

# Indoor 1.3 Mega Pixel IR Dome Camera

CDIH116IR



ONVIF

- High resolution H.264 / MJPEG dual encoding and transmission
- 30 images per second at 1.3 mega pixel resolution
- Versatile 3.6-16mm auto Iris mega pixel lens
- Advanced 1/3" progressive scan MOS technology
- 24 high performance IR LED's for zero lux viewing up to 65 feet
- Extremely low light performance true Day/Night with mechanical IR cut filter
- Integrated 3 axis mount bracket included
- iNEX compatible
- OnVIF and PSIA integration
- DC12V



**Costar**  
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# CDIH116IR User's Manual

## (Product Guide)

Version 4.12(Rev.E)

September 30, 2011

### **Class A Digital Device (industrial & commercial environment)**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to CE and FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## CDIH116IR User's Manual

Document Version: 4.12 (Rev.E)

Revised: September 30, 2011

### About This Document

This document is prepared for users of CDIH116IR supplied by Costar Video Systems, LLC. It is assumed that the users are familiar with Microsoft Windows operating systems and Web browsers such as Internet Explorer. It is also assumed that the users are well aware of how to install and use the network equipment such as LAN, Hub, router, and having basic knowledge of network terminologies. If you have any questions regarding network installations, please contact your network equipment vendor or network administrator or Internet service providers.

For updated contents, detailed features and other applications from Costar Video, please refer to the user's manual in CD-ROM provided with the product you purchased, or visit Costar Video's website at [www.costarvideo.com](http://www.costarvideo.com).

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## 1. Product Overview

### 1.1. CDIH116IR

Costar Video® CDIH116IR is a stand-alone device transmitting video from built-in megapixel camera over IP(Internet Protocol) network.

It can transmit up to 30fps over the existing network. You can monitor video of CDIH116IR through web browser(ie. MS Internet Explorer), if CDIH116IR is connected to network. CDIH116IR supports video compression both Motion-JPEG and H.264 simultaneously so that user can choose appropriate video compression for the purpose. For both Motion-JPEG and H.264, CDIH116IR provides 6 levels of video quality. CDIH116IR also supports both ONVIF and PSIA.

Built-in SD card slot for full-blown DVR functionality is optional.



Picture 1 : CDIH116IR

## 1.2. Key Features

- Standalone device with a built-in web server
- 10M/100M Auto-Sensing Ethernet
- Configuring and controlling through Web browser
- Max 30 fps transmission speed on TCP/IP network
- Effective Bandwidth & Bit-rate Control (VBR/CBR) by H.264
- Supports Dual Streaming in Motion JPEG and H.264
- 1ch Voice Encoding/1ch Voice Decoding
- Support Dynamic IP network by IPCCTVDNS Server
- Support Sensor Input and Digital Output
- Support Transparent Mode
- Built-in 2 way Audio transmission (1ch A-in, 1 A-out)
- Encryption function by user authentication
- Image transmission function via FTP and Email
- Support both ONVIF/PSIA

### 1.3. Technical Specification

	CDIH116IR-MS
Hardware	32bit Embedded CPU NAND Flash 128Mbytes/DDR2: 128Mbytes Linux version 2.6.xx operating system Battery backed up real-time clock
Image sensor	1/3" progressive scan MOS Active pixels 1280H x 1024V, 1.31M Effective pixels 1376H x 1070V, 1.47M Pixel size: 3.75 (H) $\mu\text{m}$ $\times$ 3.75 (V) $\mu\text{m}$ Color filter Bayer arrangement of primary colors: R, G, B Bit number of internal ADC: 12 bits Parallel output: 54 MHz, 12 bits Output frame rate: 30 fps
Lens	Auto IRIS & Vari-focal for Megapixel 3.6 - 16.0 mm F1.2
Minimum illumination	Color: 0.5 Lux(F1.2) B/W: 0.02 Lux(F1.2)
Video related special functions	Day & Night (ON/OFF) AGC, AWB Lens (MANUAL/DC) Shutter (MANUAL/AUTO) Vertical/Horizontal Flip Frequency Control (50/60) Brightness/Contrast/Sharpness Control
Video compression	Motion JPEG H.264
Video Standards	ONVIF PSIA
Resolution	1.3M(1280x1024), HD(1280x720), VGA(640x352), CIF(320x176), QCIF(160x96)

Frame rate (each channel)	Motion JPEG: Up to 30 fps @ 1280H x 1024V (Other Stream at QCIF) H.264: Up to 30 fps @ 1280H x 1024V (Other Stream at QCIF)
Video Streaming	Motion JPEG and H.264 Dual Streaming (Simultaneously) Controllable frame rate and bandwidth
Image setting	Compression levels: 6 (Motion-JPEG, H.264) Color: color, black & white
Voice	8 bit PCM (G.711-u-law), Sampling rates 8KHz, Mono Audio 1ch in & 1ch out
LAN interface	10/100BaseT Ethernet auto sensing IEEE 802.3af Built-in POE (optional) IEEE 802.11b/g Built-in wireless (optional)
SD card slot	Option
Alarm I/O Interface	1 Photo-coupled inputs and 1 Relay output
Video Output	1 loop through analog video outputs
Audio Input(MIC)	Input Impedence : 4 KOhm Pantom Power : 5 Volt Gain : 20 dB Jack : 3.5mm Mono
Audio Output(SPK)	Output Impedence : 130 Ohm Output Power : 50 mWatt Output Voltage : Peek To Peek 1 Volte Jack : 3.5mm Stereo
Power Over Ethernet	Option
Serial Interface	COM Port: RS-232, COM ports for console, serial input/output device Max Baudrate: 115,200 bps
Security features	Multi user level protection for camera access, Alarm I/O
Advanced Service	Up to 5.6M memory for Pre/Post alarm buffer E-Mail, FTP, IP notification, Alarm Notification to e-mail CGI Call by event or schedule
Built-in Motion detections	Accuracy: 12x12=144 blocks Motion Sensitivity : -100 ~ 100 : 100 is hypersensitive
Others	Transmit External data(EX:POS) transfer with Video IP notification by e-mail
Management	Configurable by serial, web or telnet Remote system update via telnet, FTP OR web browser
Developer support	Provides HTTP CGI API ActiveX control development kit
PWR Supply	SMPS Input: 100~240VAC, AC 50/60Hz, 300mA Output: DC 12 Volt, 1A



PWR Consumption	DC 12Volt Max 600 mA
Operating Environment	Temperature : 32° ~ 122°F (0° ~ 50°C) Humidity : 20 ~ 80% RH(non-condensing)
Miscellaneous	Freely downloadable NDVR Software Work with FW-Manager(NDVR S/W) Dynamic IP support through IPCCTVDNS Server
Simultaneous users	Live-cast for up to 16 clients
Installation, management and maintenance	Installation CD and web-based configuration Firmware upgrades over HTTP or FTP, firmware available at <a href="http://www.Costar Video.com">www.Costar Video.com</a>
Video access from Web browser	Video access from Web browser
Minimum Web browsing requirements	Pentium 4, 2 GHz, 2GB(RAM) or higher Video Card: 256MB RAM, 1024x768 resolution or higher 100Mbps Network Adaptor or faster Windows XP Pro or later Internet Explorer 6.x or later
System integration support	Powerful API for software integration available at <a href="http://www.Costar Video.com">http://www.Costar Video.com</a> , including Simple Viewer API, Costar Video Control SDK, event trigger data in video stream, embedded scripting and access to serial port peripherals over HTTP/TCP User can be installed user program daemon for event notification or sending image Embedded operating system: Linux 2.6
Supported protocols	HTTP, RTP/RTSP, TCP/IP, FTP, Telnet, RARP, PPPoE, PAP, CHAP, DHCP, SMTP client(e- mail), NTP
Applications (not included)	Costar Video Manager 16/32/128/256
Included Accessories	Power supply 12 V DC Star Wrench and Screw Set CD (User's Manual, installation wizard and etc)
Approvals	KCC FCC : Class A CE : Class A RoHS IP66
Dimensions (HxWxD) and weight (1lbs = 454g)	148Ø x 121(H) (in mm) About 0.940kg without power supply 1.0kg impact-resident casing Polycarbonate clear dome glass Metal base

*\* All specifications are subject to change without prior notice.*

**Table 1 : CDIH116IR Data Sheet**

## 1.4. CDIH116IR Packing List

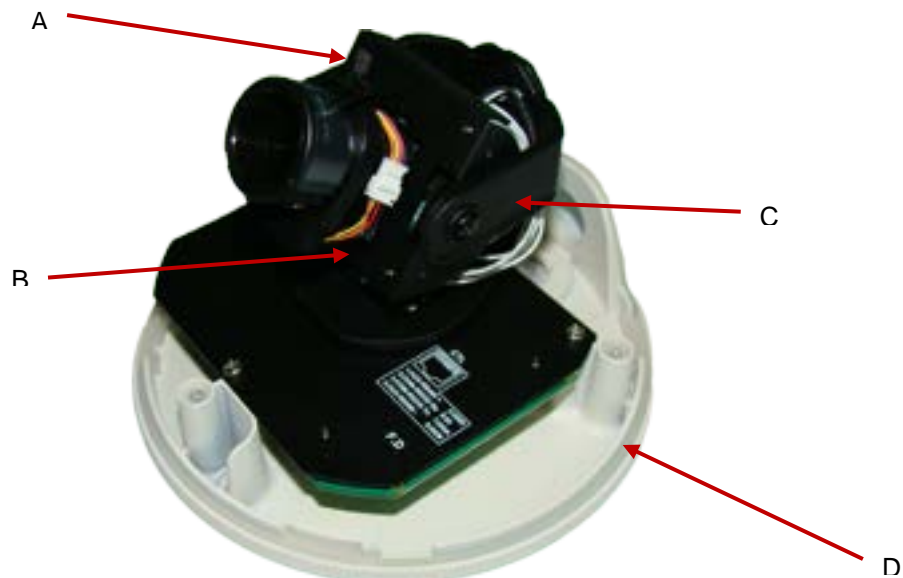
CDIH116IR	1ea	
Power Supply Unit (Power Cable & SMPS DC12V 1.0A Adapter)	1ea	
Star Wrench and Screw Set	1ea	
CD (User's Manual, installation wizard and etc)	1ea	

**Table 2 : CDIH116IR Packing List**

*Note: Please check all the listed items are included in your package. For any missing items, please contact your local distributor.*

## 2. Hardware Description

### 2.1. Front View under Dome Cover

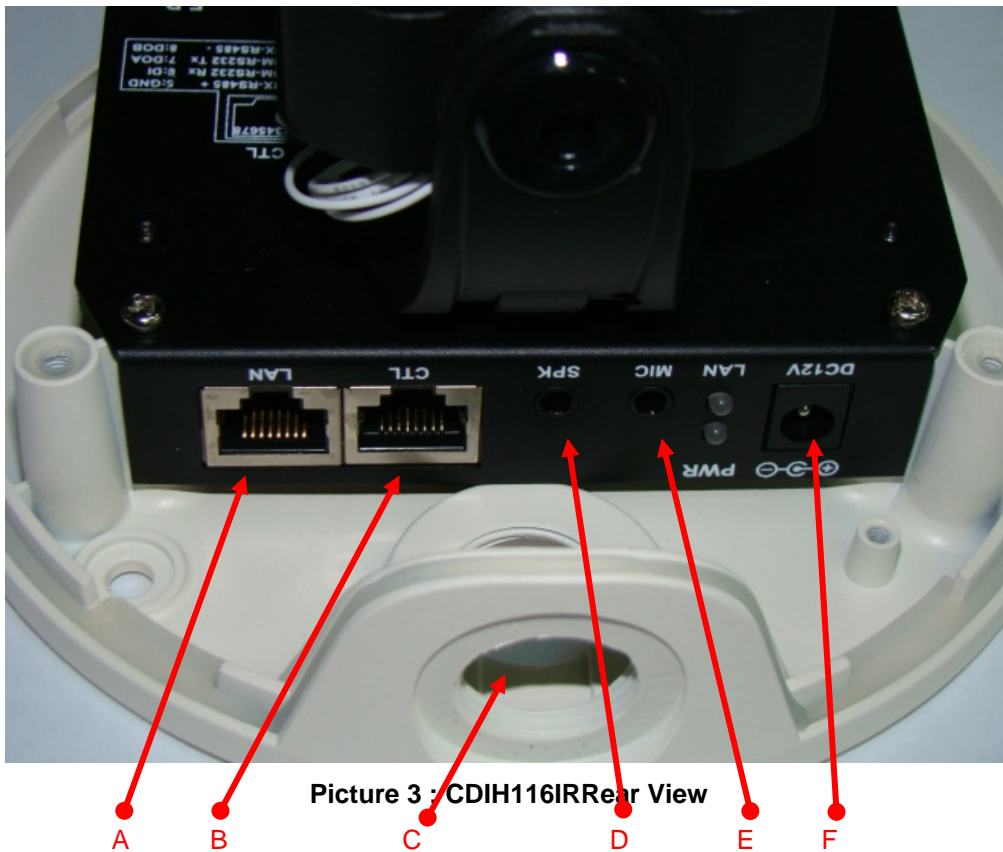


Picture 2 : Front View

	Name	Description
A	Bolt for positioning module (Up and Down)	Move the position of Module up and down (Fix the position when install)
B	Camera Module	Camera module to input Video
C	Bolt for positioning module (Right and Left)	Move the position of Module right and left (Fix the position when install)
D	Main Body	Mainboard and Camera Module

Table 3 : CDIH116IR Front View

## 2.1. Rear View under Dome Cover

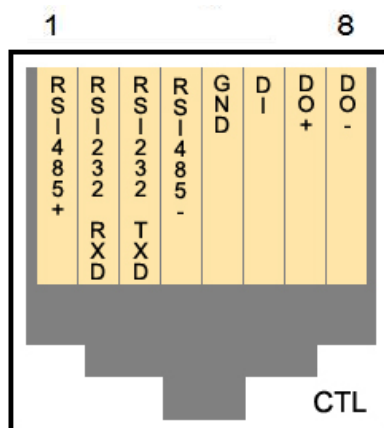


	Name	Description
A	LAN	LAN Connector.
B	CTL Conn.	CTL Port (RS-485, RS-232, DI, DO)
C	Cable Hole	Hole for cable out
D	SPEAKER ,V-OUT Conn.	Speaker Port ,Video Output Port
E	MIC Conn.	MIC Port
F	Power Conn.	Power Connector.

**Table 4 : CDIH116IR Rear View**

### 2.1.1. CTL Port Description

It's RS-232 port for Serial input device, Modem or Console (Hyperterminal.connection). For RS-232 connection, RXD,TXD and GND are used. For connection to PC, RXD and TXD are used. RXD and TXD should be cross to communicate properly



Picture 4 : CTL Port Description

### 2.1.2. Speaker V-out Jack Description

Jack information for Mono Speaker or Video Out Jack.



Picture 5 : V-out Jack

### 2.1.3. MIC Jack Description

Jack information for MIC



Picture 6 : MIC Jack

### 3. CDIH116IR Installation and Basic Setup

#### 3.1. Before Installation

- Read carefully User's Manual.
- Check User's Network (IP Address, Network Mask and default gateway)
- Secure IP address for CDIH116IR.

#### 3.2. Factory Default Settings

The following table shows the factory default condition. Please refer to this when you need to change the values on admin menu.

	Factory Default
Admin ID	root
Admin password	root
IP address	10.20.30.40
Network mask	255.255.255.0
Gateway	10.20.30.1

**Table 5 : Factory Default**

*Note: Factory default Admin ID and Password are all lower case letters. You can change the password with Capital letters.*

#### 3.3. Installing CDIH116IR

Following steps are the physical installation process for CDIH116IR.

1. Fix the CDIH116IR in place
2. Connect the CDIH116IR to the Internet cable through the LAN port.
3. Connect the power supply of CDIH116IR.

After that, you need to follow the steps below.

- Network Configuration: Refer to "IP Installer User's Manual"
- Camera Configuration: Refer to "Costar Video Admin Menu User's Manual"
- Service Configuration: Refer to "Costar Video Admin Menu User's Manual"