

Edge AI 360-degree fisheye camera that provides video surveillance without any blind spots and business intelligence.

## 5MP Indoor 360 Fisheye Network Camera with AI engine

The new S-series fisheye camera is a new-generation camera equipped with an AI processor that realizes edge AI processing. With a high-performance fisheye lens and our own video compression technology, it is possible to clearly shoot 360 degrees in all directions up to the periphery of the screen with a single camera.

The camera is equipped with an AI processor, and contribute to solve various problems by installing an AI application according to the purpose.

It is possible to visualize the number of people and the congestion status with a dashboard that can be customized according to the customer's operation style, and use it for business intelligence purposes.

### Key features

- The AI processor equipped with a camera realizes motion detection of people / vehicles, number counting, and congestion detection. It also supports third-party AI applications and can meet a variety of AI demands. The data aggregated inside the camera can be visualized on the dashboard in cooperation with our system, and can be used for marketing and business intelligence.
- Equipped with industry standard protocols such as ONVIF, it can be linked with third-party display software as an IoT terminal for sensor networks. Furthermore, it is possible to integrate and utilize it in another system customized according to the customer's operation.
- Equipped with a high-performance fisheye lens that has been well-established in the market, one camera can clearly shoot 360 ° in all directions up to the periphery of the screen.
- Our original smart coding compatible with H.264 and H.265 delivers high-resolution video at high image quality and low bit rate. Achieved useful images by combining with highly visible images by the intelligent auto (iA) function.

### Key i-PRO Spec.

- 2192x2192 pixel fisheye images up to 30fps
- Intelligent Auto (with AI Engine)
- Super Dynamic 120dB
- Smart Coding (with AI Engine)
- ONVIF® Profile G / M / S / T

\*ONVIF is a trademark of ONVIF, Inc.

### Industry examples

- Retail / Bank
- Education / Hospital
- Building
- Transportation (Airport / Subway station)
- Logistics



# ii-PRO

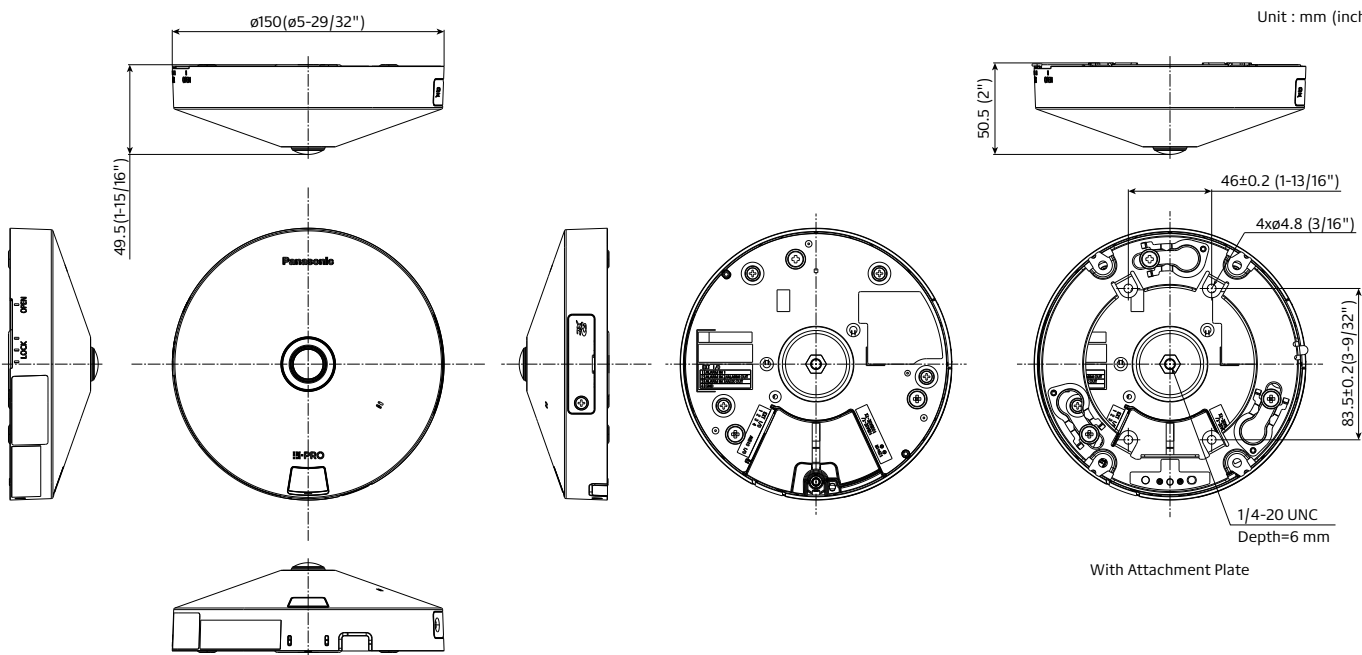
## Specifications

|                         |  |  |
|-------------------------|--|--|
| <b>Camera</b>           | Image Sensor   | Approx. 1/3 type 5MP CMOS image sensor   |
|                         | Minimum Illumination   | Color : 0.15 lx, BW : 0.1 lx<br>(F2.4, Maximum shutter : Off (1/30 s), AGC : 11)<br>Color : 0.01 lx, BW : 0.006 lx<br>(F2.4, Maximum shutter : max. 16/30s, AGC : 11) *1 |
|                         | Intelligent Auto   | On / Off   |
|                         | Maximum shutter  | Max.16/30s to Max. 1/10000s  |
|                         | Super Dynamic*2  | On / Off, The level can be set in the range of 0 to 31.  |
|                         | Dynamic Range  | Max.120 dB (Super Dynamic : On, level : 31)  |
|                         | Image Settings   | Gain (AGC), White balance  |
|                         | Image Compensation   | Adaptive black stretch, Back light compensation (BLC), Fog compensation, High light compensation (HLC), Digital noise reduction  |
|                         | Day / Night (Electrical)                                       | Off / Auto   |
|                         | Video Motion Detection (VMD)                                   | On / Off, 4 areas available  |
|                         | Scene Change Detection (SCD)                                   | On / Off, 1 areas available  |
|                         | Audio Detection  | On / Off   |
|                         | AI Sound Classification  | Gunshot, Yell, Vehicle horn, Glass break   |
|                         | AI Analytics   | Yes  |
|                         | Privacy Zone   | On / Off, Up to 8 zones available  |
| Camera Title (OSD)      | On / Off, Up to 20 characters (alphanumeric characters, marks) |  |
| Fixing angle adjustment | -5°, 0°, +5°   |  |
| <b>Lens</b>             | Zoom Ratio   | 1x   |
|                         | Digital (electronic) zoom                                      | Choose from 3 levels of x1, x2, x4   |
|                         | Focal length   | 0.84 mm (1/32 inches)  |
|                         | Maximum Aperture Ratio   | 1 : 2.4  |
|                         | Focus range  | 0.3 m (11-13/16 inches) - ∞  |
| <b>DORI</b>             | Distance to the object in the center of the image              | Detect (25 ppm / 8 ppf) : 20.7 m / 68.0 ft   |
|                         |  | Observe (62.5 ppm / 19 ppf) : 8.3 m / 27.2 ft  |
|                         |  | Recognize (125 ppm / 38 ppf) : 4.1 m / 13.6 ft   |
|                         | Coverage radius when mounted at a height of 3 m (10 ft)        | Identify (250 ppm / 76 ppf) : 2.1 m / 6.8 ft   |
|                         |  | Detect (25 ppm / 8 ppf) : 38.0 m / 124.6 ft  |
| <b>Browser GUI</b>      | Camera Control   | Brightness, AUX On / Off   |
|                         | Audio  | Mic (Line) Input : On / Off Volume adjustment : Low / Middle / High<br>Audio Output : On / Off Volume adjustment : Low / Middle / High                                   |
|                         | GUI / Setup Menu Language                                      | English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese  |
|                         | Network IF   | 10Base-T / 100Base-TX, RJ45 connector  |
|                         | Resolution   | <Ceiling><br><Wall>  |
| <b>Network</b>          | Resolution   | <Ceiling><br><Wall>  |
|                         |  | <Ceiling>  |
|                         |  | <Wall>   |
|                         |  | <Wall>   |
|                         |  | <Wall>   |

|                     |                                  |  |   |
|---------------------|----------------------------------|--|---|
| <b>Network</b>      | H.265/ H.264*3                   | Transmission Mode  | Constant bit rate / VBR / Frame rate / Best effort  |
|                     | JPEG                             | Transmission Type  | Unicast port (AUTO) / Unicast port (MANUAL) / Multicast   |
|                     | Smart Coding                     | Image Quality  | 10 steps  |
|                     | Audio Compression                | GOP (Group of pictures) control :  | On (Frame rate control) * / On (Advanced) * / On (Mid) / On (Low) / Off *<br>*On (Frame rate control) and On (Advanced) are only available with H.265.<br><b>Auto VIQS : On / Off</b> |
|                     | Supported Protocol               | G.726 (ADPCM) :  | 16 kbps / 32 kbps,  |
|                     |                                  | G.711 :  | 64 kbps,  |
|                     | Maximum concurrent access number | AAC-LC*4 :   | 64 kbps / 96 kbps / 128 kbps  |
|                     |                                  | SDXC/SDHC/SD   | IPV6 : TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, SMTP, DNS, NTP, SNMP v1/v2/v3, DHCPv6, RTP, MLD, ICMP, ARP, IEEE 802.1X, DiffServ  |
|                     | Memory Card                      | IPV4 : TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, RTSP, RTP, RTSP/RTCP, SMTP, DHCP, DNS, DDNS, NTP, SNMP v1/v2/v3, UPnP, IGMP, ICMP, ARP, IEEE 802.1X, DiffServ, SRTP   | Up to 14 users (Depends on network conditions)  |
|                     |                                  | Mobile Terminal Compatibility  | H.265 / H.264 recording :   |
| <b>Alarm</b>        | ONVIF*8 Profile                  | Manual REC / Alarm REC (Pre/Post) / Schedule REC   |   |
|                     | Alarm Source                     | JPEG recording :   |   |
|                     | Alarm Actions                    | Manual REC / Alarm REC (Pre/Post)  |   |
|                     | Input/Output                     | Compatible SDXC/SDHC/SD card :   |   |
|                     | General                          | 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB*, 64 GB**, 128 GB**,<br>256 GB**, 512 GB** model<br>*SDHC card, ** SDXC card (except miniSD card and microSD card)   |   |
| <b>Input/Output</b> | Audio Input                      | ALARM IN 1 (Auto time adjustment) (x1),<br>ALARM IN 2 (ALARM OUT) (x1), ALARM IN 3 (AUX OUT) (x1)  |   |
|                     | Built-in microphone              | 3 terminals input, VMD, Command alarm  |   |
|                     | Audio Output*5                   | SDXC/SDHC/SD memory recording, E-mail notification,<br>HTTP alarm notification Indication on browser,<br>Panasonic alarm protocol output   |   |
|                     | External I/O Terminals           | ø3.5 mm stereo mini jack, Recommended applicable microphone : Plug-in power type<br>(Sensitivity of microphone : -48 dB ±3 dB (0 dB=1 V / Pa, 1 kHz))<br>Input impedance : Approx. 2 kΩ (unbalanced) Supply voltage : 2.5 V ±0.5 V |   |
|                     | Finish                           | Nondirectional electret condenser microphone   |   |

- \*1 Converted value
- \*2 When "On (level 30 or 31)" is selected for "Super Dynamic", the frame rate is restricted to a maximum of 15fps (30fps mode) or 12.5fps (25fps mode).
- \*3 Transmission for 2 streams can be individually set.
- \*4 When recording audio on an SD memory card, only use AAC-LC (Advanced Audio Coding - Low Complexity).
- \*5 The audio output can be switched to the monitor output.  
Refer to the Operating Instructions on the our support web site for descriptions of how to switch the output.

## Appearance

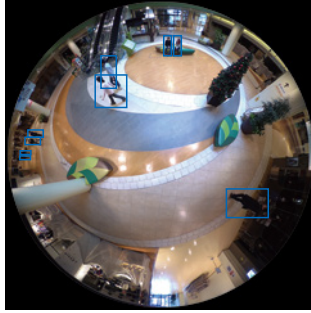


## Bundled License

### AI-VMD/AI People Counting for 360-degree fisheye

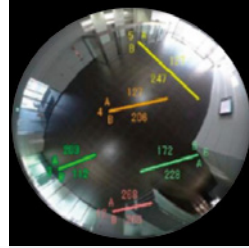
#### AI Video Motion Detection

- AI differentiates between vehicles and people. It further detects and sends warning notifications when they enter a specified area.
- Intruder detection:  
It is possible to issue an alarm when a moving object enters a specified area.
- Cross Line detection:  
It is possible to issue an alarm when an object moving in the specified direction crosses a specified threshold.
- Loitering detection:  
It is possible to issue an alarm when a moving object enters a specified area and stays there for a specified amount of time.

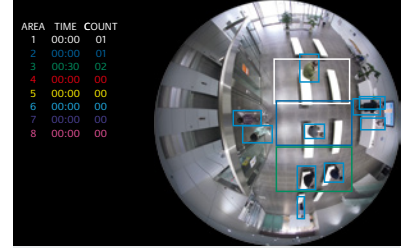


#### People Counting

- Cross Line Counting:  
It provides function of counting the number of people who crossed the line in a certain direction which is set with "Line"
- Area Counting (Queue Management):  
It provides function of counting the number of people in the set area.



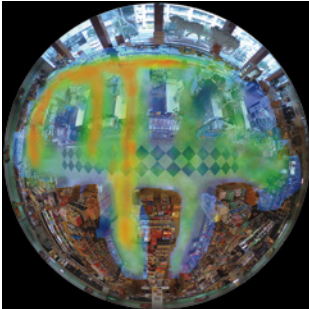
Cross Line Counting



Area Counting

#### Heat map

- Heat-map provides statistical information of traffic lines. Counts up both passing and loitering in the shooting area.



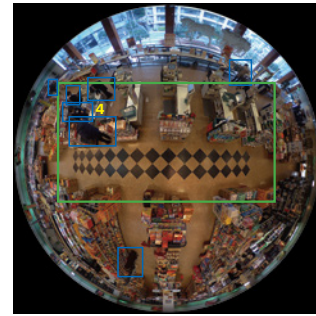
Passing



Loitering

#### Occupancy detection

- Detecting the congestion via network camera with AI engine enables that information to be used direct visitors in advance or help store staff work more efficiently.



### AI Privacy Guard for 360-degree fisheye

#### AI Privacy Guard

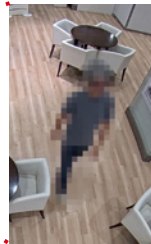
- To protect privacy and portrait rights, it is possible to automatically apply a mosaic the entire face and figure of a person photographed by the camera.



Original image



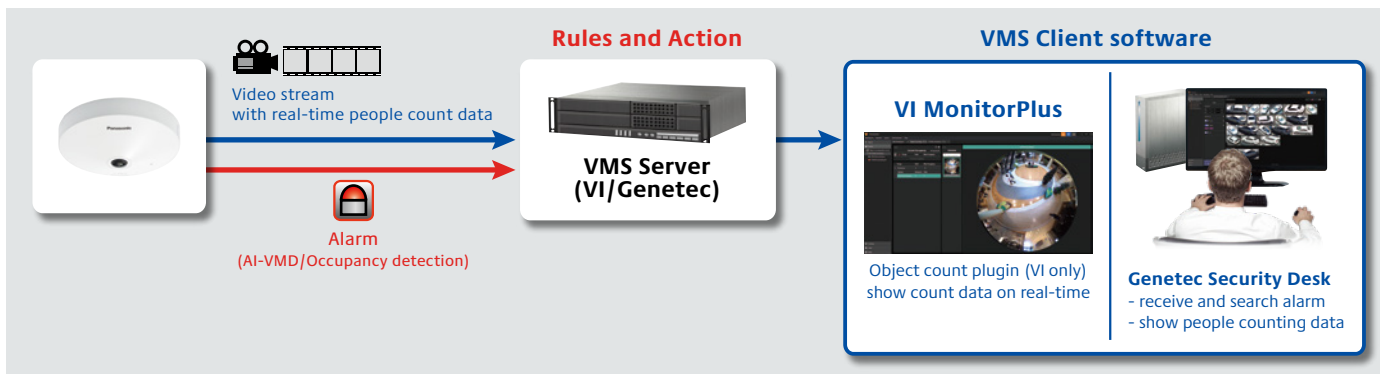
Processed image



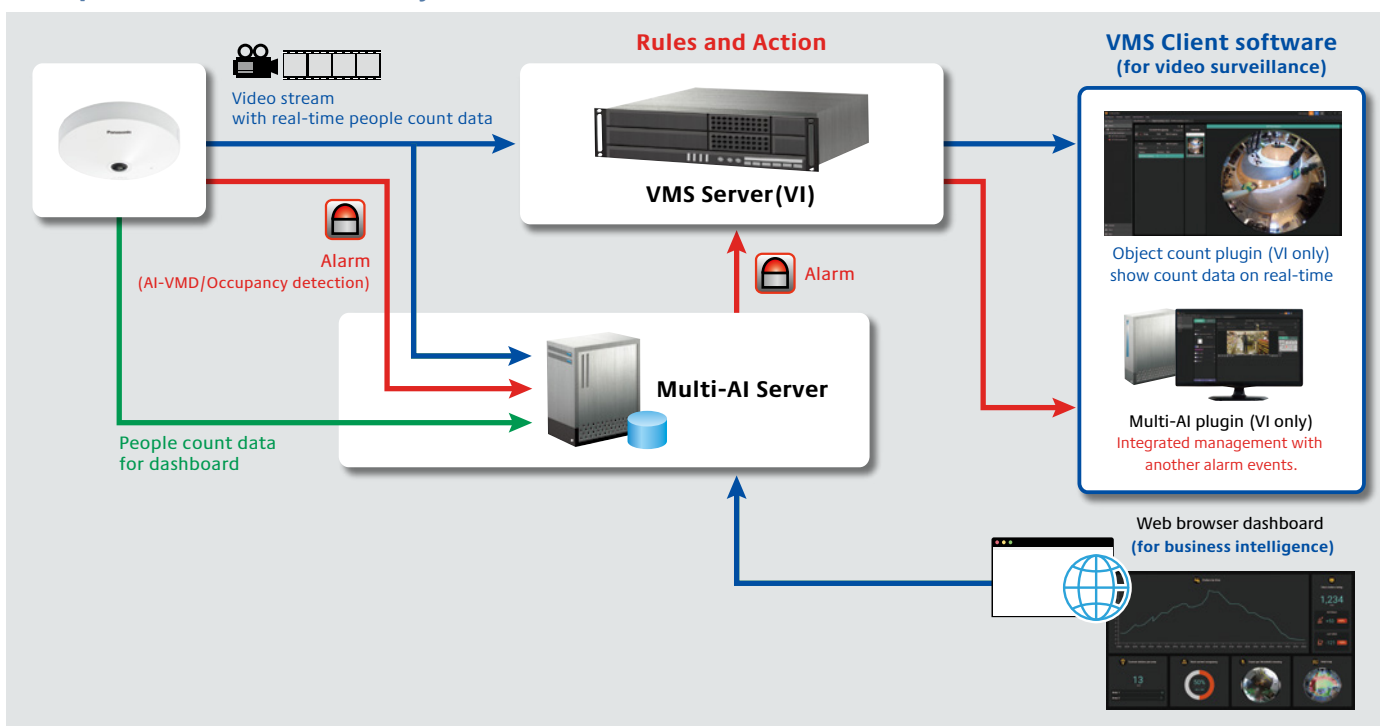
## Multi-AI Server

- Multi-AI Server stores the best shot images and metadata captured by i-PRO network cameras. Then, it collates this data with the watch list registered in the client software and issues an alarm when a match is found. The server does not require expensive hardware because i-PRO network cameras handle the advanced processing. The server can also be installed on the same hardware as the VMS.
- The system comprises the Multi-AI Server, the AI application installed on i-PRO network cameras utilizing AI engines, and the Multi-AI plug-in software for the VMS client.

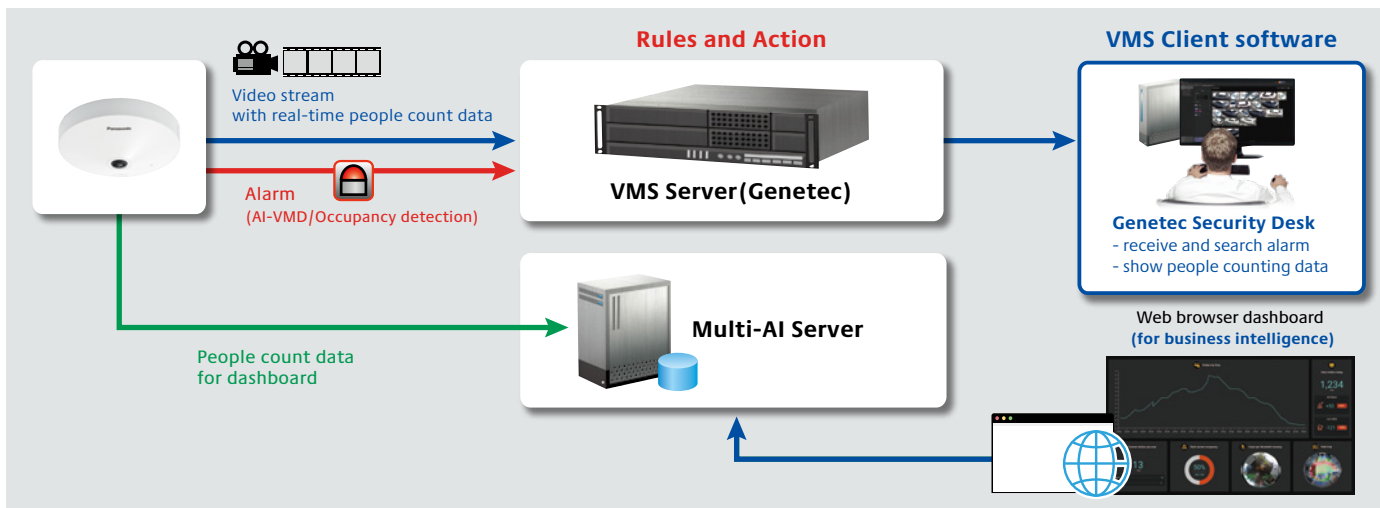
### Example of Basic connection system (without Multi-AI Server)



### Example of Basic connection system (with Multi-AI Server) for Video Insight











### Example of Basic connection system (with Multi-AI Server) for Genetec



\*VMS Server and Multi-AI Server can be installed on the same server.

## Optional Accessories

### Mount Bracket / Other

|             | WALL   | POLE   | CORNER   | HANGING   | CEILING  |
|-------------|--|--|--|---|--|
| combination | 1<br>Wall Mount Bracket<br><b>WV-QWL500-W</b><br>(i-PRO white)<br>    | 1<br>Pole Mount Bracket<br><b>WV-QPL500-W</b><br>(i-PRO white)<br>                    | 1<br>Corner Mount Bracket<br><b>WV-QCN500-W</b><br>(i-PRO white)<br>                  | 1<br>Ceiling Mount Bracket<br><b>WV-QCL100-W</b> *1<br>(i-PRO white)<br> | 1<br>Ceiling Mount Bracket<br><b>WV-Q105A</b><br> |
|             | Adapter Box<br><b>WV-QJB500-W</b><br>(i-PRO white)<br><br>*If needed. | Wall Mount Bracket<br><b>WV-QWL500-W</b> (i-PRO white)<br>(+ <b>WV-QJB500-W</b> )<br> | Wall Mount Bracket<br><b>WV-QWL500-W</b> (i-PRO white)<br>(+ <b>WV-QJB500-W</b> )<br> | 3rd parties pipe  |  |

\*1: It's possible to be used on the camera side and ceiling side. If used on both side, 2pieces are required.

#### Trademarks and registered trademarks

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- Android is a trademark of Google LLC.
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#### Important

- Safety Precautions : Carefully read the Basic Information, Installation Guide and Operating Instructions before using this product.
- Panasonic i-PRO Sensing Solutions Co., Ltd. cannot be held responsible for the performance of the network and/or other manufacturers' products used on the network.
- Masses and dimensions are approximate. • Specifications are subject to change without notice.

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