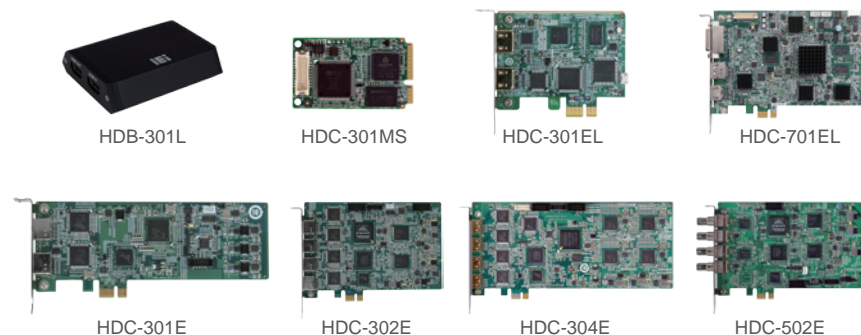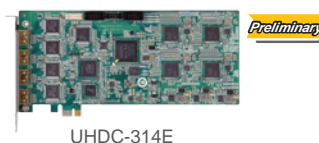# Video Capture Solutions

IEI provides complete video/audio capture solutions to fulfill the demands of various applications. IEI video capture solution includes hardware compression video capture products and uncompressed video capture products. Hardware compression video capture products can encode full HD video in H.264 format or full HD/4K video in HEVC format in real time. Uncompressed video capture products can capture analog and digital video signal, and support resolution from SD to 4K video signal. These products include cards and boxes with a variety of interfaces such as PCIe, PCIe Mini, USB 2.0 and USB 3.0.

Hardware Compression Video Capture Products

■ Full HD H.264 Compression Series

HDB-301L   HDC-301MS   HDC-301EL   HDC-701EL

■ 4K HEVC Compression Series

UHDC-314E

HDC-301E   HDC-302E   HDC-304E   HDC-502E

Uncompressed Video Capture Products

■ 4K   ■ Full HD   ■ SD

HSRC-302E   HDB-301R   IVCME-C604   IVCE-C608   IVC-200G   PM-1056

Video Capture Product Lines

Video Processing	Recording Format	Video Input Channel	Interface					
			PCIe	PCIe Mini	USB 2.0	USB 3.0	PCI	PCI-104
Hardware Compression	H.264 1080p60	1ch HDMI	HDC-301E					
		2ch HDMI	HDC-302E					
		2ch 3G-SDI	HDC-502E					
		4ch HDMI	HDC-304E					
	H.264 1080p30	1ch HDMI	HDC-301EL	HDC-301MS	HDB-301L			
		1ch HDMI/DP/DVI-I/YPbPr/3G-SDI	HDC-701EL					
Software Compression	By software	4ch NTSC/PAL	IVCE-C604	IVCME-C604			IVC-200G-RS	PM-1056
		8ch NTSC/PAL	IVCE-C608					
Uncompressed Video	By software	1ch HDMI				HDB-301R		
		2ch HDMI	HSRC-302E					

Hardware Compression Video Capture Solution

■ Low-power Consumption and High Video Quality

IEI hardware compression video capture cards offer an industry-leading low power consumption at full HD encoding with high picture quality. IEI HDC series products support frame processing of full HD video at 60p (1920*1080) to further improve picture quality and compress video in the H.264 format in real-time. IEI UHDC series products support frame processing of 4K video at 60p (3840*2160) and compress video in HEVC format in real-time.

These products enable recording and streaming video with high quality in the application of video streaming, broadcasting, distance education, operating room and game recording.

■ Compatibility

IEI video capture products are compatible with most of the industrial motherboards and server motherboards. There are a lot of Linux versions in the world. IEI can help to provide correct drivers for you to use IEI video capture products. Furthermore, IEI can offer you the source code to develop your UI and application under specific agreement. IEI's video capture products are the perfect choice to build up your encoder system or solution.

■ High Compression Ratio

HD video/audio media data can occupy huge storage capacity. For example, an uncompressed full HD video with -bitrate of 1920x1080@60 fps (RGB 8-bit color) occupies about 373 MB/s (2.99 Gbps) of storage. With the IEI HDC series capture cards, HD data could be compressed through hardware codec, therefore being beneficial for storage usage, cost saving and transmission bandwidth in various applications.

1920 x 1080 x 3 (R.G.B.) x 60 frame/sec. = 373.248 MByte
Compressed video with encoding -bit rate range from
30 Mbps to 2 Mbps (3.75MB to 0.25MB)

Take 30-minute full HD video recording as an example. The uncompressed video is 671 GB, while the compressed video encoding with 0.25 MB (2 Mbps) -bit rate is only 450 MB.
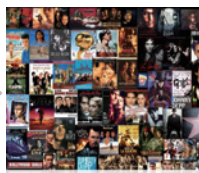
671 GB HDD with uncompressed file
VS
450 MB HDD wiht compressed file

Saving around 99% of movie storage space

	Un-compressed	Compressed			
Encoding Bit Rate	373 MB	0.25 MB (min.)	1 MB	2 MB	3.75 MB (max.)
1 TB HDD Capacity	0.75 hr	1108 hrs	277 hrs	139 hrs	74 hrs
30-minute Full HD Video Recording	671 GB	450 MB	1.8 GB	3.6 GB	6.75 GB

Applications:
H.264 Video Encoder through HDC Series Capture Cards

■ Video on demand (VoD)

◆ Distance Education/Training

An educational model is that the student and the teacher are in locations different from one another while the instruction is taking place. Ideal for this kind of education, the capture cards allow real-time capture or composition of two input sources, typically a live instruction with a powerpoint presentation.

◆ Sport/Game Broadcasting

The broadcasting of sport/game events is the coverage of sports/games as a television program. Spectators can engage in live conversations using broadcasting media. Through HD capture and broadcast, there is no virtually impact on the sport/game performance.

◆ Traffic Broadcasting

The traffic systems now provide more informative and communicative broadcasting program that improve transport outcomes such as transport safety, transport productivity, travel reliability etc. Traffic media in vehicles or transportation is getting popular since wireless environment is getting mature.

Streaming Solution
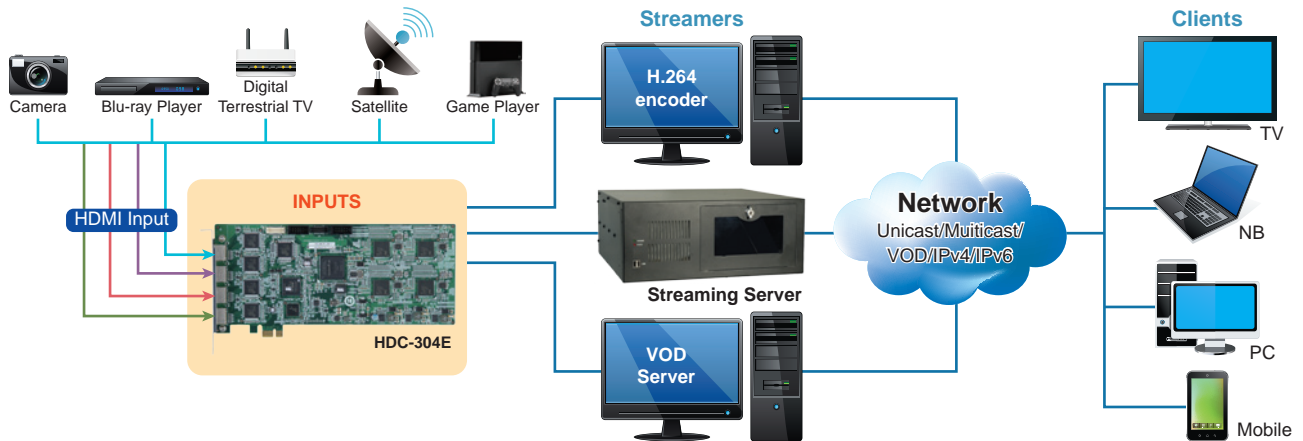
H.264 video encoder can be the part of streaming server system architecture

Streamers

Clients

Camera
Blu-ray Player
Digital Terrestrial TV
Satellite
Game Player

HDMI Input

INPUTS

H.264 encoder

Streaming Server

VOD Server

Network
Unicast/Muiticast/
VOD/IPv4/IPv6

TV

NB

PC

Mobile

HDC-304E

■ Medical HD Video Recording

◆ Endoscopy Surgery

Endoscopy typically refers to looking inside the body for medical reasons using an endoscope. Unlike most other medical imaging devices, endoscopes are inserted directly into the organ or incision. Clear and detailed image is necessary for precise operations.

◆ Ultrasound Scanner

An ultrasound scanner can be used for most imaging purposes. Usually specialty applications may be served only by use of a specialty transducer. Most ultrasound procedures are done using a transducer on the surface of the body, but improved diagnostic confidence is often possible if a transducer can be placed inside the body.
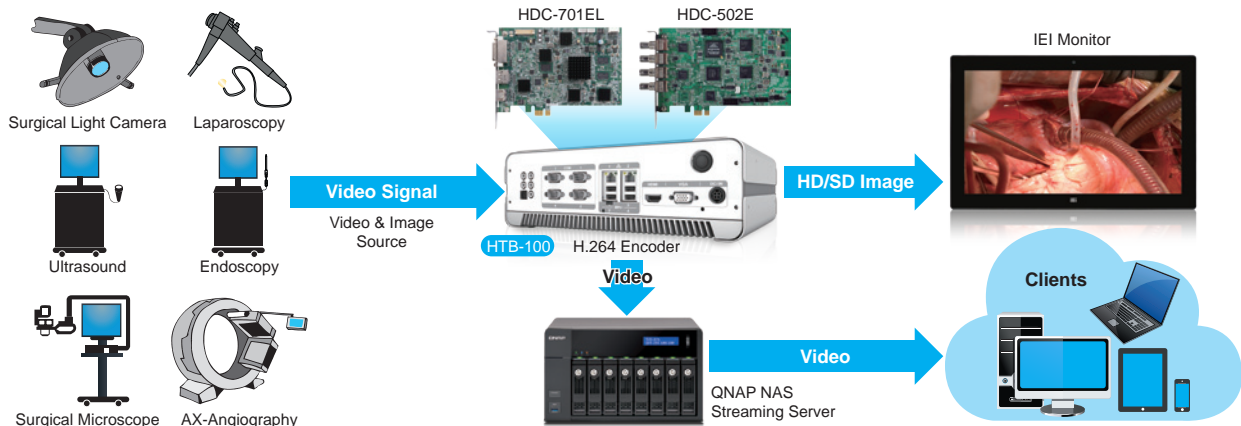
◆ Microscope

Microscope is an instrument used to investigate objects that are too small for the naked eye. Recently, electron microscopic captures and displays the image through electric devices that allow people to see objects in detail.

Medical Video Solutions

H.264 video encoder can be the recording part of medical video system architecture

HDC-701EL   HDC-502E

IEI Monitor

Surgical Light Camera   Laparoscopy

Ultrasound   Endoscopy

Surgical Microscope   AX-Angiography

Video Signal
Video & Image Source

HTB-100   H.264 Encoder

HD/SD Image

Video

QNAP NAS
Streaming Server

Video

Clients

1
Industrial Computing Solutions

2
Video Capture Solutions

3
Industrial Computer Chassis

4
Open Frame Monitor

5
Power Supply/ Peripherals

6
All-in-One System

H.264 Hardware Compression Video Capture Product Selection Guide

1080p30 Full HD

Products	HDC-301MS	HDC-701EL *New*	HDC-301EL	HDB-301L *New*
◆ Input				
Video Input Channel	1 channel			
Video Input Type	HDMI	HDMI/DP/DVI-I/YPbPr/3G-SDI	HDMI	
Audio Input Channel	1 channel			
Audio Input Type	HDMI (stereo)			
◆ No Delay Passthrough				
Video Output Channel	None	1 channel (1080p60)		
Video Output Type	None	HDMI		
Audio Output Channel	None	1 channel		
Audio Output Type	None	HDMI (stereo)		
◆ Pc Interface				
Type	PCIe Mini	PCIe x1	PCIe x1	USB 2.0
◆ Video Processing				
Hardware Encoder	H.264/AVC High Profile Level 4.1			
Recording Datarate	1Mbps ~ 30Mbps			
Video Input Resolution	1920 x 1080 24p/25p/30p/50p/60p 1920 x 1080 60i/59.94i/50i 1280 x 1024 30p 1280 x 800 60p 1280 x 768 60p 1280 x 720 50p/60p 1024 x 768 60p 800 x 600 60p 720 x 576 50p 720 x 480 60p 640 x 480 60p			
Recording Formats	1920 x 1080 24p/25p/30p 1280 x 1024 30p 1920 x 1080 24p/25p/30p 1280 x 800 60p 1280 x 720 50p/60p 1024 x 768 60p 800 x 600 60p 720 x 576 50p 720 x 480 60p 640 x 480 60p			
◆ Audio Processing				
Audio Sampling Frequencies	44.1k, 48k Hz			
Audio Compression	MPEG4-AAC			
Recording Datarate	128kbps			
◆ Functionality				
Multiple Card Support	4 cards, 4 channels			
Scaling	video scaling down compression	video scaling for special resolution, OSD, PiP, Cropping supported	video scaling down compression	
◆ Others				
Dimensions	51 x 30 (mm)	155 x 111 (mm)	83.8 x 68.9 (mm)	89 x 74.83 x 21.6 (mm)
Operation Tempeture	0°C - 60°C (32°F - 140°F), non-condensing			
Power Consumption	3W	15W	4.5W	4.5W
◆ Software Support				
OS Support	Windows 7 32-bit / Windows 7 64-bit Linux: Ubuntu 16.04 (64-bit) (Kernel version: 4.4.0-21-generic)			
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code			

1
Industrial
Computing
Solutions

2
Video Capture Solutions

3
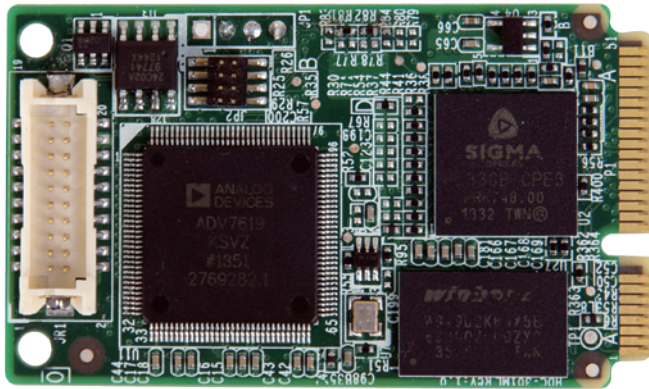Industrial
Computer
Chassis

4
Open
Frame
Monitor

5
Power Supply/
Peripherals

6
All-in-One
System

HDC-301MS

PCIe Mini Video/Audio Capture Card with One Channel HDMI Input, 1920x1080@30p, and H.264 Hardware Encoder

H.264 Hardware Encoder

Video Recording/Streaming

HDMI IN

PCIe Mini

| STB | HD camcorder | Blue-ray player | Game player Xbox360/PS4 |

7 Windows | Linux | 32/64 Bit | H.264 MPEG-4/AVC | Full HD 1920x1080 | HDMI

Features

- 1-channel HDMI input with H.264 hardware compression
- High quality video recording up to 1080p30
- Provides DirectShow filter
- Low Power Consumption
- Windows/Linux OS supported

Dimensions *(Unit: mm)*

30.00

11.18

50.93

Specifications

◆ Interface

Input	Video input channel	1 channel
	Video input type	HDMI
	Audio input channel	1 channel
	Audio input type	HDMI (stereo)

◆ PC Interface

Type	PCIe Mini

◆ Video Processing

Hardware Encoder	H.264/AVC High Profile Level 4.1	
Recording Datarate	Up to 30Mbps	
Video Input Resolution	1920 x 1080 24p/25p/30p/50p/60p 1920 x 1080 60i/59.94i/50i 1280 x 800 60p 1280 x 720 50p/60p 800 x 600 60p 720 x 480 60p	1280 x 1024 30p 1280 x 768 60p 1024 x 768 60p 720 x 576 50p 640 x 480 60p
Recording Formats	1920 x 1080 24p/25p/30p 1280 x 800 60p 1280 x 720 50p/60p 800 x 600 60p 720 x 480 60p	1280 x 1024 30p 1280 x 768 60p 1024 x 768 60p 720 x 576 50p 640 x 480 60p

◆ Audio Processing

Audio Sampling Frequencies	44.1k, 48k Hz
Audio Compression	MPEG4-AAC
Recording Datarate	128kbps

◆ System Requirement

System	Intel® Core™ 2 Duo 2.4GHz or above
Memory	2GB or more

◆ Software Support

OS Support	Microsoft Windows 7 32-bit Microsoft Windows 7 64-bit Linux: Ubuntu 16.04 (64-bit) (Kernel version: 4.4.0-21-generic)
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code

◆ Functionality

Multiple Card Support	4 cards, 4 channels
Scaling	Video scaling down compression

◆ Others

Dimensions	51 mm x 30 mm
Operating Temperature	0°C ~ 60°C (32° ~ 140°F), non-condensing
Power Consumption	3W

Packing List

1 x HDC-301MS
1 x HDMI input cable
1 x QIG
1 x Utility CD

Ordering Information

Part No.	Description
HDC-301MS-R10	PCIe mini video/audio capture card with one channel HDMI input, 1920x1080@30p, and H.264 hardware encoder

HDC-701EL Video Capture Card Solution

The HDC-701EL video capture card supports full HD video compression using H.264 technology. It offers one channel HDMI/DP/DVI-I/ YPbPr/3G-SDI input and one channel HDMI bypass output.It supports multiple input type, allowed one channel encode,PiP screen encode from two video source, OSD screen encode, crop the video and then encode. User can preview thel video from HDMI bypass output during editing or encoding video.

Multiple input type supported by HDC-701EL:

- HDMI interface
- DP interface
- DVI-I interface
- 3G-SDI interface
- VGA interface
- YPbPr interface which supports sync on green

Video Scaler Functions

- It can convert a signal from a lower resolution to a higher resolution without affecting the video quality.
- It can convert a non-standard resolution (such as 1280*960) to the resolution supported by the HDC-701EL.

◆ Picture in Picture (PiP) Function

The video sources from two interfaces can be displayed on the same screen simultaneously and the PiP screen can be encoded by the HDC-701EL.

◆ OSD (on-screen display)

Information such as date,resolution etc. and the video source can be displayed on the same screen simultaneously and the OSD screen can be encoded by the HDC-701EL.

◆ Cropping

Cuts the outer part of an image in order to improve the composition, emphasize the subject or change the ratio.

Application

◆ PIP Application
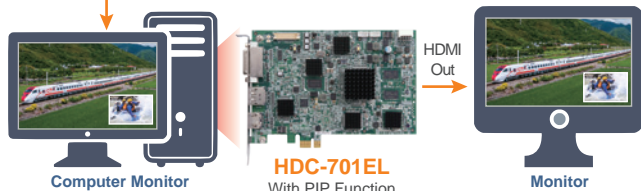

Video Input Source
(choose two different interfaces from the five)

HDMI | DP | DVI-I | YPbPr | 3G-SDI

HDMI Out

HDC-701EL
With PIP Function

Computer Monitor

Monitor

Computer Monitor with HDC-701EL

1. Can display two different sources together.
2. Allows you to adjust where to put the small video.
3. Can display two videos and record the videos at the same time.

Monitor
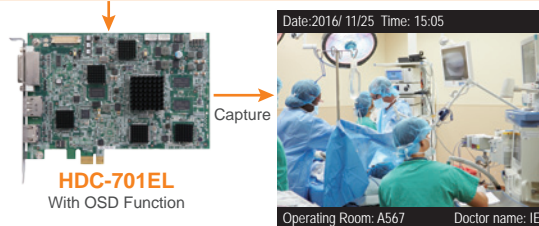
The raw data from two different signals can be displayed at the same time.

◆ OSD Application

Healthcare Solution

Video Input Source
(choose one inferfaces from the five)

HDMI | DP | DVI-I | YPbPr | 3G-SDI

Capture

HDC-701EL
With OSD Function

Date:2016/ 11/25 Time: 15:05
Operating Room: A567   Doctor name: IEI

With the OSD function, for example, the date, time, operating room's number and doctor's name can be displayed on the monitor when using in a surgery room. The surgery with the OSD information can be recorded by using the HDC-701EL capture card and the file can be saved for future reference. The scenario described above is just one of many possible scenarios in which the HDC-701EL is used to capture video with OSD information. In addition to that, IEI is capable to customize the OSD information to be displayed for other applications based on customer's needs.
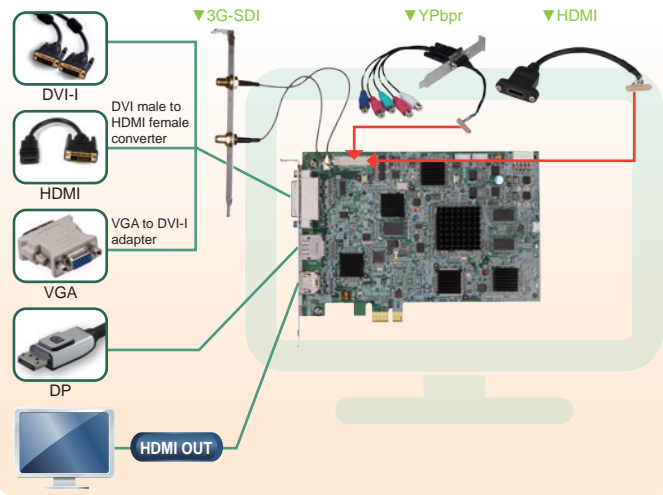
HDC-701EL

PCI Express video/audio capture card with One Channel HDMI/ DP/DVI-I/YPbPr/3G-SDI Input and One Channel HDMI Output, 1920x1080@30p, and H.264 Hardware Encoder

New

H.264 Hardware Encoder
Video Recording/Streaming

▼3G-SDI   ▼YPbpr   ▼HDMI

DVI-I
DVI male to HDMI female converter
HDMI
VGA to DVI-I adapter
VGA
DP

HDMI OUT

Features

- 1-channel HDMI/DP/DVI-I/YPbPr/3G-SDI input with H.264 hardware compression and 1-channel HDMI output
- High quality video recording up to 1080p30
- HDMI output supports video preview up to 1080p60, so you can watch video while recording or editing
- Provides DirectShow filter
- Equipped with video scaler for PIP, OSD, cropping (optional)
- Windows/Linux OS supported

Specifications

◆ Interface

Input	Video input channel	1 channel
	Video input type	HDMI/DP/DVI-I/YPbPr/3G-SDI
	Audio input channel	1 channel
	Audio input type	HDMI (stereo video)
Output	Video output channel	1 channel (1080p 60)
	Video output type	HDMI
	Audio output channel	1 channel
	Audio output type	HDMI (stereo)

◆ PC Interface

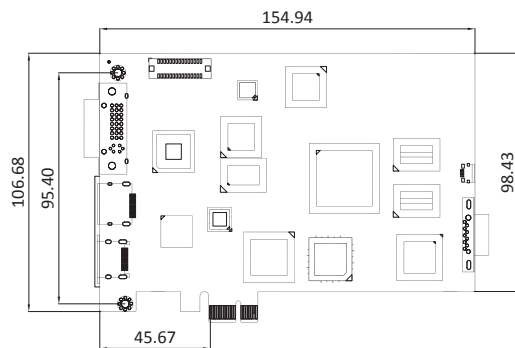|	
Type	PCIe x1

◆ Video Processing

Hardware Encoder	H.264/AVC High Profile Level 4.1
Recording Datarate	Up to 30Mbps
Video Input Resolution	1920 x 1080 24p/25p/30p/50p/60p 1920 x 1080 60i/59.94i/50i 1280 x 800 60p 1280 x 720 50p/60p 800 x 600 60p 720 x 480 60p 1280 x 1024 30p 1280 x 768 60p 1024 x 768 60p 720 x 576 50p 640 x 480 60p
Recording Formats	1920 x 1080 24p/25p/30p 1280 x 800 60p 1280 x 720 50p/60p 800 x 600 60p 720 x 480 60p 1280 x 1024 30p 1280 x 768 60p 1024 x 768 60p 720 x 576 50p 640 x 480 60p

◆ Audio Processing

Audio Sampling Frequencies	44.1k, 48k Hz
Audio Compression	MPEG4-AAC
Recording Datarate	128kbps

Dimensions (Unit: mm)

154.94
106.68
95.40
98.43
45.67

◆ System Requirement

System	Intel® Core™2 Duo 2.4GHz or above
Memory	2GB or more

◆ Software Support

OS Support	Microsoft Windows 7 32-bit/64-bit Linux: Ubuntu 16.04 (64-bit) (Kernel version: 4.4.0-21-generic)
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code

◆ Functionality

Multiple Card Support	4 cards, 4 channels
Scaling	Video scaling support, OSD, PIP, Cropping

◆ Others

Dimensions	155 mm x 111 mm
Operating Temperature	0°C ~ 60°C (32° ~ 140°F), non-condensing
Power Consumption	15W

Packing List

1 x HDC-701EL	
1 x QIG	1 x Utility CD

Ordering Information

Part No.	Description
HDC-701EL-R10	PCI Express video/audio capture card with one channel HDMI/ DP/DVI-I/YPbPr/3G-SDI input and one channel HDMI bypass output,1920x1080@30p, and H.264 hareware encoder

HDC-301EL

PCI Express Video/Audio Capture Card with One Channel HDMI Input and One Channel HDMI Bypass Output, 1920x1080@30p, and H.264 Hardware Encoder

H.264 Hardware Encoder
Video Recording/Streaming

STB | HD camcorder | Blue-ray player | Game player Xbox360/PS4

Features

- 1-channel HDMI input with H.264 hardware compression and 1-channel HDMI bypass output
- High quality video recording up to 1080p30
- HDMI bypass output supports video no delay pass through up to 1080p60, so you can watch video while recording
- Provides DirectShow filter
- Low Power Consumption
- Low-Profile PCIe card
- Windows/Linux OS supported

Specifications

◆ Interface

Input	Video input channel	1 channel
	Video input type	HDMI
	Audio input channel	1 channel
	Audio input type	HDMI (stereo)
No Delay Pass Through	Video output channel	1 channel (1080p 60)
	Video output type	HDMI
	Audio output channel	1 channel
	Audio output type	HDMI (stereo)

◆ PC Interface

Type	PCIe x1

◆ Video Processing

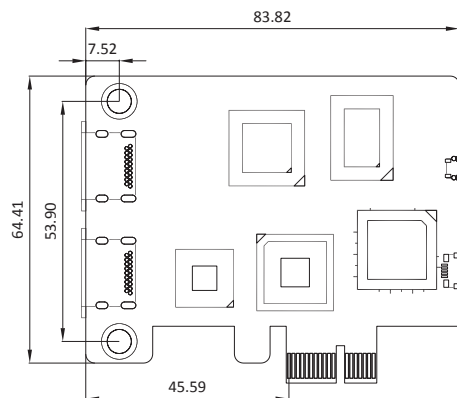| Hardware Encoder	H.264/AVC High Profile Level 4.1
Recording Datarate	Up to 30Mbps
Video Input Resolution	1920 x 1080 24p/25p/30p/50p/60p 1920 x 1080 60i/59.94i/50i 1280 x 1024 30p 1280 x 800 60p 1280 x 768 60p 1280 x 720 50p/60p 1024 x 768 60p 800 x 600 60p 720 x 576 50p 720 x 480 60p 640 x 480 60p
Recording Formats	1920 x 1080 24p/25p/30p 1280 x 1024 30p 1280 x 800 60p 1280 x 768 60p 1280 x 720 50p/60p 1024 x 768 60p 800 x 600 60p 720 x 576 50p 720 x 480 60p 640 x 480 60p

◆ Audio Processing

Audio Sampling Frequencies	44.1k, 48k Hz
Audio Compression	MPEG4-AAC
Recording Datarate	128kbps

Dimensions *(Unit: mm)*

◆ System Requirement

System	Intel® Core™2 Duo 2.4GHz or above
Memory	2GB or more

◆ Software Support

OS support	Microsoft Windows 7 32-bit Microsoft Windows 7 64-bit Linux: Ubuntu 16.04 (64-bit) (Kernel version: 4.4.0-21-generic)
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code

◆ Functionality

Multiple Card Support	4 cards, 4 channels
Scaling	Video scaling down compression

◆ Others

Dimensions	83.82 mm x 64.41 mm
Operating Temperature	0°C ~ 60°C (32° ~ 140°F), non-condensing
Power Consumption	4.5W

Packing List

1 x HDC-301EL	
1 x QIG	1 x Utility CD

Ordering Information

Part No.	Description
HDC-301EL-R10	PCI Express video/audio capture card with one channel HDMI input and one channel HDMI bypass output,1920x1080@30p, and H.264 hareware encoder

Portable Video Capture Box's Solution

Key Features

■ Perfect Quality

Full HD

The video capture box performs high video quality with up to 1920x1080 30p recording format.

■ Easy to Use

◆ Setup Easily

With detailed instruction in the manual, users can easily setup the capture box with driver and AP, and the AP interface is easy to operate.
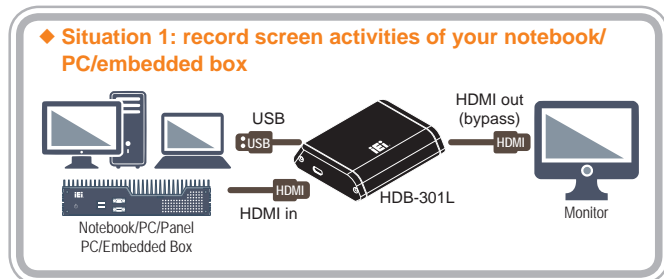
◆ Preview Easily

bypass

The capture box supports bypass function which includes two features:
1. The source from the HDMI port can be simultaneously and fully displayed in the bypass screen.
2. If the user chooses to record it, other tasks can also be performed and viewed in the same monitor without being affected, such as watching movie or playing video game with low latency.

■ Easy to Record, Save and Steam Your Video

H.264 MPEG-4/AVC

With encode chipset the capture box can realtime compress the HDMI input data to H.264 format and easily record without occupying CPU resource and performance and save your computer space at the same time. Moreover, the compressed video can also be streamed to the Internet.

■ Easy Development

SDK

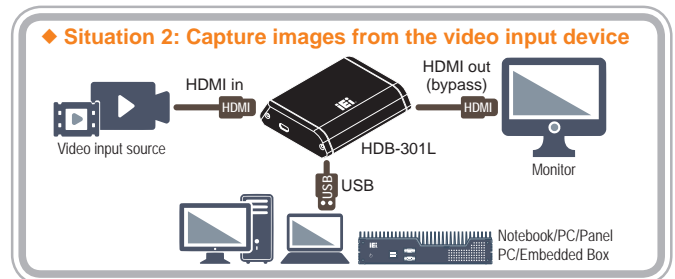SDK and source code are provided to users for further development.

■ Easy to Carry

The box is so light and small that you can carry it anywhere to perform video recording.

You can power on your capture box with the computer through a USB cable. It is very convenient since you don't even need an external power.
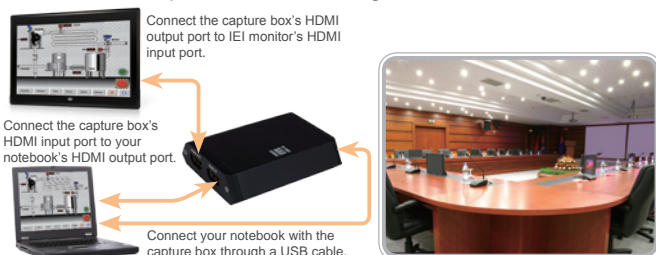
■ Easy to Connect and Communicate

With USB 2.0 and HDMI port, it is very easy to connect the capture box with different devices as shown in the figure below.

◆ Situation 1: record screen activities of your notebook/ PC/embedded box

USB
HDMI out (bypass)
HDMI
HDMI in
HDB-301L
Monitor
Notebook/PC/Panel PC/Embedded Box

◆ Situation 2: Capture images from the video input device

HDMI in
HDMI
HDMI out (bypass)
HDMI
Video input source
HDB-301L
Monitor
USB
Notebook/PC/Panel PC/Embedded Box

Capture Box's Application

■ Factory Conference Room

As shown in the figure above, the capture box can be applied in a factory conference room to perform lots of tasks, such as:
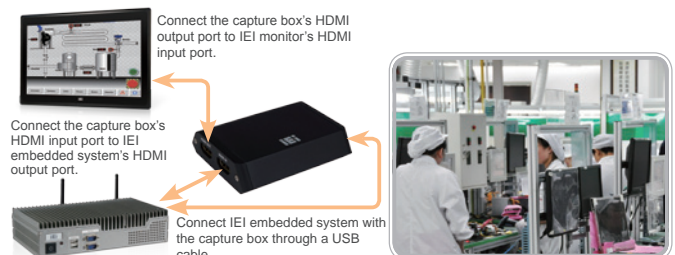1. Job training recording.
2. Online video meeting recording/ Meeting minutes recording.
3. PowerPoint presentation recording.

Connect the capture box's HDMI output port to IEI monitor's HDMI input port.

Connect the capture box's HDMI input port to your notebook's HDMI output port.

Connect your notebook with the capture box through a USB cable.

■ Factory Production Line

As shown in the figure above, the capture box can be applied in factory production line for:
1. Machine operation recording to check if any abnormal conditions that need to be fixed.
2. SOP process recording to improve the yield rate.

Connect the capture box's HDMI output port to IEI monitor's HDMI input port.

Connect the capture box's HDMI input port to IEI embedded system's HDMI output port.

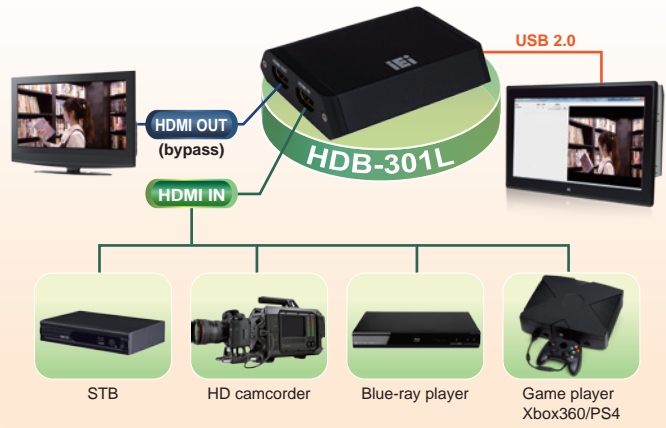Connect IEI embedded system with the capture box through a USB cable.

HDB-301L

USB 2.0 Video/Audio Capture Box with One Channel HDMI Input and One Channel HDMI Bypass Output, 1920x1080@30p, and H.264 Hardware Encoder
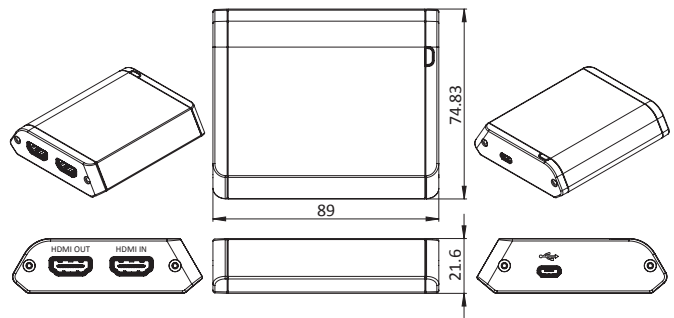
New

HDMI Out

HDMI In

Micro USB 2.0

H.264 Hardware Encoder
Video Recording/Streaming

USB 2.0

HDMI OUT (bypass)

HDMI IN

HDB-301L

STB | HD camcorder | Blue-ray player | Game player Xbox360/PS4

7 Windows | Linux | **32/64 Bit** | **H.264 MPEG-4/AVC** | **Full HD 1920x1080** | **HDMI**

Features

- 1-channel HDMI input with H.264 hardware compression and 1-channel HDMI bypass output
- High quality video recording up to 1080p30
- HDMI bypass output supports video no delay pass through up to 1080p60, so you can watch video while recording
- Provides DirectShow filter
- Windows/Linux OS supported

Dimensions *(Unit: mm)*

74.83

89

21.6

HDMI OUT   HDMI IN

Specifications

◆ Interface

Input	Video input channel	1 channel
	Video input type	HDMI
	Audio input channel	1 channel
	Audio input type	HDMI (stereo)
No Delay Pass Through	Video output channel	1 channel (1080p 60)
	Video output type	HDMI
	Audio output channel	1 channel
	Audio output type	HDMI (stereo)

◆ PC Interface

Type	USB 2.0

◆ Video Processing

Hardware Encoder	H.264/AVC High Profile Level 4.1
Recording Datarate	Up to 30Mbps
Video Input Resolution	1920 x 1080 24p/25p/30p/50p/60p 1920 x 1080 60i/59.94i/50i 1280 x 1024 30p 1280 x 800 60p 1280 x 768 60p 1280 x 720 50p/60p 1024 x 768 60p 800 x 600 60p 720 x 576 50p 720 x 480 60p 640 x 480 60p
Recording Formats	1920 x 1080 24p/25p/30p 1280 x 1024 30p 1280 x 800 60p 1280 x 768 60p 1280 x 720 50p/60p 1024 x 768 60p 800 x 600 60p 720 x 576 50p 720 x 480 60p 640 x 480 60p

◆ Audio Processing

Audio Sampling Frequencies	44.1k, 48k Hz
Audio Compression	MPEG4-AAC
Recording Datarate	128kbps

◆ System Requirement

System	Intel® Core™2 Duo 2.4GHz or above
Memory	2GB or more

◆ Software Support

OS Support	Microsoft Windows 7 32-bit Microsoft Windows 7 64-bit Linux: Ubuntu 16.04 (64-bit) (Kernel version: 4.4.0-21-generic)
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code

◆ Functionality

Multiple Card Support	4 boxes, 4 channels
Scaling	Video scaling down compression

◆ Others

Dimensions	89 mm x 74.83 mm x 21.6 mm
Operating Temperature	0°C ~ 60°C (32° ~ 140°F), non-condensing
Power Consumption	4.5W
Weight	156g

Packing List

1 x HDB-301L	1 x QIG
1 x USB cable (600mm)	1 x Utility CD

Ordering Information

Part No.	Description
HDB-301L-R10	USB 2.0 video/audio capture box with one channel HDMI input and one channel HDMI bypass output, 1920x1080@30p, and H.264 hardware encoder

1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/ Peripherals

6 All-in-One System

H.264 Hardware Compression Video Capture Product Selection Guide

1080p60 Full HD
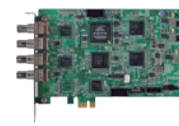
Products	HDC-304E	HDC-302E	HDC-301E	HDC-502E
◆ Input				
Video Input Channel	4 channels	2 channels	1 channel	2 channels
Video Input Type	HDMI	HDMI	HDMI	3G-SDI
Audio Input Channel	4 channels	2 channels	1 channel	2 channels
Audio Input Type	HDMI (stereo)	HDMI (stereo)	HDMI (stereo)	3G-SDI
◆ No Delay Passthrough				
Video Output Channel	1 channel (1080p60)	2 channels	1 channel	2 channels
Video Output Type	HDMI	HDMI	HDMI	3G-SDI
Audio Output Channel	1 channel	2 channels	1 channel	2 channels
Audio Output Type	HDMI	HDMI	HDMI	3G-SDI
◆ Pc Interface				
Type	PCIe x1	PCIe x1	PCIe x1	PCIe x1
◆ Video Processing				
Hardware Encoder	H.264/AVC High Profile Level 4.2			
Recording Datarate	2Mbps ~ 30Mbps			
Video Input Resolution	1920 x 1080 60p / 59.94p / 50p 1920 x 1080 60i / 59.94i / 50i 1280 x 720 60p / 59.94p / 50p 720 x 480 60i / 59.94i 720 x 576 50i			1920 x 1080 60p / 50p / 30p / 25p /24p 1920 x 1080 60i / 50i 1280 x 720 60p / 50p / 30p / 25p /24p 720 x 480 60i 720 x 576 50i
Recording Formats	1920 x 1080 60p / 59.94p / 50p 1920 x 1080 60i / 59.94i / 50i 1280 x 720 60p / 59.94p / 50p 720 x 480 60i / 59.94i 720 x 576 50i			1920 x 1080 60p 1280 x 720 60p
◆ Audio Processing				
Audio Sampling Frequencies	44.1k, 48k Hz			
Audio Compression	MPEG-1 Audio Layer 2			
Recording Datarate	256kbps			
◆ Functionality				
Multiple Card Support	2 cards, 8 channels	4 cards, 8 channels	No	4 cards, 8 channels
Scaling	N/A			
◆ Others				
Dimensions	230 x 116 (mm)	155 x 98.6 (mm)	168 x 69 (mm)	188 x 125 (mm)
Operation Tempeture	0°C - 65°C (32°F - 140°F), non-condensing			
Power Consumption	12.7W	9.53W	6.07W	14.2W
◆ Software Support				
OS Support	Windows 7 32-bit / Windows 7 64-bit		Windows 7 32-bit	Windows 7 32-bit / Windows 7 64-bit
	Linux: Ubuntu 16.04 (64-bit) Kernel version: 4.4.0-21 x64			
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code			

HDC-304E

PCI Express Video/Audio Capture Card with Four Channel HDMI Inputs and One Channel HDMI Output, 1920x1080@60p, and H.264 Hardware Codec

FUJITSU

1-channel HDMI output

H.264 Hardware Codec

4-channel HDMI input

HDMI output cable

Windows 7 | Linux | 32/64 Bit | H.264 MPEG-4/AVC | Full HD 1920x1080 | HDMI | PCIe Bus

Features

- 4-channel HDMI input with H.264 hardware compression and 1-channel HDMI output
- High quality video encoding or decoding up to 1080p60
- HDMI output port supports playback video file captured by HDC-30X series cards
- Enables the system to support up to 8-channel input by adding multiple video capture cards. The HDC-304E installed in IEI systems and backplanes could support over 8 channel inputs under Linux environment (supported capability may vary depending on customers' needs).
- Low Power Consumption
- SDK available for customer to create customized applications
- Windows/Linux OS supported

System Block
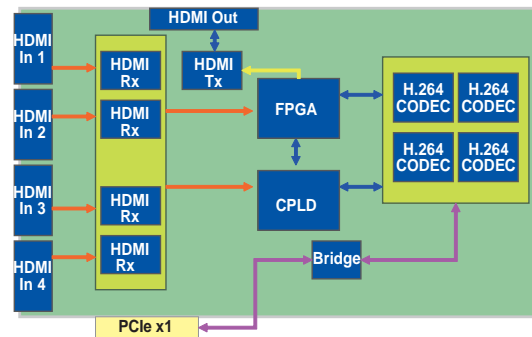
Specifications

◆ Interface

Video Input	4 channels
Video Input type	HDMI
Audio Input	4 channels
Audio Input Type	HDMI
Video Output	1 channel
Video Output Type	HDMI output cable kit
Audio Output	1 channel
Audio Output Type	HDMI output cable kit
Bus Interface	PCIe x1
Loop Through	1 channel

◆ Video Processing

Video Compression	H.264/AVC High Profile Level 4.2
Input Resolution & Frame Rate	1920 x 1080 x 60p / 59.94p / 50p 720 x 480 x 60i / 59.94i 1920 x 1080 x 60i / 59.94i / 50i 720 x 576 x 50i 1280 x 720 x 60p / 59.94p / 50p
Record Resolution / Frame Rate / Bit Rate	1920 x 1080 x 60p / 59.94p / 50p, encoding video -bit rate from 6Mbps to 20Mbps 1920 x 1080 x 60i / 59.94i / 50i, encoding video -bit rate from 6Mbps to 20Mbps 1280 x 720 x 60p / 59.94p / 50p, encoding video -bit rate from 4Mbps to 20Mbps 720 x 480 x 60i / 59.94i, encoding video -bit rate from 2Mbps to 10Mbps 720 x 576 x 50i, encoding video -bit rate from 2Mbps to 10Mbps

◆ Functionality

Multiple Card Support	2 cards, 8 channels

◆ Audio Processing

Audio Compression	MPEG-1 Audio Layer 2
Bit Rate	256k

◆ System Requirement

System	x86 PC compatible computer, Intel® Pentium® 4 2.0GHz or above for video record Recommends using a DXVA or CUDA capable graphics card for real-time video playback
Memory	1GB or more

◆ Software Support

OS Support	Microsoft Windows 7 32/64-bit Linux: Ubuntu 16.04 (64-bit) Kernel version: 4.4.0-21 x64
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code

◆ Others

Dimensions	230 mm x 116 mm
Operating Temperature	0°C ~ 65°C, non-condensing
Power Consumption	12.7W (12V@0.61A, 3.3V@1.63A)

Packing List

1 x HDC-304E capture card	
1 x HDMI output kit	
1 x Utility CD	1 x QIG

Ordering Information

Part No.	Description
HDC-304E-R11	PCI Express video/audio capture card with four channel HDMI inputs and one channel HDMI output,1920x1080@60p, and H.264 hardware codec

1 Industrial Computing Solutions

2 Video Capture Solutions

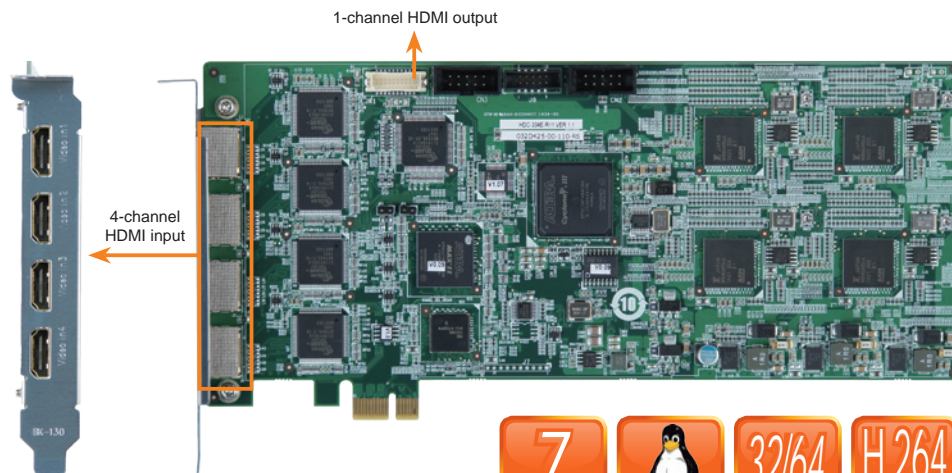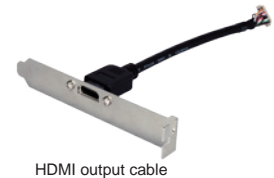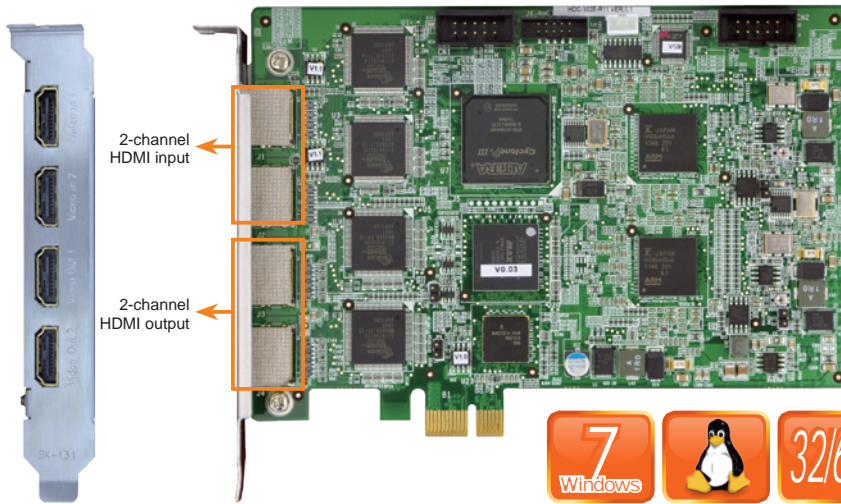**3** Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/ Peripherals

6 All-in-One System

HDC-302E

PCI Express Video/Audio Capture Card with Two Channel HDMI Inputs and Two Channel HDMI Outputs, 1920x1080@60p, and H.264 Hardware Codec

FUJITSU

H.264 Hardware Codec

2-channel HDMI input
2-channel HDMI output

Windows 7 | Linux | 32/64 Bit | H.264 MPEG-4/AVC | Full HD 1920x1080 | HDMI | PCIe Bus

Features

- 2-channel HDMI input with H.264 hardware compression and 2-channel HDMI output
- High quality video encoding or decoding up to 1080p60
- HDMI output port supports video no delay pass through up to 1080p60, so you can check video while recording
- HDMI output port supports playback video file captured by HDC-30X series cards
- Low Power Consumption
- SDK available for customer to create customized applications
- Windows/Linux OS supported

Specifications

◆ Interface

Video Input	2 channels
Video Input Type	HDMI
Audio Input	2 channels
Audio Input Type	HDMI
Video Output	2 channels
Video Output Type	HDMI
Audio Output	2 channels
Audio Output Type	HDMI
Bus Interface	PCIe x1
Loop Through	2 channels

◆ Video Processing

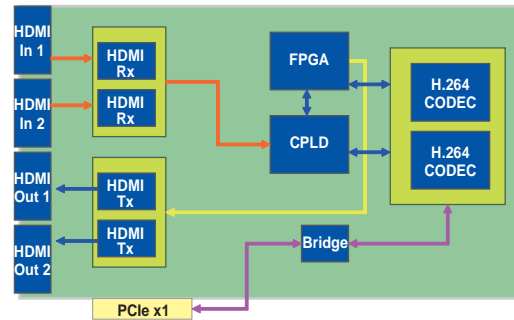|	
Video Compression	H.264/AVC High Profile Level 4.2
Input Resolution & Frame Rate	1920 x 1080 x 60p / 59.94p / 50p 720 x 480 x 60i /59.94i 1920 x 1080 x 60i / 59.94i / 50i 720 x 576 x 50i 1280 x 720 x 60p / 59.94p / 50p
Record Resolution / Frame Rate / Bit Rate	1920 x 1080 x 60p / 59.94p / 50p, encoding video -bit rate from 6Mbps to 20Mbps 1920 x 1080 x 60i / 59.94i / 50i, encoding video -bit rate from 6Mbps to 20Mbps 1280 x 720 x 60p / 59.94p / 50p, encoding video -bit rate from 4Mbps to 20Mbps 720 x 480 x 60i / 59.94i, encoding video -bit rate from 2Mbps to 10Mbps 720 x 576 x 50i, encoding video -bit rate from 2Mbps to 10Mbps

◆ Functionality

Multiple Card Support	4 cards, 8 channels

◆ Audio Processing

Audio Compression	MPEG-1 Audio Layer 2
Bit Rate	256k

System Block

◆ System Requirement

System	x86 PC compatible computer, Intel® Pentium® 4 2.0GHz or above for video record Recommends using a DXVA or CUDA capable graphics card for real-time video playback
Memory	1GB or more

◆ Software Support

OS Support	Microsoft Windows7 32/64-bit Linux: Ubuntu 16.04 (64-bit) (Kernel version: 4.4.0-21 x64)
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code

◆ Others

Dimensions	155 mm x 98.6 mm
Operating Temperature	0°C ~ 65°C, non-condensing
Power Consumption	9.53W (12V@0.46A, 3.3V@1.21A)

Packing List

1 x HDC-302E
1 x Utility CD
1 x QIG

Ordering Information

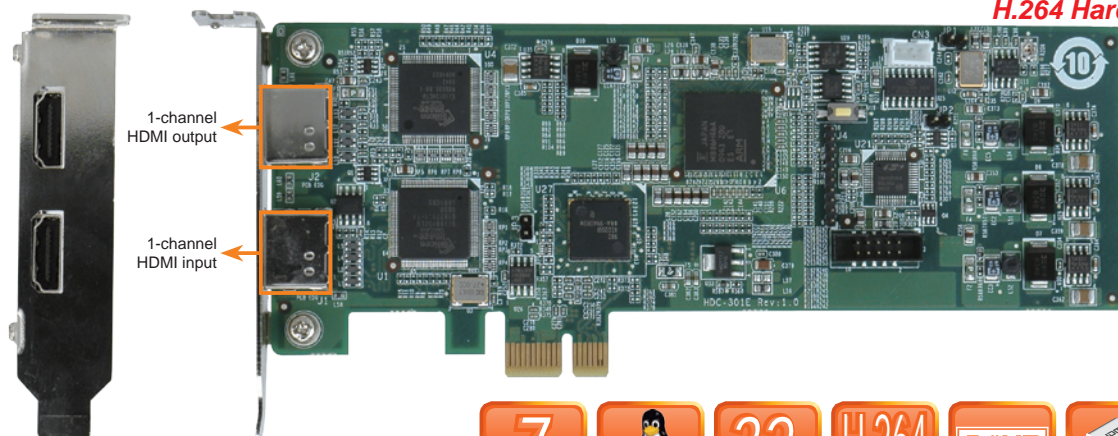| Part No.	Description
HDC-302E-R11	PCI Express video/audio capture card with two channel HDMI inputs and two channel HDMI outputs, 1920x1080@60p, and H.264 hardware codec

HDC-301E

PCI Express Video/Audio Capture Card with One Channel HDMI Input and one channel HDMI Output, 1920x1080@60p, and H.264 Hardware Codec

FUJITSU

H.264 Hardware Codec

1-channel HDMI output

1-channel HDMI input

| Windows 7 | Linux | 32 Bit | H.264 MPEG-4/AVC | Full HD 1920x1080 | HDMI | PCIe Bus |

Features

- 1-channel HDMI input with H.264 hardware compression and 1-channel HDMI output
- High quality video encoding or decoding up to 1080p60
- HDMI output port supports video no delay pass through up to 1080p60, so you can check video while recording
- HDMI output port supports playback video file captured by HDC-30X series cards
- Low Power Consumption
- SDK available for customer to create customized applications
- Windows/Linux OS supported

System Block

| HDMI out | ← | HDMI Tx | ← | H.264 CODEC |
| HDMI In | → | HDMI Rx | → | Bridge |
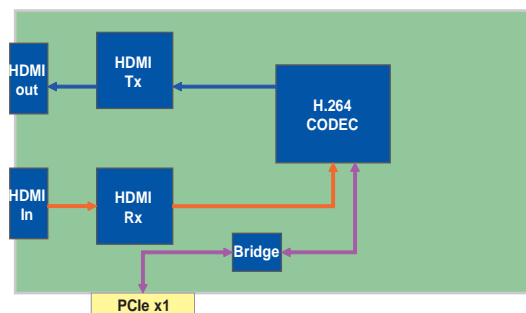
PCIe x1

Specifications

◆ Interface

Video Input	1 channel
Video Input type	HDMI
Audio Input	1 channel
Audio Input Type	HDMI
Video Output	1 channel
Video Output Type	HDMI
Audio Output	1 channel
Audio Output Type	HDMI
Bus Interface	PCIe x1
Loop Through	1 channel

◆ Video Processing

Video Compression	H.264/AVC High Profile Level 4.2
Input Resolution & Frame Rate	1920 x 1080 x 60p / 59.94 / 50p 720 x 480 x 60i / 59.94i 1920 x 1080 x 60i / 59.94i / 50i 720 x 576 x 50i 1280 x 720 x 60p / 59.94p / 50p
Record Resolution / Frame Rate / Bit Rate	1920 x 1080 x 60p / 59.94p / 50p, encoding video -bit rate from 6Mbps to 20Mbps 1920 x 1080 x 60i / 59.94i / 50i, encoding video -bit rate from 6Mbps to 20Mbps 1280 x 720 x 60p / 59.94p / 50p, encoding video -bit rate from 4Mbps to 20Mbps 720 x 480 x 60i / 59.94i, encoding video -bit rate from 2Mbps to 10Mbps 720 x 576 x 50i, encoding video -bit rate from 2Mbps to 10Mbps

◆ Functionality

Multiple Card Support	No

◆ Audio Processing

Audio Compression	MPEG-1 Audio Layer 2
Bit Rate	256k

◆ System Requirement

System	x86 PC compatible computer, Intel® Pentium® 4 2.0GHz or above for video record Recommends using a DXVA or CUDA capable graphics card for real-time video playback
Memory	1GB or more

◆ Software Support

OS Support	Microsoft Windows7 32 -bit Linux: Ubuntu 16.04 (64-bit) Kernel version: 4.4.0-21 x64
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code

◆ Others

Dimensions	168 mm x 69 mm
Operating Temperature	0°C ~ 65°C, non-condensing
Power Consumption	6.07 W (12V@0.3A, 3.3V@0.72A)

Packing List

1 x HDC-301E	
1 x Full size bracket	
1 x Utility CD	1 x QIG

Ordering Information

Part No.	Description
HDC-301E-R10	PCI Express video/audio capture card with one channel HDMI input and one channel HDMI output, 1920x1080@60p, and H.264 hardware codec

Long Distance High-Definition Compression Solution

Nowadays, more and more equipments are equipped with SDI output for television studios and other broadcasting applications. SDI is a high capacity interface used as a way of exporting uncompressed digital video in real time. That makes it ideal for live feed productions (such as a live TV show), as well as for editing and monitoring video at the highest possible quality. Since SDI is designed primarily for professional use, it is also compatible with a variety of video devices found in broadcast studios, including monitors, tape decks and switchers. SDI exports uncompressed SD and HD video over a coaxial cable.

SDI total solutions

Camcorder #2
SDI IN CH1
SDI LOOP CH1
SDI IN CH2
SDI LOOP CH2
HDC-502E
SDI Monitor #1
SDI Monitor #2
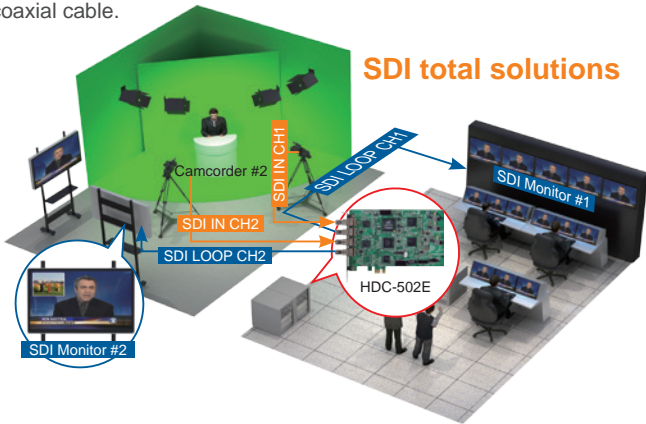
Broadcasting Solutions

H.264 video encoder can be the part of streaming server in the application for broadcasting

Video Mixer

Preview for Video Mixer

Preview	Output
CH1	CH2	CH3	CH4
STILL	FRZ	OUT1	OUT2

1 SDI
2 SDI
3 HDMI
HDMI
SDI
42" LCD TV/Monitor
Master Audio Mix
HD/SD-SDI Recorder (HDC-502E)
LAN
Cloud
H.264 Encoder/ Streaming Server (HDC-502E)
VOD

■ Long Distance and High Quality Capture Card

◆ SDI in studio editing field

SDI (Serial Digital Interface) is a family of video interfaces used for broadcast-grade video. A related standard known as high-definition serial digital interface (HD-SDI) provides a nominal data rate of 1.485 G-bit/s. IEI SDI product HDC-502E is designed with 2 channels SDI input, 2 channels SDI loop and 1 channel SDI output for high quality and long distance signal transmission. It achieves this through a 100 m (HD-SDI)/300 m (SD-SDI) coaxial cable without compression and with no data loss for professional studio, broadcast and transportation video applications.

High definition capturing has become a trend of the industrial surveillance. The HD-CCTV camera with SDI interface provides long distance transmission compared to analog camera and IP camera. The advantage is SDI interface can transmit high-definition 1080p video via coaxial cable instead of network cable. In other words, users can enjoy 1080p HD video over existing analog system without any changes.

HDC-502E

SDI-In
SDI-Loop
SDI-In
SDI-Loop

Uncompressed raw data for editing

◆ SDI in high quality surveillance field

HD-CCTV1 camera V.S. IP camera

High definition
HD-CCTV1

High definition
HD-CCTV2

BNC
SDI
COAXIAL
BNC
HDC-502E
BNC

100 meters
Using SDI for security allows transmission of 720p and 1080p resolution over a coaxial cable.

Full HD 1920×1080

1 Industrial Computing Solutions

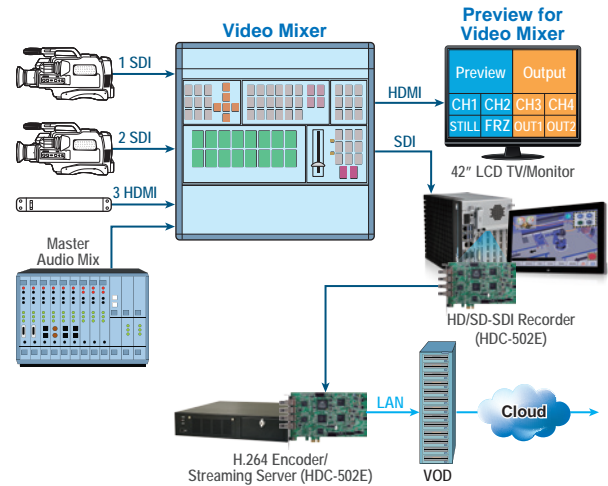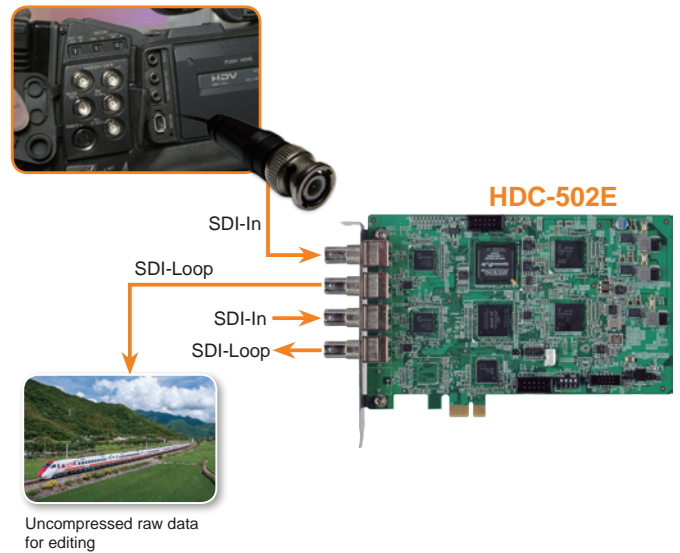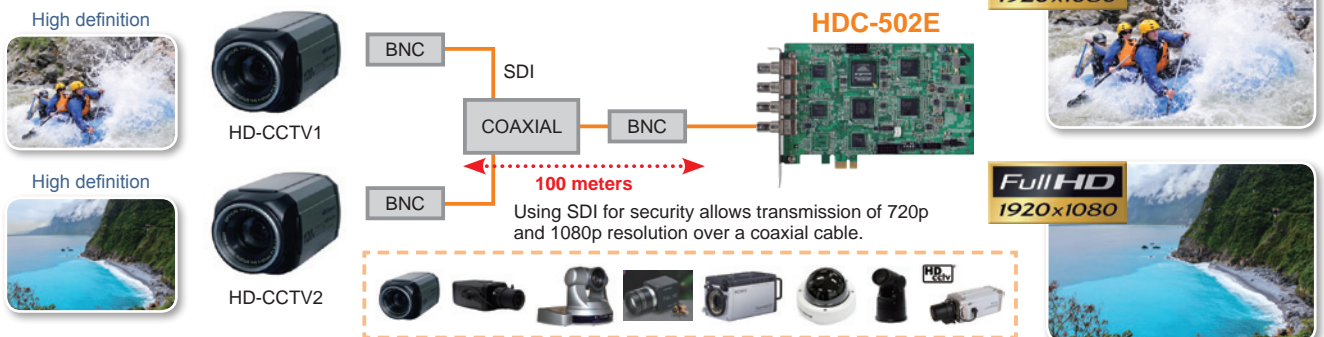**2** Video Capture Solutions
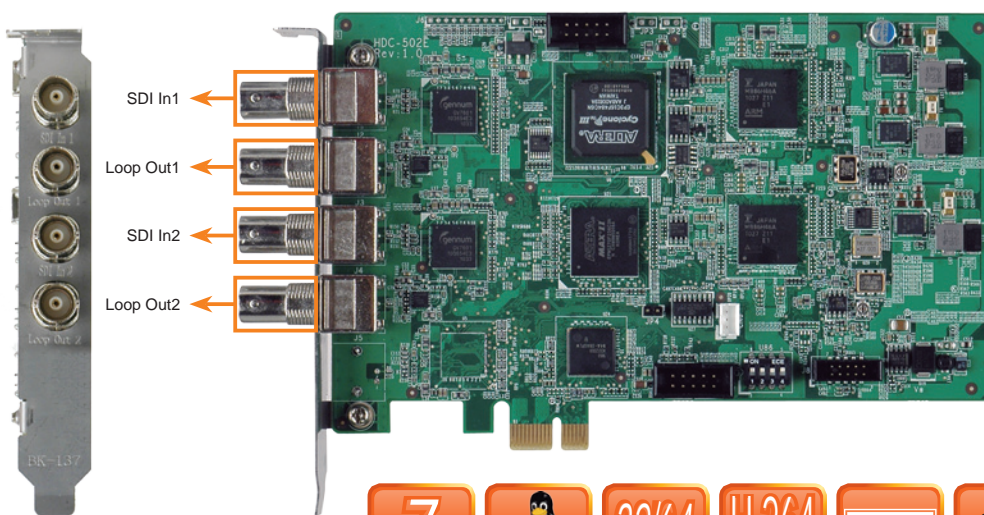
3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/ Peripherals

6 All-in-One System

HDC-502E

PCIe Video/Audio Capture Card with Two Channel 3G-SDI Inputs, Two Channel 3G-SDI Loop Output, 1920x1080@60p and H.264 Hardware Encoder

SDI In1
Loop Out1
SDI In2
Loop Out2

7 Windows | Linux | **32/64** Bit | **H.264** MPEG-4/AVC | Full HD 1920x1080 | 3G-SDI | PCIe Bus

Features

- 2-channel 3G-SDI input with H.264 hardware compression and 2-channel 3G-SDI output
- High quality video encoding up to 1080p60
- Low Power Consumption
- SDK available for customer to create customized applications
- Applications: professional studio, broadcast and transportation video applications
- Windows/Linux OS supported

System Block

3G-SDI In 1 → 3G-SDI Rx
3G-SDI Loop Out 1
3G-SDI In 2 → 3G-SDI Rx
3G-SDI Loop Out 2
FPGA
H.264 CODEC
H.264 CODEC
CPLD
Bridge
PCIe x1

Specifications

◆ Interface

Video Input	2 channels
Video Input Type	3G-SDI
Audio Input	2 channels
Audio Input Type	3G-SDI
Loop Through Output	2 channels
Loop Through Type	3G-SDI
Bus Interface	PCIe x1

◆ Video Processing

Video Compression	H.264/AVC High Profile Level 4.2
Input Resolution & Frame Rate	1920 x 1080 x 60p / 50p / 30p / 25p / 24p 720 x 480 x 60i 1920 x 1080 x 60i / 50i 720 x 576 x 50i 1280 x 720 x 60p / 50p / 30p / 25p / 24p
Record Resolution / Frame Rate / Bit Rate	1920 x 1080 x 60p, encoding video -bit rate from 6Mbps to 20Mbps 1280 x 720 x 60p, encoding video -bit rate from 4Mbps to 20Mbps

◆ Audio Processing

Audio Compression	MPEG-1 Audio Layer 2
Bit Rate	256k

◆ Functionality

Multiple Card Support	4 cards, 8 channels

◆ System Requirement

System	x86 PC compatible computer, Intel® Pentium® 4 2.0GHz or above for video record Recommends using a DXVA or CUDA capable graphics card for real-time video playback
Memory	1GB or more

◆ Software Support

OS Support	Microsoft Windows7 32/64-bit Linux: Ubuntu 16.04 (64-bit) (Kernel version: 4.4.0-21X64-generic)
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code

◆ Others

Dimensions (WxH) (mm)	188 mm x 125 mm
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F), non-condensing
Power Consumption	14.2W (12V@0.76A, 3.3V@1.52A)

Packing List

1 x HDC-502E capture card
1 x Utility CD
1 x QIG

Ordering Information

Part No.	Description
HDC-502E-R10	PCI Express video/audio capture card with two channel 3G-SDI inputs, two channel 3G-SDI loop outputs, 1920x1080@60p, and H.264 hardware encoder

1
Industrial Computing Solutions

2
Video Capture Solutions

3
Industrial Computer Chassis

4
Open Frame Monitor
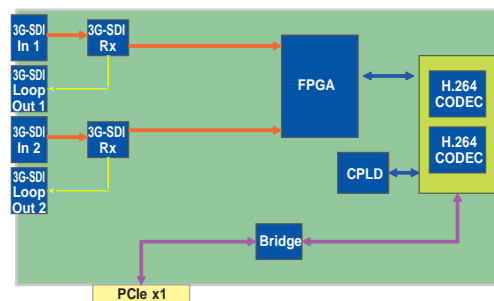
5
Power Supply/ Peripherals

6
All-in-One System

Uncompressed 4K/HD/SD Video Capture Solution

4K is a new resolution standard designed for digital cinema and computer graphics. It has following advantages: higher image definition quality, more detailed picture, better fast-action and larger projection surface visibility. Recently, many camcorder manufacturers adopt 4K resolution to their recordings like Sony, Panasonic and so on.

IEI 4K uncompressed video capture card can import video from 4K camcorder into your media editing software on PC. It's the best and most efficient way to work 4K videos with your editing software.
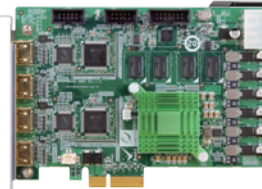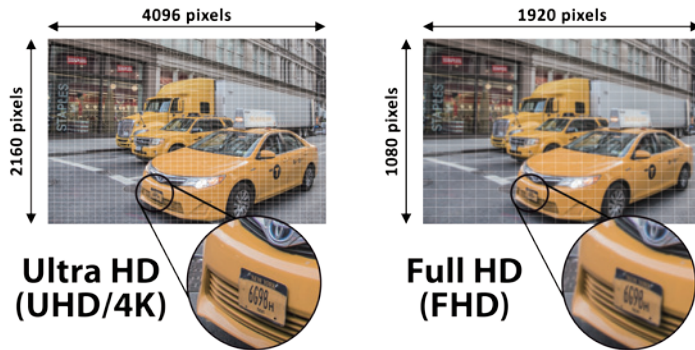
Uncompressed 4k video capture card - HSRC-302E

Uncompressed Full HD video capture box - HDB-301R

4K Video Capture Application: Upgrade from SD to 4K Resolution

■ Post-production

IEI HSRC-302E is the 4K video capture and playback card, supporting editing and video software which is compatible with DirectShow. You can do the real-time workflows in editing software while connecting 4K camcorder to IEI 4k uncompressed video capture card. HSRC-302E is a perfect part of your workflow!

■ 4K Medical Video Identification

Medical devices, including microscopes, endoscopes, true HD cameras, vision microscopes etc, are all going in the direction of 4K Ultra HD resolution. IEI 4K uncompressed capture card will be the perfect choice of your 4K medical video systems.

■ 4K Video Surveillance

◆ Improved quality of video surveillance

4K has several advantages in terms of video quality and resoultion. More pixels added into the image allow the users to zoom into the picture without sacrificing image quality, therefore making this technology optimal for security. Covering a large warehouse or busy hallways would be easier with the added resolution. The IEI 4K uncompressed video capture card with smart surveillance software could be used in the applications like airports, shopping malls, mega stores and so on.
One 4K camera with IEI 4K uncompressed video capture card can help magnify and positively identify small details like a face, an unattended package or a car license plate.

1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/ Peripherals

6 All-in-One System

Uncompressed Video Capture Product Selection Guide

Products	HDB-301R **New**	HSRC-302E **New**
◆ **Input**		
Video Input Channel	1 channel	2 channels
Video Input Type	HDMI	HDMI 1.4a
Audio Input Channel	1 channel	2 channels
Audio Input Type	HDMI (stereo)	HDMI 1.4a (stereo)
◆ **No Delay Passthrough**		
Video Output Channel	1 channel	2 channels
Video Output Type	HDMI	HDMI 1.4a
Audio Output Channel	1 channel	2 channels
Audio Output Type	HDMI (stereo)	HDMI 1.4a (stereo)
◆ **Pc Interface**		
Type	USB 3.0	PCIe x4
◆ **Video Processing**		
Color Space	YUV 4:2:2	RGB / YUV
◆ **Video Input Resolution**		
Video Input Resolution	1920 x 1080 24p/25p/30p/50p/59.54p/60p 1920 x 1080 60i/59.94i/50i 1280 x 1024 60p 1280 x 720 60p/59.94p/50p 1024 x 768 60p 800 x 600 60p 720 x 576 50p 720 x 480 60p 640 x 480 60p	3840 x 2160 24p/25p/30p 1920 x 1080 24p/25p/30p/50p/60p 1920 x 1080 60i/59.94i/50i 1280 x 720 60p/50p
Video Preview	1920 x 1080 24p/25p/30p/50p/59.54p/60p 1920 x 1080 60i/59.94i/50i 1680 x 1050 60p 1440 x 900 60p 1360 x 768 60p 1280 x 1024 60p 1280 x 800 60p 1280 x 768 60p 1280 x 720 60p/59.94p/50p 1024 x 768 60p 800 x 600 60p 720 x 576 50p 720 x 480 60p 640 x 480 60p	3840 x 2160 24p/25p/30p 1920 x 1080 24p/25p/30p/50p/60p 1920 x 1080 60i/59.94i/50i 1280 x 720 60p/50p
◆ **Audio Processing**		
Audio Sampling Frequencies	44.1k, 48k Hz	
◆ **Others**		
Dimensions	105 x 58 x 18 (mm)	155 x 111 (mm)
Operation Tempeture	0°C - 60°C (32°F - 140°F), non-condensing	
Power Consumption	4W	15W
◆ **Software Support**		
OS Support	Microsoft windows 7/8.1/10 32-bit/64-bit	Microsoft windows 7 32-bit/64-bit
	Linux: Ubntu 14.04.2 (64-bit) (Kernel version: 3.16.0-30-generic)	
	Operating System that support UVC	N/A
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code	

HDB–301R

USB 3.0 Uncompressed Video/Audio Capture Box with One Channel HDMI Input and One Channel HDMI Bypass Output, 1920x1080@60p

New

Machine Vision/Broadcast & Post Production

USB 3.0

HDMI OUT (bypass)

HDMI IN

HDB-301R

STB | HD camcorder | Blue-ray player | Game player Xbox360/PS4

HDMI Out | HDMI In | USB 3.0

7/8.1/10 Windows | 32/64 Bit | USB 3.0 | Full HD 1920x1080 | HDMI

Features

- 1-channel HDMI input and 1-channel HDMI bypass output
- Supports for 4:2:2 color spaces to provide the highest quality for your images
- HDMI bypass output supports video no delay pass through up to 1080p60, so you can watch original video while video processing
- Designed for professional video, machine vision, broadcast & post production industries
- For audio mastering, 24-bit 48kHz audio provides the power you need to integrate into any audio environment
- Supports DirectShow AP (VLC or AMcap)
- Windows/Linux OS supported

Dimensions *(Unit: mm)*

18

105

58

Specifications

◆ Interface

Input	Video input channel	1 channel
	Video input type	HDMI
	Audio input channel	1 channel
	Audio input type	HDMI (stereo)
No Delay Pass Through	Video output channel	1 channel
	Video output type	HDMI
	Audio output channel	1 channel
	Audio output type	HDMI (stereo)

◆ PC Interface

Type	USB 3.0

◆ Video Processing

|	
Color Space	YUV 4:2:2
Video Input Resolution	1920 x 1080 24p/25p/30p/50p/59.54p/60p 1920 x 1080 60i/59.94i/50i 800 x 600 60p 1280 x 1024 60p 720 x 576 50p 1280 x 720 60p/59.94p/50p 720 x 480 60p 1024 x 768 60p 640 x 480 60p
Video Preview	1920 x 1080 24p/25p/30p/50p/59.54p/60p 1920 x 1080 60i/59.94i/50i 1280 x 720 60p/59.94p/50p 1680 x 1050 60p 1024 x 768 60p 1440 x 900 60p 800 x 600 60p 1360 x 768 60p 720 x 576 50p 1280 x 1024 60p 720 x 480 60p 1280 x 800 60p 640 x 480 60p 1280 x 768 60p

◆ Audio Processing

Audio Sampling Frequencies	44.1k, 48k Hz
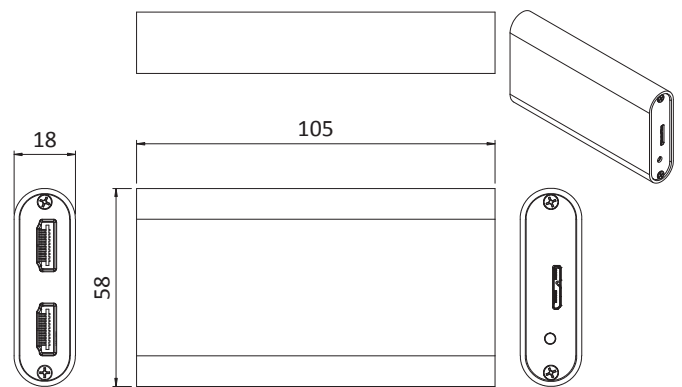
◆ System Requirement

System	Intel® Core™ i5-3400 or above
Memory	4GB or more

◆ Software Support

OS Support	Microsoft windows 7/ 8.1/10 32-bit/64-bit Linux: Ubntu 14.04.2 (64-bit) (Kernel version: 3.16.0-30-generic) Operating System that support UVC
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code

◆ Others

Dimensions	105 mm x 58 mm x 18 mm
Operating Temperature	0°C ~ 60°C (32° ~ 140°F), non-condensing
Power Consumption	4W

Packing List

1 x HDB-301R
1 x USB 3.0 cable
1 x QIG
1 x Utility CD

Ordering Information

Part No.	Description
HDB-301R-R10	USB 3.0 Uncompressed video/audio capture box with one channel HDMI input and one channel HDMI bypass output,1920x1080@60p

1 Industrial Computing Solutions

2 Video Capture Solutions

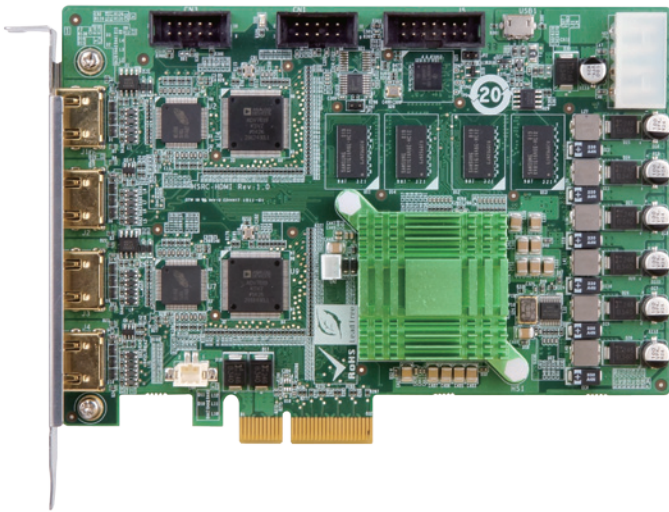**3** Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/ Peripherals
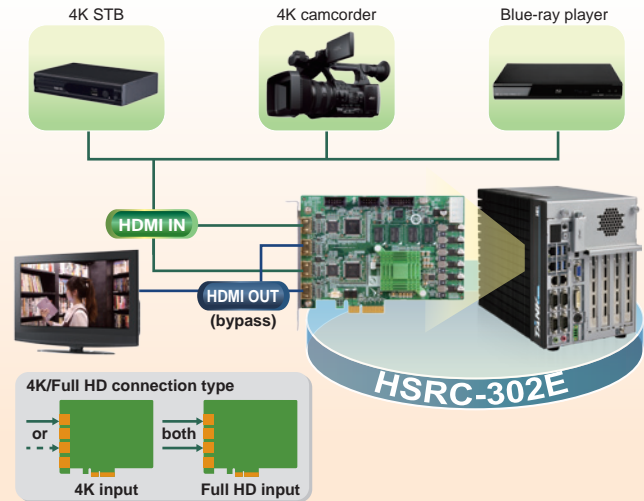
6 All-in-One System

HSRC–302E

PCI Express Uncompressed Video/Audio Capture Card with two Channel HDMI Inputs and Two Channel HDMI Bypass Outputs, 4K@30p, 1920x1080@60p

New

Machine Vision/Broadcast & Post Production

4K STB   4K camcorder   Blue-ray player

HDMI IN

HDMI OUT (bypass)

4K/Full HD connection type

or | both

4K input   **Full HD input**

HSRC-302E

7 Windows | Linux | 32/64 Bit | ULTRAHD 4K | Full HD 1920x1080 | HDMI

Features

- 2-channel HDMI input and 2-channel HDMI bypass output
- Either one HDMI input supports 4K video signal
- Supports for 4:2:2 color spaces to provide the highest quality for your images
- HDMI bypass output supports video no delay pass through up to 4K@30, so you can watch original video while video processing
- Designed for professional video, machine vision, broadcast & post production industries
- For multi-channel audio mastering, 24-bit 48kHz audio provides the power you need to integrate into any audio environment
- Windows/Linux OS supported

Dimensions (Unit: mm)

154.94

106.68 | 87.63 | 98.55

45.69
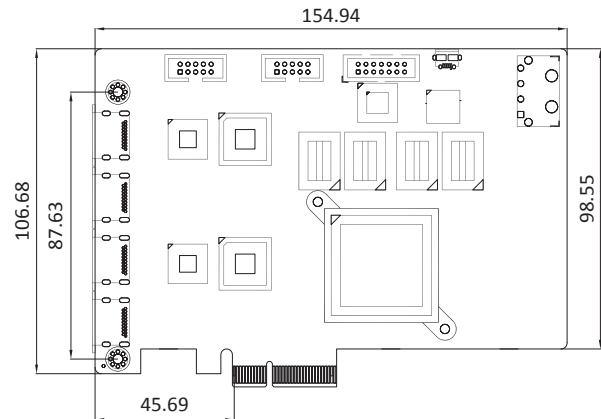
Specifications

◆ Interface

Input	Video input channel	2 channel
	Video input type	HDMI 1.4a
	Audio input channel	2 channel
	Audio input type	HDMI 1.4a (stereo)
No Delay Pass Through	Video output channel	2 channel
	Video output type	HDMI 1.4a
	Audio output channel	2 channel
	Audio output type	HDMI 1.4a (stereo)

◆ PC Interface

Type	PCIe x4

◆ Video Processing

Color Space	RGB / YUV
Video Input Resolution	3840 x 2160 24p/25p/30p 1920 x 1080 24p/25p/30p/50p/60p 1920 x 1080 60i/59.94i/50i 1280 x 720 60p/50p
Video Preview	3840x2160 24p/25p/30p 1920 x 1080 24p/25p/30p/50p/60p 1920 x 1080 60i/59.94i/50i 1280 x 720 60p/50p

◆ Audio Processing

Audio Sampling Frequencies	44.1k, 48k Hz

◆ System Requirement

System	Intel® Core™ i7-4790 or above
Memory	DDR3-2600 8G or more

◆ Software Support

OS Support	Microsoft Windows 7 32-bit / 64-bit Linux: Ubntu 14.04.2 (64-bit) (Kernel version: 3.16.0-30-generic)
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code

◆ Others

Dimensions	155 mm x 111 mm
Operating Temperature	0°C ~ 60°C, non-condensing
Power Consumption	15W

Packing List

1 x HSRC-302E	
1 x QIG	1 x Utility CD

Ordering Information

Part No.	Description
HSRC-302E-R10	PCI Express Uncompressed video/audio capture card with two channel HDMI inputs and two channel HDMI outputs, 4K@30p, 1920x1080@60p

SD Video Capture Applications

■ Intelligent Transportation Systems (ITS)

Providing timely information on highway traffic conditions is a major function of intelligent transportation systems (ITS), and video surveillance systems are critical tools for ITS to monitor and control any emergency evacuation events.

The toll road payment stations process large numbers of micro transactions. The surveillance system minimizes frauds by recording all transactions including those carried out by potential gatecrashers.

■ Automotive Video Surveillance

Automotive video surveillance is now widely used to monitor vehicle interiors on public transportation systems to ensure the passenger safety. Automotive video surveillance systems can record the interior of trains, cars and buses, and can also be adopted in police vehicles to monitor patrol activity.

■ Banking Security System

In a bank, the surveillance system can easily monitor a teller line and automated teller machine transactions. Bank surveillance systems can also record robberies, unauthorized withdrawals, and other disputed transactions.

■ Building, Airport, Road Surveillance System

Video surveillance has emerged as a vital technology in the war against terror. Video surveillance enables the easy identification of culprits behind terrorist bombings. As a result, since 911, governments around the world have started to leverage high-performance surveillance equipments in their efforts to protect their country and people from terrorist attacks.

■ Industrial Automation

Latest Supervisory Control And Data Acquisition (SCADA) systems adopt video capturing technologies to collect factory data and thereby provide operators and supervisors with access to real-time data and video feeds which enable them to make increasingly accurate assessments faster.

■ Benefits

The software compression card is used to transfer analog NTSC/PAL signal to digital raw data signal. The uncompressed raw data can provide better video quality without distortion. It is useful for real-time video surveillance applications. The software compression process is first transferring data into PC through PCI or PCIe interface, then the CPU compresses the video and stores it in the HDD. Since compression and de-compression are handled by the CPU, the software compression card needs a more powerful hardware requirement.

Raw video capturing data

Video Analytics
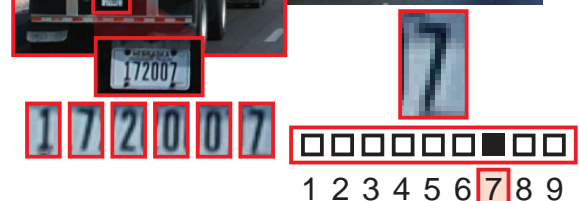
1 2 3 4 5 6 7 8 9

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1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/ Peripherals

6 All-in-One System

Standard Definition Compression Capture Card

■ Multiple Card with Digit LED Card ID Support

### ◆ One Digit LED for Card Identification (ID)

Because the IEI IVC series supports multiple IVC cards, users need to know which card is related to which device name in the Device Manager of Windows 7. Each IVC card provides one digit LED to show its ID (identification), and the ID is programmed by a rotate switch. The IEI IVC SDK also provides an application programming interface (API) to get device name and the demo application software shows how to display device names on screen. The advantages are for ease of maintenance and debugging. When a display channel malfunctions, the users can quickly find out which IVC card should be checked for error via the device name and LED ID.
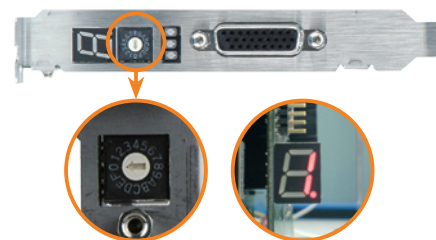
The ID is programmed by a rotate switch
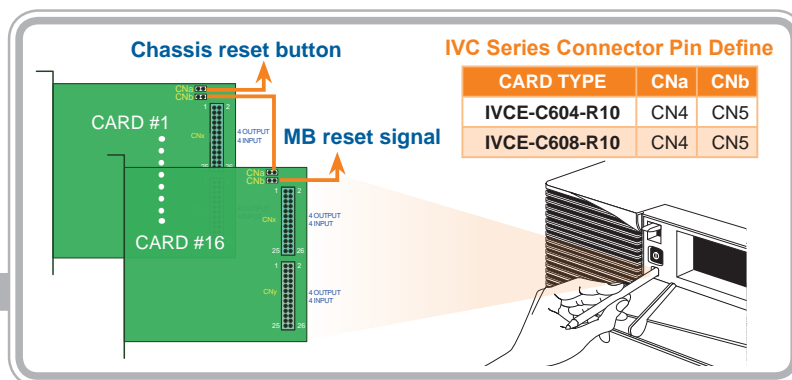
◆ Multiple Card Support

The IEI IVC series is designed to support multiple IVC cards in a system. Its driver can recognize and support multiple IVC cards plugged into a system. The limitation of how many IVC cards can be plugged into a system is dependent on system resources such as CPU performance, interface bandwidth, and number of available IRQs.
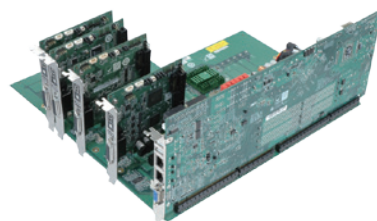
■ Multiple Card Cascade Reset
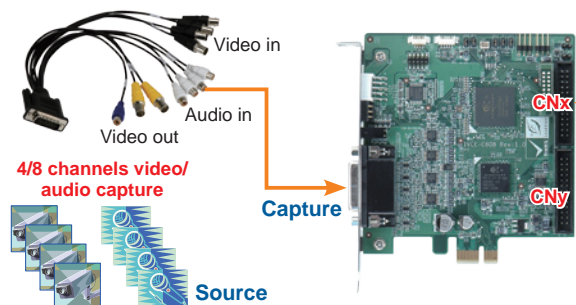
◆ One Bottom Cascade Reset

The latest IEI software compression capture card (IVC series) provides multiple card cascade reset function. It can enable system restore via external hardware reset button when system failure occurs.

Chassis reset button

MB reset signal

CARD #1

CARD #16

IVC Series Connector Pin Define

| CARD TYPE	CNa	CNb
IVCE-C604-R10	CN4	CN5
IVCE-C608-R10	CN4	CN5

■ GPIO Alarm

◆ Optional GPIO Port Support

The optional IEI VIOCARD-GPIO card provides 4-bit alarm input and 4-bit alarm output with normal open relay. It is compatible with IVC software compression capture card to connect with external I/O sensors.

Video in

Audio in

Video out

4/8 channels video/ audio capture

Capture

Source

CNx

CNy

4-bit output

4-bit input

GPIO connection cable

How to connect IEI VIOCARD-GPIO card to IVC/IVCE-C6 series capture cards

CARD TYPE	CNx	CNy
IVCME-C604-R10	CN1	
IVCE-C604-R10	CN3	
IVCE-C608-R10	CN3	CN2
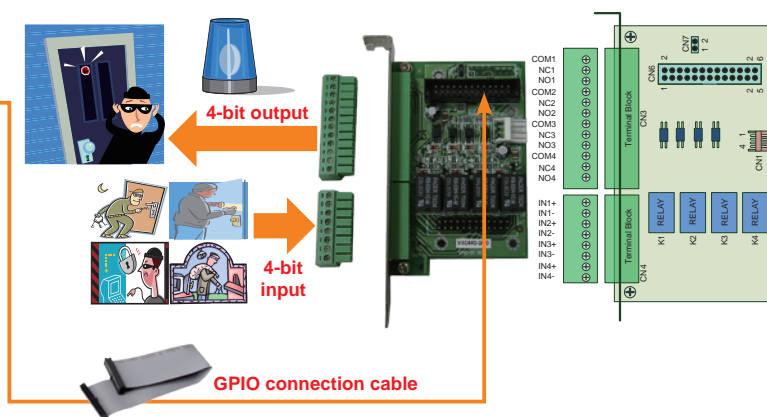
Video Capture Software

IEI provides a test suite with SDK usage for Conexant solutions.
The program demonstrates the following functions:

- ● Card ID and selection
- ● Video and audio capture settings
- ● Frame rate information and color property adjustment
- ● GPIO, WDT, video out and general settings
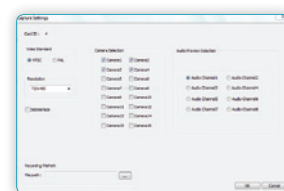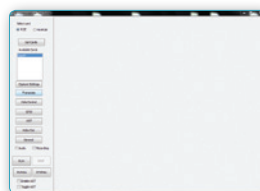
1
Industrial Computing Solutions

2
Video Capture Solutions

3
Industrial Computer Chassis

4
Open Frame Monitor

5
Power Supply/ Peripherals

6
All-in-One System

Standard-Definition Software Compression Capture Card Selection Guide

Model Name	IVCME-C604	IVCE-C608	IVCE-C604	IVC-200G-RS	PM-1056
Form Factor	PCIe Mini	PCIe	PCIe	PCI	PCI-104

♦ Interface

	IVCME-C604	IVCE-C608	IVCE-C604	IVC-200G-RS	PM-1056
Video Input	4 channels composite video NTSC/PAL auto sensing	8 channels composite video NTSC/PAL auto sensing	4 channels composite video NTSC/PAL auto sensing	4 channels composite video NTSC/PAL/SECAM auto sensing	
Video Input Type	BNC (BNC+RCA to DB-26 cable included)			BNC	BNC
Audio Input	4 channels	8 channels	4 channels	N/A	N/A
Audio Input Type	RCA (BNC+RCA to DB-26 cable included)			N/A	N/A
Bus Interface	Mini PCIe x1	PCIe x1	PCIe x1	PCI Rev. 2.1 compliant	PCI Rev. 2.1 compliant
Alarm I/O	Yes	Yes	Yes	Yes	Yes
Card ID	N/A	Rotate switch selectable with LED for ID indication		DIP switch selectable with LED for ID indication	
LED Indicator	N/A	Red LED for system alarm Green LED for AP running Yellow LED for watchdog		N/A	

♦ Video Processing

	IVCME-C604	IVCE-C608	IVCE-C604	IVC-200G-RS	PM-1056
Video Compression	Software compression				
Video Engine	1 x Conexant CX25854	1 x Conexant CX25853	1 x Conexant CX25850	4 x Conexant CX25878	1 x Conexant CX25878
Resolution & Frame Rate	NTSC: 720 x 576 720 x 480 720 x 288 720 x 240 352 x 240 320 x 240 160 x 120	PAL: 720 x 576 720 x 480 720 x 288 720 x 248 352 x 288 352 x 240 320 x 240 160 x 120		NTSC: 720 x 480 / 720 x 288 720 x 240 / 640 x 480 640 x 288 / 640 x 240 352 x 288 / 352 x 240 320 x 240 / 240 x 180 240 x 176 / 176 x 144 160 x 120 / 128 x 96 88 x 72 / 80 x 60	PAL/SECAM: 720 x 576 / 720 x 480 720 x 288 / 720 x 240 704 x 576 / 640 x 480 640 x 288 / 640 x 240 352 x 288 / 352 x 240 320 x 240 / 240 x 180 240 x 176 / 176 x 144 160 x 120 / 128 x 96 88 x 72 / 80 x 60
	NTSC: Total 120fps @ D1 for 4 channels PAL: Total 100fps @ D1 for 4 channels	NTSC: Total 240fps @ D1 for 8 channels PAL: Total 200fps @ D1 for 8 channels	NTSC: Total 120fps @ D1 for 4 channels PAL: Total 100fps @ D1 for 4 channels	NTSC: Up to 120fps at all resolutions PAL/SEACAM: Up to 100fps at all resolutions	NTSC: Total 30fps @ D1 for 4 channels PAL/SEACAM: Total 25fps @ D1 for 4 channels

♦ Audio Processing

	IVCME-C604	IVCE-C608	IVCE-C604	IVC-200G-RS	PM-1056
Audio Compression	Software compression			N/A	N/A
Sampling Rate	32kHz, 44.1kHz, 48kHz, 96kHz (hardware spec.)			N/A	N/A
Quantization	24-bit (hardware spec.)			N/A	N/A

♦ System Requirement

	IVCME-C604	IVCE-C608	IVCE-C604	IVC-200G-RS	PM-1056
System	x86 PC compatible computer	x86 PC compatible computer, PCI Express 1 lane, compatible with 1, 4, 8 and 16 lane PCIe slots		x86 PC compatible computer	
Memory	512MB or above			256MB or above	
Graphics	DirectX compatible VGA card supporting YUV overlay mode			DirectX compatible VGA card supporting YUV overlay mode	

♦ Software Support

	IVCME-C604	IVCE-C608	IVCE-C604	IVC-200G-RS	PM-1056
OS Support	Windows7 32/64-bit Linux: Ubntu 14.04 (64-bit) Kernel version: 3.13.0-32-generic			Windows 98/SE/ME/2000/XP Linux Kernal 3.1	
SDK	Provides SDK and demo program with source code				

♦ Others

	IVCME-C604	IVCE-C608	IVCE-C604	IVC-200G-RS	PM-1056
Dimensions	51 mm x 30 mm	111 mm x 102.4 mm	111.23 mm x 102.39 mm	119.91 mm x 106.68 mm	95.89 mm x 90.17 mm
Operating Temperature	0°C ~ 60°C (32°F~140°F), non-condensing				
Power Consumption	1.65W, 3.3V@0.5A	5.3W, 3.3V@1.39A, 12V@0.06A	3.51W, 3.3V@0.9A, 12V@0.045A	15W, 3A@5V (with relay)	3.5W, 0.7A@5V (with relay)

IVCME–C604

PCIe Mini Video/ Audio Capture Card with 4-Channel video/ Audio Input, Total 120fps@D1 for 4 Channels (NTSC)

Video/Audio Input Connector (CN1)

GPIO Connector (CN2)

7 Windows | **Linux** | **32/64 Bit** | **4 CH** | **PCIe Mini**
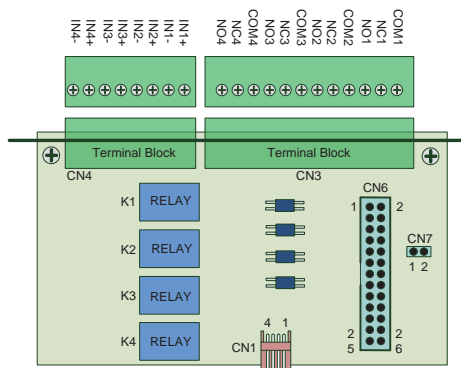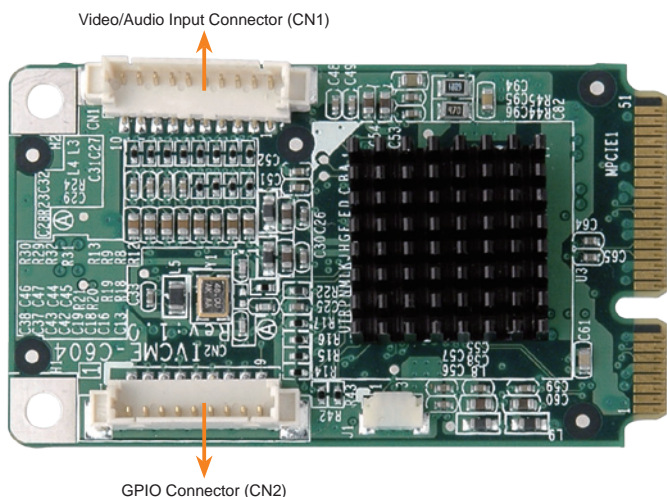
Features

- Single card 4-channel composite video (NTSC/PAL) solution
- PCIe Mini card interface supported
- Compatible with Linux, Windows XP and Windows 7 (32-bit and 64-bit)
- Total 120fps @ D1 for 4 channels (NTSC)
- External GPIO daughter board with 4 inputs and 4 outputs (optional)
- SDK available for customer to create customized applications

Specifications

◆ Interface

Video Input	4 channels composite video NTSC/PAL auto sensing
Video Input Type	BNC (BNC to DB-9 cable included)
Audio Input	4 channels analog
Audio Input Type	RCA (RCA to DB-9 cable included)
Bus Interface	PCIe Mini x1
Alarm IO	Yes

◆ Video Processing

Video Compression	Software compression	
Video Engine	1 x Conexant CX25854	
Resolution	NTSC: 720 x 576 720 x 480 720 x 288 720 x 240 352 x 240	PAL: 720 x 576 720 x 480 720 x 288 720 x 248
Frame Rate	NTSC: Total 120fps @ D1 for 4 channels PAL: Total 100fps @ D1 for 4 channels	

◆ Audio Processing

Audio Compression	Software compression
Sampling Rate	8kHz, 16kHz, 32kHz, 44.1kHz and 48kHz
Quantization	16-bit

◆ System Requirement

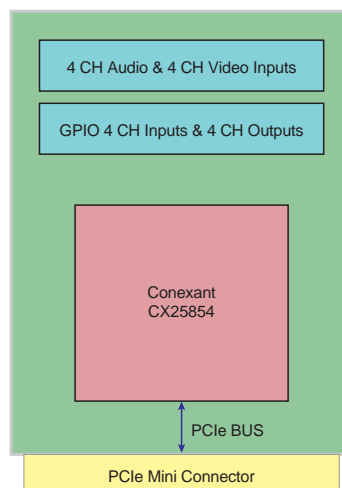|	
Platform	x86 PC compatible computer
Memory	512MB or above

◆ Software Support

OS Support	Microsoft Windows7 32-bit/64-bit Linux: Ubntu 14.04 (64-bit) Kernel version: 3.13.0-32-generic

◆ Others

Dimensions	51 mm x 30 mm
Operating Temperature	0°C ~ 60°C, non-condensing
Power Consumption	1.65W (3.3V@0.5A)

System Block

4 CH Audio & 4 CH Video Inputs	
GPIO 4 CH Inputs & 4 CH Outputs	
Conexant CX25854	
PCIe BUS	
PCIe Mini Connector	

Video/Audio Input Connector (CN1)

Pin No.	Signal
1	GND
2	Video In CH1
3	Video In CH2
4	Video In CH3
5	Video In CH4
6	Audio In CH1
7	Audio In CH2
8	Audio In CH3
9	Audio In CH4
10	GND

GPIO Connector (CN2)

Pin No.	Signal
1	GND
2	DI1
3	DI2
4	DI3
5	DI4
6	DO1
7	DO2
8	DO3
9	DO4

Packing List

1 x IVCME-C604 capture card
1 x BNC to DB-9 cable
1 x RCA to DB-9 cable
1 x Video/Audio input cable kit
1 x Utility CD
1 x QIG

DB-9 to Input Jack

DB-9 to BNC Jack

4-Channel Video Input

DB-9 to RCA Jack

4-Channel Audio Input

Ordering Information

Part No.	Description
IVCME-C604-R10	PCIe Mini video/audio capture card with 4-channel video/ audio input, total 120fps@D1 for 4 channels (NTSC)
VIOCARD-GPIO-RS-R10	8 GPIO channels (4 digital inputs and 4 relay outputs)
32031-000100-100-RS	GPIO card to IVCME capture card connection cable

IVCE-C608

PCIe video/Audio Capture Card with 8-Channel Video/Audio Input, Total 240fps for 8 Channels (NTSC)

Digit LED to show card ID

The ID is programmed by a rotary switch

Status indicator LED

Red → System alarm
Green → AP running
Yellow → Watchdog alarm

Cascade Reset

GPIO Port

COM1
NC1
NO1
COM2
NC2
NO2
COM3
NC3
NO3
COM4
NC4
NO4

IN1+
IN1-
IN2+
IN2-
IN3+
IN3-
IN4+
IN4-

Terminal Block

CN3

Terminal Block

CN4

CN7

CN6

CN1

K1 RELAY
K2 RELAY
K3 RELAY
K4 RELAY
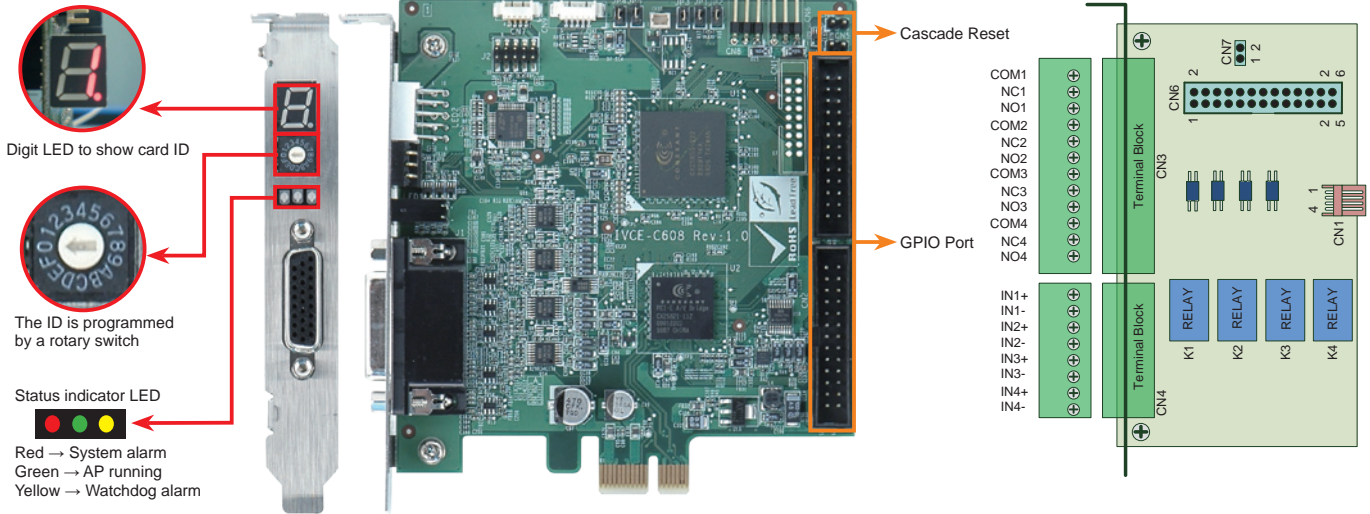
Specifications

◆ Interface

Video Input	8 channels composite video NTSC/PAL auto sensing
Video Input Type	BNC (BNC+RCA to DB-26 cable included)
Audio Input	8 channels
Audio Input Type	RCA (BNC+RCA to DB-26 cable included)
Video Output	2 channels
Video Output Type	BNC (BNC+RCA to DB-26 cable included)
Bus Interface	PCIe x1
Alarm I/O	Yes
Card ID	Rotary switch selectable with LED for ID indication
LED Indicator	Red LED for system Green LED for AP running Yellow LED for watchdog

◆ Video Processing

Video Compression	Software compression	
Video Engine	1 x Conexant CX25853	
Resolution	NTSC: 720 x 576 720 x 480 720 x 288 720 x 240 352 x 240 320 x 240 160 x 120	PAL: 720 x 576 720 x 480 720 x 288 720 x 248 352 x 288 352 x 240 320 x 240 160 x 120
Frame Rate	NTSC: Total 240fps for 8 channels PAL: Total 200fps for 8 channels	

◆ Audio Processing

Audio Compression	Software compression
Sampling Rate	32kHz, 44.1kHz, 48kHz, 96kHz (hardware spec.)
Quantization	24-bit (hardware spec.)

◆ System Requirement

Platform	x86 PC compatible computer, PCI Express 1 lane, compatible with 1, 4, 8 and 16 lane PCIe slots
Memory	512MB or above

◆ Software Support

OS Support	Microsoft Windows7 32-bit/64-bit Linux: Ubntu 14.04 (64-bit) Kernel version: 3.13.0-32-generic

◆ Others

Dimensions	111 mm x 102.4 mm
Operating Temperature	0°C ~ 65°C, non-condensing
Power Consumption	5.3W (3.3V@1.39A, 12V@0.06A)

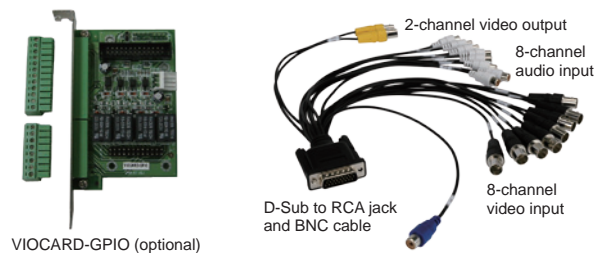**7 Windows** · (Linux) · **32/64 Bit** · **8 CH** · **PCIe Bus**

Features

- Single card 8-channel solution
- PCI Express interface provides higher bandwidth and great performance
- Compatible with Linux, Windows XP and Windows 7 (32-bit and 64-bit)
- Total 240fps for 8 channels (NTSC)
- Supports multiple cards up to 128 channels video/audio input
- External GPIO daughter board supports up to 8 inputs and 8 outputs (optional)
- SDK available for customer to create customized applications
- Supports 8 channels video/audio input and 2 channels video output

Packing List

1 x IVCE-C608 capture card	
1 x Video/Audio input cable kit	1 x Utility CD
1 x Reset cable	1 x QIG

VIOCARD-GPIO (optional)

2-channel video output
8-channel audio input
8-channel video input
D-Sub to RCA jack and BNC cable

Ordering Information

Part No.	Description
IVCE-C608-R10	PCIe video/audio capture vard with 8-channel video/audio input, total 240fps@D1 for 8 channels (NTSC)
VIOCARD-GPIO-RS-R10	4-bit input and 4-bit output GPIO card
32225-002200-100-RS	GPIO card to IVC capture card connection cable

IVCE-C604

PCIe video/Audio Capture Card with 4-Channel Video/Audio Input, Total 120fps@D1 for 4 Channels (NTSC)

Digit LED to show card ID

The ID is programmed by a rotary switch

Status indicator LED

Red → System alarm
Green → AP running
Yellow → Watchdog alarm

Cascade Reset

GPIO Port

Specifications

◆ Interface

Video Input	4 channels composite video NTSC/PAL auto sensing
Video Input Type	BNC (BNC+RCA to DB-26 cable included)
Audio Input	4 channels
Audio Input Type	RCA (BNC+RCA to DB-26 cable included)
Video Output	2 channels
Video Output Type	BNC (BNC+RCA to DB-26 cable included)
Bus Interface	PCIe x1
Alarm I/O	Yes
Card ID	Rotary switch selectable with LED for ID indication
LED Indicator	Red LED for system Green LED for AP running Yellow LED for watchdog

◆ Video Processing

Video Compression	Software compression	
Video Engine	1 x Conexant CX25850	
Resolution	NTSC: 720 x 576 720 x 480 720 x 288 720 x 240 352 x 240 320 x 240 160 x 120	PAL: 720 x 576 720 x 480 720 x 288 720 x 248 352 x 288 352 x 240 320 x 240 160 x 120
Frame Rate	NTSC: Total 120fps @ D1 for 4 channels PAL: Total 100fps @ D1 for 4 channels	

◆ Audio Processing

Audio Compression	Software compression
Sampling Rate	32kHz, 44.1kHz, 48kHz, 96kHz (hardware spec.)
Quantization	24-bit (hardware spec.)

◆ System Requirement

Platform	x86 PC compatible computer, PCI Express 1 lane, compatible with 1, 4, 8 and 16 lane PCIe slots
Memory	512MB or above

◆ Software Support

OS Support	Microsoft Windows7 32-bit/64-bit Linux: Ubntu 14.04 (64-bit) Kernel version: 3.13.0-32-generic

◆ Others

|	
Dimensions	111.23 mm x 102.39 mm
Operating Temperature	-5°C ~ 65°C, non-condensing
Power Consumption	3.51W (3.3V@0.9A, 12V@0.045A)

Features

- Single card 4-channel solution
- PCI Express interface provides higher bandwidth and great performance
- Compatible with Linux, Windows XP and Windows 7 (32-bit and 64-bit)
- Total 120fps @ D1 for 4 channels (NTSC)
- Supports multiple cards up to 64 channels video/audio input
- External GPIO daughter board with 4 inputs and 4 outputs (optional)
- SDK available for customer to create customized applications
- Supports 4 channels video/audio input and 2 channels video output

Packing List

1 x IVCE-C604 capture card	
1 x Video/Audio input cable kit	1 x Utility CD
1 x Reset cable	1 x QIG

VIOCARD-GPIO (optional)
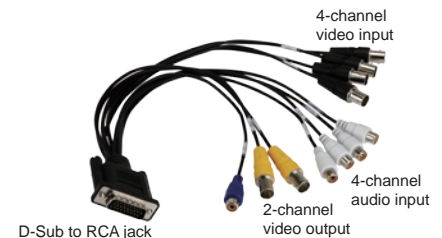
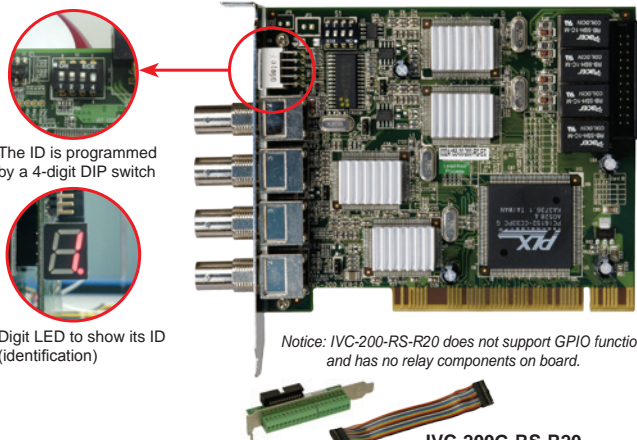D-Sub to RCA jack and BNC cable

4-channel video input

2-channel video output

4-channel audio input

Ordering Information

Part No.	Description
IVCE-C604-R10	PCIe video/audio capture card with 4-channel video/audio input, total 120fps@D1 for 4 channels (NTSC)
VIOCARD-GPIO-RS-R10	4-bit input and 4-bit output GPIO card
32225-002200-100-RS	GPIO card to IVC capture card connection cable

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Industrial Computing Solutions

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Video Capture Solutions

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Industrial Computer Chassis

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Open Frame Monitor

5
Power Supply/ Peripherals

6
All-in-One System

IVC-200G-RS

PCI video Capture Card with Four Video Input Channels, Total 120 fps @720x480 (NTSC)

The ID is programmed by a 4-digit DIP switch

Digit LED to show its ID (identification)

Notice: IVC-200-RS-R20 does not support GPIO function and has no relay components on board.

IVC-200G-RS-R20
GPIO daughter board and cable

Specifications

◆ Interface

Video Input	4 channels composite video NTSC, PAL and SECAM auto sensing
Video Input Type	BNC
PCI Interface	PCI Rev 2.1 compliance
CARD ID	DIP switch selectable with LED for ID indication
Alarm I/O	GPIO daughter board with 4 inputs and 4 outputs (IVC-200G-RS-R20 only)

◆ Software Support

Device Driver	Windows 98 SE, ME, 2000, XP / Linux kernel 2.4
SDK	Provides SDK and demo program with sample source code

◆ Video Processing

Video Engine	4 x Conexant Fusion BT878A
Resolution	NTSC: 720 x 480 640 x 288 720 x 288 640 x 240 720 x 240 352 x 288 640 x 480 352 x 240 PAL / SECAM: 720 x 576 640 x 480 720 x 480 640 x 288 720 x 288 640 x 240 720 x 240 352 x 288 704 x 576
Frame Rate	NTSC: Up to 120 fps per channel PAL /SECAM: Up to 100 fps per channel

◆ Multiple Card Support

Card	Video Port	Audio Port	Max. Channel / Resolution Support	Total Frame (NTSC/PAL)
1	4	N/A	4 channels, D1 (720 x 480)	120/100 fps
4	16	N/A	16 channels, QVGA (320 x 240)	480/400 fps

◆ System Requirement

System	x86 compatible computer
Graphic	DirectX compatible VGA card supporting YUV overlay mode

◆ Functionality

Video Loss Detection	Yes
Multi-screen Support	Yes

◆ Others

|	
Dimensions	119.91 mm x 106.68 mm
Operating Temperature	0°C ~ 60°C (32°F~140°F), non-condensing
Power Consumption	15W, 3A@5V (with relay)

Packing List

IVC-200G-RS-R20	1 x IVC-200G-RS-R20
	1 x GPIO daughter board with cable
	1 x Utility CD 1 x QIG
IVC-200-RS-R20	1 x IVC-200-RS-R20
	1 x Utility CD 1 x QIG

Ordering Information

Part No.	Description
IVC-200G-RS-R20	PCI video capture card with four video input channels, total 120 fps@720x480 (NTSC), and GPIO daughter board
IVC-200-RS-R20	PCI video capture card with four video input channels, total 120 fps@720x480 (NTSC)

PM-1056-RS-R21

PCI-104 Video Capture Card with Four Video Input Channels, Total 30 fps @720x480 (NTSC)
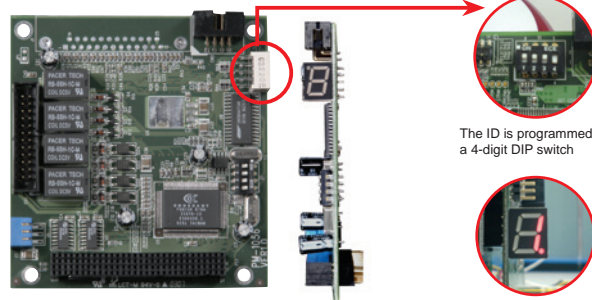
The ID is programmed by a 4-digit DIP switch

Digit LED to show its ID (identification)

◆ Applications: Video surveillance, security, public transportations, police and government

VIN-KIT-01
4 x BNC Connector Board

Specifications

◆ Interface

Video Input	4 channels composite video NTSC, PAL and SECAM auto sensing
Connector	BNC
Audio Input	4-channel analog audio
Connector	DB9 to 3.5mm phone jack audio cable
PCIe Interface	PCI 2.1 compliance
Card ID	Selectable with LED for ID indication
Alarm I/O	External GPIO daughter board with 4 inputs and 4 outputs (optional)

◆ Software support

Device Driver	Windows 2000, XP, Linux Kernel 2.4
SDK	Provides SDK and demo program with sample source code

◆ Video Processing

Video Engine	1 x Conexant Fusion™ BT878A
Resolution	NTSC: 720 x 480 720 x 288 720 x 240 640 x 480 640 x 288 640 x 240 PAL / SECAM: 720 x 576 720 x 480 720 x 288 720 x 240 704 x 576 640 x 480
Frame Rate	NTSC: Total 30fps @D1 for 4 channels PAL/SECAM: 25fps @D1 for 4 channels

◆ Multiple Card Support

Card	Video Port	Audio Port	Max. Channel / Resolution Support	Total Frame (NTSC/PAL)
1	4	N/A	4 channels, D1 (720 x 480)	30/25 fps
4	16	N/A	16 channels, D1 (720 x 480)	120/100 fps

◆ System Requirement

System	x86 compatible computer
Graphics	DirectX compatible VGA card with YUV overlay mode supporting

◆ Functionality

Video / Audio Synchronization	Yes
Video Loss Detection	Yes
Motion Detection	Hardware built-in
Watermarking	128-bit secret key, adjustable length

◆ Others

Dimensions	95.89 mm x 90.17 mm
Operating Temperature	0°C ~ 60°C (32°F~140°F), non-condensing
Power Consumption	3.5W@5V (with relay)

Packing List

1 x PM-1056	1 x Utility CD	1 x User manual
1 x Audio cable (P/N: 32000-038100-RS)	1 x Video flat cable (P/N: 32000-038100-RS)	

Ordering Information

| Part No.	Description
PM-1056-4P-RS-R21	PCI-104 video capture card with four video input channels, total 30 fps@720x480 (NTSC)
PM-1056-4PB-RS-R21	PCI-104 video capture card with four video input channels, total 30 fps@720x480 (NTSC), and VIN-Kit-01

Machine Vision Solution
Industrial Camera & Barcode Reader

What's Special About IEI USB3 Vision Products?

◆ Reliability

The USB3 Vision guarantees data delivery and has key reliability features such as retransmission and error checking capabilities. Each IEI USB 3.0 camera is designed with a frame buffer which can prevent the camera from dropping frames no matter in image processing or in image transfer through USB 3.0. Besides, the signal integrity of SuperSpeed, firmware and hardware design robustness of camera are tested and verificated.

The best recommendation is to integrate IEI camera, USB3 cable, and IEI industrial motherboard (IMBA-Q170-i2 or IMBA-H110) or embedded system (TANK-870 series) into one reliable system. These high-performance products can help you build a high-speed inspection application with both high bandwidth and low lantency.

USB 3.0

▲ IMBA-Q170-i2
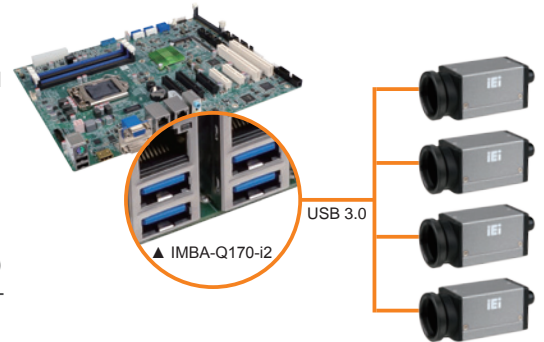
◆ Product Design and Product Quality

Regarding to camera circuit design, we choose flexible design to support mono or color CMOS sensor in one circuit design. The camera resolution is from 0.3 megapixels to 4.2 megapixels. IEI will continue to develop higher resolution and faster frame rate of mono, color series camera in the future.

In the development process, both the optical lens and camera are proven by a series of tests, including calibration, SFR/MTF, contrast and sharpness, white balance, gamma correction, dynamic range (DR), distortion, shading, etc. IEI's cameras give exactly the same output as the original image, achieving the highest level of what you see and what you get.

◆ IEI FPGA Customized Programming Ability

IEI cameras are designed using FPGA architecture to offer real-time image processing.

IEI has the ability on FPGA programming and algorithm design, and is able to provide customization for ODM customers.

FPGA can perform image pre-processing such as barcode decoding algorithm and OCR pre-processing. It can reduce computer's CPU resource usage and achieve the shortest possible inspection cycles.

◆ USB3 Vision & GenICam

- USB3 Vision and GenICam deliver users with stability and low latency values during image transfer and controlling of cameras.
- 100% standards compliant - helping you integrate quickly and get your application to market faster.
- You can upgrade GigE Vision camera to IEI USB3 Vision camera directly when you need higher resolution & frame rate. You don't need to modify your inspection software if they followed GenICam standard.
- IEI software development kit.

IEI Viewer

IEI Tools

Common APIs

GEN‹i›CAM

GiGE VISION | CAMERA Link | IEEE1394 Driver | CoaXPress | US3 VISION

◆ Mechanical Flexible Design

In the product mechanical design, we share the same tooling for some products. It's easy for user to upgrade cameras fixed in the production line to reduce the maintenance cost. We also design a mounting bracket for camera, allowing it to be fixed on the ball head, 3-way pan/tilt head or tripod head. To increase the robustness of the USB3 cable interface, the USB3 cable connector is designed to secure with screw.

Applications

- AOI: Automatic PCB inspection
- Alignment
- Pattern matching
- Packing inspection
- Surface/Appearance inspection
- Factory automation
- Quality inspetion
- Robot guidance and checking orientation of components

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Industrial Computing Solutions

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Video Capture Solutions

3

Industrial Computer Chassis
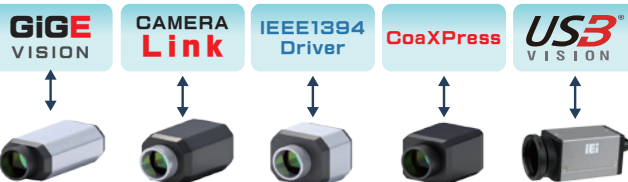
4

Open Frame Monitor

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Power Supply/ Peripherals

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All-in-One System

HSC-13M3-O

USB 3.0 Monochrome Camera & Opto-isolated I/O, 1/2" On-semi CMOS, Global Shutter, 1280x1024 pixel, without Lens, RoHS

Preliminary

Camera Lens (option)

Features

- Compact 1/2" On-Semi CMOS sensor
- Large pixel: 4.8 μm
- Resolution: 1280 x 1024 (1.3 MP)
- Frame rates up to 150FPS with 1280 x1024 resolution
- Global shutter
- USB3 vision V1.0

Specifications

◆ Camera

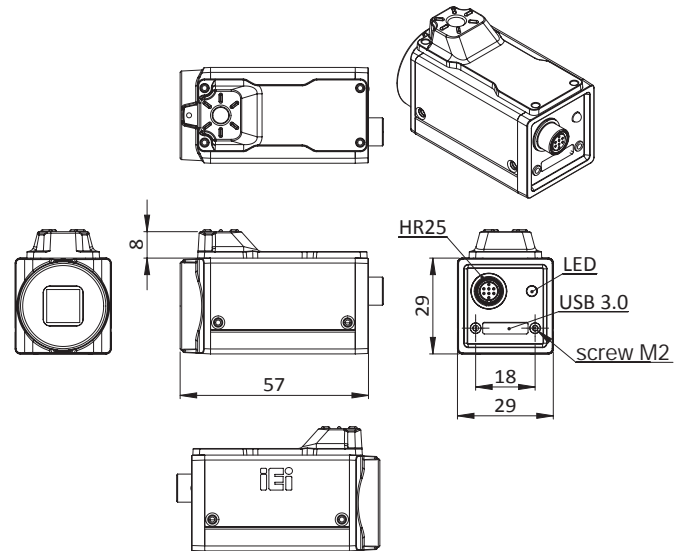|	
Resolution	1280 x 1024
Frame Rate (fps)	150FPS (Max)
Megapixels	1.3 MP
Chrome	Mono
Sensor Name	On-Semi PYTHON 1300
Sensor Type	CMOS
Readout Method	Global shutter
Sensor Size (inch)	1/2"
Pixel Size (μm)	4.8μm
Lens Mount	CS-mount
A/D Bits (ADC)	8-bit/10-bit
Acquisition Modes	Continuous, Single Frame, Multi Frame
Partial Image Modes	Pixel binning, decimation, ROI
Opto-isolated I/O Ports	1 input, 1 output
Non-isolated I/O Ports	1 RS-232
Auxiliary Output	5V, 100 mA max
Interface	USB 3.0
Machine Vision Standard	USB3 Vision v1.0
Compliance	CE, FCC

◆ Software Support

OS Support	Microsoft Windows 7/8.1/10 32-bit/64-bit
SDK	Windows: Provides SDK and demo program with sample source code

◆ Others

Dimensions (mm)	29 mm x 29 mm x 57 mm
Weight (grams)	85g
Operating Temperature	0° ~ 50°C
Storage Temperature	-30° ~ 60°C
Operating Humidity	20% ~ 80%
Storage Humidity	30% ~ 95%
Power Requirements	5V via USB 3.0 or 6-18V via Opto-isolated input

Dimensions *(Unit: mm)*

Packing List

1 x HSC-13M3-O	1 x Mounting bracket
1 x CS to C mount adapter	1 x QIG

Ordering Information

Part No.	Description
HSC-13M3-O	USB 3.0 monochrome camera & Opto-isolated I/O, 1/2" On-semi CMOS, global shutter, 1280x1024 pixel, without lens, RoHS
32001-019800-100-RS	USB 3.0 cable, 1800mm, USB 3.0 A type male and micro USB 3.0 B type male+screw, RoHS
32033-001000-100-RS	IO connecting cable with an 8 pin male connector (HR25-7TP-8P), flying leads in 3 meter lengths, 28AWG, RoHS (custom lengths upon request)
7I003-M1620MPW2-RS	Camera lens, 2/3", focal length 16mm, F2.0 C-Mount, RoHS
7I003-M3514MP-RS	Camera lens, 2/3", focal length 35mm, F1.4 C-Mount, RoHS
7I003-SV1214V-RS	Camera lens, 1/2", focal length 12mm, F1.4 C-Mount, RoHS
7I003-SV1614V-RS	Camera lens, 2/3", focal length 16mm, F1.4 C-Mount, RoHS
7I003-SV2514V-RS	Camera lens, 1", focal length 25mm, F1.4 C-Mount, RoHS

HSC-13C4-E

USB 3.0 Monochrome Camera & Opto-isolated I/O, 1/1.8" E2V CMOS, Global Shutter, 1280x1024 pixel, without Lens, RoHS

Preliminary

7/8.1/10 Windows | 32/64 Bit | USB 3.0

Camera Lens (option)

Features

- Compact 1/1.8" E2V CMOS sensor
- Large pixel: 5.3 µm
- Resolution: 1280 x 1024 (1.3 MP)
- Frame rates up to 60FPS with 1280 x 1024 resolution
- Global shutter
- USB3 vision V1.0 & GenICam standard
- IEI SDK

Specifications

◆ Camera

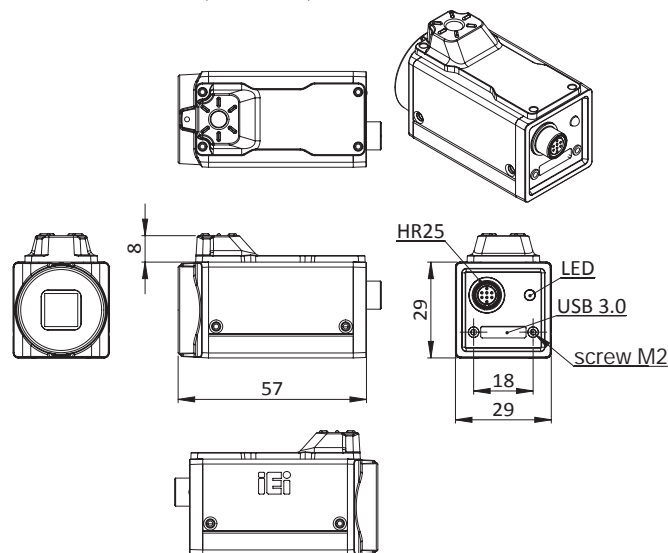|	
Resolution	1280 x 1024
Frame Rate (fps)	60FPS (Max)
Megapixels	1.3 MP
Chrome	Mono
Sensor Name	E2V
Sensor Type	CMOS
Readout Method	Global shutter
Sensor Size (inch)	1/1.8"
Pixel Size (µm)	5.3µm
Lens Mount	CS-mount
A/D Bits (ADC)	8-bit/10-bit
Acquisition Modes	Continuous, Single Frame, Multi Frame
Partial Image Modes	Pixel binning, decimation, ROI
Opto-isolated I/O Ports	1 input, 1 output
Non-isolated I/O Ports	1 RS-232
Auxiliary Output	5V, 100 mA max
Interface	USB 3.0
Machine Vision Standard	USB3 Vision v1.0
Compliance	CE, FCC

◆ Software Support

OS Support	Microsoft Windows 7/8.1/10 32-bit/64-bit
SDK	Windows: Provides SDK and demo program with sample source code

◆ Others

Dimensions (mm)	29 mm x 29 mm x 57 mm
Weight (grams)	85g
Operating Temperature	0° ~ 50°C
Storage Temperature	-30° ~ 60°C
Operating Humidity	20% ~ 80%
Storage Humidity	30% ~ 95%
Power Requirements	5V via USB 3.0 or 6-18V via Opto-isolated input

Dimensions *(Unit: mm)*

Packing List

1 x HSC-13M3-O	1 x Mounting bracket
1 x CS to C mount adapter	1 x QIG

Ordering Information

Part No.	Description
HSC-13M3-O	USB 3.0 monochrome camera & Opto-isolated I/O, 1/1.8" E2V CMOS, global shutter, 1280x1024 pixel, without lens, RoHS
32001-019800-100-RS	USB 3.0 cable, 1800mm, USB 3.0 A type male and micro USB 3.0 B type male+screw, RoHS
32033-001000-100-RS	IO connecting cable with an 8 pin male connector (HR25-7TP-8P), flying leads in 3 meter lengths, 28AWG, RoHS (custom lengths upon request)
7I003-M1620MPW2-RS	Camera lens, 2/3", focal length 16mm, F2.0 C-Mount, RoHS
7I003-M3514MP-RS	Camera lens, 2/3", focal length 35mm, F1.4 C-Mount, RoHS
7I003-SV1214V-RS	Camera lens, 1/2", focal length 12mm, F1.4 C-Mount, RoHS
7I003-SV1614V-RS	Camera lens, 2/3", focal length 16mm, F1.4 C-Mount, RoHS
7I003-SV2514V-RS	Camera lens, 1", focal length 25mm, F1.4 C-Mount, RoHS

HSC-03M2-O

Lightweight USB 3.0 Camera, Micron MT9V022 CMOS, Global Shutter, 60 FPS at 752x480, without Lens

7/8.1/10 Windows | **32/64 Bit** | **USB 3.0**

Camera Lens (option)

Demo Codes Provided

Open eVision (Euresys)

Open CV (Open Source)

MIL (Matrox)

HSC-03M2-O USB 3.0 High Speed Camera

Capture Card + Camera

Machine Vision Application Examples

Features

- IEI Vision SDK available
- Compact and lightweight industrial camera with Aptina global shutter CMOS sensor
- Compatible with USB 3.0 SuperSpeed specification
- Resolutions up to 752x480
- Frame rates up to 60 FPS
- Support AMCap and other DirectShow compatible software
- Other commercial vision software supported through DirecShow, ex: Halcon
- IEI Similarity technology can provide image enhancement

Specifications

◆ Camera

Resolution (max.)	752 x 480
Frame Rate (max.)	60 FPS
Megapixels	0.3 MP
Chroma	Mono
Sensor Name	Micron MT9V022
Sensor Type	CMOS
Readout Method	Global shutter
Sensor Format	1/3-inch
Pixel Size	6.0 µm
Lens Mount	CS-mount
ADC	8-bit/10-bit
Auxiliary Output	3.3 V, 100 mA max
Interface	USB 3.0 interface
Mass	79g
Compliance	CE, FCC

◆ System Requirement

System	Intel® Core™ i5 or above
Memory	2GB or more

◆ Software Support

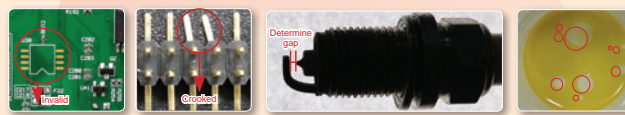|	
OS Support	Microsoft Windows 7/8.1/10 (32-bit/64-bit) Operating systems that support UVC
SDK	Windows: Provides SDK and demo program with sample source code

◆ Others

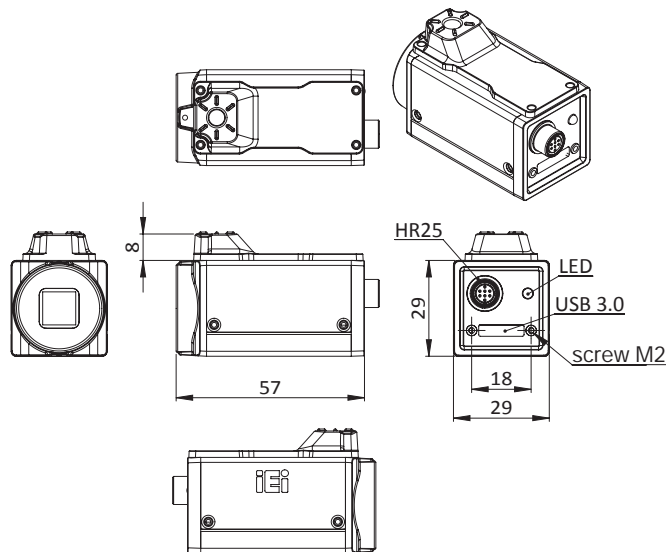|	
Dimensions (mm)	58.9 mm x 29 mm x 29 mm
Operating Temperature	0°C ~ 45°C
Storage Temperature	-30°C ~ 60°C
Operating Humidity	20% ~ 80%
Storage Humidity	20% ~ 95%
Power Requirements	5V via external connector or USB 3.0
Power Consumption (max.)	<3.5W

Dimensions *(Unit: mm)*

HR25

LED

USB 3.0

screw M2

8

57

29

18

29

Packing List

1 x HSC-03M2-O	1 x CS to C mount adapter
1 x Mounting bracket	1 x QIG

Ordering Information

Part No.	Description
HSC-03M2-O-R10	Lightweight USB 3.0 camera & opto-isolated, Micron MT9V022 CMOS, global shutter, 60 FPS at 752x480, without Lens
32001-019800-100-RS	USB 3.0 cable, 1800 mm, USB 3.0 A type male and micro USB 3.0 B type male+screw

Note: IEI does not offer Open eVision and MIL software licenses. Please buy the original version from their vendors.

HTDB-100FM

Handheld Barcode Reader with 1D/2D Barcode Decoding, 1280x1024, 10 ~ 270 mm Reading Distance, Anti-bacterial Surface, USB Interface

New

Features

- ♦ Medical Grade Design
  - ● Anti-bacterial surface
  - ● IP 41 protection class
  - ● Designed to withstand 20 times of 1.8 m drops to concrete on each of the faces
- ♦ Supports 1D and 2D Barcode Decoding
  - ● ISV Decode Algorithms/Technology
- ♦ Easy Connectivity
  - ● RJ-45 to USB I/O interface
- ♦ Easy Setup

| 7/8.1 Windows | 32/64 Bit | 1D Barcode Reader | 2D Barcode Reader | IP 41 |

Specifications

◆ Electrical

Interface	RJ-45 to USB 2.0
Input Voltage	5 V
Operating Power	2 W ~ 3 W

◆ Mechanical

Dimensions (HxWxD)	17.5 cm x 5.9 cm x 11.2 cm
Weight	120 g

◆ Environmental

Drop	Designed to withstand 20 times of 1.8 m drops to concrete on each of the faces
Sealing	IP 41
Operating Temperature	0°C to 55°C (32°F to 131°F)
Storage Temperature	-10°C to 65°C (13°F to 149°F)
Humidity	0 to 95% relative humidity, non-condensing
Light Levels	0 to 100,000 lux (9,290 foot-candles)

◆ Light Source

Aiming Pattern	520 ~ 535 nm LED
Illumination	646 ~ 666 nm LED

◆ System Requirement

OS Support	Microsoft Windows 7/8.1(32-bit&64-bit)
SDK	Windows: Provides SDK and demo program with sample source code Linux: Provides SDK and demo program with sample source code

◆ Scan Performance

|	
Scan Pattern	Area image (1280 x 1024 pixel array, 1.3M pixels)
Motion Tolerance	Up to 350 cm/s for 13 mil UPC at optimal focus
Depth of Field	10 mm ~ 270 mm
FOV	Horizontal: 42.4º Vertical: 34.4º Diagonal: 53º
Print Contrast	20% minimum reflectance difference
MTF	100 lp/mm (>10%)

◆ Symbologies

1D	UPC/EAN, UPC/EAN with supplementals, Bookland EAN, ISSN, UCC Coupon Extended Code, Code 128, GS1-128, ISBT 128, Code 39, Code 39 Full ASCII, Code 93, Interleaved 2 of 5, Codabar, MSI
2D	MicroPDF417, PDF417, Data Matrix, QR Code, Micro QR Code

◆ Ceritication

Electrical Safety	UL60950-1 2nd ed, EN60950-1/IEC60950-1 2nd ed
LED Safety	IEC 62471 and EN 62471
EMI/RFI	FCC Part 15 Class B, EN55022 Class B, EN55024, Medical Electrical Equipment:EN60601-1-2, FCC Part 18

Easy Setting for Barcode Preference or Symbology

To configure the barcode reader, simply scan the corresponding barcode symbols listed in the user manual. For example, if the user needs to set the exposure mode to automatic, just scan the Auto Exposure barcode.

1234+$
(All Symbologies On)

IEI-1234
(All Symbologies Off)

IEI-abc-1234
(Auto Exposure)
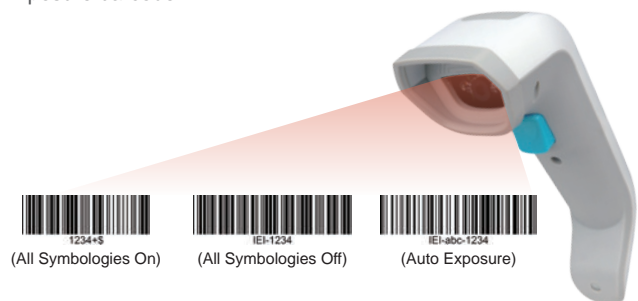
HTDB-100FM Decode Range

HTDB-100FM Decode Range	mil	Distance (mm)
code39 (Calibration Test Cards)	7.5	30 mm - 145mm
code128 (Calibration Test Cards)	7.5	35 mm - 145mm
UPCE (Calibration Test Cards)	13	20mm - 250mm
QR code	10	35mm - 180mm
QR code	20	10mm-270mm
Data Matrix	10	35mm-170mm
Data Matrix	20	15mm-270mm

1 Industrial Computing Solutions

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4 Open Frame Monitor

5 Power Supply/ Peripherals

6 All-in-One System

Application Place

Medical
The HTDB-100FM can be used in the medication cart/operating room/pharmacy/emergency room.

Industrial
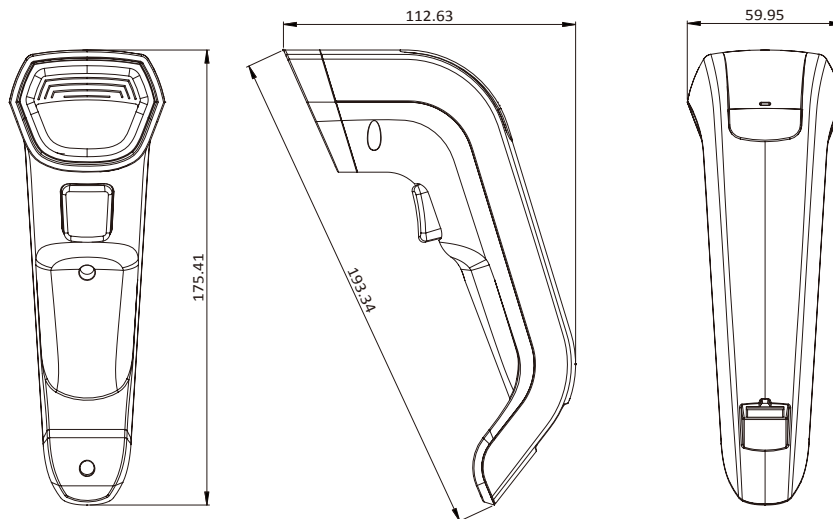The HTDB-100FM can be used in the production line/warehouse.

Food
The HTDB-100FM can be used in the discount stores/supermarket.

External Overview

Scan Window

Trigger Button

Decode LED

Power LED

RJ-45 Port (RJ-45 to USB cable)

HTDB-100FM Dimensions
(Unit: mm)

112.63

59.95

175.41

193.34

Packing List

1 x HDTB-100F series handheld barcode reader	
1 x RJ-45 to USB cable	1 x QIG

Ordering Information

Part No.	Description
HTDB-100FM-R10	Handheld barcode reader with 1D/2D barcode decoding, 1280x1024, 10 ~ 270 mm reading distance, anti-bacterial surface, USB interface, RoHS
HTDB-100F-R10	Handheld barcode reader with 1D/2D barcode decoding, 1280x1024, 10 ~ 270 mm reading distance, USB interface, RoHS

1

Industrial
Computing
Solutions

2

**Video
Capture
Solutions**

3

Industrial
Computer
Chassis

4

Open
Frame
Monitor

5

Power Supply/
Peripherals

6

All-in-One
System

ITDB-100 Series
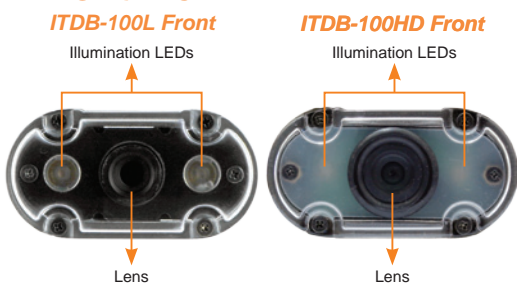### *IoT High Speed 2D Barcode Reader*

Features

- Support remote monitoring and control via Android phones and tablets
- Connection I/O interface: USB, Ethernet TCP/IP
- Support hardware and software trigger modes, both with one shot, series shot, batch and presentation options
- Automatic or manual CMOS sensor configuration: exposure, gain and brightness options supported
- LED: External / Internal
- Image: Capture
- Image Format: BMP
- Region of Interest setting
- Firmware upgradable via USB / Ethernet
- Other Configurations:
  - » Decode Timeout / Decode Interval

Installing ITDB Series barcode reader with QNAP NAS system allows you to manage your production lines in a more efficient way. An ITDB system that runs over an IP network infrastructure enables the decoded images and results to be distributed to any number of sites (e.g. QNAP NAS, Android tablet or phone and Windows PC), within the constraints of available bandwidth. With the TCP interface supported by the ITDB Series, the information can be instantly transmitted to the NAS system making real-time production line monitoring more efficient.
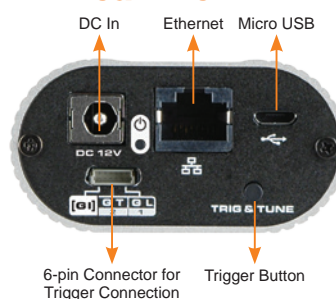
- **Time**
- **Picture**
- **Barcode data**

ITDB barcode reader management

Real-time production line status monitoring

Public Cloud (QNAP NAS, Azure, Amazon)

Intelligent Gateway

Wi-Fi

QNAP NAS

Ubuntu
Private Cloud

MODAT-531
PDA

ICECARE-10W **ICEROCK3**
Tablet PC

Fully Integrated I/O

■ *Front View*

ITDB-100L Front

Illumination LEDs

Lens

ITDB-100HD Front

Illumination LEDs

Lens

■ *Rear View*

DC In   Ethernet   Micro USB
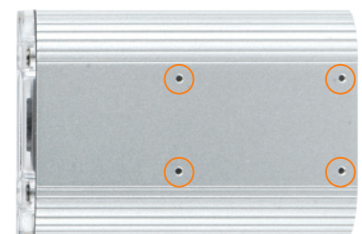
DC 12V

6-pin Connector for Trigger Connection

Trigger Button

TRIG & TUNE

■ *Bottom View*

The bottom surface of the ITDB-100 Series contains four retention screw holes for the mounting bracket.

1 — Industrial Computing Solutions

2 — Video Capture Solutions

3 — Industrial Computer Chassis

4 — Open Frame Monitor

5 — Power Supply/ Peripherals

6 — All-in-One System

Successful Product Features

■ *Ease of Connectivity*

Popular interfaces are on board: USB, Ethernet TCP/IP
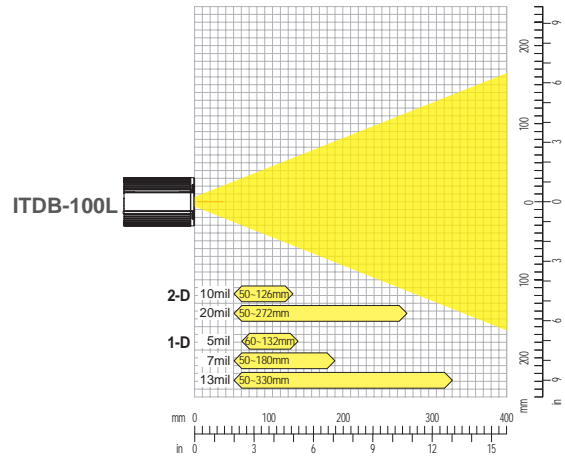
USB | **Ethernet**

■ *Easy to Read*

Multiple focal options provide application-specific scanning, leading to improved productivity

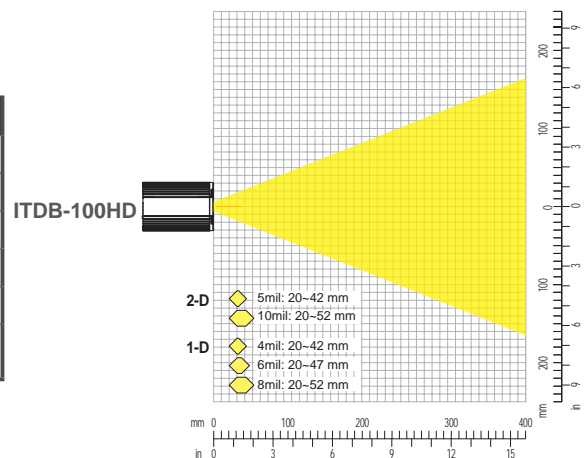## ■ *ITDB-100L Decode Range*

Typical Performance*	ITDB-100L-R10
5 mil Code 39	60 mm - 132 mm
7 mil Code 39	50 mm - 180 mm
13 mil UPC	50 mm - 330 mm
10 mil Data Matrix	50 mm - 126 mm
20 mil QR	50 mm - 272 mm
* Performance may be impacted by barcode quality and environmental conditions	

ITDB-100L

2-D
10mil 50~126mm
20mil 50~272mm
1-D
5mil 60~132mm
7mil 50~180mm
13mil 50~330mm

mm 0 / 100 / 200 / 300 / 400
in 0 / 3 / 6 / 9 / 12 / 15

■ *ITDB-100HD Decode Range*

Typical Performance*	ITDB-100HD-R10
4 mil Code 39	20 mm - 42 mm
6 mil Code 39	20 mm - 47 mm
8 mil Code 39	20 mm - 52 mm
5 mil Data Matrix	20 mm - 42 mm
10 mil Data Matrix	20 mm - 52 mm
* Performance may be impacted by barcode quality and environmental conditions	

ITDB-100HD

2-D
5mil: 20~42 mm
10mil: 20~52 mm
1-D
4mil: 20~42 mm
6mil: 20~47 mm
8mil: 20~52 mm

mm 0 / 100 / 200 / 300 / 400
in 0 / 3 / 6 / 9 / 12 / 15

■ *Supported Barcode Types*

Linear					
Codabar (NW7)	1234+$	Code 128	IEI-abc-1234	Code 39	IEI-1234
Code 93 and 93i	IEI-1234-/+	Interleaved 2 of 5	1234567890	MSI (1/2 CRC check)	01234567897
UPC	9 87456 41230 7	ISBN	9 781234 567897	EAN	0123 4565
Stacked					
PDF417		MicroPDF417			
Matrix					
Data Matrix		QR Code		Micro QR code	

* Besides the above barcode types, IEI has the ability to develop an algorithm for any barcode type upon customers' requests.

IEI Barcode Solution

IEI barcode quick-setup solution allows you to easily and quickly setup your ITDB Series barcode reader through an Android phone or tablet that has IEI barcode reader APK installed.
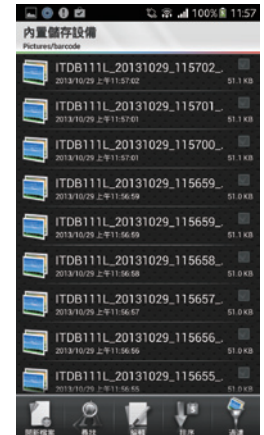

Scan this code with your phone to go to the Android Market and download the app for **FREE.**
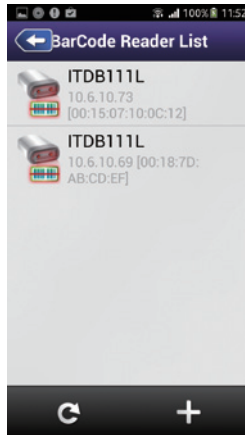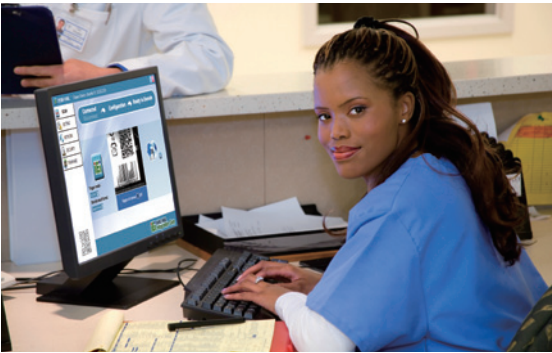

Select an ITDB device

Quick setup & ready to decode

Can't decode? Report IEI with the saved image

IEI offers a barcode verifier software for Windows systems which is used to guarantee that the barcodes you print are 100% compliant to the ITDB barcode reader. Verification is akin to insurance: you hope you'll never need it but it's risky to function without it.

Barcode reader configuration

Barcode verification

Applications

IEI-1234-/+

Packaging

The ITDB-100 Series 2D barcode readers are ideally suited for to a wide range of packaging applications.

Document Handling and Sorting

The ITDB-100 Series 2D barcode readers are perfect for sorting documents, envelopes, and more.

Pharmaceuticals

The ITDB-100 Series 2D barcode readers provide accurate reading of multiple code formats in a single view.

Abundant Trigger Connection Ports

■ *Support up to 2 Trigger Connection Ports*

Group	Pin	Description
1	1	Output of LED Flash Trigger
	2	Ground for the Output LED Flash Trigger
2	3	Input of Interrupt Trigger
	4	Ground for the Input of Interrupt Trigger
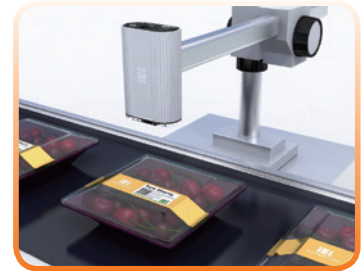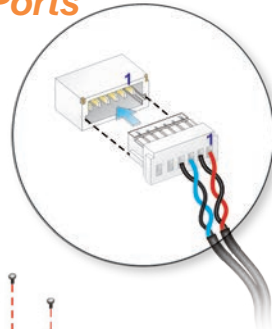
Applications for Logistics Schematic Diagram

## ■ *Mounting Way*

Mounting bracket size (50x31x8 mm)

Mounting bracket screw size: M2

Mounting screw

Digital Input and Output Connection

The ITDB digital input and output ports enable connection to external devices, such as detectors (e.g. proximity and photoelectric sensors), flash power controller box and lights (e.g. bar and coaxial light). When input and output mechanisms are connected, you can manually or automatically request through the ITDB management software either from a remote PC, android phone or tablet, QNAP NAS or using the ITDB's built-in logic.
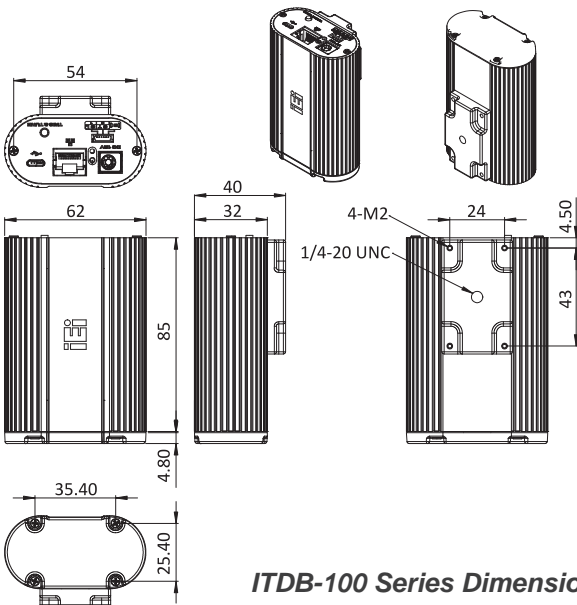
Input → **ITDB-100 Series** → Flash box → **Bar Light Unit Coaxial Light**

Interrupt
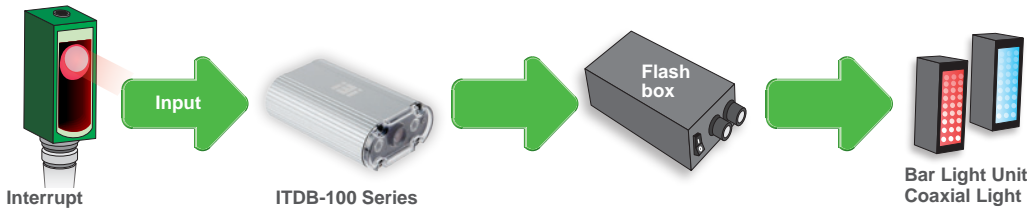
∗ I/O usage example: An ITDB attached to a photoelectric sensor and to a flash power controller system.
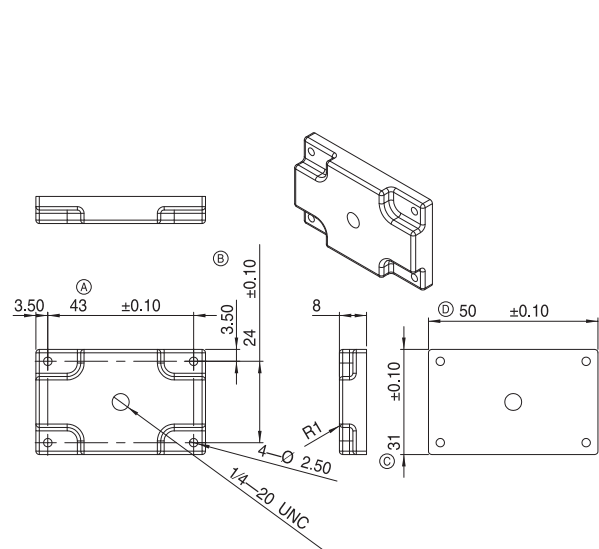
■ *Accessories*

● **External Lighting**
　» Bar Light Unit
　» Coaxial Light
● **Power Controller Box**
● **Trigger Sensors**
　» Proximity sensor
　» Photoelectric sensor

Dimensions (Unit: mm)

54

62

40

32

4-M2

1/4-20 UNC

24

4.50

43

85

4.80

35.40

25.40

ITDB-100 Series Dimensions

3.50　43　±0.10

3.50

±0.10

24

8

Ⓐ

Ⓑ

Ⓒ　31

Ⓓ　50　±0.10

±0.10

R1

4　Ø 2.50

1/4—20 UNC

Mounting Bracket Dimensions

1 — Industrial Computing Solutions

2 — Video Capture Solutions

3 — Industrial Computer Chassis

4 — Open Frame Monitor

5 — Power Supply/ Peripherals

6 — All-in-One System

Specifications

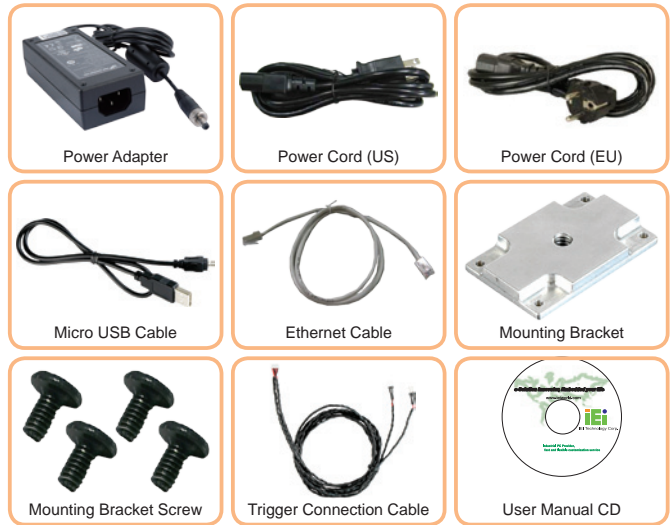|			
Supported 1D Symbologies	Code 39, code 93, interleaved 2 of 5, UPC/EAN (ISBN, UPCA, UPCE, EAN13, EAN8) EAN 128, code 128, MSI, codabar	**Operating Limits of the 6-pin Connector for Trigger Connection**	Output of LED Flash Trigger Current: 8mA Voltage: 3.3VDC Input of Interrupt Trigger Current: 1.4mA@5VDC, 4mA@12VDC, 6.2mA@18VDC Recommended operating voltage: 5VDC ~ 18VDC Absolute voltage limits: 4.5VDC ~ 24VDC
Supported 2D Symbologies	PDF-417, Micro PDF-417, QR Code/microQR Code, Data Matrix		
Sensor Major Specifications	Sensor: 1/3 inch CMOS with global shutter Resolution: 752 x 480 Acquisition: Max. rate 60fps	**OS Support**	Microsoft Windows 7/8.1 (32-bit & 64-bit) Microsoft Windows 10 (32-bit & 64-bit) via network connection
Lens Major Specifications	Focus: Fixed **ITDB-100L** Code resolution: ≥0.33 mm Reading distance (at code resolution): 50 mm ~ 330 mm **ITDB-100HD** Code resolution: ≥0.2 mm Reading distance (at code resolution): 20 mm ~ 52 mm	**SDK**	Windows: Provides SDK and demo program with sample source code
		Software	AP (without source code): Provide software installer to use directly
		Mechanical Specifications	Housing: Die-casting aluminum Housing color: Silver Front cover: Transparent plastic Weight: 290 g (without mounting bracket) Dimensions (LxWxH): 89.8 mm x 62 mm x 32 mm
Illumination Element (nm)	2 x Red LEDs Visible red light (λ= 650 nm ~ 660 nm)		
I/O Interfaces	1 x Micro USB port (USB 2.0 data transmission rate: 480 M-bit/s) 1 x Ethernet port (Ethernet data transmission rate: 10/100 M-bit/s) 1 x DC in jack (Φ2.5/Φ5.5) 1 x 6-pin connector for trigger connection 1 x Trigger and tuning control button 1 x power indicator Acoustic indicators: Beeper	**Environment**	RoHS compliant Operating temperature: 0°C ~ 50°C Storage temperature: -10°C ~ 60°C Permissible relative humidity: 90% (non-condensing) Ambient light safety: 2,000 lx, on code
		Shock Resistance	EN 60068-2-27 (2009-05)
Power Supply	Operating voltage: 12V/3.3A Power consumption: Power on = 7.7 W Max. PD = 9.9 W	**Vibration**	MIL-STD-810F 514.5C-1 and IEC-60068-2-06

Packing List

Item	Part No.	Q'ty
ITDB-100 Series	ITDB-100L-R10/ ITDB-100HD-R10	1
Power Adapter	63000-FSP040DGAA1106-RS	1
Power Cord (US)	32701-000700-100-RS	1
Power Cord (EU)	32702-000200-100-RS	1
Micro USB Cable	32001-016100-100-RS	1
Ethernet Cable	32000-113100-RS	1
Mounting Bracket	42010-0172E4-00-RS-N	1
Mounting Bracket Screw	44045-020061-RS	4
Trigger Connection Cable	32125-008200-100-RS	1
User Manual and Utility CD	7B000-000966-RS	1

Power Adapter Power Cord (US) Power Cord (EU)

Micro USB Cable Ethernet Cable Mounting Bracket

Mounting Bracket Screw Trigger Connection Cable User Manual CD

Ordering Information

Part No.	Description
ITDB-100L-R10	Image-based code reader system with 1D, 2D decoding code types, 752x480, 2 x LEDs, Reading distance (at code resolution): 50mm ~ 330mm, 12V DC Input, RoHS, I/O interface with 1 x USB 2.0, 1 x DC jack (Φ2.5xΦ6.3), 1 x ethernet, 1x6-pin trigger port, 1 x trigger button
ITDB-100HD-R10	Image-based code reader system with 1D, 2D decoding code types, 752x480, 2 x LEDs, Reading distance (at code resolution): 20mm ~ 52mm, 12V DC Input, RoHS, I/O interface with 1 x USB 2.0, 1 x DC jack (Φ2.5xΦ6.3), 1 x ethernet, 1x6-pin trigger port, 1 x trigger button