# Panasonic ideas for life

## 1/2 inch CCD Day/Night Camera WV-CL930 Series

NTSC WV-CL930 (120 V AC)
WV-CL934 (24 V AC or 12 V DC)

PAL WV-CL930 (220 ~ 240 V AC)
WV-CL934 (24 V AC or 12 V DC)
WV-CLR930 (220 ~ 240 V AC, with RS-485 control IF)
WV-CLR934 (24 V AC or 12 V DC, with RS-485 control IF)

Lens: optional







### Ultra high sensitivity Day/Night Camera with ABF (Auto Back Focus) for 24 hours a day surveillance

#### **Key Features**

- 1/2 inch CCD delivers high sensitivity high quality picture.
- High resolution: 540 TV lines typical / 520 TV lines minimum (Color HIGH mode), 480 TV lines minimum (Color NORMAL mode), 570 TV lines minimum (B/W mode)
- Ultra high sensitivity with Day/Night function: 0.09 lux (Color), 0.008 lux (B/W) at F1.4. IR cut filter switches on and off, and ABF (Auto Back Focus) re-adjusts back focus upon color/BW switching to ensure picture quality of both color and B/W.
- ABF (Auto Back Focus) allows easy installation and stable focus in both color and B/W modes.
- Adaptive Digital Noise Reduction: 2D-DNR and 3D-DNR integration ensures reduced noise in various conditions.
- Peak mode enables appropriate light control to represent sharp bright object.
- BLC (Back Light Compensation): Preset/Manual (Mask 8 x 6) with Peak mode and level control
- Electronic sensitivity enhancement: Auto (Up to 32x) / Manual (Up to 128x)
- Electronic shutter from 1/100 (NTSC), 1/120 (PAL) to 1/10,000 sec.
- Video Motion Detector with Sensitivity 256 steps, Mask 8 x 6 areas
- Scene Change Detection alarms when lens is covered, spray painted, removed or defocused.
- Day/Night input and alarm output terminals
- Auto image stabilizer for applications where vibration or wind is a concern.

- Function command: Various functions such as shutter speed, sensitivity enhancement level can be controlled precisely by function number with Panasonic controller.
- Internal / Line-lock / Gen-Lock (VBS/VS) / Multiplexed Vertical Drive (VD2) synchronization
- Over the coaxial cable or RS-485 data communication (CLR model)
- 16 alphanumerics camera title display
- Multi language setup menu: English, French, Italian, Spanish, German, Russian

#### **Standard Accessories**

#### **Optional Accessories**

1/2 inch 8.5 ~ 51 mm Zoom Auto Iris Lens

WV-LZ81/6A (NTSC)

WV-LZ81/6 (PAL)

(F1.2)

1/2 inch 8 ~ 80 mm Zoom Auto Iris Lens

WV-LZ81/10

(F1.4)





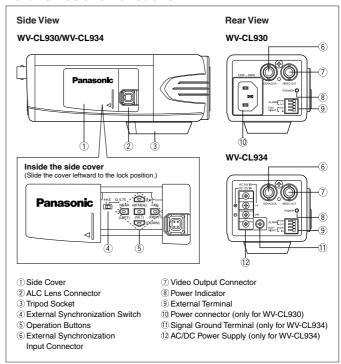
1/2 inch 6 ~ 12 mm Varifocal

#### **Specifications**

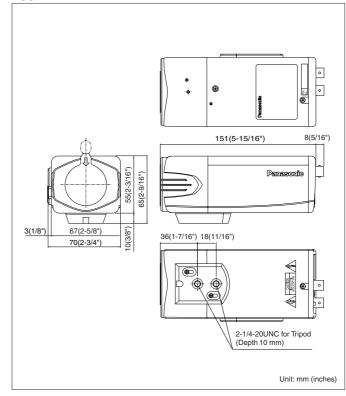
| TV Syster        | n                                                                                                       | NTSC                                                                                                                                                                                                                                                                                                                        | PAL                                                                                                                                                                           |
|------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Camera           | Image Sensor                                                                                            | 1/2 inch interline transfer CCD                                                                                                                                                                                                                                                                                             |                                                                                                                                                                               |
|                  | Effective Pixels                                                                                        | 768 (H) x 494 (V)                                                                                                                                                                                                                                                                                                           | 752 (H) x 582 (V)                                                                                                                                                             |
|                  | Scanning Mode                                                                                           | 2:1 interlace scan                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                               |
|                  | Scanning Area                                                                                           | 6.4 (H) x 4.8 (V) mm                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                               |
|                  | Scanning Frequency                                                                                      | Horizontal: 15.734 kHz                                                                                                                                                                                                                                                                                                      | Horizontal: 15.625 kHz                                                                                                                                                        |
|                  |                                                                                                         | Vertical: 59.94 Hz                                                                                                                                                                                                                                                                                                          | Vertical: 50.00 Hz                                                                                                                                                            |
|                  | Scanning Line                                                                                           | 525 lines                                                                                                                                                                                                                                                                                                                   | 625 lines                                                                                                                                                                     |
|                  | Horizontal Resolution                                                                                   | 540 TV lines typical at color high                                                                                                                                                                                                                                                                                          |                                                                                                                                                                               |
|                  | Tionzontai ricsolation                                                                                  | 480 TV lines at color normal mode, 570 TV lines at B/W mode                                                                                                                                                                                                                                                                 |                                                                                                                                                                               |
|                  | Minimum Illumination                                                                                    | Color (30 IRE): 0.09 lux (SENS UP: OFF),                                                                                                                                                                                                                                                                                    |                                                                                                                                                                               |
|                  | Willimum mummation                                                                                      |                                                                                                                                                                                                                                                                                                                             | •                                                                                                                                                                             |
|                  |                                                                                                         |                                                                                                                                                                                                                                                                                                                             | S UP: 32x) at F1.4                                                                                                                                                            |
|                  |                                                                                                         | B/W (10 IRE): 0.008 lux (SENS UP: OFF),<br>0.0003 lux* (SENS UP: 32x) at F1.4                                                                                                                                                                                                                                               |                                                                                                                                                                               |
|                  |                                                                                                         |                                                                                                                                                                                                                                                                                                                             | S UP: 32x) at F1.4                                                                                                                                                            |
|                  | Signal-to-Noise Ratio                                                                                   | 50 dB (AGC Off, Weight On)                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                               |
|                  | White Balance                                                                                           | ATW1, ATW2, or AWC                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                               |
|                  | Light Control                                                                                           | ALC / ALC + (Integration of ALC and ELC) / ELC with Peak mode                                                                                                                                                                                                                                                               |                                                                                                                                                                               |
|                  | AGC                                                                                                     | ON (adjustable), or OFF                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                               |
|                  | Back Light Compensation                                                                                 | Preset/Manual (Mask 8 x 6) with                                                                                                                                                                                                                                                                                             | Peak mode and level control                                                                                                                                                   |
|                  | Electronic Shutter                                                                                      | OFF (1/60), 1/100, 1/250,                                                                                                                                                                                                                                                                                                   | OFF (1/50), 1/120, 1/250,                                                                                                                                                     |
|                  |                                                                                                         | 1/500, 1/1,000, 1/2,000,                                                                                                                                                                                                                                                                                                    | 1/500, 1/1,000, 1/2,000,                                                                                                                                                      |
|                  |                                                                                                         | 1/4,000, 1/10,000 s                                                                                                                                                                                                                                                                                                         | 1/4,000, 1/10,000 s                                                                                                                                                           |
|                  | Electronic Sensitivity UP                                                                               | OFF / AUTO (2x, 4x, 6x, 10x, 16                                                                                                                                                                                                                                                                                             |                                                                                                                                                                               |
|                  | Licensine conducting of                                                                                 | FIX (2x, 4x, 6x, 10x, 16x, 32x, 64x, 128x)                                                                                                                                                                                                                                                                                  |                                                                                                                                                                               |
|                  | Digital Noise Reduction                                                                                 | High / Mid / Low                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                               |
|                  | Resolution Mode                                                                                         |                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                               |
|                  |                                                                                                         | Normal / High                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                               |
|                  | Black and White Mode                                                                                    | Mode: AUTO1 / AUTO2 / ON / OFF,                                                                                                                                                                                                                                                                                             |                                                                                                                                                                               |
|                  |                                                                                                         | Level: High / Low, with external control                                                                                                                                                                                                                                                                                    |                                                                                                                                                                               |
|                  | Video Motion Detection                                                                                  | OFF / Mode1 (VMD) / Mode2 (Scene change),                                                                                                                                                                                                                                                                                   |                                                                                                                                                                               |
|                  |                                                                                                         | Sensitivity 256 steps, Mask 8 x 6 areas                                                                                                                                                                                                                                                                                     |                                                                                                                                                                               |
|                  | Scene Change Detection                                                                                  | Yes, Included in VMD Mode2                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                               |
|                  | Privacy Zone                                                                                            | ON (Gray/Mosaic) or OFF                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                               |
|                  | Auto Image Stabilizer                                                                                   | ON / OFF                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                               |
|                  | Mirror                                                                                                  | ON / OFF                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                               |
|                  | Camera Title                                                                                            | Up to 16 characters                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                               |
|                  | Lens Mount                                                                                              | CS-mount                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                               |
|                  | Lens ALC Drive                                                                                          | DC / Video                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                               |
|                  | Back Focus Adjustment                                                                                   |                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                               |
|                  |                                                                                                         | ABF, MANUAL, AUTO / PRESET / FIX                                                                                                                                                                                                                                                                                            |                                                                                                                                                                               |
|                  | Synchronization                                                                                         | Internal (INT), Multiplexed Vertical Drive (VD2), Line-Lock (LL),                                                                                                                                                                                                                                                           |                                                                                                                                                                               |
|                  |                                                                                                         | External (VBS/VS)                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                               |
| Input/<br>Output | Video Output                                                                                            | 1.0 V [p-p] / NTSC composite                                                                                                                                                                                                                                                                                                | 1.0 V [p-p] / PAL composite                                                                                                                                                   |
|                  |                                                                                                         | 75 Ω / BNC Connector Multiplexed                                                                                                                                                                                                                                                                                            | ·                                                                                                                                                                             |
|                  |                                                                                                         | VD2 and control data capable                                                                                                                                                                                                                                                                                                | VD2 and control data capable                                                                                                                                                  |
|                  | External Sync Input                                                                                     | Gen-Lock input                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                               |
|                  | RS-485 Control IF                                                                                       | CLR model only                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                               |
|                  | External I/O Terminals                                                                                  | Alarm output, Day/Night input                                                                                                                                                                                                                                                                                               |                                                                                                                                                                               |
| General          | Setup Method                                                                                            | OSD setup menu                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                               |
| General          | Language                                                                                                | English, Russian (For setup menu and camera ID),                                                                                                                                                                                                                                                                            |                                                                                                                                                                               |
|                  | Languago                                                                                                | German, French, Italian, Spanish (For setup menu),                                                                                                                                                                                                                                                                          |                                                                                                                                                                               |
|                  |                                                                                                         |                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                               |
|                  |                                                                                                         |                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                               |
|                  | O-f-t-//EMO Ot-m-d-md                                                                                   | Japanese (For camera title. Set                                                                                                                                                                                                                                                                                             | up menu will be English.)                                                                                                                                                     |
|                  | Safety/EMC Standard                                                                                     | Japanese (For camera title. Set UL (6500 Edition2),                                                                                                                                                                                                                                                                         | up menu will be English.)<br>CE (EN60065, EN55022,                                                                                                                            |
|                  | Safety/EMC Standard                                                                                     | Japanese (For camera title. Set<br>UL (6500 Edition2),<br>FCC (Part15 ClassA),                                                                                                                                                                                                                                              | up menu will be English.)                                                                                                                                                     |
|                  | Safety/EMC Standard                                                                                     | Japanese (For camera title. Set UL (6500 Edition2),                                                                                                                                                                                                                                                                         | up menu will be English.)<br>CE (EN60065, EN55022,                                                                                                                            |
|                  | ,                                                                                                       | Japanese (For camera title. Set<br>UL (6500 Edition2),<br>FCC (Part15 ClassA),                                                                                                                                                                                                                                              | up menu will be English.)<br>CE (EN60065, EN55022,                                                                                                                            |
|                  | Safety/EMC Standard  Power Source and                                                                   | Japanese (For camera title. Set<br>UL (6500 Edition2),<br>FCC (Part15 ClassA),<br>C-UL (E60065),                                                                                                                                                                                                                            | up menu will be English.)<br>CE (EN60065, EN55022,                                                                                                                            |
|                  | ,                                                                                                       | Japanese (For camera title. Set<br>UL (6500 Edition2),<br>FCC (Part15 ClassA),<br>C-UL (E60065),<br>DOC (ICES003 ClassA)                                                                                                                                                                                                    | up menu will be English.)<br>CE (EN60065, EN55022,<br>EN55024, ClassB)                                                                                                        |
|                  | Power Source and                                                                                        | Japanese (For camera title. Set<br>UL (6500 Edition2),<br>FCC (Part15 ClassA),<br>C-UL (E60065),<br>DOC (ICES003 ClassA)<br>WV-CL930:<br>120 V AC 60 Hz: 4.6 W                                                                                                                                                              | up menu wili be English.) CE (EN60065, EN55022, EN55024, ClassB)  WV-CL930 / WV-CLR930: 220 ~ 240 V AC 50 Hz: 4.7 W                                                           |
|                  | Power Source and                                                                                        | Japanese (For camera title. Set<br>UL (6500 Edition2),<br>FCC (Part15 ClassA),<br>C-UL (E60065),<br>DOC (ICES003 ClassA)<br>WV-CL930:<br>120 V AC 60 Hz: 4.6 W<br>WV-CL934:                                                                                                                                                 | up menu wili be English.) CE (EN60065, EN55022, EN55024, ClassB)  WV-CL930 / WV-CLR930: 220 ~ 240 V AC 50 Hz: 4.7 W WV-CL934 / WV-CLR934:                                     |
|                  | Power Source and                                                                                        | Japanese (For camera title. Set<br>UL (6500 Edition2),<br>FCC (Part15 ClassA),<br>C-UL (E60065),<br>DOC (ICES003 ClassA)<br>WV-CL930:<br>120 V AC 60 Hz: 4.6 W<br>WV-CL934:<br>24 V AC 60 Hz: 4.0 W                                                                                                                         | up menu will be English.) CE (EN60065, EN55022, EN55024, ClassB)  WV-CL930 / WV-CLR930: 220 ~ 240 V AC 50 Hz: 4.7 W WV-CL934 / WV-CLR934: 24 V AC 50 Hz: 4.0 W                |
|                  | Power Source and<br>Power Consumption                                                                   | Japanese (For camera title. Set UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DOC (ICES003 ClassA) WV-CL930: 120 V AC 60 Hz: 4.6 W WV-CL934: 24 V AC 60 Hz: 4.0 W 12 V DC 350 mA                                                                                                                                  | up menu wili be English.) CE (EN60065, EN55022, EN55024, ClassB)  WV-CL930 / WV-CLR930: 220 ~ 240 V AC 50 Hz: 4.7 W WV-CL934 / WV-CLR934:                                     |
|                  | Power Source and Power Consumption  Ambient Operating                                                   | Japanese (For camera title. Set UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DOC (ICES003 ClassA) WV-CL930: 120 V AC 60 Hz: 4.6 W WV-CL934: 24 V AC 60 Hz: 4.0 W 12 V DC 350 mA -10 °C ~ +50 °C                                                                                                                  | up menu will be English.) CE (EN60065, EN55022, EN55024, ClassB)  WV-CL930 / WV-CLR930: 220 ~ 240 V AC 50 Hz: 4.7 W WV-CL934 / WV-CLR934: 24 V AC 50 Hz: 4.0 W                |
|                  | Power Source and Power Consumption  Ambient Operating Temperature                                       | Japanese (For camera title. Set UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DOC (ICES003 ClassA) WV-CL930: 120 V AC 60 Hz: 4.6 W WV-CL934: 24 V AC 60 Hz: 4.0 W 12 V DC 350 mA -10 °C ~ +50 °C (14 °F ~ 122 °F)                                                                                                 | up menu will be English.) CE (EN60065, EN55022, EN55024, ClassB)  WV-CL930 / WV-CLR930: 220 ~ 240 V AC 50 Hz: 4.7 W WV-CL934 / WV-CLR934: 24 V AC 50 Hz: 4.0 W 12 V DC 340 mA |
|                  | Power Source and Power Consumption  Ambient Operating Temperature Ambient Operating Humidity            | Japanese (For camera title. Set UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DOC (ICES003 ClassA) WV-CL930: 120 V AC 60 Hz: 4.6 W WV-CL934: 24 V AC 60 Hz: 4.0 W 12 V DC 350 mA -10 °C ~ +50 °C (14 °F ~ 122 °F) 90 % or less (without condensal                                                                 | up menu will be English.) CE (EN60065, EN55022, EN55024, ClassB)  WV-CL930 / WV-CLR930: 220 ~ 240 V AC 50 Hz: 4.7 W WV-CL934 / WV-CLR934: 24 V AC 50 Hz: 4.0 W 12 V DC 340 mA |
|                  | Power Source and Power Consumption  Ambient Operating Temperature                                       | Japanese (For camera title. Set UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DOC (ICES003 ClassA) WV-CL930: 120 V AC 60 Hz: 4.6 W WV-CL934: 24 V AC 60 Hz: 4.0 W 12 V DC 350 mA -10 °C ~ +50 °C (14 °F ~ 122 °F) 90 % or less (without condensat 70 mm (W) x 65 mm (H) x 151 r                                   | up menu will be English.) CE (EN60065, EN55022, EN55024, ClassB)  WV-CL930 / WV-CLR930: 220 ~ 240 V AC 50 Hz: 4.7 W WV-CL934 / WV-CLR934: 24 V AC 50 Hz: 4.0 W 12 V DC 340 mA |
|                  | Power Source and Power Consumption  Ambient Operating Temperature Ambient Operating Humidity Dimensions | Japanese (For camera title. Set UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DOC (ICES003 ClassA) WV-CL930: 120 V AC 60 Hz: 4.6 W WV-CL934: 24 V AC 60 Hz: 4.0 W 12 V DC 350 mA -10 °C ~ +50 °C (14 °F ~ 122 °F) 90 % or less (without condensat 70 mm (W) x 65 mm (H) x 151 r (2-3/4" (W) x 2-9/16" (H) x 5-15/ | up menu will be English.) CE (EN60065, EN55022, EN55024, ClassB)  WV-CL930 / WV-CLR930: 220 - 240 V AC 50 Hz: 4.7 W WV-CL934 / WV-CLR934: 24 V AC 50 Hz: 4.0 W 12 V DC 340 mA |
|                  | Power Source and Power Consumption  Ambient Operating Temperature Ambient Operating Humidity            | Japanese (For camera title. Set UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DOC (ICES003 ClassA) WV-CL930: 120 V AC 60 Hz: 4.6 W WV-CL934: 24 V AC 60 Hz: 4.0 W 12 V DC 350 mA -10 °C ~ +50 °C (14 °F ~ 122 °F) 90 % or less (without condensat 70 mm (W) x 65 mm (H) x 151 r                                   | up menu will be English.) CE (EN60065, EN55022, EN55024, ClassB)  WV-CL930 / WV-CLR930: 220 - 240 V AC 50 Hz: 4.7 W WV-CL934 / WV-CLR934: 24 V AC 50 Hz: 4.0 W 12 V DC 340 mA |

<sup>\*</sup> Estimated figure

#### **Part Names and Functions**



#### **Appearance**



#### Important

- Safety Precaution: carefully read the operating instructions and installation manual before using this product.

- All TV pictures are simulated.
- Weights and dimensions are approximate.
   Specifications are subject to change without notice.
- These products may be subject to export control regulations.

#### All product pictures are NTSC models.

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