC" key to give up the modification.



3.2 Menu Overview



- Video Setting: View or set the video parameters.
- Audio Setting: View or set the audio parameters.
- System Setting: View or set the system parameters.
- ▶ TS/IP Setting: View or set the TS IP output parameters.
- Host IP Setting: View or set the host IP parameters.
- Advanced Setting: View or set the advanced parameters.



3.3 Video Setting



- Video Input: View or select the video input.
- Video Format: View or select the video format.
- ▶ Video Bitrate: View or set the video bitrate.
- ▶ Video Resolution: View or set the video resolution.
- ▶ Video Brightness: View or set the video brightness.
- ▶ Video Contrast: View or set the video contrast.
- ▶ Video Saturation: View or set the video saturation.



• Video Hue: View or set the video hue.

3.4 Audio Setting



- Audio Input: View or select the audio input.
- Audio Volume: View or set the audio volume.
- Sampling Rate: View or select the sampling rate
- Audio Bitrate: View or select the audio bitrate.
- Audio Layer: View or select the audio layer.



• Audio ES Mode: View or select the audio ES mode.

3.5 System Setting



- System Bitrate: View or set the system bitrate.
- Output Mode: View or select the output mode.
- ▶ PMT PID: View or set the PMT PID. Range from 50 to 8190.
- ▶ VID PID: View or set the VID PID. Range from 50 to 8190.
- ▶ AUD PID: View or set the AUD PID. Range from 50 to 8190.
- ▶ PCR PID: View or set the PCR PID. Range from 50 to 8190.



- ▶ TS ID: View or set the TS ID. Range from 1 to 65535.
- Service ID: View or set the TS ID. Range from 1 to 65535.
- Service Name: View the service name. Read only in the front panel.
- ▶ Provider Name: View the provider name. Read only in the front panel.
- ▶ Packet Size: View or select the packet size.

3.6 TS IP Setting



- Stream IP: View or set the stream IP.
- Stream Netmask: View or set the stream netmask.
- Stream Gateway: View or set the stream gateway.
- Stream MAC: View the stream physical address .

Note: To avoid network conflicts, you are not allowed to modify the Stream MAC normally. If you do need to modify the physical address of the stream, please consult the relevant network personnel, and modify under the guidance of them.



• Destination IP: View or set the destination IP address.

Note: Destination IP address not only can be a unicast address but also a multicast address. When it is a unicast address, the IP address of the device and the destination IP address should be in the same IP network segment.

- Destination Port: View or set the destination port.
- ▶ Protocol: View or select the protocol.
- ▶ IGMP: View or select the IGMP.

3.7 Host IP Setting



- Host IP: View or set the host IP Address.
- Host Netmask: View or set the host Netmask.
- ▶ Host Gateway: View or set the host Gateway.
- ▶ Host MAC: View the physical address of the device.

It is a unique value in any network.

Note: To avoid network conflicts, you are not allowed to modify the Host MAC normally. If you do need to modify the device's physical address, please consult the relevant network personnel, and modified under the guidance of them.

• Server Address: View or set the server address.



3.8 Advanced Setting



- Save Default: Save the current configuration as default configuration.
- Load Default: Reload the default configuration which has been saved.
- Restore Initial: Recover to the original configuration which was configured by the manufactory.



4 Web Control

4.1 Web Browser Configuration and Log In

4.1.1 Web Browser Configuration

You can configure the device via Internet.

- Prepare a PC with web browser. IE 8.0 or Firefox6.0 or higher version is recommended.
- ^C Connect PC and the device through network interface.
- Make sure that the IP address of the device and PC are in the same network segment: Click Start, then click Run ..., and input "CMD" in the textbox.

С	C:\Users\Administrator>						

Input **ipconfig**, and press the "Enter" key, you will see:

thernet	adapter	本共	也进	扬									
(Connection	n-s	pe	:if	ic	D	NS	Sı	uff	Fix	×	:	
]]	P Addres	s.										:	202.0.0.134
5	ubnet Ma	sk										:	255.255.255.0
]	P Addres	s.										:	fe80::6e62:6dff:feab:ef69%5
I	efault G	ate	wa	y.								:	202.0.0.1

Tips: 202.0.0.134 is the local IP address of the PC.



Confirm the IP address of the device through the front panel:

Host IP	5-1
192.168.001.070	

Tips: 192.168.001.070 is the local IP address of the device.

As the IP address of the device and PC are not in the same network segment, user needs to modify the device local IP address to make sure that the IP address of the device and PC are in the same network segment (eg. Set the device IP address to be 202.0.0.70). And make sure the IP address is not occupied by other devices, which might cause IP address conflict.

4.1.2 Web Log In

Open the web browser of PC and input the IP address of the device. Click "Enter", then it will display as follows:

	System Information	tion
Video Setting Audio Setting System Setting TS IP Setting Host IP Setting Sys Info	Device Name: Mode Name: Hardware Version: Software Version: IP Address: Status:	Encoder2136 ENCODER 1.1.0 2.2.5 192.168.1.88 Abnormal
<u>Save Default</u> Load Default Restore Initial <u>SW Upgrade</u>		

You can select a menu item from the main menu on the left to view or set the parameters of the device.



Set

4.2 Video Setting

Click Video Setting in the main menu on the left, then you will see as follows:

Video Setting

Video Bitrate:	6500	Kbı	ps
Video Input:	CVBS1	~	
Video Format:	PAL	~	
Video Resolution:	D1	~	
Video Brightness:	50		
Video Contrast:	50		
Video Saturation:	50		
Video Hue:	50		

Set

You can configure the video parameters referring to table 4-1. Click to save the modifications.

Table 4-1 Video parameters

Menu	Range
Video Bitrate	1500Kbps~15000Kbps
	CVBS1
Video Input	CVBS2
	SDI
Video Format	PAL
video romat	NTSC
	D1
Video Desclution	HD1
video Resolution:	SIF
	QSIF
Video Brightness	0~99
Video Contrast	0~99
Video Saturation	0~99



Video Hue

0~99

4.3 Audio Setting

Click **Audio Setting** in the main menu, then you will see as follows:

Audio Setting

Audio Bitrate:	384	✓ Kbp
Audio Input:	Analog	~
Audio Layer:	Layer II	~
Audio Sampling Rate:	48KHz	~
Audio Es Mode:	Stereo	~
Audio Volume:	50	

Set

You can configure the audio parameters referring to table 4-2. Click to save the modifications.

Set

Table	4-2 Audic	Parameters

Menu	Range
	32 Kbps
	64 Kbps
	128 Kbps
Audio Bitrate	192 Kbps
	256 Kbps
	320 Kbps
	384 Kbps
Audio Innut	Analog
Audio input	SDI
Audio Lavor	Layer I
Audio Layei	Layer II



	32
Audio Sampling Rate	44.1
	48
	Stereo
Audio Es Modo	Joint Stereo
Audio Es Mode	Dual Channel
	Single Channel
Audio Volume	0~99

4.4 System Setting

Click **System Setting** in the main menu, then you will see as follows:

System Bitrate:	7500 Kbps
Output Mode	CBR 🗸
PMT PID:	256
PCR PID:	260
VID PID:	260
AUD PID:	258
Service Name:	TV-Channel
Service Provider Name:	TV-Channel
TS ID:	1
Service ID:	1
Packet Size:	188 🗸

You can configure the system parameters referring to table 4-3. Click

Set

to save the modifications.

Table 4-3 System Parameters

Menu	Range
System Bitrate	2000Kbps~99000Kbps
Output Mode	CBR
Output Mode	VBR
PMT PID:	<custom></custom>



PCR PID:	<custom></custom>
VID PID	<custom></custom>
AUD PID	<custom></custom>
Service Name	<custom></custom>
Service Provider Name	<custom></custom>
TS ID	<custom></custom>
Service ID	<custom></custom>
	188
Packet Size	204 FEC OFF
	204 FEC ON

4.5 TS IP Setting

Click **TS IP Setting** in the main menu, then you will see as follows:

TS IP Setting

DHCP:	Disable V	
Stream IP:	192.168.2.88	
Stream Netmask:	255.255.255.0	
Stream Gateway:	192.168.2.1	
Stream MAC Address:	12-34-56-78-80-1	
Protocol:	UDP 🗸	
Destination IP:	226.1.1.1	
Destination Port:	1234	
IGMP:	Disable v	

Set

You can configure the TS IP output parameters referring to table 4-4. Click

Set

to save the modifications.



Menu	Range
DUCD	Disable
DHCP	Enable
Stream IP	<custom></custom>
Stream Netmask	<custom></custom>
Stream Gateway	<custom></custom>
Stream MAC Address	<read only=""></read>
Ductocci	UDP
	RTP
Destination IP	<custom></custom>
Destination Port	<custom></custom>
ICMD	Disable
	Enable

Table 4-4 TS IP Output Parameters

Tips: The destination IP address not only can be a unicast address but also a multicast address. When it is a unicast address, the IP address of the device and the destination IP address should be in the same IP network segment.

4.6 Host IP Setting

Click Host IP Setting in the main menu, then you will see as follows:

Host IP Setting

Host IP:	192.168.1.88
Host Netmask:	255.255.255.0
Host Gateway:	192.168.1.1
Host MAC Address:	12-34-56-78-80-B0
Alarm IP:	192.168.1.255

Set



You can configure the host IP parameters referring to table 4-5. Click

Set

to save the modifications.

Menu	Range
Host IP	<custom></custom>
Host Netmask	<custom></custom>
Host Gateway	<custom></custom>
Host MAC Address	<custom></custom>
Alarm IP	<custom></custom>

Table 4-5	Host IP	Parameters

4.7 System Information

Click **Sys Info** in the main menu, then you will see as follows:

System Information

Device Name:	Encoder2136
Mode Name:	ENCODER
Hardware Version:	1.1.0
Software Version:	2.2.5
IP Address:	192.168.1.88
Status:	Abnormal

You can view the system information.

4.8 Save Default

Click **Save Default** in the main menu, then you will see as follows:





You can save the current configuration as default configuration by clicking

1.1	1.0	
御	定	

4.9 Load Default

Click Load Default in the main menu, then you will see as follows:



You can reload the default configuration which has been saved by clicking

确定

4.10 Restore Initial

Click **Restore Initial** in the main menu, then you will see as follows:





You can restore the initial configuration which was configured by manufactory

by clicking Mac.

4.11 SW Upgrade

Click **SW Upgrade** in the main menu, then you will see as follows:

Select File:			浏览	
--------------	--	--	----	--



5 Head-end Manager Control

5.1 Set Up Head-end Manager

Please open the *Tools* folder on the CD, then click Caton Head-end Manager.EXE to install the software.

		er1.1.6A13	×
		Welcome to Caton Head-End Manager1.1.6A13 Setup p This program will install Caton Head-End Manager1.1.6A your computer.	rogram. 13 on
		It is strongly recommended that you exit all Windows prog before running this Setup Program.	jrams
		Click Cancel to quit Setup and close any programs you h- running. Click Next to continue with the Setup program .	ave
		WARNING: This program is protected by copyright law an international treaties.	nd
	64	Unauthorized reproduction or distribution of this program, portion of it, may result in severe civil and criminal penalti will be prosecuted to the maximum extent possible under	or any es, and law.
		[News]	an cal
			ancer
lick	ton Head-End Manage	νr116Δ13	×
BB Ca	stination Location	a 11.0A15	
Des			
Des	Setup will install Caton Hear	d-End Manager1.1.6A13 in the following folder.	A
Des	Setup will install Caton Hear To install into a different fold	d-End Manager1.1.6A13 in the following folder. Jer, click Browse, and select another folder.	
Des	Setup will install Caton Hear To install into a different fold You can choose not to insta Setup.	d-End Manager1.1.6A13 in the following folder. Jer, click Browse, and select another folder. all Caton Head-End Manager1.1.6A13 by clicking Cancel t	o exit
Des	Setup will install Caton Hear To install into a different fold You can choose not to insta Setup. - Destination Folder	d-End Manager1.1.6A13 in the following folder. der, click Browse, and select another folder. all Caton Head-End Manager1.1.6A13 by clicking Cancel t	o exit
Des	Setup will install Caton Hear To install into a different fold You can choose not to insta Setup. - Destination Folder - C:\Program Files (x86)\Ca	d-End Manager1.1.6A13 in the following folder. der, click Browse, and select another folder. all Caton Head-End Manager1.1.6A13 by clicking Cancel t ton Head-End Manager <u>Browse.</u>	o exit
Des	Setup will install Caton Hear To install into a different fold You can choose not to insta Setup. - Destination Folder - C: \Program Files (x86)\Ca	d-End Manager1.1.6A13 in the following folder. der, click Browse, and select another folder. all Caton Head-End Manager1.1.6A13 by clicking Cancel t ton Head-End Manager <u>Browse.</u>	o exit

Click Browse... to choose destination folder, then click



	强 Caton Head-End Manager1.1.6A13	
	Select Program Manager Group	
	Enter the name of the Program Manager group to add Caton Head-End Man icons to: caton Head-End Manager 360安全中心 Accessories Administrative Tools Addobe caton Head-End Manager Elecard Foxmail Games Google Chrome Head-End Manager	ager1.1.6A13
	Wise Installation Wizard?	
	Wise Installation Wizard?	Cancel
Click	Wise Installation Wizard? < Back	Cancel
Click	Wise Installation Wizard? < <u>Back</u> Next> , then you will see: Caton Head-End Manager1.1.6A13 Start Installation	Cancel
Click	Wise Installation Wizard? < Back	Cancel

<u>N</u>ext>

Cancel

< <u>B</u>ack

Wise Installation Wizard?

, then you will see:

<u>N</u>ext >

Click



SCE-2100 User Manual



Click **Enish** to complete the installation.

5.2 Head-end Manager Control



Double-click one of the encoders in the device tree to open its property tree diagram, then it will show as follows:



Encoder2136	Model Name	ENCODER
1.1.0	Software Version	2.2.5
192.168.1.88	Status	Normal
ters		
	Host IP Parameters	
192.168.2.88	Host IP	192.168.1.88
255 255 255 0	Host NetMask	255 255 255 0
192.168.2.1	Host Gateway	192.168.1.1
12-34-56-78-80-B1	Host MAC Address	12-34-56-78-80-80
UDP	Alarm IP	192 . 168 . 1 . 255
226 . 1 . 1 . 1		
1234		
Disable 💌		
	1.1.0 192.168.1.88 192.168.1.88 192.168.2.88 255.255.255.0 192.168.2.1 192.168.2.1 12.34-56-78-80-81 UDP 226.1.1.1.1 1234	1.1.0 Software Version 192.168.1.88 Status Host IP Parameters 192.168.2.88 Host IP 255.255.255.0 Host NetMask 192.168.2.1 Host Gateway 12:34:56-78-80-B1 Host MAC Address UDP 226.1.1.1.1 1 12:34

5.2.1 System Information

The system information of the device is as follows:

Device Name	Encoder2136	Model Name	ENCODER
Hardware Version	1.1.0	Software Version	2.2.5
IP Address	192 168 1 88	Status	Normal

5.2.2 Encoder Setting

It includes system parameters, video parameters and audio parameters.

5.2.2.1 System Setting

System parameters include basic PIDs, service name, service provider name, TS ID and service ID. Service name and service provider name support up to 40 characters. The system parameters is as follows:



System Parameters				
System Bitrate	6000	Kbps	Output Mode	CBR
PMT PID	51	1	VID PID	52
PCR PID	52]	AUD PID	53
Service Name	TV-Channel]	Service Provider Name	TV-Channel
TS ID	1	1	Service ID	1
Packet Size	188 💌	1		

- System Bitrate: Range from 2000Kbps to 99000Kbps.
- PMT PID: Range from 50 to 8190.
- VID PID: Range from 50 to 8190.
- ▶ PCR PID: Range from 50 to 8190.
- AUD PID: Range from 50 to 8190.
- Service Name: support up to 40 characters.
- Service Provider Name: support up to 40 characters.

5.2.2.2 Video Setting

The video parameters include input, resolution, encode format and bitrate.

The video parameters is as follows:

Video Parameters		227			
Video Bitrate	5500	Kbps	Video Brightness	50	
Video Input	CVBS1	•	Video Contrast	50	
Video Format	PAL	•	Video Saturation	50	
Video Resolution	D1	•	Video Hue	50	

- ▶ Video Bitrate: Range from 1500Kbps to 15000Kbps.
- Video Format: Support PAL and NTSC.
- ▶ Video Resolution: Support D1/HD1/SIF/QSIF.
- Video Brightness: Range from 0 to 99.
- Video Contrast: Range from 0 to 99.
- Video Saturation: Range from 0 to 99.
- Video Hue: Range from 0 to 99.

5.2.2.3 Audio Setting



Audio Parameters	-			-		
Audio Bitrate	384	📕 Kbps	Audio Sampling Rate	48	<u>→</u> K	.Hz
Audio Input	Analog	•	Audio Es Mode	Stereo	•	
Audio Layer	Layer II	•	Audio Volume	50		

- ▶ Audio Bitrate: Support 32/64/128/192/256/320/384 Kbps.
- Audio Input: Support Analog and SDI input.
- Audio Layer: Support MPEG-I Layer I and Layer II.
- Audio Sampling Rate: Support 32/44.1/48KHz.
- Audio ES Mode: Support stereo/joint stereo/dual channel/single channel.
- Audio Volume: Range from 0 to 99.



5.2.3 IP Setting

Stream IP	192.168.2.88	Host IP	192.168.1.88
Stream NetMask	255 255 255 0	Host NetMask	255 255 255 0
Stream Gateway	192 168 2 1	Host Gateway	192.168.1.1
Stream MAC Address	12-34-56-78-80-81	Host MAC Address	12-34-56-78-80-80
Protocol	UDP 💌	Alarm IP	192 168 1 255
Destination IP	226 . 1 . 1 . 1		
Destination Port	1234		
IGMP	Disable		

IP Parameters include TS IP parameters and host IP parameters.

- Note: 1. The host IP, NetMask and Gateway cann't be modified here. Please modify them via the front panel or web control.
 - 2. To avoid network conflicts, you are not allowed to modify the Host MAC Address normally. If you do need to modify the device's physical address, please consult the relevant network personnel, and modified under the guidance of them.



6 Technical Specifications

6.1 Video Encoding

Encode Mode	MPEG-2 MP@MPL
Video Format	NTSC/PAL
Input Mode	CVBS/SDI
Video Resolution	D1、HD1、SIF、QSIF

6.2 Audio Encoding

Encode Mode	MPEG-1 Layer I/II
Sampling Rate	32/44.1/48KHz
Audio Bitrate	32/64/128/192/256/320/384Kbps
Input Mode	Analog/SDI
Audio ES Mode	Stereo/Joint Stereo/Dual Channel/Single Channel

6.3 Output

ASI Output	2 channel ASI TS stream output (1 for back-up)
IP Output	TS Over IP (UDP Protocol), 100/1000M Base-T RJ45
Network Control	Ethernet (10/100M adaptive)
Bitrate	Output: 2-99Mbps
Output Impedance	75 Ohm

6.4 Control

Front Panel	LED Display and Key Button Control
Network	Web UI Management
Software	Professional Integrated Network Management Software





6.5 Physical Specifications

Size	$482 \times 330 \times 44$ mm (1RU)
Weight	4.5kg
Voltage	100V~240V AC, 47~63HZ
Power	<30W
Environment	Temperature 0-55℃, humidity 10%-90%