User Manual
Am73

5MP Outdoor IR HD Analog Dome w/ Motorized Lens

Thank you for purchasing i3 International's Am73 High Definition indoor/outdoor analog dome camera. Your camera is equipped with a motorized vari-focal 2.7-13.5mm @ F1.6-F2.4 lens. The lens can be controlled through IE interface of the i3 encoders/standalone DVRs, or through SRX-Pro Server/VPC.
IMPORTANT: Am73 is set to HD-Analog 5MP resolution. To use with the legacy HR16 encoder, access camera menu and set the resolution to 2MP30 using the HD-TVI hand-held service monitor. *See CHANGING VIDEO FORMAT section.*
Note: You can request Am73 to be shipped with 2MP resolution when ordering.

SAFETY

When installing your Am73 camera be sure to avoid:
• excessive heat, such as direct sunlight or heating appliances
• contaminants such as dust and smoke
• strong magnetic fields, moisture and humidity, areas with mechanical vibrations
• fluorescent lamps or objects that reflect light and unstable light sources
• temperatures below -40°C (-40°F) and above 50°C (122°F)

POWER

This camera accepts DC12V and AC24V power.
Maximum power consumption: 8W.
Ensure the supplied voltage meets the power consumption requirements of this camera before powering the camera on. Incorrect voltage may cause irreparable damage to the video camera and will effectively void the camera warranty.

CLEANING & SERVICING

For maximum optical clarity, the camera dome or lens must remain clean. Use a soft, dry cloth to remove finger prints or dust from the dome cover.
• Use a blower to remove dust from the lens.
• Do not use volatile solvents such as alcohol, benzene, or thinners, as they may damage the surface finishes.
• To avoid electrical shock and to preserve the product warranty, DO NOT disassemble the camera. Refer servicing to qualified personnel only.

PACKAGE CONTENTS

Ensure that the items received match those listed on the order form and the packing slip. In addition to this manual and a fully assembled camera, the dome camera packing box includes:

A. Plastic Anchor x3
B. Round Head Screw (Tapping Type) x3
C. Waterproof tape x2
D. Surface Mount template x1
E. Security Torx bit

Lens Direction
GUIDE PATTERN
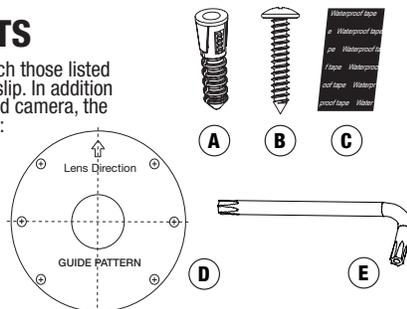
HIGH DEFINITION ANALOG VIDEO SUPPORT

Your Am73 camera supports the standard CVBS composite analog video stream (720x480) and a high-definition (5MP/2MP) video stream in HD-TVI, HD-AHD, and HD-CVI format. Am73 camera supports a single video output at-a-time. No separate spot monitor output is offered.

IMPORTANT: In order to use high-definition video, your Am73 camera **must be connected to a video encoder or standalone DVR/HVR that supports HD-TVI, HD-AHD, or HD-CVI format.**

Note: i3's line of encoders and embedded standalone DVRs supports HD-TVI and CVBS formats only.

CHANGING VIDEO FORMAT:

- Unscrew protection cap from the video format switch (#4 under Dimensions and Definitions section).
- Press and hold the button for 5 seconds to change the video output format to the next one in sequence.

Video format sequence: TVI (default) > AHD > CVI > CVBS.

IMPORTANT: Am73 is shipped with the video resolution set to 5MP (NTSC, HD-TVI). In order to use Am73 camera with the legacy HR16 encoder or any other device that does not support 5MP HD-TVI resolution, you must use a hand-held service monitor that supports HD-TVI to first lower the camera resolution to 2MP, as required by your device.

Am73 resolution can be lowered to 2M in the OSD > VIDEO FORMAT menu. *See CAMERA OSD MENU section for more information.*

DIMENSIONS AND DEFINITIONS

Ø147mm (5¾")
140mm (5½")
Ø99.94mm (3.93")
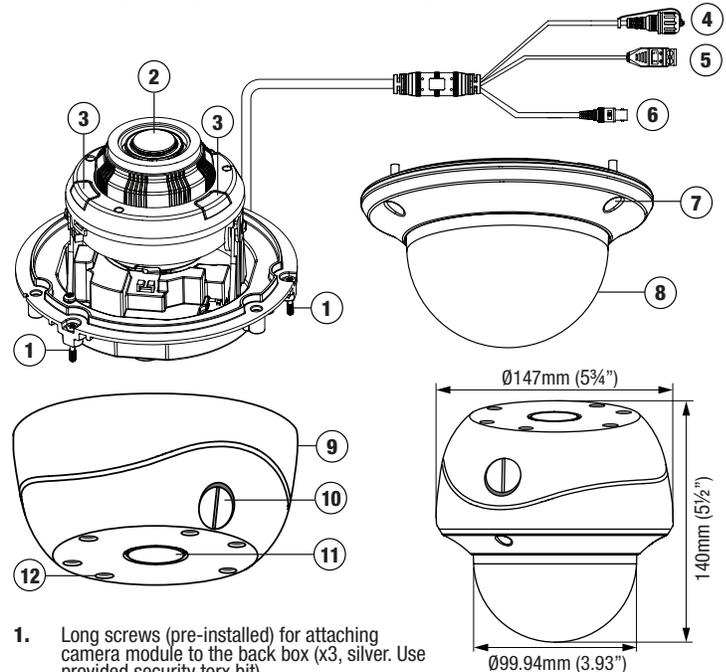
1. Long screws (pre-installed) for attaching camera module to the back box (x3, silver. Use provided security torx bit).
2. Motorized 2.7-13.5mm lens. See LENS ADJUSTMENT section for more information.
3. IR board.
4. Video format switch. Default video format setting: HD-TVI.
5. Power connector (DC12V/AC24V).
6. BNC video connector. Connect to an encoder, DVR/HVR or service monitor.
   Four (4) video formats supported: HD-TVI (**default**), HD-AHD, HD-CVI and CVBS. Use the video format switch (#4) to set video format as required.
7. Screws attaching camera bubble to the camera module (x3, silver. Use provided security torx bit).
8. Dome bubble.
9. Camera's back box. Compatible with i3's DB60 Goose-neck bracket. Can also be used for pendant mount installations.
10. Side conduit hole (3/4").
    Remove plug to route power and video cables through the side opening.
    Use the plug for the top conduit hole in that scenario.
    When using outdoors, sealant must be used to maintain the IP66 status.
11. Top conduit hole (3/4"). Can also be used for pendant mount installations.
    When using outdoors, sealant must be used to maintain the IP66 status.
12. Mounting holes, partially drilled, x6 (complete drilling the holes prior to installation).

DISASSEMBLY AND INSTALLATION

Prepare the mounting surface:
• Depending on the type of installation, additional mounting accessories may need to be purchased.
• It is the installer's responsibility to ensure that the mounting surface is suitable for the chosen installation method.
• Based on installation location and surface type, supplied screws and anchors may not be adequate. Mounting hardware is site-specific and may need to be supplied by the installer.
• Use silicone sealer around the chosen conduit hole to maintain IP66 rating when installing outdoors.

SURFACE MOUNTING

Prepare the mounting surface
1. Use the supplied security Torx key to loosen three screws securing the dome bubble housing to camera module. Gently pull the dome bubble away from the main camera module.
2. Depending on the type of installation and mounting surface, complete drilling 2-3 holes in the back box in preparation for the mounting.

Prepare the mounting surface
3. Attach the supplied mounting template to the mounting surface.
4. Drill holes, as marked on the template and insert supplied anchors into the holes. The number and positioning of holes must match the ones pre-drilled on the back box in Step 2.

1. Drill the conduit hole for the camera cable, as marked on the template, if using the top conduit hole to route cables. Skip this step if using the side conduit hole.
   If routing the cable through the side cable exit, remove the cable exit plug. If mounting on a wall, make sure the opening is pointing down, to create a drip loop.

Mount the back box
2. Use the tapping screws provided (if suitable for the installation) to secure the camera's back box to the prepared mounting surface.

**Connect camera cables and attach the camera**
3. Feed the camera cables through the selected conduit hole.
4. Connect camera to DC12V/AC24V power, 8W required.
5. Connect camera's BNC connector to the coaxial cable.
6. Use the supplied security Torx key to attach the camera module to the back box. Use three long machine-type screws pre-inserted into the camera module.

Adjust camera view and complete the installation
7. Adjust the lens angle by panning and tilting the camera lens assembly and rotating the camera lens base. Do not over-rotate the camera lens beyond the stop point to avoid damage to the camera.
8. Adjust the camera's zoom and focus through camera's OSD, through IE or SRX-Pro. *See LENS ADJUSTMENT section for more information.*
9. Adjust any additional camera settings (e.g. image brightness, color or contrast, day/night mode, etc.). *See CAMERA MENU section for more information on camera's on-screen menu.*
10. Once the desired view is achieved, replace the camera dome bubble and re-tighten 3 silver screws securing the dome bubble to the camera base.
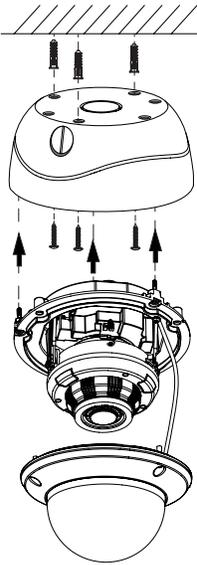
3-axis Range Limitations:

Pan: 0-355°

Tilt: 0-75°

Rotation: 0-355°
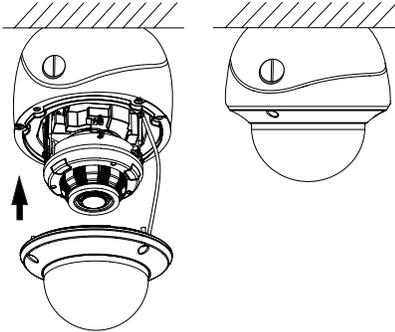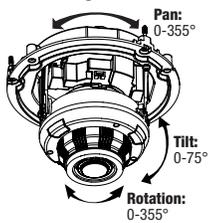
FLUSH MOUNTING

Am73 camera can be flush mounted with the use of i3's flush mounting kit (Part # AM42FM, sold separately). When flush-mounting the camera, do not use the supplied camera back box. Follow the mounting instructions supplied with the kit.

PENDANT MOUNTING

Use a 3/4" Electrical EMT Conduit Fitting with a rigid 3/4" pipe for this type of installation.

Attach the top conduit hole of the camera's back box to the threaded end of the 3/4" Electrical EMT Conduit Fitting and rotate clockwise to attach the two together.

Use silicone sealer to maintain IP66 rating when installing outdoors.

Complete installation as for Surface Mounting from Step #7 onwards.

Floor flange 3/4" pipe fitting

Ridgid 3/4" pipe

3/4" Electrical EMT conduit fitting

Use silicone to maintain IP66 rating

Am73 back box
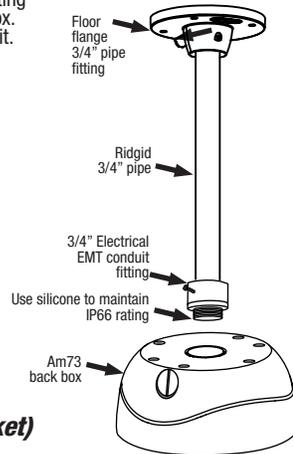
## WALL MOUNTING
(with optional DB60 gooseneck bracket)

Compatible i3 Mounting Accessories:

DB60 - Wall Mount bracket. 3/4" Male. Combine with DB60CPM for Corner or Pole Mount installations.

DB60CPM - Corner/Pole Mount kit. Combine with DB60 Mount DB60 gooseneck bracket on the wall. Follow installation instructions provided with DB60.

Attach Am73 back box to the DB60 gooseneck bracket.

Complete installation as for Surface Mounting from Step #7 onwards.

DB60 Gooseneck bracket

Use silicone to maintain IP66 rating

Am73 back box
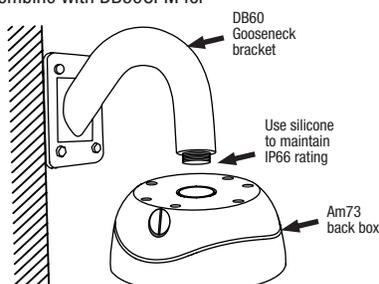
LENS ADJUSTMENT

Your Am73 camera is equipped with the motorized 2.7-13.5mm lens. To achieve desired view, start by adjusting the lens angle along the 3 axis by panning/tilting the camera body and rotating the lens assembly. The lens zoom and focus can be adjusted through i3's encoder, i3's standalone HVR's local or remote interfaces, through SRX-Pro v6/VPC interface, or through HD service monitor with BNC input.

ADJUST ZOOM/FOCUS via HR16
1. Connect Am73 to HR16.
2. In Internet Explorer, enter HR16 address. (Default: 192.0.0.16).
3. Enter user credentials in the Annexxus login screen. (Default: i3admin/i3admin).
4. Go to **SETUP > Camera > PTZ Settings**
5. In **Channel No.**, select the HR16 port where Am73 is
   connected (E.g. Analog Camera 1).
6. In **PTZ Protocol**, select **i3-HDA**. Click **Save**.
7. Click **LIVE** to go back to the live mode. Select a single camera division.
8. Use Previous/Next buttons to locate desired Am73 camera.
9. Use the PTZ Control panel to adjust Zoom and Focus until the desired view is achieved.
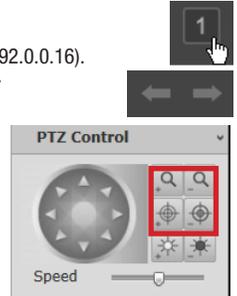
ADJUST ZOOM/FOCUS via SRX-PRO SERVER v6 and lower
1. Repeat Steps 1-6 of the *ADJUST ZOOM/FOCUS via HR16* section.
2. Add HR16 to SRX-Pro Server's IP camera tab.
3. In IP Camera tab, expand HR16 item to see all inputs. Assign Am73 input to SRX-Pro Server video channel in **Ch. In.** drop-down menu.

| Camera		IP Address	Input	Resolution	FPS	Ch In.
HR16						
	HR16	192.0.0.98 (80)	1	1280x720	8	1. Channel 1
	HR16	192.0.0.98 (80)	2	1920x1080	8	2. Channel 2
	HR16	192.0.0.98 (80)	3	1280x720	8	1. Channel 1
	HR16	192.0.0.98 (80)	4	1280x720	8	2. Channel 2
	HR16	192.0.0.98 (80)	5	1280x720	8	3. Channel 3

4. Go to Hardware > Channels setup tab.
5. Locate the Channel that Am73 was assigned to in the Step 3 and set **PTZ Camera Type** to **i3 GiPi**.
6. Click the Live Mode button.
7. Go to **View > Tree View** and expand Advanced Control panel.
8. Double-click on the Am73 camera to bring it into full single-channel division.
9. Use the Advanced Control panel to adjust Zoom and Focus until the desired view is achieved.

### ADDING HR16 to SRX-PRO SERVER v7 and up
SRX-Pro v7 users must complete this step before adjusting lens zoom/focus through VPC v7 and above.

1. Repeat Steps 1-6 of the *ADJUST ZOOM/FOCUS via HR16* section.
2. Log into Pro Setup
3. Add HR16
   i. Click **Add.**
   ii. Select HR16 in the list.
   iii. Click **ADD.**
   iv. Click **List.**
   v. Enable **PTZ** toggle for all Am73 inputs on HR16.
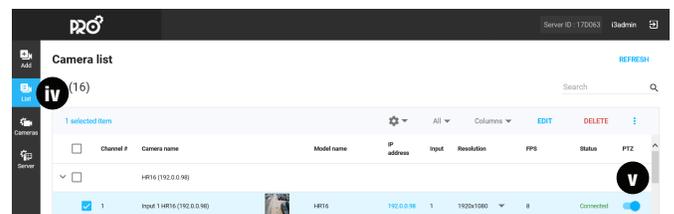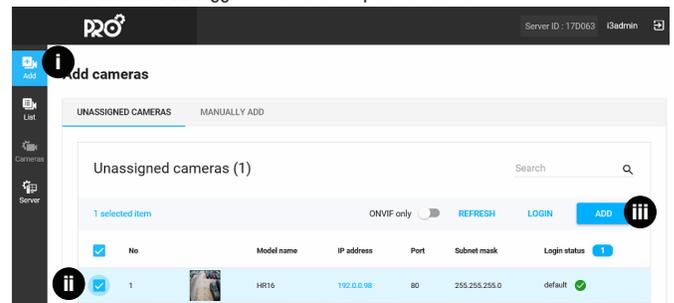
ADJUST ZOOM/FOCUS via VIDEO PILOT CLIENT (incl. SRX-PRO SERVER v7 and up)

1. Repeat Steps 1-5 of the *ADJUST ZOOM/FOCUS via SRX-PRO SERVER v6 and lower* section OR Steps 1-3 of the *ADDING HR16 to SRX-PRO v7* depending on the SRX-Pro Server version.
2. Add the SRX-Pro Server to CONTROL tab of the Video Pilot Client if connecting from a remote location, or use **localhost** connection, automatically generated by VPC.
3. Connect to the remote SRX-Pro Server with VPC.
4. Double-click on the Am73 camera to bring it into full single-channel division.
5. Click **PTZ > Advanced** in the on-screen menu.
6. Use the on-screen Zoom In/Out controls and Focus In/Out controls in the PTZ Advanced Options side panel to adjust Zoom and Focus until the desired view is achieved.
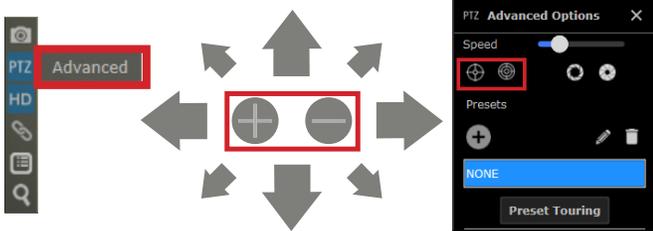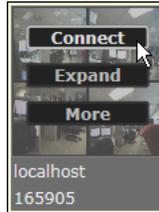
ADJUST ZOOM/FOCUS via VEO16p (LOCAL)
1. Connect Am73 to Veo16p BNC output.
2. Log into your Veo16p (Default: ADMIN/1234).
3. Go to **MENU > SYSTEM SETUP > CAMERA > PTZ SETUP**
4. In PROTOCOL drop down menu, select **COAXITRON** for all Am73 cameras. Click **APPLY**, then **CLOSE**.
5. On the Veo16p Live screen, click the PTZ button to display PTZ control panel.
6. Use the ZOOM and FOCUS icons adjust Zoom and Focus until the desired view is achieved.

ADJUST ZOOM/FOCUS via VEO16p (REMOTE)
1. Repeat Steps 1-4 of the *ADJUST ZOOM/FOCUS via VEO16p (LOCAL)* section.
2. Connect your Veo16p to the network using the ETHERNET port on the rear panel. Follow Veo16p manual for more instructions.
3. On the remote PC, open Internet Explorer and enter the IP address of your Veo16p in the address bar, followed by the Web Service Port. Default service port: **8080**. (E.g. http://192.168.0.59:8080)
4. Enter user credentials in the login screen. (Default: ADMIN/1234).
5. Install ActiveX, as required.
6. In the Veo16p Live screen mode, double-click on the Am73 camera to bring it into full single-channel division.
7. Click on the PTZ tab and use Use the ZOOM and FOCUS icons adjust Zoom and Focus until the desired view is achieved.
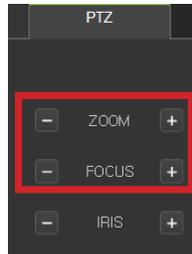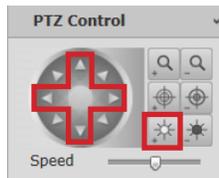
CALLING UP OSD MENU

Camera's OSD menu can be accessed through i3's encoder, i3's standalone HVR's local or remote interfaces or through SRX-Pro/VPC interface.
In all cases, **Iris Open** icon in the Live Mode PTZ panel will bring up the camera's on screen display.

PTZ panel OSD Menu control buttons:
Iris Open - Bring up the OSD, confirm menu selection/enter sub-menu.
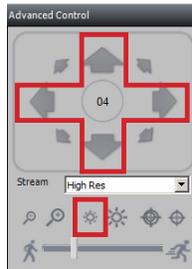**UP/DOWN arrows** to navigate within camera menus.
LEFT/RIGHT arrows to adjust value of the selected item.

CALLING UP OSD via HR16
1. Repeat Steps 1-8 of the *ADJUST ZOOM/FOCUS via HR16* section.
2. Use the **Iris Open** and **UP/DOWN/LEFT/RIGHT** buttons on the PTZ Control panel to bring up and navigate in the OSD menus.

CALLING UP OSD via SRX-PRO SERVER v6 and lower

1. Repeat Steps 1-8 of the *ADJUST ZOOM/FOCUS via SRX-PRO SERVER v6 and lower* section.
2. Use the **Iris Open** and **UP/DOWN/LEFT/RIGHT** buttons on the Advanced Control panel to bring up and navigate in the OSD menus.

CALLING UP OSD via VIDEO PILOT CLIENT (incl. SRX-PRO SERVER v7 and up).

1. Repeat Steps 1-5 of the *ADJUST ZOOM/FOCUS via VIDEO PILOT CLIENT (incl. SRX-PRO SERVER v7 and up)* section.
2. Use the **Iris Open** in the PTZ Advanced Options side panel and the on-screen **UP/DOWN/LEFT/RIGHT** buttons to bring up and navigate in the OSD menus.
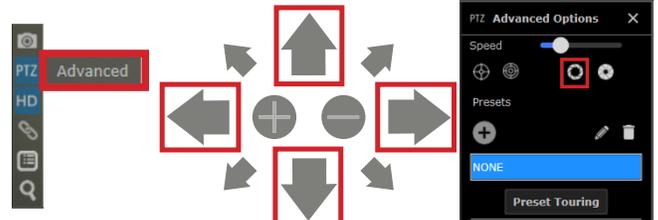
CALLING UP OSD via VEO16p (LOCAL)

1. Repeat Steps 1-5 of the *ADJUST ZOOM/FOCUS via VEO16p (LOCAL)* section.
2. Use the **Iris Open** icon and the **UP/DOWN/LEFT/RIGHT** buttons on the PTZ panel to bring up and navigate in the OSD menus.
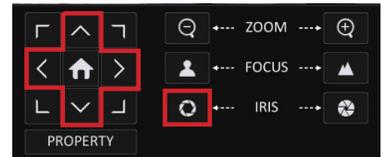
CALLING UP OSD via VEO16p (REMOTE)

1. Repeat Steps 1-7 of the *ADJUST ZOOM/FOCUS via VEO16p (REMOTE)* section.
2. Use the **Iris Open** icon and the **UP/DOWN/LEFT/RIGHT** buttons on the PTZ panel to bring up and navigate in the OSD menus.

CAMERA OSD MENU

MAIN MENU
- VIDEO FORMAT
- EXPOSURE
  - EXPOSURE MODE
  - AGC
- DAY/NIGHT
  - MODE
  - IR LIGHT
  - SMART IR
  - D->N THRESHOLD
  - N ->D THRESHOLD
- VIDEO SETTINGS
  - IMAGE MODE
  - WHITE BALANCE
  - BRIGHTNESS
  - CONTRAST
  - SHARPNESS
  - SATURATION
  - 3DNR
  - MIRROR
- FUNCTIONS
  - MOTION DET
  - PRIVACY
- FACTORY DEFAULT
- EXIT
- SAVE & EXIT
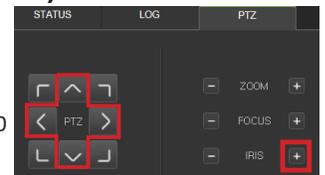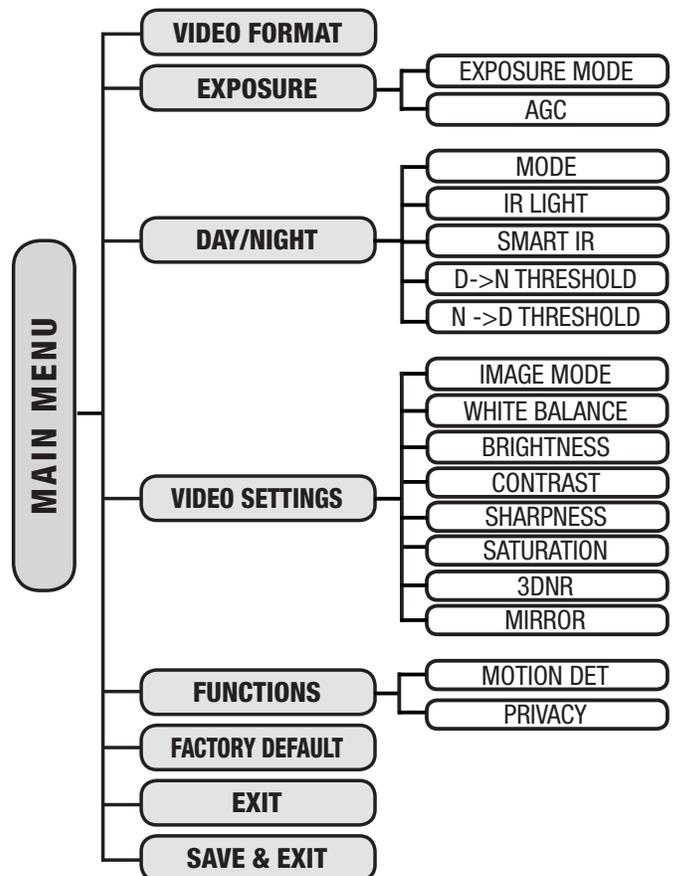
VIDEO FORMAT

Default Mode = 5M20 = HD-TVI NTSC video format. M = Megapixel, 20 = 20/30fps (NTSC), 25 = 25fps (PAL). Select preferred video format mode.
Available TVI options, in sequence: 5M20 > 4M25 > 4M30 > 2M25 > 2M30
To use with HR16, lower camera resolution to 2M30 using hand-held service monitor.
Select your preferred resolution and frame rate. To switch to HD-AHD, HD-CVI or CVBS format, use the video format switch on the camera. *See CHANGING VIDEO FORMAT (page 1).*

EXPOSURE

EXPOSURE setup contains settings for EXPOSURE MODE and AGC.

EXPOSURE	
EXPOSURE MODE	◄ GLOBAL ►
AGC	◄ HIGH ►
BACK	↵
EXIT	↵
SAVE&EXIT	↵

• **EXPOSURE MODE:** Set camera exposure mode to GLOBAL (default), BLC or WDR.

GLOBAL (default): Global (normal) exposure mode calibrates the image exposure based on the overall scene brightness.

BLC (Back Light Compensation): BLC feature optimizes exposure in the foreground and background of the video image through digital signal processing. BLC corrects image areas with extremely high or low levels of light to maintain a normal and usable level of light for the object in focus.

WDR (Wide Dynamic Range): Wide Dynamic Range uses the image sensor to prevent direct bright light from washing out the video image. This feature is especially useful in indoor installations, where the camera's field of view includes an entryway or a window, which lets in a lot of natural light. WDR feature is able to normalize the exposure for the underexposed object in focus inside and overexposed background outside.

• **AGC (AUTOMATIC GAIN CONTROL):** Set camera's AGC to HIGH (default), MEDIUM, or LOW. AGC enhances the video quality in low light conditions. Note: The higher AGC level, the higher the image noise level.

DAY/NIGHT

DAY/NIGHT setup contains settings for DAY/NIGHT MODE, IR LIGHT, SMART IR, DAY TO NIGHT THRESHOLD, and NIGHT TO DAY THRESHOLD.

DAY/NIGHT	
MODE	◄ AUTO ►
IR LIGHT	◄ ON ►
SMART IR	◄ 1 ►
D -> N THRESHOLD	◄ 5 ►
N -> D THRESHOLD	◄ 5 ►
BACK	↵
EXIT	↵
SAVE&EXIT	↵

• **MODE:** Set the camera to AUTO (default), COLOR or B&W mode.

AUTO (default): When set to AUTO, the camera will switch between COLOR and B&W modes depending on the level of ambient light. The sensitivity can be configured in D->N THRESHOLD and N->D THRESHOLD settings.

COLOR: Set the camera to COLOR mode to keep it permanently in the daytime mode. Note, activating COLOR mode will disable all IR-related features.

B&W: Set the camera to B&W mode to keep it permanently in the nighttime (black-and-white) mode.

• **IR LIGHT:** Set the camera's IR light ON or OFF. Note: Do not turn the IR LIGHT off when camera is set to B&W mode. Am73 supports IR distance of up to 40 meters (130 feet).

• **SMART IR:** Set the SMART IR LEVEL to 0, 1, 2, or 3. The higher the level, the fewer over-/underexposed areas the B&W video image will have.
Note: Do not turn the IR LIGHT off when using SMART IR feature.

• **D->N THRESHOLD:** (available in the AUTO mode only). Set the value from 0 (lowest) to 9 (highest). The higher the value, the sooner the camera will switch from day (Color) mode to night (B/W) mode as the scene becomes darker.

• **N->D THRESHOLD:** (available in the AUTO mode only). Set the value from 0 (lowest) to 9 (highest). The higher the value, the sooner the camera will switch from night (B/W) mode to day (Color) mode as the scene becomes lighter.

VIDEO SETTINGS

VIDEO SETTINGS setup contains settings for IMAGE MODE, WHITE BALANCE, BRIGHTNESS, CONTRAST, SHARPNESS, SATURATION, 3DNR, and MIRROR.

VIDEO SETTINGS	
IMAGE MODE	◄ HIGH-SAT ►
WHITE BALANCE	↵
BRIGHTNESS	◄ 7 ►
CONTRAST	◄ 5 ►
SHARPNESS	◄ 5 ►
SATURATION	◄ 7 ►
3DNR	◄ 5 ►
MIRROR	◄ OFF ►
BACK	↵
EXIT	↵
SAVE&EXIT	↵

• **WHITE BALANCE.** Set white balancing to AUTO or MANUAL
AUTO (default): Adjusts white balance automatically in accordance with the change of lighting environment.
MANUAL: Set RED GAIN and BLUE GAIN values from 1 to 255 manually, to adjust color balance.

• **BRIGHTNESS, CONTRAST, SHARPNESS:** Set video image brightness/contrast/sharpness value from 1 (lowest) to 9 (highest).

WHITE BALANCE	
MODE	◄ AUTO ►
BACK	↵
EXIT	↵
SAVE&EXIT	↵

• **3DNR** (Digital Noise Reduction). Set the 3DNR value from 1 (lowest) to 9 (highest). 3DNR feature analyzes frames in sequence to differentiate pixels that likely represent noise. This feature is especially beneficial in low light conditions. The higher 3DNR value, the better the video image appearance in poor lighting conditions.

• **MIRROR:** This function flips the video image on the screen.
Set MIRROR to OFF (keep image as is), H (flip 180º horizontally), V (flip 180º vertically) or HV (flip image 180º both horizontally and vertically).

FUNCTIONS

FUNCTIONS setup contains settings for MOTION DETECTION and PRIVACY.

• **MOTION DET:** Set up to 4 unique rectangular motion detection areas to detect motion within camera view.

AREA 0-3: Set up to 4 unique rectangular motion detection areas.
Each area is configured individually.

DISPLAY: Turn ON to highlight the area where motion has been detected.

X POSITION: Set the X start position value of the motion detection rectangle from 0 (left) to 23 (right).

Y POSITION: Set the Y start position value of the motion detection rectangle from 0 (top) to 15 (bottom).

WIDTH: Set the area width value from 1 (smallers) to 24 (largest)

HEIGHT: Set the area height value from 1 (smallest) to 16 (largest)

COLOR: Set the motion detection area color. Select from RED, GREEN, and BLUE.

SENSITIVITY: Set the motion detection sensitivity level value from 1 (lowest) to 9 (highest).

TRANSPARENCY: Set transparency of the motion detection area to ON (transparent) or OFF (opaque).

FUNCTIONS	
MOTION DET	↵
PRIVACY	↵
BACK	↵
EXIT	↵
SAVE&EXIT	↵

MOTION DET	
MODE	◄ ON ►
AREA 0	↵
AREA 1	↵
AREA 2	↵
AREA 3	↵
COLOR	◄ RED ►
SENSITIVITY	◄ 5 ►
TRANSPARENCY	◄ OFF ►
BACK	↵
EXIT	↵
SAVE&EXIT	↵

AREA 0	
DISPLAY	◄ OFF ►
X POSITION	◄ 13 ►
Y POSITION	◄ 9 ►
WIDTH	◄ 6 ►
HEIGHT	◄ 4 ►
BACK	↵
EXIT	↵
SAVE&EXIT	↵

• **PRIVACY:** Set up to 4 separate privacy (masking) areas to block off areas of the camera's field of view, for privacy, law compliance or esthetic reasons.
IMPORTANT: Video hidden behind the set Masking Area will be permanently lost.

AREA 0-3: Set up to 4 unique rectangular privacy (masking) areas. Each area is configured individually. Follow instructions from MOTION DET setup.

COLOR: Same as MOTION DET.

TRANSPARENCY: Same as MOTION DET.

PRIVACY	
MODE	◄ ON ►
AREA 0	↵
AREA 1	↵
AREA 2	↵
AREA 3	↵
COLOR	◄ RED ►
TRANSPARENCY	◄ OFF ►
BACK	↵
EXIT	↵
SAVE&EXIT	↵

FACTORY DEFAULTS

Select FACTORY DEFAULTS to reset all camera settings to the factory default.

EXIT, SAVE&EXIT

Select EXIT to exit the camera OSD menu without saving any changes.
Select SAVE&EXIT to save changes and exit the camera OSD menu.

Specifications	Am73 (5MP HD Analog Dome Camera)
Image System	
Image Sensor	5MP CMOS Image Sensor
Signal System	NTSC/PAL
Effective Pixels (HxV)	2560(H) x 1944(V)
OSD	Yes
Optical System	
Focal Length (built-in lens)	vari-focal, 2.7-13.5mm
F-stop Range (F-number)	F1.6 (wide); F2.4 (tele)
Horizontal FOV (Field of View)	92.3° - 29.3°
Day/Night	IR cut filter
Electric	
Digital Noise Reduction (DNR)	3D
Wide Dynamic Range (WDR)	True, ≥130 dB
Min. Illumination	0.003 Lux @ (F1.2, AGC ON), 0 Lux with IR
Automatic Gain Control (AGC)	Low/Middle/High/Off
White Balance	Auto/Manual
Electric Shutter	NTSC: 1/30 s to 1/50,000 s PAL: 1/25 s to 1/50,000 s
Video Output (Selectable)	1x BNC Output Video formats: CVBS, TVI, AHD, CVI
Note: Use one output at-a-time.	
Day/Night Mode	Color/BW/AUTO
Other Features	
Other	Sharpness, Brightness, Mirror, Reset
Mechanism	
Angle Adjustment	Pan: 0° - 355°, Tilt: 0° - 75°, Rotation: 0° - 355°
Dimensions	Ø 5¾" x 5½ (H) / Ø 147mm x 140mm (H) /
Weight	0.95 kg (2.1 lb)
Protection Class	FCC, CE, UL
IR	
IR Distance	up to 40 meters (130 feet)
Power Supply	
Power Requirement	DC12V / AC24V
Power Consumption	Max. 8W
Environment	
Operating Temperature	-40°C - 50°C (-40°F - 122°F)
Operating Humidity	90% or less (non-condensing)
Warranty	
Standard Warranty	i3 Superior 5 year warranty

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