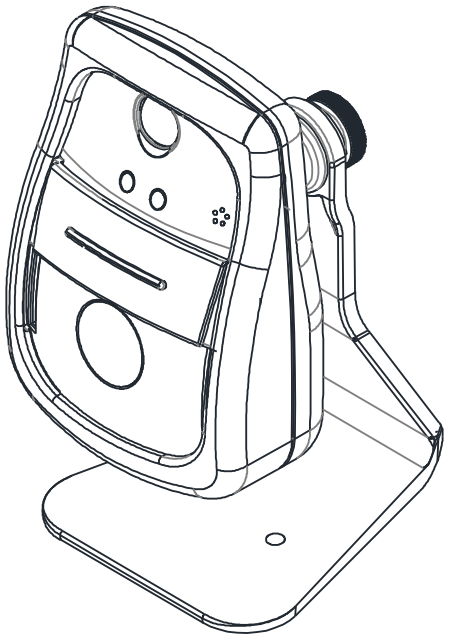
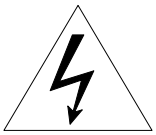


IPN100HD

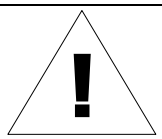
Installation Guide

INFORMATION TO USER

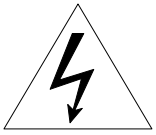


CAUTION

RISK OF ELECTRIC SHOCK,
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SEERIVCE PERSONEL.



This symbol is intended to alert the user to the presence of un-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Table of Contents

1. FEATURES

Camera

- Indoor Cube IP Camera
- HD720 (1280 x 720) streaming
- 1/4” 720p CMOS
- Improvement of color rolling suppression

Streaming

- Dual streaming mode
- Burnt-in text supported
- Unicast supported

Video/Audio

- Video compression: H.264/ MJPEG, 30FPS@720p
- Audio compression: G.711(µLaw, aLaw)
- Built-in video motion detection
- Two-way mono audio supported

Network

- RTSP/ HTTP protocol supported
- 10/100 Base-T Ethernet

Additional Features

- Micro SD card supported
- (Indoor model built-in, Outdoor model available with factory order only)Built-in Video Content Analysis
- SDK (Software Development Kit) provided

VCA (Video Content Analysis)

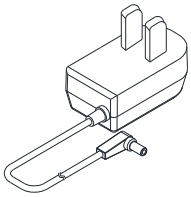
- VCA Presence (Standard)
- VCA Surveillance (Optional)

2. PACKAGE CONTENTS

Unpack carefully and handle the equipment with care. The packaging contains:

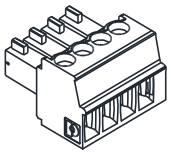
Camera

DC power adaptor

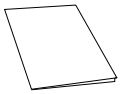


Screws and Anchor blocks

4 Pin terminal block



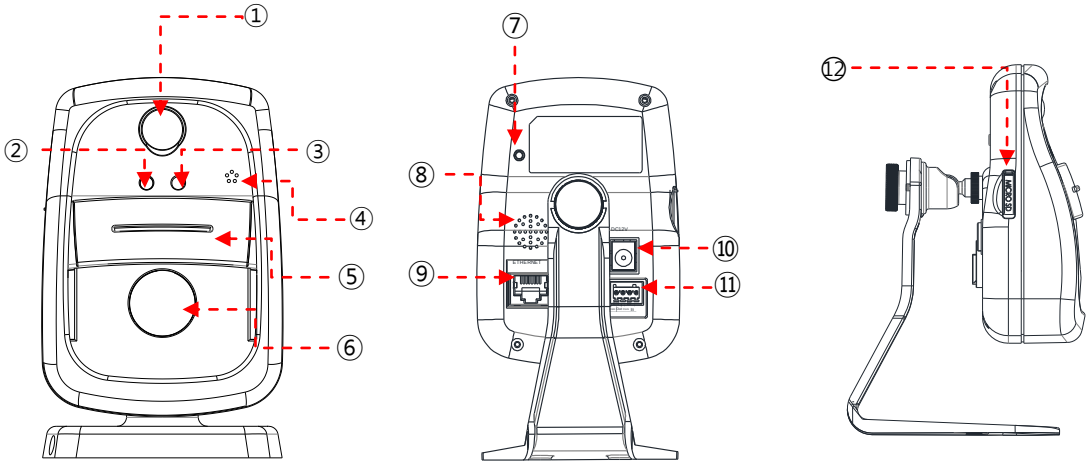
Quick Installation Guide



Note

Package contents are subject to change without prior notice.

3. PART NAMES



* Models herein and their appearance are subject to change without any prior notice.

① PIR sensor
Detects movement of objects

② Sensor indicator LED
When PIR sensor detects, the indicator glows in red

③ Status LED
LED glows in green when the device is connected

④ Microphone
Built-in microphone

⑤ Privacy Shutter
Manual shutter to close the lens

⑥ Camera lens
Prepositioned 1/4" 720p CMOS sensor

⑦ Reset button
The reset button can be used for restarting the device or resetting it to Factory Default. Refer to *6.3. Re set* and *6.4. Factory Default* for more details.

⑧ Speaker
Built-in speaker

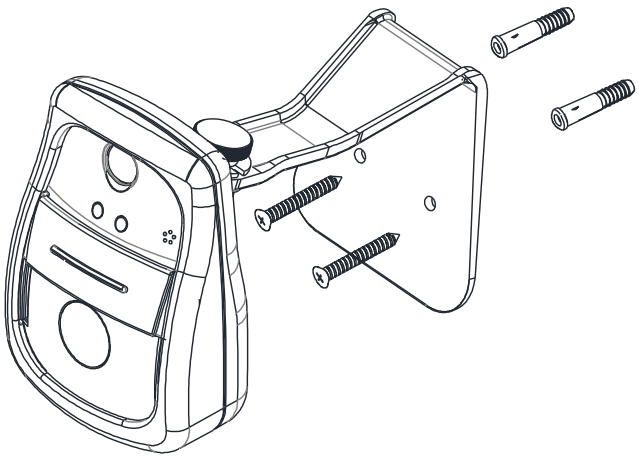
⑨ LAN Connector (Ethernet)
This is a RJ45 LAN connector for 10/100 Base-T Ethernet.

⑩ Power Adaptor Connector (DC 12V)
The camera needs a DC 12V adapter for power supply.

⑪ 4 pin terminal block for D/I, D/O
4 pin terminal block for D/I and D/O

⑫ Micro SD Card Socket
Memory card slot for external storage. Supports up to 32GB.

4. INSTALLATION



1) Drill two holes on the desired position of installation and insert anchor blocks into the holes.

2) Position the mount bracket to anchor blocks.

3) Fasten the mount bracket with screws.

4) Manually position the camera to area where it will be monitored.

Caution

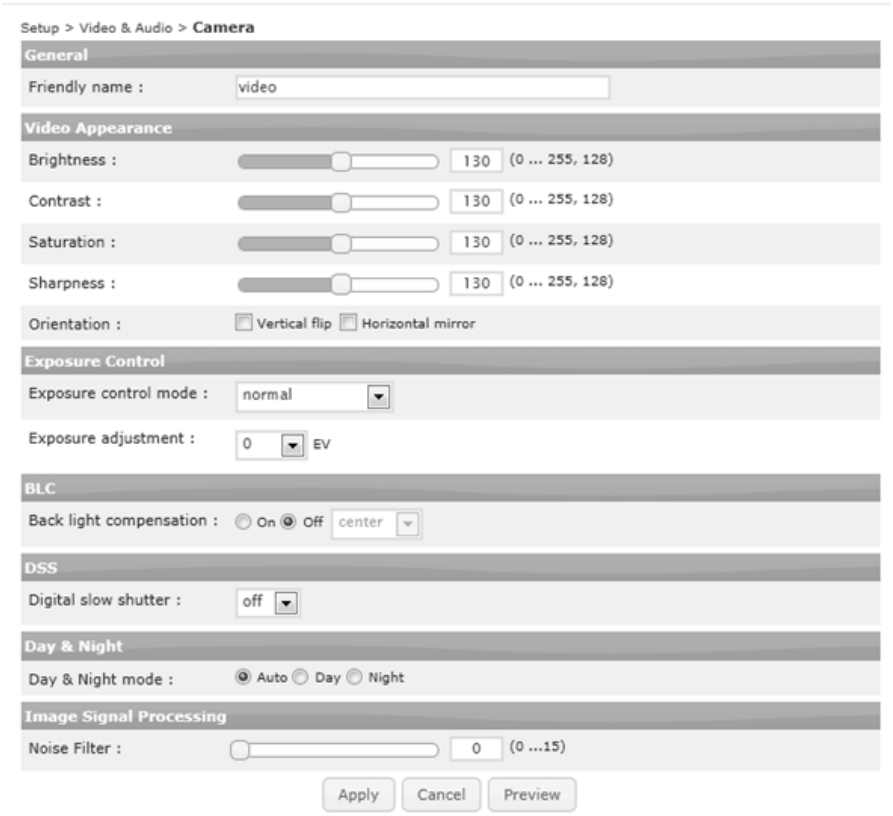
To prevent camera falling off from the mounted area, make sure the mounted surface firm and stable enough to support the camera. If any reinforcement is needed, consult with your safety personnel and proceed with the installation.

4.1. Lens Position

IPN100HD's lens is prepositioned. While installing with wall-mount bracket, position the camera body where images will be captured.

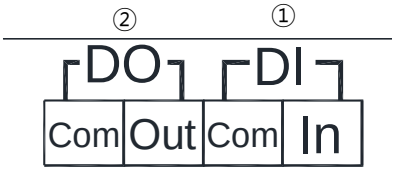
4.2. Setting the Image Attribute

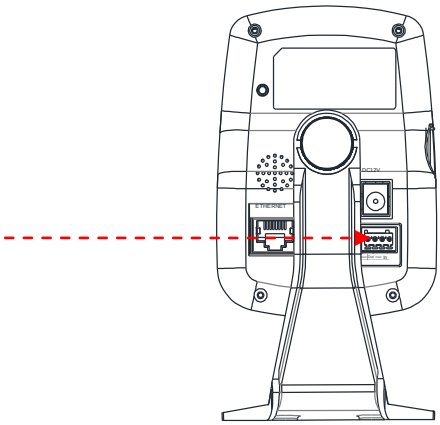
Image attributes can be configured through the web interface. (Microsoft® Internet Explorer recommended) The menu of image attribute can be found under **Setup > Video & Audio > Camera**. Through setting menu, brightness, contrast, saturation and sharpness, orientation, exposure control, backlight compensation, digital slow shutter (DSS), day and night mode, and image noise filter can be adjusted.



5. CONNECTIONS

5.1. Connectors





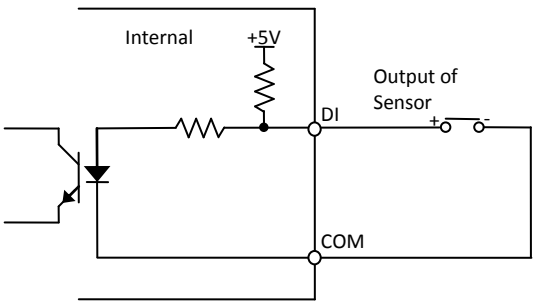
① Sensor (DI) connection

The camera provides 1 channel D/I. It can be connected to either a voltage type sensor or a relay type sensor as the following figures. It can be selected by software.

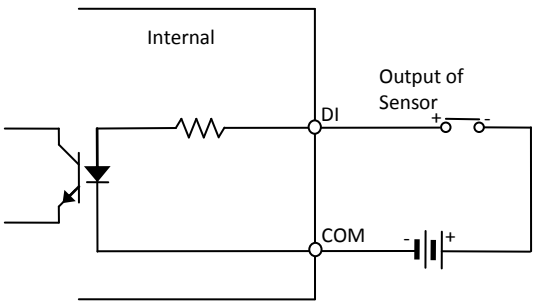
Input voltage range: 0VDC minimum to 5VDC maximum, Max 50mA
Input voltage threshold: 4.5V

Caution

Do not exceed the maximum input voltage or relay rate.



Relay Type



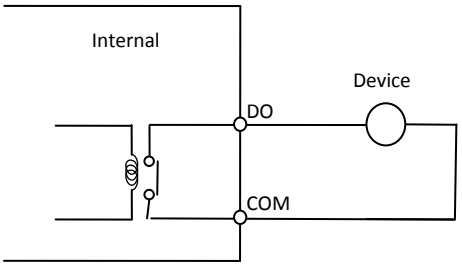
Voltage Type

② Alarm (DO) connection

Only the relay type is supported.
Relay Rating: Max 24VAC 500mA or 12VDC 1A

Caution

Do not exceed the maximum relay rating.



Relay Type

6. CONFIGURATION

6.1. Set up network environment

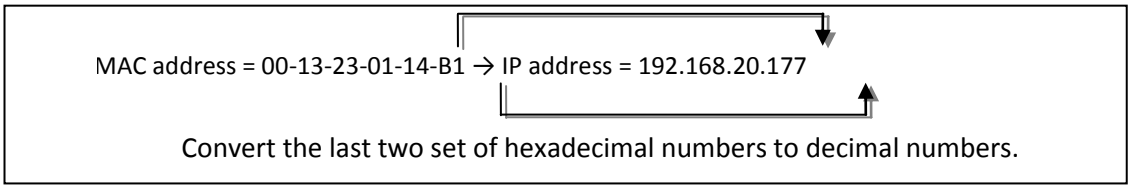
The default IP address of the device is 192.168.XXX.XXX. Users can identify the IP address of the device from converting the MAC address's hexadecimal numbers, which is attached to the device. Be sure that the device and PC are on a same area network before running the installation.

IP address : **192.168.xxx.xxx**
Subnet mask: **255.255.0.0**

6.1.1. Generic IP Environment

In case of generic private network environment where IP address 192.168.XXX.XXX are used, users may view the live streaming images on a web page using the device's default IP address:

1. Convert the device's MAC address to the IP address. Refer to the Hexadecimal-Decimal Conversion Chart at the end of the manual.
   (The MAC address of the device is attached on the side or bottom of the device.)



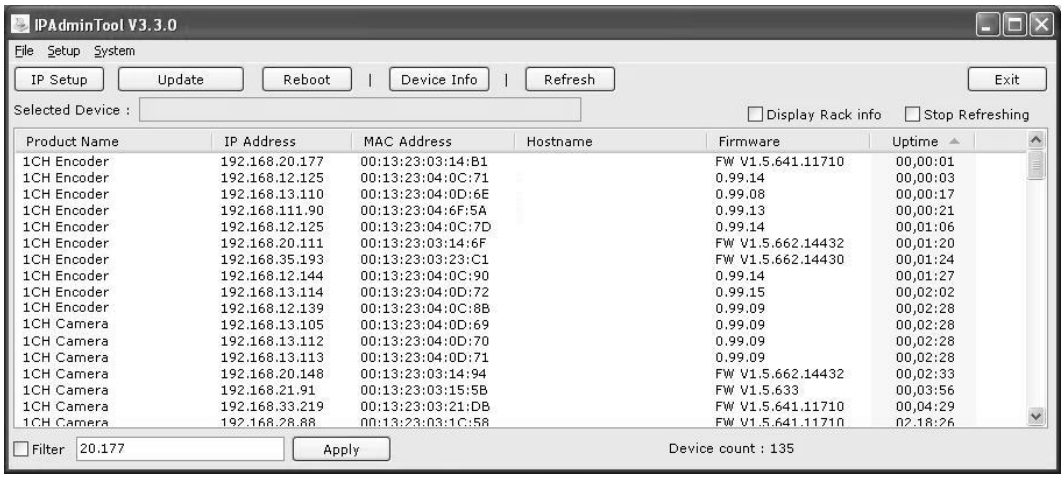
2. Start the Microsoft® Internet Explorer web browser and enter the address of the device.

3. Web streaming and device configurations are supported through ActiveX program. When the ActiveX installation window appears, authorize and install the ActiveX.

6.1.2. Custom IP Environment

IPAdminTool is provided with SDK at the following SDK path.
{SDK root}\BIN\TOOLS\AdminTool\

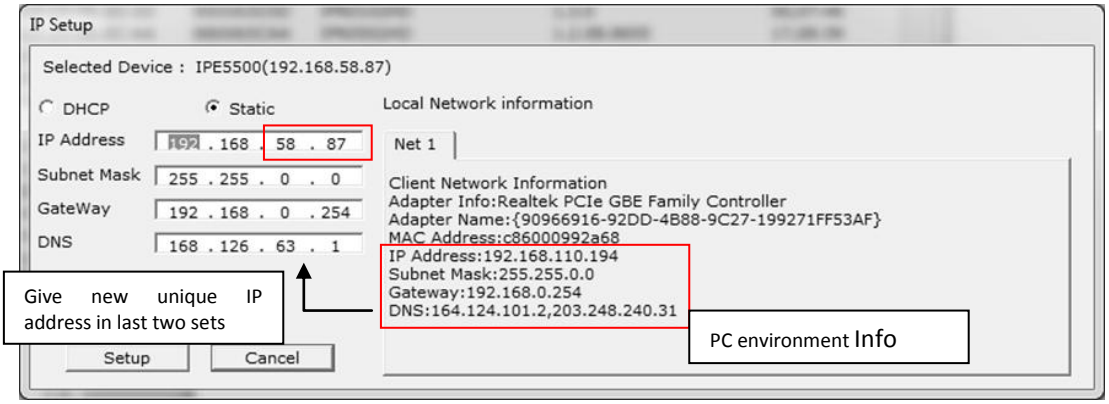
IPAdminTool is a management tool, which automatically scans all of the network products for users to perform administrative tasks, which includes network configurations, firmware update, device reboot, and device organizations.



To modify the device's default IP address for customized network area;

1. Find the device from the IPAdminTool's list and highlight the device's name.

2. Right-click the mouse and select "IP Address"; IP Setup window appears.



3. In the IP Setup's window, information under 'Local Network information' displays the user/PC's network area information. Those information need to be incorporated to the IP Address, Subnet Mask, Gateway, and DNS boxes, except the last 2 sets of IP Address, which are to be the unique numbers for the device. Refer to the image above for the setting

4. Click 'Setup' to complete the modification.

6.2. View video on web page

Type the proper IP address to view the live streaming images through a web browser.
The default username and password is *root / pass*.

1. The browser asks to install the ActiveX. Click Allow.

2. Setup.exe installation link or pop-up window appears, depends on Microsoft® Internet Explorer version. Proceed with rest of setup installation.

3. Follow the instructions of the dialog boxes and complete the installation. Once the installation is complete, start the web browser again and check if video stream is displayed in the main view frame.

4. Depends on Microsoft® Internet Explorer version, the web browser might need to be refreshed or restart. Accesses the web address after all ActiveX are installed.

6.3. Reset

1. While the device is on, press the reset button for 1~2 seconds.
2. Wait for the system to reboot.

6.4. Factory Default

1. While the device is on, press reset button and hold.
2. Release the Reset button after about 5 seconds when green LED blinks, which is located in the front panel, at rate of 200ms.
3. Wait for the system to reboot.

The factory default settings can be inferred as follows:

IP address:	192.168.xx.yy
Network mask:	255.255.0.0
Gateway:	192.168.0.1
User ID:	root
Password:	pass

APPENDIX (A): SPECIFICATIONS

Summary

Camera Module	
Image Sensor	1/4” 720p CMOS
Effective Pixels	1280 x 720
Scanning System	Progressive scanning
AGC Control	Auto
Minimum Illumination	Color : 1.0 lux, BW : 0.001 lux(Sens-up 32X)
Lens	2.7mm F2.0 Megapixel
Field of View	91° (Horizontal)
Day & Night	Software
Smart Edge Enhance	Supported (Auto adjust the sharpness by Lux)
2D-DNR	Supported (1 ~ 16)
DSS (Sens-up)	2X ~ 32X
White Balance	ATW / Manual / Push
BLC	On(possible to designate zone) / Off
Video	
Compression Format	H.264, MJPEG
Number of Streams	Dual Stream, Configurable
Resolution	1280 x 720, 800 x 450, 480 x 270, 320 x 180
Compression FPS	30fps@720p
Motion Detection	Built-in
Burnt-in Text	Video stream overlay text
Audio	
Input	1 Built-in Mic.
Output	1 Built-in Speaker
Compression Format	G.711

Functional Features

Digital Input and Output	1 / 1
PIR Sensor	Supported
Network	10 / 100 Base-T
Wi-Fi	Supported (11b/g/n)
Protocol	TCP/IP, UDP/IP, HTTP, RTSP, RTCP, RTP/UDP, RTP/TCP, SNTP, mDNS, UPnP, SMTP, IGMP, DHCP, DDNS, SSL v2/v3, IEEE 802.1X, SNMP v2/v3
SD Memory (microSD)	Built-in with slot
Privacy Shutter	Detecting Position of Shutter On/Off

Environment Characteristics

Power Source	DC 12V
Power over Ethernet	None
Power Consumption (Approx)	400mA @ DC 12V

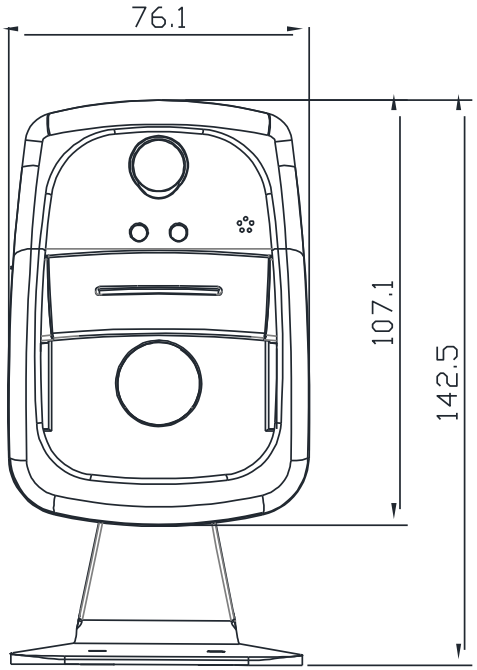
Environment Characteristics

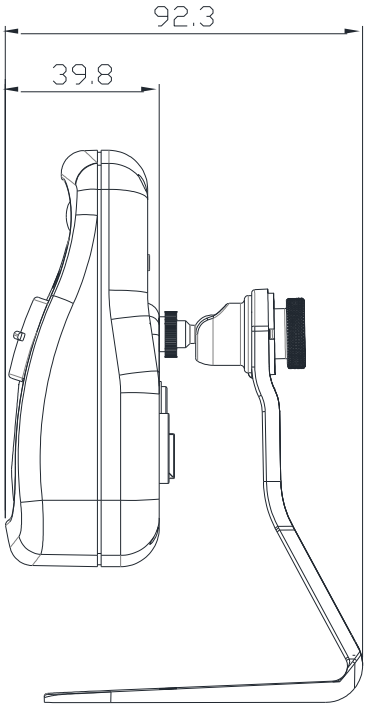
Fan / Heater	None
Operating Temperature	DC12V : 0˚C ~ 50˚C (32˚F ~ 122˚F)
Operating Humidity	Up to 85% RH, Non-condensing
Certification	FCC Class B, CE, KC, RoHS
IP Protection Ration	No

Mechanical Characteristics

Material	Plastic (PC + ABS)
Color	Ivory
Dimension	76(W) x 107(H) x 40(D)mm
Weight (Approx)	1,170g

APPENDIX (B): DIMENSIONS





(Unit: mm)

APPENDIX (C): HEXADECIMAL-DECIMAL CONVERSION TABLE

Refer to the following table when you convert the MAC address of your device to IP address.

Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec
0	0	25	37	4A	74	6F	111	94	148	B9	185	DE	222
1	1	26	38	4B	75	70	112	95	149	BA	186	DF	223
2	2	27	39	4C	76	71	113	96	150	BB	187	E0	224
3	3	28	40	4D	77	72	114	97	151	BC	188	E1	225
4	4	29	41	4E	78	73	115	98	152	BD	189	E2	226
5	5	2A	42	4F	79	74	116	99	153	BE	190	E3	227
6	6	2B	43	50	80	75	117	9A	154	BF	191	E4	228
7	7	2C	44	51	81	76	118	9B	155	C0	192	E5	229
8	8	2D	45	52	82	77	119	9C	156	C1	193	E6	230
9	9	2E	46	53	83	78	120	9D	157	C2	194	E7	231
0A	10	2F	47	54	84	79	121	9E	158	C3	195	E8	232
0B	11	30	48	55	85	7A	122	9F	159	C4	196	E9	233
0C	12	31	49	56	86	7B	123	A0	160	C5	197	EA	234
0D	13	32	50	57	87	7C	124	A1	161	C6	198	EB	235
0E	14	33	51	58	88	7D	125	A2	162	C7	199	EC	236
0F	15	34	52	59	89	7E	126	A3	163	C8	200	ED	237
10	16	35	53	5A	90	7F	127	A4	164	C9	201	EE	238
11	17	36	54	5B	91	80	128	A5	165	CA	202	EF	239
12	18	37	55	5C	92	81	129	A6	166	CB	203	F0	240
13	19	38	56	5D	93	82	130	A7	167	CC	204	F1	241
14	20	39	57	5E	94	83	131	A8	168	CD	205	F2	242
15	21	3A	58	5F	95	84	132	A9	169	CE	206	F3	243
16	22	3B	59	60	96	85	133	AA	170	CF	207	F4	244
17	23	3C	60	61	97	86	134	AB	171	D0	208	F5	245
18	24	3D	61	62	98	87	135	AC	172	D1	209	F6	246
19	25	3E	62	63	99	88	136	AD	173	D2	210	F7	247
1A	26	3F	63	64	100	89	137	AE	174	D3	211	F8	248
1B	27	40	64	65	101	8A	138	AF	175	D4	212	F9	249
1C	28	41	65	66	102	8B	139	B0	176	D5	213	FA	250
1D	29	42	66	67	103	8C	140	B1	177	D6	214	FB	251
1E	30	43	67	68	104	8D	141	B2	178	D7	215	FC	252
1F	31	44	68	69	105	8E	142	B3	179	D8	216	FD	253
20	32	45	69	6A	106	8F	143	B4	180	D9	217	FE	254
21	33	46	70	6B	107	90	144	B5	181	DA	218	FF	255
22	34	47	71	6C	108	91	145	B6	182	DB	219		
23	35	48	72	6D	109	92	146	B7	183	DC	220		
24	36	49	73	6E	110	93	147	B8	184	DD	221		

REVISION HISTORY

MAN#	DATE(M/D/Y)	Comments
01A.00	08/21/2012	Initial release version

User Information

This device may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

This device should be operated with minimum 20Cm between this device and user to comply with the RF exposure limits.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technical for help.
– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technical for help.

This device complies with Part 15 of the FCC`s Rules. Operation is subject to the following two Conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesirable operation.

We declare that this device is compliance with the essential requirements and other relevant provisions of directive 1999/5/EC.

CE 1177