Network Disk Recorder
(WJ-NU101/NU201/NU300/NU301)
Read Me First

1 Introduction

This document provides information on the cameras supported by software version Ver. 2.30 (or later) of the network disk recorder (WJ-NU101/NU201/NU300/NU301 series, hereinafter referred to as this unit) and notices when using other manufacturers' cameras.

2 Supported cameras

This unit supports the following camera models.

[i-PRO Co., Ltd.]

WV-RD5500-C *
WV-RD5500-CE *
WV-RD5500-CS *
WV-RD5500-CSE *
WV-S15301-Z1L *
WV-S15301-Z1LN *
WV-S15500-F3L
WV-S15500-F6L
WV-S15500-V3L
WV-S15500-V3LK
WV-S15500-V3LN
WV-S15500-V3LN1
WV-S15500A-F3L
WV-S15500A-F6L
WV-S15500A-V3L
WV-S15500A-V3LK
WV-S15500A-V3LN
WV-S15500A-V3LN1
WV-S15501-Z1L *
WV-S15501-Z1LN *
WV-S15501-Z3L *
WV-S15501-Z3LN *
WV-S15600-V2L
WV-S15600-V2LN
WV-S15600A-V2L
WV-S15600A-V2LN
WV-S15700-V2L
WV-S15700-V2LK
WV-S15700-V2LN
WV-S15700A-V2L
WV-S15700A-V2LK
WV-S15700A-V2LN
WV-S15701-Z3L *
WV-S15701-Z3LN *
WV-S22500-F3L
WV-S22500-F6L
WV-S22500-V3L
WV-S22500-V3L1
WV-S22500-V3LG
WV-S22500A-F3L
WV-S22500A-F6L
WV-S22500A-V3L
WV-S22500A-V3L1
WV-S22500A-V3LG
WV-S22600-V2L
WV-S22600-V2LG
WV-S22600A-V2L
WV-S22600A-V2LG
WV-S22700-V2L
WV-S22700-V2L1
WV-S22700-V2LG
WV-S22700A-V2L
WV-S22700A-V2L1
WV-S22700A-V2LG
WV-S25500-F3L
WV-S25500-F6L
WV-S25500-V3L
WV-S25500-V3LG
WV-S25500-V3LN
WV-S25500-V3LN1
WV-S25500A-F3L
WV-S25500A-F6L
WV-S25500A-V3L
WV-S25500A-V3LG
WV-S25500A-V3LN
WV-S25500A-V3LN1
WV-S25600-V2L
WV-S25600-V2LG
WV-S25600-V2LN
WV-S25600A-V2L
WV-S25600A-V2LG
WV-S25600A-V2LN
WV-S25700-V2L
WV-S25700-V2LG
WV-S25700-V2LN
WV-S25700-V2LN1
WV-S25700A-V2L
WV-S25700A-V2LG
WV-S25700A-V2LN
WV-S25700A-V2LN1
WV-S32302-F2L
WV-S32302-F2L1
WV-S32302-F2LG
WV-S32402-F2L
WV-S32402-F2L1
WV-S32402-F2LG
WV-S35302-F2L
WV-S35302-F2L1
WV-S35302-F2LG
WV-S35402-F2L
WV-S35402-F2L1
WV-S35402-F2LG
WV-S41500-F1 *
WV-S41700-F1 *
WV-S45500-F1L *
WV-S45700-F1L *
WV-S61300-ZY
WV-S61300-ZYG
WV-S61301-Z1
WV-S61301-Z2
WV-S61301A-Z2
WV-S61301A-Z2-1
WV-S61302-Z4
WV-S61302A-Z4
WV-S61501-Z1
WV-S61602-Z3
WV-S61602A-Z3
WV-S61702-Z3
WV-S61702A-Z3
WV-S65300-ZY
WV-S65300-ZYG
WV-S65301-Z1
WV-S65301-Z1-1
WV-S65301-Z1G
WV-S65301-Z1S
WV-S65302-Z2
WV-S65302-Z2-1
WV-S65302-Z2G
WV-S65340-Z2
WV-S65340-Z2G
WV-S65340-Z2K
WV-S65340-Z2N
WV-S65340-Z2N1
WV-S65340-Z4
WV-S65340-Z4G
WV-S65340-Z4K
WV-S65340-Z4N
WV-S65340-Z4N1
WV-S65501-Z1
WV-S65501-Z1G
WV-S66300-Z3
WV-S66300-Z3N
WV-S66300-Z3L
WV-S66300-Z3LN
WV-S66300-Z4
WV-S66300-Z4N
WV-S66300-Z4L
WV-S66300-Z4LN
WV-S66600-Z3
WV-S66600-Z3N
WV-S66600-Z3L
WV-S66600-Z3LN
WV-S66700-Z3
WV-S66700-Z3N
WV-S66700-Z3L
WV-S66700-Z3LN
WV-S71300-F3

WV-S71300A-F3
WV-S85402-V2L
WV-S85402-V2L1
WV-S85402A-V2L *
WV-S85402A-V2L1 *
WV-S85403A-V2 *
WV-S85403A-V2G *
WV-S85403A-V2L *
WV-S85403A-V2LG *
WV-S85404A-V2 *
WV-S85404A-V2G *
WV-S85404A-V2L *
WV-S85404A-V2LG *
WV-S85603A-V2L *
WV-S85603A-V2LG *
WV-S85604A-V2L *
WV-S85604A-V2LG *
WV-S85702-F3L
WV-S85702-F3L1
WV-S85702A-V2L *
WV-S85702A-V2L1 *
WV-S85703A-V2L *
WV-S85703A-V2LG *
WV-S85704A-V2L *
WV-S85704A-V2LG *
WV-SC11300-F2-1 *
WV-SC11300-F3-1 *
WV-SC11301-F3-1 *
WV-SC15300-F2-1 *
WV-SC15300-F3-1 *
WV-SU1311-1 *
WV-U11300-V2
WV-U11301-F3 *
WV-U11301-V3 *
WV-U11350-V3 *
WV-U11501-V3 *
WV-U11550-V3 *
WV-U15301-V3L *
WV-U15350-V3L *
WV-U15501-V3L *
WV-U15550-V3L *
WV-U15750-V3L *
WV-U21300-V2L
WV-U21301-V3L *
WV-U21350-V3L *
WV-U21501-V3L *
WV-U21550-V3L *
WV-U22301-F3L *
WV-U22350-F3L *
WV-U22501-F3L *
WV-U22550-F3L *
WV-U22750-F3L *
WV-U25301-F3L *
WV-U25302-V3L *
WV-U25350-F3L *
WV-U25351-V3L *
WV-U25501-F3L *
WV-U25502-V3L *
WV-U25550-F3L *
WV-U25551-V3L *
WV-U25751-V3L *
WV-U31301-F2L
WV-U31301-F2LG
WV-U31401-F2L
WV-U31401-F2LG
WV-U35301-F2L
WV-U35301-F2LG
WV-U35401-F2L
WV-U35401-F2LG
WV-U61300-ZY
WV-U61300-ZYG
WV-U61300-ZYPR
WV-U61301-Z1
WV-U61301-Z2
WV-U61301A-Z2
WV-U65300-ZY
WV-U65300-ZYG
WV-U65301-Z1
WV-U65301-Z1G
WV-U65302-Z2
WV-U65302-Z2G
WV-U85402-V2L
WV-U85402-V2L1
WV-U85402A-V2L
WV-U85402A-V2L1
WV-X15300-V3L
WV-X15300-V3LN
WV-X15300A-V3L
WV-X15300A-V3LN
WV-X15301-Z1L *
WV-X15301-Z1LN *
WV-X15301A-Z1L *
WV-X15301A-Z1LN *
WV-X15302-Z1L *
WV-X15302-Z1LN *
WV-X15302A-Z1L *
WV-X15302A-Z1LN *
WV-X15500-V3L
WV-X15500-V3LN
WV-X15500A-V3L
WV-X15500A-V3LN
WV-X15501-Z1L *
WV-X15501-Z1LN *
WV-X15501-Z3L *
WV-X15501-Z3LN *
WV-X15501A-Z1L *
WV-X15501A-Z1LN *
WV-X15501A-Z3L *
WV-X15501A-Z3LN *
WV-X15502-Z1L *
WV-X15502-Z1LN *
WV-X15502A-Z1L *
WV-X15502A-Z1LN *
WV-X15600-V2L
WV-X15600-V2LN
WV-X15600A-V2L
WV-X15600A-V2LN
WV-X15700-V2L
WV-X15700-V2LN
WV-X15700A-V2L
WV-X15700A-V2LN
WV-X15701-Z3L *
WV-X15701-Z3LN *
WV-X22300-V3L
WV-X22300A-V3L
WV-X22500-V3L
WV-X22500A-V3L
WV-X22600-V2L
WV-X22600A-V2L
WV-X22700-V2L
WV-X22700A-V2L
WV-X25300-V3LN
WV-X25300A-V3LN
WV-X25500-V3LN
WV-X25500A-V3LN
WV-X25580-F2LN2
WV-X25600-V2LN
WV-X25600A-V2LN
WV-X25700-V2LN
WV-X25700A-V2LN
WV-X35302-F2L
WV-X35402-F2L
WV-X41501-F1 *
WV-X41701-F1 *
WV-X45501-F1L *
WV-X45701-F1L *
WV-X45702-F1L *
WV-X66300-Z3K
WV-X66300-Z3S
WV-X66300-Z3LK
WV-X66300-Z3LS
WV-X66300-Z4K
WV-X66300-Z4S
WV-X66300-Z4LK
WV-X66300-Z4LS
WV-X66600-Z3K
WV-X66600-Z3S
WV-X66600-Z3LK
WV-X66600-Z3LS

WV-X66700-Z3K
WV-X66700-Z3S
WV-X66700-Z3LK
WV-X66700-Z3LS
WV-X67300-Z4-3
WV-X67300-Z4L3
WV-X67300A-Z4-3
WV-X67300A-Z4L3
WV-X67301-Z4L3
WV-X67301A-Z4L3
WV-X67310-Z4-1
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WV-X67310-Z4L3
WV-X67310A-Z4-1
WV-X67310A-Z4-3
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WV-X67311A-Z4L3
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WV-X67710A-Z3-1
WV-X67710A-Z3-3
WV-X67710A-Z3L1
WV-X67710A-Z3L3
WV-X67711-Z3L3
WV-X67711A-Z3L3
WV-X86530-Z2
WV-X86530-Z2-1
WV-X86530A-Z2
WV-X86530A-Z2-1
WV-X86531-Z2
WV-X86531-Z2-1
WV-X86531A-Z2
WV-X86531A-Z2-1
WJ-GXE100
WJ-GXE500
WV-S1111
WV-S1112
WV-S1131
WV-S1132
WV-S1136
WV-S1136A
WV-S1511LN
WV-S1511LDN
WV-S1531LN
WV-S1531LTN
WV-S1536L
WV-S1536L-B
WV-S1536LA
WV-S1536LA-B
WV-S1536LN
WV-S1536LN-B
WV-S1536LNA
WV-S1536LNA-B
WV-S1536LNS
WV-S1536LNSA
WV-S1536LT
WV-S1536LTA
WV-S1536LTN
WV-S1536LTNA
WV-S1550L
WV-S1552L
WV-S1570L
WV-S1572L
WV-S2110
WV-S2111L
WV-S2130
WV-S2131
WV-S2131L
WV-S2136
WV-S2136-B
WV-S2136A
WV-S2136A-B
WV-S2136G
WV-S2136G-B
WV-S2136GA
WV-S2136GA-B
WV-S2136L
WV-S2136L-B
WV-S2136LA
WV-S2136LA-B
WV-S2136LG
WV-S2136LG-B
WV-S2136LGA
WV-S2136LGA-B
WV-S2211L
WV-S2231L
WV-S2236L
WV-S2236L-B
WV-S2236LA
WV-S2236LA-B
WV-S2236LG
WV-S2236LG-B
WV-S2236LGA
WV-S2236LGA-B
WV-S2250L
WV-S2252L
WV-S2270L
WV-S2272L
WV-S2511LN
WV-S2531LN
WV-S2531LTN
WV-S2536L
WV-S2536LA
WV-S2536LG
WV-S2536LGA
WV-S2536LGN
WV-S2536LGNA
WV-S2536LN
WV-S2536LNA
WV-S2536LT
WV-S2536LTA
WV-S2536LTN
WV-S2536LTNA
WV-S2550L
WV-S2552L
WV-S2570L
WV-S2572L
WV-S3111L
WV-S3131L
WV-S3511L
WV-S3531L
WV-S4150
WV-S4151
WV-S4156
WV-S4156A
WV-S4176
WV-S4176A
WV-S4550L
WV-S4551L
WV-S4556L
WV-S4556LA
WV-S4576L
WV-S4576LA
WV-S6111
WV-S6130
WV-S6131
WV-S6530N
WV-S6530NS
WV-S6532LN
WV-S6532LNS
WV-S8530N
WV-S8531N
WV-S8543
WV-S8543G
WV-S8543L
WV-S8543LG
WV-S8544
WV-S8544G

WV-S8544L	WV-U1542L	WV-X1571LN
WV-S8544LG	WV-U1542LA	WV-X2251L
WV-S8563L	WV-U2130L	WV-X2271L
WV-S8563LG	WV-U2130LA	WV-X2551LN
WV-S8564L	WV-U2132L	WV-X2571LN
WV-S8564LG	WV-U2132LA	WV-X4170
WV-S8573L	WV-U2140L	WV-X4171
WV-S8573LG	WV-U2140LA	WV-X4172
WV-S8574L	WV-U2142L	WV-X4173
WV-S8574LG	WV-U2142LA	WV-X4571L
WV-SUD638	WV-U2530L	WV-X4573L
WV-U1130	WV-U2530LA	WV-X6511N
WV-U1130A	WV-U2532L	WV-X6531N
WV-U1132	WV-U2532LA	WV-X6531NS
WV-U1132A	WV-U2540L	WV-X6533LN
WV-U1142	WV-U2540LA	WV-X6533LNS
WV-U1142A	WV-U2542L	WV-X8570N
WV-U1532L	WV-U2542LA	WV-X8571N
WV-U1532LA	WV-X1551LN	

* Cameras compatible with new connection method

2.1 Notes for each model

[WJ-GXE500]

- Depending on the setting of "CH selection" for WJ-GXE500, the images may not be transmitted at the specified frame rate. Refer to the operating instructions of WJ-GXE500 for details.
- The following framerate values for WJ-GXE500(PAL) are interpreted as below.
  3 -> 3.1
  10 -> 8.3
  15 -> 12.5
  30 -> 25
- To register more than one camera connected to the same WJ-GXE500, set the same value to each camera on following settings.
  Compression
  Image capture size
  Frame rate
  Image quality

[WV-S4150, WV-S4151, WV-S4156/A, WV-S4176/A, WV-S4550L, WV-S4551L, WV-S4556L/LA, WV-S4576L/LA, WV-X4170, WV-X4171, WV-X4172, WV-X4173, WV-X4571L, WV-X4573L]

- To register these models, specify the image capture mode together.
  (FE) : <Ceiling> Fisheye
  (DP) : <Ceiling> Double Panorama
  (P) : <Wall> Panorama
  (4PTZ) : <Ceiling> Quad PTZ
  (1PTZ) : <Ceiling> Single PTZ
  (FE+DP) : <Ceiling> Fisheye + Double Panorama
  (FE+P) : <Wall> Fisheye + Panorama
  (FE+4PTZ) : <Ceiling> Fisheye + Quad PTZ
  -1~-4 : <Ceiling> Quad streams
  * Camera operations are available in "Single PTZ", "Quad PTZ", "Fisheye + Quad PTZ" and "Quad streams" mode.

* In "Quad PTZ" mode, the camera operation of the camera control panel is applied for the upper left image.
* Click the [x1] button of Zooming to reset the zoom factor to x1 for all 4 areas in "Quad PTZ" and "Fisheye + Quad PTZ" mode.
* When changing the image capture mode or image capture size (resolution), the mounting position returns to the default settings described above.

[WV-S4176/A, WV-S4576L/LA, WV-X4172, WV-X4173, WV-X4573L]

- When the Super Dynamic is set to On in the Camera setup, the wide dynamic range is set to On.

[WV-S41500-F1, WV-S41700-F1, WV-S45500-F1L, WV-S45700-F1L, WV-X41501-F1, WV-X41701-F1, WV-X45501-F1L, WV-X45701-F1L, WV-X45702-F1L]

- To register these models, specify the image capture mode together.
  (FE) : <Ceiling> Fisheye
  (DP) : <Ceiling> Double Panorama
  (P) : <Wall> Panorama
  (4PTZ) : <Ceiling> Quad PTZ
  (COR) : <Ceiling> Corridor
  (FE+DP) : <Ceiling> Fisheye + Double Panorama
  (FE+P) : <Wall> Fisheye + Panorama
  (FE+4PTZ) : <Ceiling> Fisheye + Quad PTZ
  (FE+1PTZ) : <Ceiling> Fisheye + Single PTZ
  (FE+COR) : <Ceiling> Fisheye + Corridor
  -1~-4 : <Ceiling> Quad streams
  * Camera operations are available in "Quad PTZ", "Single PTZ", "Fisheye + Quad PTZ", "Fisheye + Single PTZ", and "Quad streams" mode.
  * In "Quad PTZ" mode, the camera operation of the camera control panel is applied for the upper left image.
  * Click the [x1] button of Zooming to reset the zoom factor to x1 for all 4 areas in "Quad PTZ" and "Fisheye + Quad PTZ" mode.
  * When changing the image capture mode or image capture size (resolution), the mounting position returns to the default settings described above.
  * When using "Quad streams" mode, make sure all channels have the same aspect ratio.

2.2 Alternate model number

A camera having an asterisk "*" displayed at the beginning of the model number will operate with the "alternate model number". Regarding a camera that is not supported by this equipment (hereafter referred to as an "unsupported camera"), the model number of a supported camera having similar functions is called an "alternate model number". During operation with an "alternate model number", although the functions that are common with the unsupported camera will function normally, the functions that are unique to the unsupported camera may not function at all. It is likely such cameras will be supported formally in the future with an upgraded software version.
Please check the i-PRO support website for whether firmware corresponding to that camera has been released.

2.3 “Easy start” function

[i-PRO Co., Ltd.]

- Only CH1 of "WJ-GXE500" can be detected by this function. To register camera channel 2 to 4, select "GXE500-2" to "GXE500-4" for each camera channel on "Model" - "Registered information" page - [Camera registration] tab.
- 360-degree fisheye cameras can be detected as "<Ceiling> Fisheye".
- The i-PRO network cameras that are not supported yet can be detected as "i-PRO(Unknown)". To register them, select the alternative model for each camera on "Model" - "Registered information" page - [Camera registration] tab.

[Other manufacture’s]

- Only ONVIF standard cameras can be detected by this function.

3 Camera classifications

The correspondence table of each camera classification excluding model numbers and camera models is following. If the correspondence table of camera categories are selected, some functions may not operate correctly depending on the models.
(x_FIX), (x_PTZ) and (x_FE) are options for using camera models listed in the table below, among cameras detected as "i-PRO(Unknown)".

Camera classification	Camera models
i-PRO(St1Only)	(i-PRO Network Cameras supporting H.264/H.265 stream output)
i-PRO(Unknown)	(Unknown i-PRO Network Cameras)
i-PRO(A_FIX)	(i-PRO Network Cameras, Fixed camera, Type-A) WV-NP502, WV-NW502S, WV-SF132, WV-SF135, WV-SF332, WV-SF335, WV-SF342, WV-SF346, WV-SP102, WV-SP105, WV-SP302, WV-SP305, WV-SP306, WV-SW115, WV-SW152, WV-SW155, WV-SW314, WV-SW316/L, WV-SW352, WV-SW355
i-PRO(A_PTZ)	(i-PRO Network Cameras, PTZ camera, Type-A) WV-SC384, WV-SC385, WV-SC386, WV-ST162, WV-ST165, WV-SW172, WV-SW174W, WV-SW175, WV-SW395/A, WV-SW396/A
i-PRO(B_FIX)	(i-PRO Network Cameras, Fixed camera, Type-B) WV-SF138, WV-SF538, WV-SF539, WV-SF548, WV-SF549, WV-SP508, WV-SP509, WV-SW158, WV-SW558, WV-SW559
i-PRO(B_PTZ)	(i-PRO Network Cameras, PTZ camera, Type-B) WV-SC387/A, WV-SC588/A, WV-SW397/A/B, WV-SW598/A
i-PRO(B_FE)	(i-PRO Network Cameras, 360-degree fisheye camera, Type-B) WV-SF438, WV-SF448E, WV-SW458
i-PRO(C_FIX)	(i-PRO Network Cameras, Fixed camera, Type-C) WV-SFN110, WV-SFN130, WV-SFN310/A, WV-SFN311/A/L, WV-SFN531, WV-SFN611L, WV-SFN631L, WV-SFR310/A, WV-SFR311/A, WV-SFR531, WV-SFR611L, WV-SFR631L, WV-SFV110, WV-SFV130, WV-SFV310/A, WV-SFV311/A, WV-SFV531, WV-SFV611L, WV-SFV631L/LT, WV-SPN310/A, WV-SPN311/A, WV-SPN531/A, WV-SPN611, WV-SPN631, WV-SPW311AL, WV-SPW312L, WV-SPW531AL, WV-SPW532L, WV-SPW611/L, WV-SPW631L/LT
i-PRO(D_FIX)	(i-PRO Network Cameras, Fixed camera, Type-D) WV-SFV781L, WV-SPV781L
i-PRO(D_FE)	(i-PRO Network Cameras, 360-degree fisheye camera, Type-D) WV-SFN480, WV-SFV481
i-PRO_Manual	(i-PRO Network Cameras, Cameras compatible with new connection method)
ONVIF	ONVIF standard cameras
ONVIF(FE)	ONVIF standard 360-degree cameras
ONVIF-1 ~ ONVIF-4	ONVIF standard encoders (up to 4ch)
ONVIF-Dual ONVIF-Dual(FE) ONVIF-Dual-1 ~ ONVIF-Dual-4	ONVIF standard devices that use a separate stream for multi-screen live monitoring
RTSP	Network cameras receiving stream at RTSP URL address
RTSP(FE)	360-degree cameras receiving stream at RTSP URL address

* ONVIF is a trademark of ONVIF, Inc.

3.1 Restrictions when using camera classification from Type-A to Type-D

When using camera classification, it may not work properly depending on the specifications of each camera. Also, some functions and settings that are not supported by this unit cannot be used. Examples of restrictions are listed below.

- Set each setting (resolution, frame rate, etc.) within the range supported by the target camera.
- The image capture mode of the camera cannot be changed from this unit, so set it on the camera side, as necessary.
- When using a Type-D camera with JPEG, set the resolution on the camera side, as necessary.
- Cameras with audio functions in Type-A and Type-B camera cannot be recorded with this unit.
- The 360-degree fisheye camera supports fisheye, 1PTZ, 4PTZ, panorama, and double panorama modes. When using 1PTZ mode or 4PTZ mode, register with i-PRO(x_PTZ). When using in panorama mode or double panorama mode, register with i-PRO(x_FIX).
- The RS-485 output unit (WV-SPN6R481) is not supported.
- If the camera's firmware is old version, it may not work properly.

3.2 Notes on using camera classification “i-PRO_Manual”

“i-PRO_Manual” is used to manually register the camera compatible with the new connection method. The following are precautions to be taken when using “i-PRO_Manual”.

- Set the setting values that are supported by the camera. If the camera is operated with unsupported settings, this product may not operate properly. If unsupported values are set, a setting error icon (⊗) will appear near the setting item (*).
  * This icon is not displayed when the “Setup error detection” setting is Off.
- The software version of this product may need to be upgraded when using a camera to be released by our company in the future. Please check our support website to see if the firmware for the camera has been released.

4 Using ONVIF standard cameras

This unit is equipped with ONVIF Client function and can connect to cameras supporting ONVIF Profile S or Profile T.

[Support functions]

1) Auto camera detection
2) Manual camera registration
3) Display live camera image, and record or play back camera image
   - Video compression format : H.265, H.264, MJPEG
   - Image capture size :
     Refer to Chapter 6
     * Portrait resolutions are not supported.
     * MJPEG is only supported at resolutions below 2040 pixels in both height and width.
     * Image capture size exceeding 9M are not supported.
   - Frame rate :
     H.265/H.264 30ips, 15ips, 10ips, 5ips, 3ips, 1ips
     MJPEG 5ips, 3ips, 1ips
   - Image quality :
     H.265/H.264 XF(Extra Fine), SF(Super Fine), FQ(Fine), NQ(Normal)
     MJPEG SF(Super Fine), FQ(Fine), NQ(Normal)
4) Output of live audio, and recording/playback of audio
   - Audio compression format : AAC-LC, G.711
5) Camera control (Pan, Tilt, Zoom, Register and call preset position)
6) Receive the events
7) User authentication
   - Authentication method : Digest authentication, Basic authentication

[Notices]

- Depending on which version or function of ONVIF the camera supports, this unit may not connect to the cameras or not work correctly. And some functions may work slowly.
- Set the IP address to the cameras in advance. For further information, refer to the operating instructions of the cameras in use.
- This unit receives events which are sent by ONVIF standard camera and treats them as "Camera site alarm (ONVIF)". Set the camera in use whether or not to provide an alarm notification when an event occurs.
- A preset position number 0 is registered as home position.
- Set the same time zone with this unit to the cameras.
- Adjust the time and date of the camera to the clock of this unit.
- If part of the camera image is corrupted or the entire image is not displayed, set the image quality, frame rate, or image capture size to a lower value.
- The fisheye correction display of ONVIF standard 360-degree cameras is only available on the main monitor.
- Certain cameras require the video compression format to be set in advance to match this unit's setting.

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5 Receiving stream at RTSP URL address

This unit can connect to the camera with RTSP URL.

[Support functions]

1) Manual camera registration
2) Display live camera image, and record or play back camera image
   - Video compression format : H.265, H.264, MJPEG
   - Image capture size :
     Refer to Chapter 6
     * Portrait resolutions are not supported.
     * MJPEG is only supported at resolutions below 2040 pixels in both height and width.
     * Image capture size exceeding 9M are not supported.
   - Frame rate :
     H.265/H.264 30ips, 15ips, 10ips, 5ips, 3ips, 1ips
     MJPEG 5ips, 3ips, 1ips
   - Image quality :
     H.265/H.264 XF(Extra Fine), SF(Super Fine), FQ(Fine), NQ(Normal)
     MJPEG SF(Super Fine), FQ(Fine), NQ(Normal)
   - Connection method : RTSP, Internet mode
3) Output of live audio, and recording/playback of audio
   - Audio compression format : AAC-LC
4) User authentication
   - Authentication method : Digest authentication,

[How to connect]

1) Set the IP address, the image capture size, the frame rate, etc. on the camera in advance.
2) Select “RTSP” for the “Model” and enter the video transmission URL of the camera in the “Address” field in the setup menu – the [Camera] page – [Camera registration] tab – [Registered information].
   Example of URL) rtsp://192.168.0.10/Src/MediaInput/stream_1
   * The “rtsp://” prefix can be omitted.
3) Match other settings of this unit (Video compression format, username, password, image capture size, frame rate, etc.) to the camera settings.
4) End the setting.

[Notices]

- Even with cameras that support RTSP, this unit may not connect to the cameras or not work correctly.
- Refer to the operating instructions of the camera or the camera manufacturer’s website for the video transmission URL.
- Thumbnails are not displayed in the setup menu.
- Camera control such as panning and tilting cannot be performed.
- The fisheye correction display of 360-degree cameras is only available on the main monitor.
- If a camera supported by this unit or an ONVIF standard camera is registered with “RTSP” and the camera detection is performed, it will be detected as another camera.

6 Supported image capture size

The supported image capture size (resolution) depends on the compression method.

Compression / Resolution	H.265				H.264				MJPEG
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	
4KUHD(3840x2160)	✓				✓				✓
6M(3328x1872)	✓				✓				✓
5M(3072x1728)	✓				✓				✓
4M(2688x1520)	✓				✓				✓
WQHD(2560x1440)	✓				✓				✓
FHD(1920x1080)	✓				✓				✓
HD(1280x720)	✓	✓	✓	✓	✓	✓	✓	✓	✓
HVGAW(640x360)	✓	✓	✓	✓	✓	✓	✓	✓	✓
9.6M(3584x2688)									
7M(3072x2304)	✓				✓				✓
5M(2592x1944)	✓				✓				✓
5M(2560x1920)	✓				✓				✓
QXGA(2048x1536)	✓				✓				✓
UXGA(1600x1200)	✓				✓				✓
SXVGA(1280x960)	✓	✓			✓	✓			✓
SVGA(800x600)	✓				✓				✓
VGA(640x480)	✓	✓	✓	✓	✓	✓	✓	✓	✓
12.5M(3520x3520)									
9M(2992x2992)	✓				✓				✓
8M(2816x2816)	✓				✓				✓
5M(2192x2192)	✓				✓				✓
4M(2048x2048)	✓				✓				✓
2M(1440x1440)	✓				✓				✓
1.6M(1280x1280)	✓	✓			✓	✓			✓
1.4M(1200x1200)	✓				✓				✓
0.4M(640x640)		✓				✓			
8M(2160x3840)	✓								✓
6M(1872x3328)	✓								✓
5M(1728x3072)	✓								✓
4M(1520x2688)	✓								✓
4M(1440x2560)	✓								✓
2M(1080x1920)	✓								✓
1M(720x1280)	✓	✓	✓	✓					✓
0.2M(360x640)	✓	✓	✓	✓					✓

* Depending on the camera, this unit may not support the resolution even if the camera supports it.
* When the compression method of i-PRO cameras is H.265/H.264, this unit uses the Recording-stream for single-screen live display on the monitor, and the Monitor-live-display-stream for multi-screen live display. Also, when using a 4K monitor, the Recording-stream is used for live displays on 1 to 4 screens, and the Monitor-live-display-stream is used for live displays on 5 or more screens. If the resolution of the Recording-stream is 6M or higher, the Monitor-live-display-stream is also used for live display 2 to 4 screens.
  Recording-stream : H.265(1)/H.265(3)/H.265(4)/H.264(1)/H.264(3)/H.264(4)
  Monitor-live-display-stream : H.265(2)/H.264(2)
* For cameras registered with “ONVIF”, “RTSP” and “i-PRO(St1Only)”, this unit uses the Recording-stream for both single-screen live display and multi-screen live display.
  Recording-stream : H.265(1)/H.264(1)

* For cameras registered with “ONVIF-Dual”, this unit uses the sub-stream as Monitor-live-display-stream, like i-PRO cameras. “ONVIF-Dual” is compatible with cameras supporting a width resolution of 640 pixels. Depending on the camera model, the sub-stream may not be available.