# Panasonic

# WV-SW458
# WV-SW458MA

**i-PRO SmartHD**

**MEGA Super Dynamic**

VIQS
Variable Image Quality on Specified area

H.264 / JPEG

WV-SW458

WV-SW458MA

Onvif | S

FULL HD Full High Definition 1080/30p · day/night · Vandal Resistant · NO HUMIDIFICATION · IP66 standard

## 360-degree Vandal Resistant Network Camera featuring *Super Dynamic*

### Key Features

- 360° monitoring with a wide variety of transmission modes: Panorama, Double Panorama, Quad PTZ, Single PTZ, and Quad streams (H.264/VGA)
- 1080p Full HD images up to 30 fps.
- Combining enhanced "UniPhier®", Panasonic's proprietary System LSI platform and **2 areas VIQS** (Variable Image Quality on Specified area) function can decrease maximum 50%[1] network bandwidth.
- Multiple H.264 (High profile) streams and JPEG streams ensure simultaneous real time monitoring and high resolution recording by enhanced "UniPhier®".
- Smooth PTZ operation without mechanical action
- Built-in distortion correction function
- A fisheye lens control function realizes intelligible screen operation intuitively.
- Smartphone monitoring : Direct camera control from smartphone
- *Super Dynamic* and ABS (Adaptive Black Stretch) technologies deliver 128x wider dynamic range compared to conventional cameras.
- High sensitivity with Day/Night (Electrical) function:1.5 lx (Color), 1.2 lx (B/W) at F2.4
- Digital Noise Reduction: 3D-DNR ensures noise reduction in various conditions.
- With the Intelligent Resolution technology, 3 areas - outlines, detailed texture areas and soft gradation areas - are automatically detected and optimum signal processes are performed to each area. Apart from the uniform enhancement of sharpness, the innovative technology Intelligent Resolution precisely performs signal processing pixel by pixel in the most effective way for it. As a result, images are naturally clear and crisp suitable for all surveillance applications.
- Progressive scan ensures clear images with less motion blur and no tearing even when the subject is moving.
- Superior color reproduction by primary (RGB) color filter.
- Electronic sensitivity enhancement: Auto (Up to 16x) / OFF
- Selectable light control modes: Indoor scene (50 Hz) / Indoor scene (60 Hz) / ELC (maximum exposure time)
  Indoor scene (50 Hz/60Hz): Flicker caused by fluorescent lightning will be automatically compensated.
  ELC (maximum exposure time): The lightning control will be automatically performed by adjusting shutter speed in the range of ELC.
- VMD (Video Motion Detector) with 4 programmable detection areas, 15 steps sensitivity level and 10 steps detection size
- Privacy Zone can mask up to 4 private areas, such as house windows and entrances/exits.
- Camera title display: Up to 20 alphanumeric characters on the browser
- Alarm sources including 3 terminal input, VMD and Panasonic alarm command can trigger actions such as SDXC/ SDHC/SD memory recording, FTP image transfer, E-mail notification, Indication on browser, Alarm terminal output, HTTP notification, and Panasonic protocol output.
- Full duplex bi-directional audio allows interactive communication between camera site and monitoring site.

- JPEG image compression ratio can be changed by alarm so that higher quality image can be provided.
- Prioritized stream control: One of the video streams can be prioritized when multiple recorders or client PCs are accessing the camera so that the recorder or the client PC can maintain the frame rate.
- SDXC/SDHC/SD Memory card slot for manual recording (H.264 / JPEG), alarm recording (H.264 / JPEG) and backup upon network failure (JPEG)
- H.264 max. bit rate/client and Total bit rate control allows flexible network traffic management. Frame rate priority mode controls bit rate and compression ratio to provide the specified frame rate.
- Internet mode: H.264 images can be transmitted over HTTP protocol.
- Multi-language: English / Italian / French / German / Spanish / Portuguese / Russian / Chinese / Japanese
- IPv4/IPv6 protocol supported
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard,Type 4X(UL50), NEMA 4X compliant.
- Dehumidification device for use in various weather conditions
- Operating temperature –40 °C to +50 °C (–40 °F to 122 °F)
- Vandal resistant mechanism for high reliability
- "Railway applications – Electronics equipment used on rolling stock" compatible with EN50155-T3, EN50121, ECE-R10, EN45545, EN50498
- Low profile design for discrete installation
- Onvif compliant model

*1 Compared with WV-NP502, reduction effect is decreased by object and image quality setting conditions

### Standard Accessories

| | |
|---|---|
| • Installation Guide ..........................1 pc. | The following is used during installation procedures: |
| • CD-ROM*1 ......................................1 pc. | • Camera attachment ......................1 pc. |
| • Code label*2 ..................................1 pc. | • Base cover <SW458>....................1 pc. |
| | • Mount bracket <SW458>...............1 pc. |
| *1 The CD-ROM contains the operating installations and installation guide (PDF). | • Installation template label <SW458MA> ...................................................... 1 pc. |
| *2 This label may be required for network management.  The network administrator shall retain the code label. | • Waterproof tape .......................... 1 pc. |
| | • Fixing screws (M4 x 8 mm) <SW458> ..................5 pcs. (of them, 1 for spare) |
| | • 4P alarm cable ........................... 1 pc. |
| | • 2P power cable ........................... 1 pc. |
| | • Bit for tamperproof screw ............ 1 pc. |

### Optional Accessories

| Ceiling Mount Bracket **WV-Q121B** | Wall Mount Bracket **WV-Q122A** | Mount Bracket **WV-Q124** |
|---|---|---|
| (Use with the WV-Q124 (suspension mount bracket) to be able to install on a ceiling.) | (Use with the WV-Q124 (suspension mount bracket) to be able to install on a wall.) | (Use when installing the WV-SW458/SW458MA using the WV-Q122A.) |

# Specifications

| TV System | | NTSC | PAL |
|---|---|---|---|
| **Camera** | Image Sensor | 1/3 type MOS image sensor | |
| | Effective Pixels | Approx. 3.1 mega pixels | |
| | Scanning Mode | Progressive | |
| | Scanning Area | 4.51 mm (H) × 3.38 mm (V) {3/16 inches (H) x 1/8 inches (V)} | |
| | Minimum Illumination | Color: 1.5 lx (F2.4, Auto slow shutter: Off (1/30s), Gain: On(High))<br>Color: 0.1 lx (F2.4, Auto slow shutter: Max. 16/30s, Gain: On(High)) *1<br>BW:  1.2 lx (F2.4, Auto slow shutter: Off (1/30s), Gain: On(High))<br>BW:  0.08 lx (F2.4, Auto slow shutter: Off (16/30s), Gain: On(High)) *1 | |
| | White Balance | AWC (2,000 - 10,000 K), ATW1 (2,700 - 6,000 K), ATW2 (2,000 - 6,000 K) | |
| | Light Control Mode | Indoor scene (50 Hz / 60 Hz) / ELC | |
| | Shutter Speed | With Super Dynamic On<br>  ELC (1/30 s)<br>With Super Dynamic Off<br>  ELC (1/30 s), ELC (3/100 s), ELC (3/120 s), ELC (2/100 s), ELC (2/120 s),ELC (1/100 s), ELC (1/120 s),<br>  ELC (1/250 s), ELC (1/500 s), ELC (1/1,000 s),ELC (1/2,000 s), ELC (1/4,000 s), ELC (1/10,000 s) | |
| | Super Dynamic | On / Off | |
| | Dynamic Range | 52 dB typ. (only when Super Dynamic : On) | |
| | Adaptive Black Stretch | On / Off (only when Super Dynamic : Off) | |
| | AGC | On (High) / On (Mid) / On (Low) / Off | |
| | Electronic Sensitivity UP | Off (1/30 s), Max. 2/30 s, Max. 4/30 s, Max. 6/30 s, Max. 10/30 s, Max. 16/30 s | |
| | Day & Night (Electrical) | Off / Auto | |
| | Digital Noise Reduction | High / Low | |
| | Video Motion Detection | On / Off, 4 areas available | |
| | Auto mode | Auto pan/ Preset sequence<br>Auto mode can only be used when the image type is Quad PTZ or Single PTZ. | |
| | Self return | 10 s/ 20 s/ 30 s/ 1 min/ 2 min/ 3 min/ 5 min/ 10 min/ 20 min/ 30 min/ 60 min<br>Self return can only be used when the image type is Quad PTZ or Single PTZ. | |
| | Privacy Zone | On / Off (up to 4 zones available) | |
| | VIQS | On / Off (up to 2 areas available)<br>However, the VIQS function is not supported when "Quad PTZ", Single PTZ" or "Quad streams" are selected. | |
| | Camera Title (OSD) | Up to 20 characters (alphanumeric characters, marks) , On/Off However, you can specify<br>characters to be displayed on each of the four screens when "Quad streams" is selected. | |
| **Lens** | Focal Length | 0.837 mm | |
| | Angular Field of View | Horizontal: 182 °, Vertical: 176 ° | |
| | Maximum Aperture Ratio | 1 : 2.4 (Fixed) | |
| | Focusing Range | 0.3 m - ∞ | |
| **Browser GUI** | Camera Control | Pan/Tilt/Digital Zoom, Preset, Auto Mode, Self Return, Fisheye Control, Brightness, AUX On / Off | |
| | Display Mode | Spot, Quad: Image from 16 cameras can be displayed in 4 different Quad<br>screens or 16 split screen (JPEG only). 20 characters camera title available. | |
| | Digital Zoom | 1x, 2x, 4x controlled by browser GUI (Panorama, Double Panorama, Fisheye mode)<br>1x - 4x (Quad PTZ or Single PTZ mode) | |
| | Camera Title | Up to 20 alphanumeric characters | |
| | Clock Display | Time: 12H/24H, Date: 5 formats on the browser, Summer time (Manual) | |
| | Alarm Control | Reset | |
| | One Shot Capture | A still picture will be displayed on a newly opened window. | |
| | Audio | Mic (Line) Input: On / Off   Volume adjustment: Low / Middle / High<br>Audio Output   : On / Off   Volume adjustment: Low / Middle / High | |
| | SD Memory Data Download | Still or motion Images recorded in the SDXC/SDHC/SD memory card can be downloaded. | |
| | GUI/Setup Menu Language | English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese | |
| | System Log | Up to 100 (Internal), Up to 4,000 (SDXC/SDHC/SD memory when the recording format is set to JPEG.) error logs | |
| | Supported OS *2 *3 | Microsoft® Windows® 8.1, Microsoft® Windows® 8, Microsoft® Windows® 7,<br>Microsoft® Windows Vista®, Microsoft® Windows® XP SP3 | |
| | Supported Browser | Windows® Internet Explorer®11 (32 bit), Windows® Internet Explorer®10 (32 bit),<br>Windows® Internet Explorer® 9 (32 bit), Windows® Internet Explorer® 8 (32 bit),<br>Windows® Internet Explorer® 7 (32 bit), Microsoft® Internet Explorer® 6 SP3 | |
| **Network** | Network IF  WV-SW458 | 10Base-T / 100Base-TX, RJ45 connector (female) | |
| | WV-SW458MA | 10Base-T / 100Base-TX, M12 connector (female) | |
| | Image Resolution *4  2 M Panorama [16:9]/ | H.264(1): 1920 x 1080 / 640 x 360 / 320 x 180, up to 30 fps | |
| | 2 M Double | H.264(2): 640 x 360 / 320 x 180, up to 30 fps | |
| | Panorama [16:9] | JPEG    : 1920 x 1080 / 640 x 360 / 320 x 180, up to 30 fps | |
| | 1 M Panorama [16:9]/ | H.264(1): 1280 x 720 / 640 x 360 / 320 x 180, up to 30 fps | |
| | 1 M Double | H.264(2): 640 x 360 / 320 x 180, up to 30 fps | |
| | Panorama [16:9] | JPEG    : 1280 x 720 / 640 x 360 / 320 x 180, up to 30 fps | |
| | Panorama + Quad PTZ/<br>Panorama + Single PTZ/<br>Double Panorama + | • When using distribution of "Panorama" or "Double panorama"<br>H.264(1): 1920 x 1080 / 640 x 360 / 320 x 180, up to 15 fps<br>JPEG    : 1920 x 1080 / 640 x 360 / 320 x 180, up to 15 fps | |
| | Quad PTZ/<br>Double Panorama +<br>Single PTZ | • When using distribution of "Quad PTZ" or "Single PTZ"<br>H.264(2): 1280 x 960 / 640 x 480 / 320 x 240, up to 15 fps<br>JPEG    : 1280 x 960 / 640 x 480 / 320 x 240, up to 15 fps | |
| | VGA Quad streams | Ch1-Ch4 640 x 480 max.30 fps<br>* Only for H.264 images.<br>* There are specification limitations such as the SD memory card function being unavailable. | |
| | 3 M Fisheye [4:3] | H.264(1): 1280 x 960, up to 15 fps   JPEG: 2048 x 1536, up to 15 fps | |
| | 1.3 M Fisheye [4:3] | H.264(1): 1280 x 960 / 640 x 480 / 320 x 240, up to 30 fps<br>H.264(2): 640 x 480 / 320 x 240, up to 30 fps<br>JPEG    : 1280 x 960 / 640 x 480 / 320 x 240, up to 30 fps | |
| | H.264  Transmission Mode | Constant bitrate / Framerate priority / Best effort / Advanced VBR | |
| | Frame Rate | 1 / 3 / 5 / 7.5 / 10 / 12 / 15 / 20 / 30 fps | |
| | Bit Rate/Client | 64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 1,536 / 2,048 / 3,072 / 4,096 / 8,192 / 10,240 / 12,288 / 14,336 kbps | |
| | Image Quality | Low / Normal / Fine | |
| | Refresh Interval | 0.2 / 0.25 / 0.33 / 0.5 / 1 / 2 / 3 / 4 / 5 s | |
| | Transmission Type | Unicast / Multicast | |
| | JPEG  Image Quality | 10 steps | |
| | Refresh Interval | 0.1 fps - 30 fps | |
| | Transmission Type | Pull / Push | |
| | Audio Compression | G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps | |
| | Audio Mode | Off/ Mic (Line) input / Audio output / Interactive (Half duplex) / Interactive (Full duplex) | |
| | Authentication for Audio | Level 1 only / Level 2 higher / All users | |
| | Total Bit Rate | 64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 2,048 / 4,096 / 8,192 kbps / Unlimited | |
| | Supported Protocol | IPv6: TCP/IP, UDP/IP, HTTP, HTTPS, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, RTP, MLD, ICMP, ARP<br>IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP,FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP | |
| | FTP Client | Alarm image transmission, FTP periodic transmission<br>(When the FTP transmission is failed, backup on an optional SD memory card is available.) | |
| | No. of Simultaneous Users | Up to 14 users (Depends on network conditions) | |

| TV System | | NTSC | PAL |
|---|---|---|---|
| **Network** | SDXC/SDHC/SD Memory Card (Option) | H.264 recording: Manual REC / Alarm REC (Pre/Post) / Schedule REC<br>JPEG recording: Manual REC / Alarm REC (Post) / Backup upon network failure<br>Compatible SD (SDHC/SDXC) card: Panasonic 1 GB, 2 GB*, 4 GB*, 8 GB*, 16 GB*, 32 GB*, 64 GB** model<br>*SDHC card, ** SDXC card (except miniSD card and microSD card) | |
| | Cellular Phone Compatibility | JPEG image, AUX control (by access level) | |
| | Mobile Terminal Compatibility | iPad, iPhone, iPod touch (iOS 4.2.1 or later)  Android™ mobile terminals | |
| **Alarm** | Alarm Source | 3 terminals input, VMD, Command alarm | |
| | Alarm Actions | SDXC/SDHC/SD memory recording, E-mail notification, Indication on browser,<br>FTP image transfer, Panasonic protocol output, HTTP notification | |
| | Alarm Log | With SDXC/SDHC/SD memory card: 5,000 logs,<br>without SDXC/SDHC/SD memory card: 1,000 logs | |
| | Schedule | Alarm / VMD / Access permission / H.264 recording | |
| **Input/ Output** | Microphone/Line Input | ø3.5 mm monaural mini jack, Input impedance: Approx. 2 kΩ | |
| | For microphone input | Applicable microphone: Plug-in power type, Supply voltage: 2.5 V ±0.5 V | |
| | For line input | Input level: Approx. –10 dBV | |
| | Audio Output | ø3.5 mm stereo mini jack (monaural output),<br>Output impedance: Approx. 600 Ω, Line level | |
| | External I/O Terminals | ALARM IN 1, ALARM IN 2(ALARM OUT), ALARM IN 3(AUX OUT) (x1 for each) | |
| **General** | Mounting method | Ceiling / Wall | |
| | Safety/EMC Standard | UL (UL60950-1), FCC (Part15 ClassA),<br>C-UL (CAN/CSA C22.2 No.60950-1),<br>DOC (ICES003 ClassA) | SW458<br>CE,IEC60950-1(EN55022 ClassB,EN55024)<br>SW458MA<br>CE,IEC60950-1(EN55022 ClassA,EN55024) |
| | Power Source and Power Consumption | DC12V, PoE (IEEE802.3af compliant) /<br>DC*12 V : 540 mA / 6.5 W / PoE 48 V : 125 mA / 6.0 W (Class 2 devices)<br>*FOR UL LISTED MODEL(S), ONLY CONNECT DC12 V CLASS 2 POWER SUPPLY. | |
| | Ambient Operating Temperature | -40 °C to +50 °C (-40 °F to 122 °F) | |
| | Ambient Operating Humidity | Less than 90 % (no condensation) | |
| | Water and Dust Resistance | IP66, IEC60529 measuring standard compatible, Type 4X(UL50), NEMA 4X compliant*5 | |
| | Shock Resistance | Compliant with 50 J (IEC 60068-2-75)/IK10 (IEC 62262) | |
| | Railway Application | EN50155-T3, EN50121, ECE-R10, EN45545, EN50498 | |
| | Dimensions  WV-SW458 | Main body: ø154 mm x 50.5 mm (H) {ø6-1/16 inches x 2 inches (H)}<br>Including the mount bracket: ø164 mm x 88 mm (H) {ø6-15/32 inches x 3-15/32 inches (H)}<br>191.5 mm (W){7-17/32 inches (W)} (including projection of the base cover fixing screw) | |
| | WV-SW458MA | ø154 mm x 50.5 mm (H) {ø6-1/16 inches x 2 inches (H)} | |
| | Mass (approx.)  WV-SW458 | Approx. 1.1 kg {2.43 lbs} (including the camera attachment and the mountbracket) | |
| | WV-SW458MA | Approx. 0.8 kg {1.76 lbs} (including the camera attachment) | |
| | Finish | Main body    : Aluminum die cast, light gray<br>Dome section: Clear polycarbonate resin | |

*1 Converted value
*2 Refer to "Notes on Windows Vista® / Windows® 7 / Windows® 8 / Windows® 8.1" on the provided CD-ROM for further information about system requirements for a PC and precautions when using Microsoft® Windows® 8.1 or Microsoft® Windows® 8 or Microsoft® Windows® 7 or Microsoft® Windows Vista®.
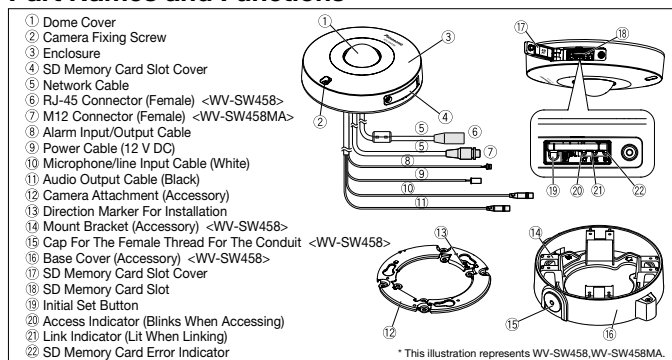*3 When using IPv6 for communication, use Microsoft® Windows® 8.1 or Microsoft® Windows® 8 or Microsoft® Windows® 7 or Microsoft® Windows Vista®.
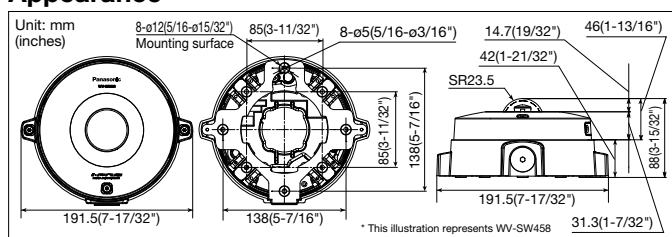*4 Transmission for 2 streams can be individually set in the same compression method.
*5 Only when installation work specified in this book is properly performed and appropriate waterproof treatment is performed.
* When the camera is faced toward spot light or other bright lights and light reflecting objects, ghost image may appear.

## Part Names and Functions

① Dome Cover
② Camera Fixing Screw
③ Enclosure
④ SD Memory Card Slot Cover
⑤ Network Cable
⑥ RJ-45 Connector (Female) <WV-SW458>
⑦ M12 Connector (Female) <WV-SW458MA>
⑧ Alarm Input/Output Cable
⑨ Power Cable (12 V DC)
⑩ Microphone/line Input Cable (White)
⑪ Audio Output Cable (Black)
⑫ Camera Attachment (Accessory)
⑬ Direction Marker For Installation
⑭ Mount Bracket (Accessory) <WV-SW458>
⑮ Cap For The Female Thread For The Conduit <WV-SW458>
⑯ Base Cover (Accessory) <WV-SW458>
⑰ SD Memory Card Slot Cover
⑱ SD Memory Card Slot
⑲ Initial Set Button
⑳ Access Indicator (Blinks When Accessing)
㉑ Link Indicator (Lit When Linking)
㉒ SD Memory Card Error Indicator

* This illustration represents WV-SW458,WV-SW458MA.

## Appearance

Unit: mm (inches)

8-ø12(5/16-ø15/32") Mounting surface
85(3-11/32")
8-ø5(5/16-ø3/16")
14.7(19/32")
46(1-13/16")
42(1-21/32")
SR23.5
85(3-11/32")
138(5-7/16")
191.5(7-17/32")
138(5-7/16")
191.5(7-17/32")
88(3-5/32")
31.3(1-7/32")

* This illustration represents WV-SW458