

# MS-72-12UTR

# Solutions

## Ultimate Teaching Tracking Camera



### Key Features:

- **Ultimate Tracking**  
Can output 5 channel HD video, 3 channel for close-up camera & 2 channel for panorama camera all at the same time so, both teacher tracking and student tracking are using the same device.
- **Changeable Lens**  
Panorama camera can replace the lens, compatible C/CS mount lens, easy to use for different size classroom.
- **Adjustable Viewing Angle**  
Panorama camera can adjust viewing angle in vertical(-25° ~ +15°), convenient installation and debugging.
- **High Efficient Tracking**  
Built-in image recognition and tracking algorithms, can be tracking realized without any auxiliary camera or tracking host.
- **Same Image Style**  
Both panorama camera and close-up camera use the same ISP, make sure the image output have the same brightness, color, style, etc.
- **Easy Configuration**  
Easy to make a configuration for tracking, direct connect by Ethernet, just need make some base parameters for configuration, large engineering debugging time and cost will be save.
- **72.5° Wide-angle Lens + 32x Digital Zoom**  
Close-up camera use 72.5° wide-angle high quality lens, support 12x optical zoom, and 32x digital zoom (optional).
- **H.265 Support**  
H.265 encoding support, enabling full HD 1080p video stream by ultra-low bandwidth.
- **1080P Full HD**  
Apply Panasonic's 1/2.7 inch, 2.07 million effective pixels high quality HD CMOS sensor, can reach maximum 1920 x 1080 high resolution and achieve quality image.
- **Ultra-high Frame Rate**  
The output frame rate up to 60fps in 1080P.
- **AAC Audio Encoding**  
Close-up camera support AAC audio encoding, better sound quality and smaller bandwidth.
- **Local Storage**  
Close-up camera support local storage module, directly recording to local USB flash disk without NVR.
- **Low-light**  
High SNR of CMOS sensor combined with 2D and 3D noise reduction algorithm, effectively reduce the noise, even under low illumination conditions, picture can still keep clean and clear.

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 Solutions  
From ideas to reality.

### Technical Specifications:

| Close-up Camera                  |  |
|----------------------------------|--|
| <b>Video System</b>              | HD: 1080p/60, 1080p/50, 1080i/60, 1080i/50, 1080p/30, 1080p/25, 720p/60, 720p/50, 720p/30, 720p/25, 640x480p/240 |
| <b>Sensor</b>                    | 1/2.7", CMOS, Effective Pixel: 2.07M   |
| <b>Scanning Mode</b>             | Progressive  |
| <b>Lens</b>                      | 12x, f3.5mm ~ 42.3mm, F1.8 ~ F2.8  |
| <b>Digital Zoom</b>              | 32x (optional)   |
| <b>Minimal Illumination</b>      | 0.5 Lux @ (F1.8, AGC ON)   |
| <b>Shutter</b>                   | 1/30s ~ 1/10000s   |
| <b>White Balance</b>             | Auto, 3000K/Indoor, 4000K, 5000K/Outdoor, 6500K_1, 6500K_2, 6500K_3, One Push, Manual                            |
| <b>Backlight Compensation</b>    | Support  |
| <b>Digital Noise Reduction</b>   | 2D&3D Digital Noise Reduction  |
| <b>Video S/N</b>                 | ≥55dB  |
| <b>Horizontal Angle of View</b>  | 72.5° ~ 6.9°   |
| <b>Vertical Angle of View</b>    | 44.8° ~ 3.9°   |
| <b>Horizontal Rotation Range</b> | ±170°  |
| <b>Vertical Rotation Range</b>   | -30° ~ +90°  |
| <b>Pan Speed Range</b>           | 1.7° ~ 100°/s  |
| <b>Tilt Speed Range</b>          | 1.7° ~ 69.9°/s   |
| <b>H &amp; V Flip</b>            | Support  |
| <b>Image Freeze</b>              | Support  |
| <b>Local Storage</b>             | Support  |
| <b>Number of Preset</b>          | 255  |
| <b>Preset Accuracy</b>           | 0.1°   |

### Technical Specifications:

| Panorama Camera                 |  |
|---------------------------------|--|
| <b>Video System</b>             | 1080p/60, 1080p/50, 1080i/60, 1080i/50, 1080p/30, 1080p/25, 720p/60, 720p/50, 720p/30, 720p/25 |
| <b>Sensor</b>                   | 1/2.7", CMOS, Effective Pixel: 2.07M   |
| <b>Scanning Mode</b>            | Progressive  |
| <b>Lens Mount</b>               | C/CS Mount   |
| <b>Auto Iris</b>                | DC Driver  |
| <b>Minimal Illumination</b>     | 0.05 Lux @ (F1.8, AGC ON)  |
| <b>Shutter</b>                  | 1/30s ~ 1/10000s   |
| <b>White Balance</b>            | Auto, 3000K/Indoor, 4000K, 5000K/Outdoor, 6500K_1, 6500K_2, 6500K_3, One Push, Manual          |
| <b>Day-night Mode</b>           | IR cut filter with auto switch   |
| <b>Digital Noise Reduction</b>  | 2D, 3D digital noise reduction   |
| <b>Backlight Compensation</b>   | Support  |
| <b>Image Freeze</b>             | Support  |
| <b>Ceiling Installation</b>     | Support  |
| Network Features                |  |
| <b>Video Compression</b>        | H.265 / H.264 / MJPEG  |
| <b>Video Stream</b>             | First Stream, Second Stream  |
| <b>First Stream Resolution</b>  | 1920x1080, 1280x720, 1024x576  |
| <b>Second Stream Resolution</b> | 720x576, 720x480, 320x240  |
| <b>Video Bit Rate</b>           | 128Kbps ~ 8192Kbps   |
| <b>Bit Rate Type</b>            | Variable Rate, Fixed Rate  |
| <b>Frame Rate</b>               | 50Hz: 1fps ~ 50fps, 60Hz: 1fps ~ 60fps   |
| <b>Audio Compression</b>        | AAC  |
| <b>Audio Bit Rate</b>           | 96Kbps, 128Kbps, 256Kbps   |
| <b>Support protocols</b>        | TCP/IP, HTTP, RTSP, RTMP, Onvif, DHCP, Multicast, etc.   |

### Technical Specifications:

| Input/Output Interface         |  |
|--------------------------------|--|
| <b>HD Output</b>               | 1xHDMI: Version 1.3<br>2x3G-SDI: BNC type, 800mVp-p, 75Ω, Along to SMPTE 424M standard   |
| <b>Network Interface</b>       | 2xRJ45: 10M/100M Ethernet Interface  |
| <b>Audio Interface</b>         | 1-ch: 3.5mm Audio Interface, Line In   |
| <b>USB</b>                     | 1xUSB2.0: Type A female jack   |
| <b>Communication Interface</b> | 1xRS232 In: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/Pelco-D/Pelco-P (for close-up camera)<br>1xRS232 Out: 8pin Min DIN, Max Distance: 30m, VISCA network use only(for close-up camera)<br>1xRS232 Out: 8pin Min DIN, Max Distance: 30m, use for control close-up camera(for panorama camera)<br>1xRS485: 2pin Phoenix Port, Max Distance: 1200m, Protocol: VISCA/Pelco-D/Pelco-P(for close-up camera) |
| <b>Power Jack</b>              | JEITA type (DC IN 12V)   |
| Generic Specification          |  |
| <b>Input Voltage</b>           | DC 12V   |
| <b>Current Consumption</b>     | 1.5A (Max)   |
| <b>Operating Temperature</b>   | -10°C ~ 40°C (14°F ~ 104°F)  |
| <b>Storage Temperature</b>     | -40°C ~ 60°C (-40°F ~ 140°F)   |
| <b>Power Consumption</b>       | 18W (Max)  |
| <b>MTBF</b>                    | >30000h  |
| <b>Net Weight</b>              | 2.3kg  |