

# cmac

User Guide & Installation Manual



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# WELCOME TO CMAC

Congratulations! By choosing CMAC you have purchased a fully integrated and feature rich on board camera and alarm management system. CMAC is a multi-faceted system, designed to enhance situational awareness whilst on board, as a fully featured boat security system and also to capture the fun and excitement of your boating experience.

CMAC provides a single unified hub into which your on board cameras, thermal imagers, alarms and other peripherals connect. Take control of your devices using the beautifully designed IrisControl™ HTML5 App designed for Garmin's award winning OneHelm™ platform.

CMAC is available in two configurations, a hybrid model which supports multiple camera types (IP, CVBS, AHD, TVI, CVI) and as an IP only model. CMAC can also be supplied without IrisControl™ support and used as a standalone digital video recorder for your on board cameras.

CMAC can also be deployed as a fully featured standalone on board video recorder and controlled by a number of other interfaces, such as our TE01 Rotary Touch controller, IRIS580 membrane keypad controller or IRIS595 panel mount joystick controller. Connection details can be found for these configurations within this document.

## CMAC Key Features:

- **Hosts IrisControl HTML5 App for Garmin OneHelm Platform**
- **Build in Digital Video Recording**
- **Integrated Network Video Server for Remote Connectivity**
- **Available in IP only or Multi-Format Hybrid Models**
- **Anti-Vibration, Quick Release HDD Caddy**
- **Supports Fixed & Controllable Cameras**
- **Multiple Control Options**

## **IMPORTANT SAFETY INFORMATION**

**Failure to heed the following warnings could cause serious or catastrophic damage to your CMAC and connected equipment and may also cause serious injury or death.**

### **Distraction Warning:**

When operating CMAC using the IrisControl™ App or other available control devices always maintain awareness of your surroundings and do not become distracted or preoccupied by the display. Focusing on the control interface and display could cause you to miss obstacles or hazards. Use of CMAC and the IrisControl™ App is entirely at your own risk.

### **Declaration of Conformity:**

Iris Innovations hereby declares that this product is in compliance the Directives 2014/30/EU and 2014/35/EU.

For details of disposing of the product under the WEEE, RoHS and REACH programs please email [info@boat-cameras.com](mailto:info@boat-cameras.com)

### **FCC Compliance:**

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and may cause harmful interference to radio communications if not installed and used in accordance with these instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to a radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures: Reorientate or relocate the receiving antenna, Connect the equipment to a different power circuit to the device, consult the dealer or an experienced radio/tv technician for help.

### **Servicing:**

This product does not contain any user-serviceable parts and repairs should only be made by Iris Innovations or an

authorised Iris Innovations service agent. Unauthorised repairs or modifications could result in permanent damage to the equipment and void your warranty and your authority to operate this device under Part 15 regulations.

### **Software Licence Agreement:**

BY USING THIS DEVICE YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENCE AGREEMENT, PLEASE READ THIS AGREEMENT CAREFULLY:

Iris Innovations Limited (Iris) grant you a limited licence to use the software embedded in this device (the "Software") in binary executable form in the normal operation of the product. Title, ownership rights and intellectual property rights in and to the Software remain in Iris and/or its third party providers.

You acknowledge the the Software is the property or Iris and/or its third party providers and is protected by UK copyright laws and international copyright treaties. You further acknowledge that the structure, organisation and code of the software, for which source code is not provided, are valuable trade secrets of Iris and/or its third party providers. You agree not to decompile, disassemble, modify, reverse assemble, reverse engineer, or reduce to human readable form, the Software or any part thereof or create any derivative works based on the Software. You agree not to export or re-export the Software to any country in violation of the export control laws of the UK or the export control laws of any other applicable country.

Full product warnings are provided in the section Safety Warnings & Product Information on page 6.

## LIMITED WARRANTY:

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY HAVE OTHER LEGAL RIGHTS WHICH VARY BETWEEN COUNTRIES AND TERRITORIES. IRIS INNOVATIONS DOES NOT EXCLUDE, LIMIT OR SUSPEND OTHER LEGAL RIGHTS YOU MAY HAVE UNDER THE LAWS OF YOUR COUNTRY OR TERRITORY.

Iris Innovations (Iris) products are warranted to be free from defects in materials or workmanship for one year from the date of purchase. Within this period, Iris will, at its sole discretion repair or replace any components that fail in normal use. Such repairs or replacements will be made at no cost to the customer for parts or labour, provided that the customer shall be responsible for the transportation costs.

This Limited Warranty does not apply to cosmetic damage, such as scratches, nicks or dents, consumable parts such as batteries unless product damage has occurred due to a defect in materials or workmanship, damage caused by accident, abuse, misuse, water, flood, fire or other acts of natural or external causes, damaged caused by service performed by anyone who is not an authorised Iris service provider, damaged caused as a result of poor or incorrect installation practices, damage to a product that has been modified or altered without the permission of Iris, damage caused to a product that has been incorrectly connected to the power supply, or where the incorrect power source has been connected.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE WARRANTIES AND REMEDIES CONTAINED IN THIS LIMITED WARRANTY ARE EXCLUSIVE AND IN LIEU OF, AND IRIS INNOVATIONS EXPRESSLY DISCLAIMS, ALL OTHER WARRANTIES AND REMEDIES, WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY REMEDY OR OTHERWISE. IN NO EVENT SHALL IRIS BE LIABLE IN A CLAIM FOR BREACH OF WARRANTY FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE, OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT.

If, during the warranty period, a warranty claim is submitted and accepted by Iris then Iris will at its option: (i) repair the device using new parts or previously used parts that satisfy Iris's quality standards, (ii) replace the device with a new device or a refurbished device that meets Iris's quality standards, or (iii) exchange the device for a full refund of your purchase price. SUCH REMEDY

SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY. Repaired or replaced devices have a 90 day warranty. If the unit sent in is still under its original warranty then the new warranty is 90 days or to the end of the original 1 year warranty, whichever is longer. Iris will not accept responsibility for the retrieval or return shipping of the device. If goods are returned for inspection during the warranty period and there is no fault found or the fault is deemed by Iris to have occurred outside of the terms of the warranty condition as stated herein, Iris reserve the right to levy an inspection charge.

Iris will not accept any responsibility for customs charged levied when goods are returned from overseas. Customers should ensure they are familiar with the importation and exportation restrictions and charges of their country and the country they are returning the goods to.

Iris Innovations will not warranty goods purchased through unauthorised channels such as online auctions or unauthorised drop shipping vendors.

Certain products manufactured by Iris are covered by strict international export regulations. Therefore if you need to return any such items, such as Iris Thermal Imaging products with a refresh rate greater than 9Hz you may be bound by the laws of your country or territory to satisfy strict export compliance rules, such as obtaining an export licence prior to shipping the product back for repair. Iris indemnify themselves from any responsibility or any legal claim made as a consequence of customers shipping such goods without satisfying the necessary legal conditions of the country or territory from which the goods are returned.

In the event that restricted goods have been returned to Iris for repair / replacement and a new export licence is required to enable Iris to return the product to a specific territory, the time taken for the export licence to be granted will fall within the timeframe of the original warranty and Iris will not extend the original warranty to accommodate this period.

In the event controlled goods have been returned to Iris for repair / replacement and an export licence is required to return the goods but not granted, Iris will not be held liable or accept liability. In this situation it is the responsibility of the customer to make arrangements necessary for Iris to ship the product in accordance with the laws of the country in which the camera has been returned. Iris reserve the right to refuse to ship the product if it is believed the correct legal regulations are not being followed.

# SAFETY WARNINGS & PRODUCT INFORMATION

## Legal Notice:



In some jurisdictions it could be considered an invasion of privacy rights to take or publicly display photographs or videos of people or their vehicles using this product. It is your responsibility to know and comply with applicable laws and rights to privacy in your jurisdiction.

## Distraction Warning:



This device is intended to enhance the situational awareness when used properly. If used improperly you could become distracted by the display which could lead to an accident causing serious personal injury or death to yourself or others.

Always maintain awareness of your surroundings and do not stare at the display or become distracted by the display. Focusing solely on the display and not on your surroundings could cause you to miss obstacles or hazards. Use the device at your own risk.

Do not rely solely on the video from the camera to judge distances. Use the camera as a guide only to enhance your situational awareness.

## Installation & Operation:



This product must be installed and operated in accordance with these instructions. Failure to do so may result in poor product performance, damage to the product or vessel and/or personal injury. Installation should only be carried out by qualified personnel or by persons competent in the installation of electronic systems.

## Power supply & grounding:



Ensure the boat's power supply is switched off during installation. Ensure suitably rated circuit breakers / fuses are used in the installation of the product in accordance with the electrical values shown in the technical specifications of the product. Never switch on power until the power connections are correctly terminated in accordance with the information provided in this document. Do not connect or disconnect the product with

the power supply switched on. Never disconnect the DC ground with the power supply on. This could result in the DC power being grounded through the common video ground which could in turn damage the video output circuit of the unit or attached cameras.

## Wiring Terminations:



Where the product's video, power and data terminations are extended, ensure that suitable connectors are used and that the point of termination for each cable is adequately protected against moisture ingress. Ensure correct polarity is strictly observed. Do not cut or remove cable connectors without prior permission from Iris Innovations Limited.

## Do Not Open The Unit:



There are no user serviceable parts within the product so there is no need to open the device. Opening the device without the prior consent of Iris could result in irreparable damage to the product and other equipment and injury or death. Opening the product without consent will also invalidate the warranty. Please refer all maintenance and repair issues to your authorised Iris dealer.

## Care & Cleaning:



This product is a sensitive piece of electronic equipment and must be handled and treated accordingly. Do not drop or shake the unit during installation. Avoid exposure to direct sunlight and avoid contact with moisture and damp environments. To clean, use a soft cloth. Moisten with clean water if necessary but ensure the cloth is wrung out. Always power the unit down and remove the power supply before cleaning.

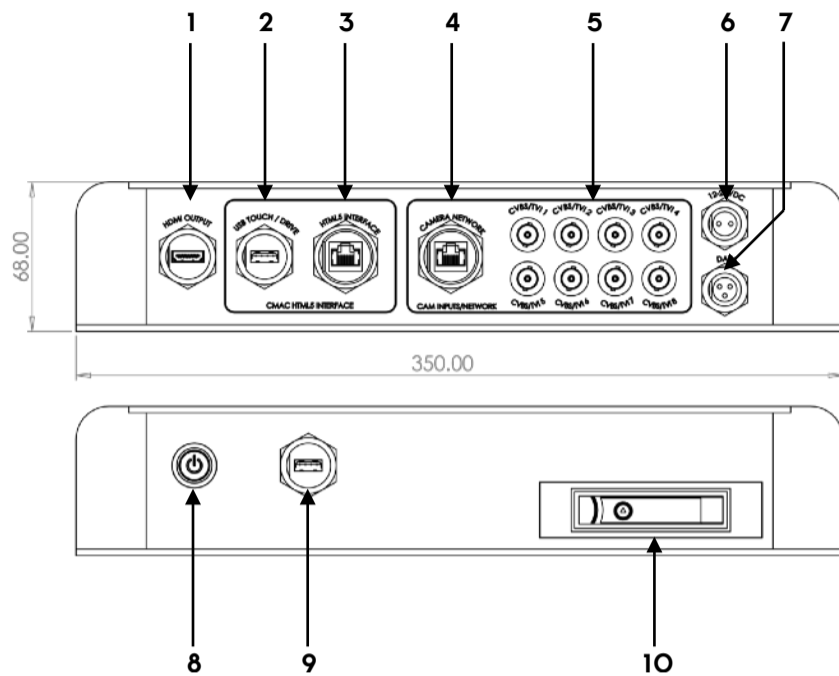
## Product Disposal & Recycling:



Dispose of this product in accordance with the WEEE Directive. The Waste Electrical and Electronic Equipment (WEEE) Directive requires the recycling of waste electronic and electrical equipment. Iris Innovations supports the WEEE policy and politely request you observe correct disposal methods. For further information on how to correctly dispose of this product please contact Iris Innovations. Please recycle unwanted packaging and manuals.

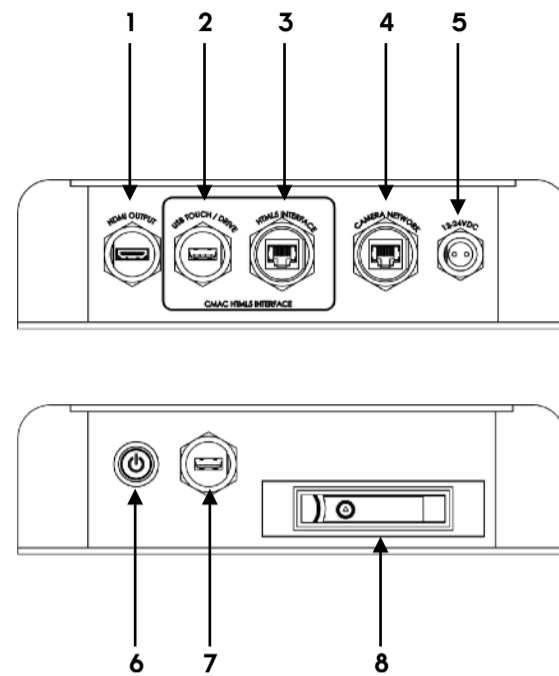
# GET TO KNOW CMAC

## Hybrid Models: CMAC-H16-xTB-x



1. HDMI Video Output
2. USB port to processor board. Use for uploading files, software, deck-plans & photos etc. Also used to connected USB touch (check MFD compatibility).
3. HTML5 Network Connection. Connect to MFD network to host IrisControl™ App.
4. Camera System Network. Connect to your IP cameras, camera network switch / hub / router / modem etc.
5. BNC Inputs (75Ω). Connect up to 8 x CVBS, AHD, HD-TVI or HD-CVI cameras.
6. Power Connector. 8~36VDC. Polarity sensitive. Use Power Cable supplied (part number: TBC)
7. Serial Data Connector. Connect RS485 data lines to PTZ Cameras. Use Data Cable Supplied (part number: TBC).
8. Power ON/OFF Switch
9. Recorder USB Port. Connect USB mouse to configure or connect USB drive (via USB hub) to remove footage.
10. Vibration Proof Hard Disk Drive (HDD) Caddy. Use Key (supplied) to lock / unlock. Accepts 2.5" SATAII HDD Drive (max capacity 4TB).

## IP Camera Only Model: CMAC-N16-xTB-x



1. HDMI Video Output
2. USB port to processor board. Use for uploading files, software, deck-plans & photos etc. Also used to connected USB touch (check MFD compatibility).
3. HTML5 Network Connection. Connect to MFD network to host IrisControl™ App.
4. Camera System Network. Connect to your IP cameras, camera network switch / hub / router / modem etc.
5. Power Connector. 8~36VDC. Polarity sensitive. Use Power Cable supplied (part number: TBC)
6. Power ON/OFF Switch
7. Recorder USB Port. Connect USB mouse to configure or connect USB drive (via USB hub) to remove footage.
8. Vibration Proof Hard Disk Drive (HDD) Caddy. Use Key (supplied) to lock / unlock. Accepts 2.5" SATAII HDD Drive (max capacity 4TB).

# MOUNTING CONSIDERATIONS

Before you install your CMAC unit there are several installation factors that need to be considered.

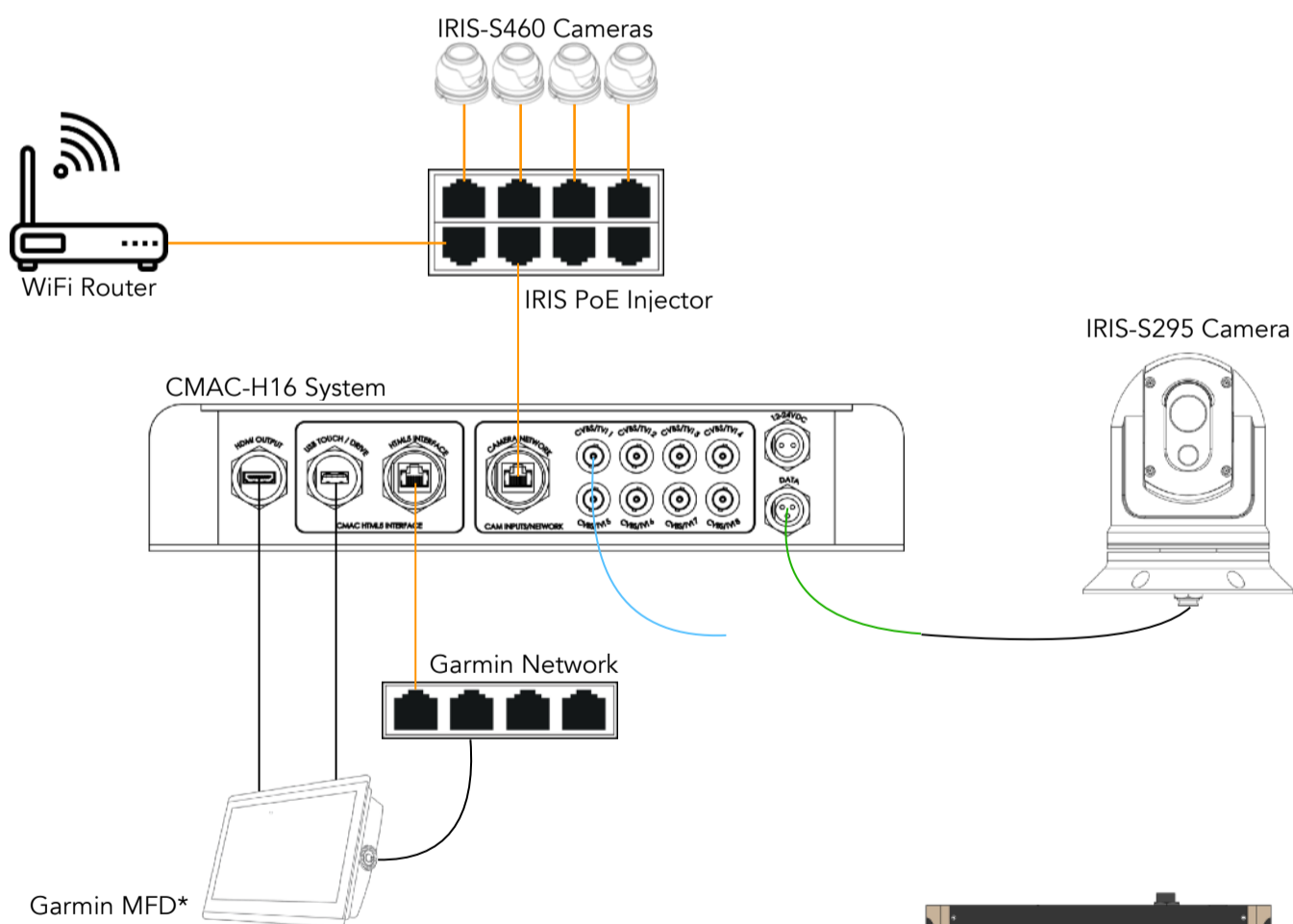
CMAC units have connectors on both the front and rear panels and so space needs to be considered to allow cables to neatly route into the unit with sufficient strain relief so that cable and connectors are not put under stress which could lead to damage.

CMAC uses removable 2.5" HDD drive(s) and access to the drive(s) is via the front panel. If you need to remove your drive(s) to review footage then you need to allow sufficient room to open the drive latch(es) and remove the drive(s).

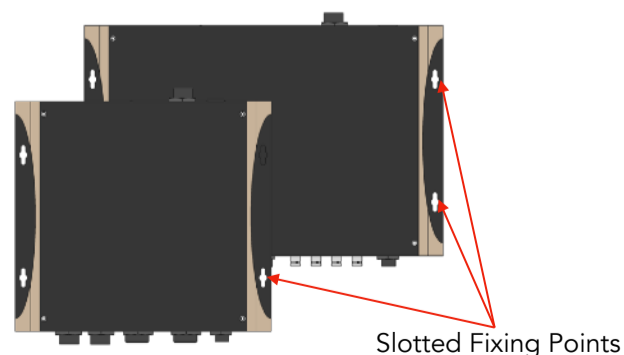
Both the front and rear face also feature USB ports so space needs to be considered to allow access. The USB socket on the front face is used primarily to connect a mouse in order to configure the recorder element of CMAC. It can also be used to copy footage onto a USB drive. A USB hub can be used if required. The USB port on the rear of the unit is used to upload files onto CMAC's processor board, such as deck plans, photos and firmware upgrades.

CMAC units feature slotted fixing points in the base for easy mounting. The unit should also be well ventilated to prevent over heating and must be installed in a dry, dust and moisture free environment.

## TYPICAL SYSTEM EXAMPLE



The system illustrated in the drawing above is a typical example of a hybrid system, featuring a mix of IP cameras (in this case, 4 x IRIS-S460 mini IP dome cameras), and an analogue camera (in this case, an IRIS-S295 Dual Payload thermal imaging / daylight analogue camera).





# CONNECTIONS

The diagram on the page opposite (page 8) shows a typical system example, with four fixed IP cameras and an IRIS-S295 dual payload analogue thermal / daylight camera connected to a CMAC-H16 Hybrid system which in turn connects to a WiFi router to enable view and control of cameras via a wireless, on board LAN and control of the system from a Garmin 84xx / 86xx MFD using the IrisControl™ HTML5 App for OneHelm™. CMAC also supports USB Touch and HDMI video output, as do Garmin's 84xx and 86xx range of MFD's. The USB Touch function makes it possible to control PTZ cameras from Garmin's full screen video input pages, and the HDMI input facilitate HD video on the MFD. CMAC and IrisControl are compatible with Garmin MFD's that support OneHelm. If your MFD does not support HDMI video inputs then the analogue (CVBS) video input can be used.

In this example the four IRIS-S460 IP mini dome cameras connect to the Camera Network socket of the CMAC via an IRIS-PoE4 Injector, and the Garmin MFD connects to the HTML5 Interface connector on CMAC (via Garmin's network).

CMAC is supplied with two network connections so your camera system can be set up and configured separately to your chart-plotter network. This reduces overall system latency by keeping the bandwidth heavy video away from your onboard network traffic.

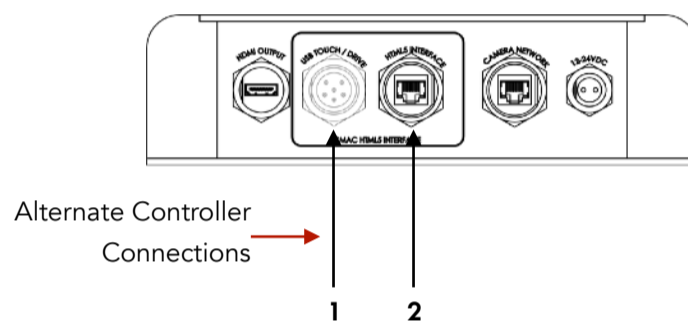
# ALTERNATE CONNECTIONS

## Using CMAC with TE01 Controller / IRIS580 Keypad

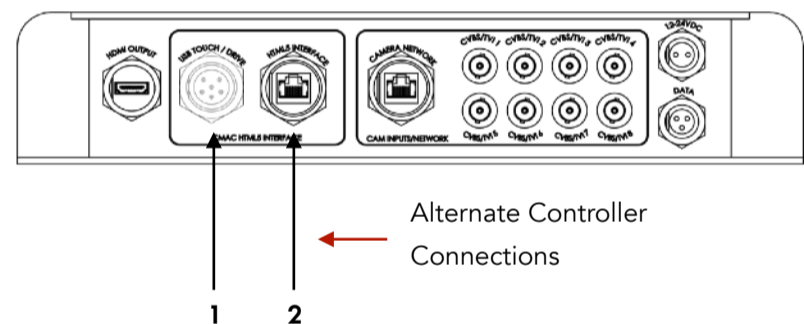
CMAC systems can be supplied without the IrisControl App host and can be controlled via the IRIS-TE01 Rotary Touch Encoder and / or the IRIS580 Membrane Keypad.

These alternate methods of control only facilitate specific functions of the device (such as switching video) and are not to be considered as fully functional replacements for the features available in the IrisControl App.

### IP Only Models:



### Hybrid Models:



### TE01 Rotary Touchscreen Controller

1. USB Touch / Drive Port on Rear of the unit is replaced with a 6 pin multipole circular connector to connect the TE01 Cable.

### IRIS580 Membrane Switcher Keypad

2. Connect CAT5 cable to HTML/Interface port on rear of unit.

Please note, Alternate connection models are ordered specifically and so the internal wiring is changed to accommodate the specific controller ordered. You can only use alternate controllers if specifically ordered and not as standard.

## IRIS CONTROL APP

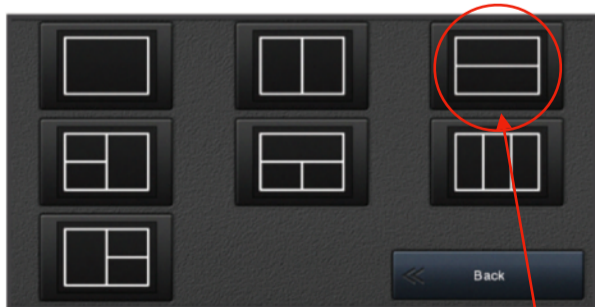
IrisControl™ is a management, command and control interface designed for HTML5 third party MFD integrator platforms such as Garmin's OneHelm™ programme. It enables the user to switch, control and manage on board cameras, alarms, preset memory positions and much more via a slick user interface which runs on your MFD.

The App is hosted on compatible versions of our CMAC system. When compatible CMAC units are connected to the MFD's network, a handshaking routine occurs and the MFD provides a gateway to the application.

### GARMIN ONEHELM™

IrisControl™ has been designed to work in a horizontal split Combination screen in order to make the most of Garmin's MFD functionality. The upper portion of the horizontal split screen should be set as a video input screen (HDMI on 84xx and 86xx models and composite video on other models), and the lower portion should be set as a OneHelm™ window.

Once the horizontal combination screen has been configured it needs to be re-sized to achieve the optimum aspect ratio to display the App. Drag the arrows on the dividing line between the upper and lower screen segment and then drag downwards as far as allowed to resize the panels. The IrisControl™ interface has been designed to fit perfectly to these dimensions and will scale according to the size of your MFD screen.



Garmin MFD Combo Page Set-Up Screen

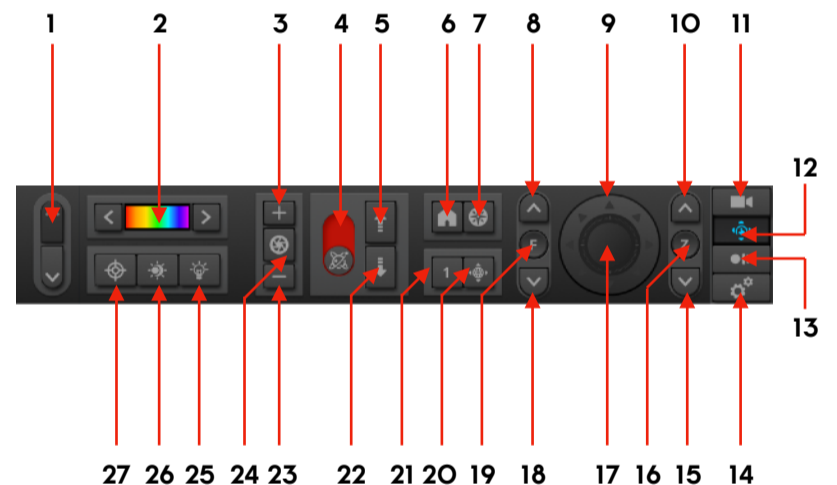
Horizontal Split Combo Page

With your IrisControl™ combination page set, you can now access the App at the touch of the button. When you launch IrisControl™ the video output from CMAC is automatically displayed in the top portion of the screen and the control panel is displayed in the lower portion.

Iris control can be configured to launch into the camera control page, ideal for systems which include controllable (PTZ) cameras, or the camera selection page, ideal for larger systems with multiple cameras or for systems which feature fixed cameras only and therefore camera controls are not required. This option can be configured in the system setup page detailed below.

### CAMERA CONTROL WINDOW (MAIN)

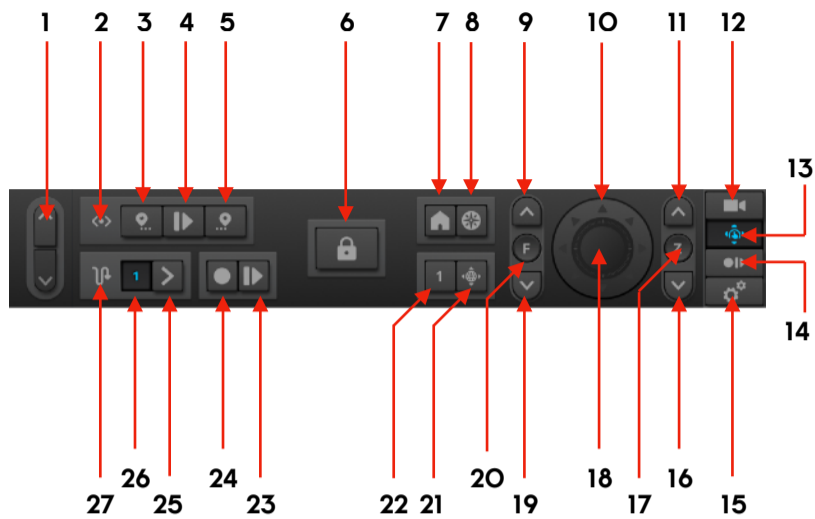
Presents an extensive palette of controls to control all aspects of Iris PTZ cameras, night vision cameras, alarms, drones and auto-tracking features:



1	Panel Navigation Controls. Links to additional control panels	15	Zoom Wide
2	Thermal Camera Palette Selection	16	Auto-Zoom Fully Wide
3	ICE (Image Contrast Enhancement) Increase Value	17	Virtual Joystick
4	Gyro ON/OFF Toggle	18	Focus Near
5	Gyro Trim UP	19	Auto Focus Toggle Auto / Manual Focus Toggle
6	Go To Home Position	20	Go to Preset Position
7	Absolute Referencing Feature Toggle	21	Preset Position Select Toggle
8	Focus Far	22	Gyro Trim DOWN
9	Pan & Tilt Nudge / Absolute Referencing Position Select	23	ICE (Image Contrast Enhancement) Decrease Value
10	Zoom Telescopic	24	NUC Control (Thermal Cameras)
11	Camera Selection Page Navigation Button	25	Infra Red LED ON / OFF Toggle
12	Camera Control Page Navigation Button	26	Day / Night Camera Toggle (Dual Payload Cameras)
13	Recorder Page Navigation Button	27	Auto Tracking Feature Link
14	Setup Navigation Button		

## CAMERA CONTROL WINDOW (SECONDARY)

Presents additional controls:

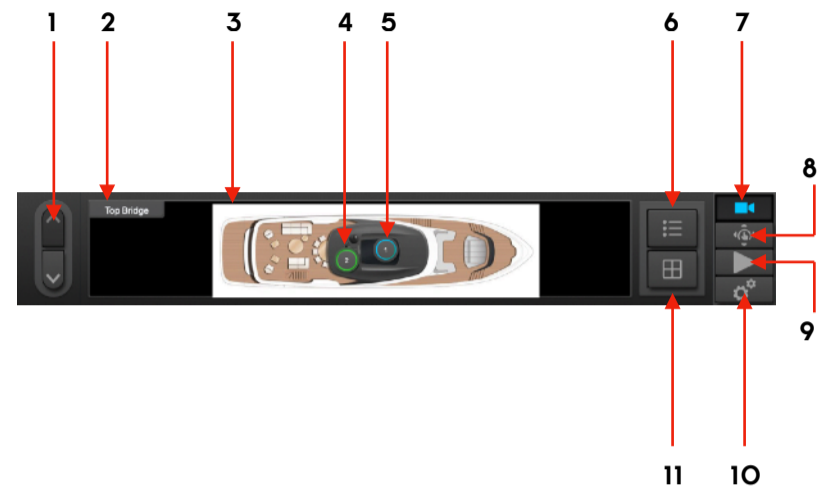


1	Panel Navigation Controls. Links to main control panels	15	Setup Navigation Button
2	Automatic Scan Controls	16	Zoom Wide
3	Set Scan Start Position	17	Auto-Zoom Fully Wide
4	Start / Pause Scan	18	Virtual Joystick
5	Set Scan Stop Position	19	Focus Near
6	Lock Scan Operation	20	Auto / Manual Focus Toggle
7	Call HOME Position	21	Call Selected Preset
8	Absolute Referencing Feature Toggle	22	Preset Select
9	Focus Far	23	Pattern Scan Play
10	Pan & Tilt Nudge / Absolute Referencing Position Select	24	Pattern Scan Record
11	Zoom Far	25	Pattern Scan Select Button
12	Camera Selection Page Navigation Button	26	Current Pattern Scan 1~4
13	Camera Control Page Navigation Button	27	Pattern Scan Window
14	Recorder Page Navigation Button		

From the secondary control window you can access additional features such as automated scans and tours and also send (call) the currently selected camera to preset positions.

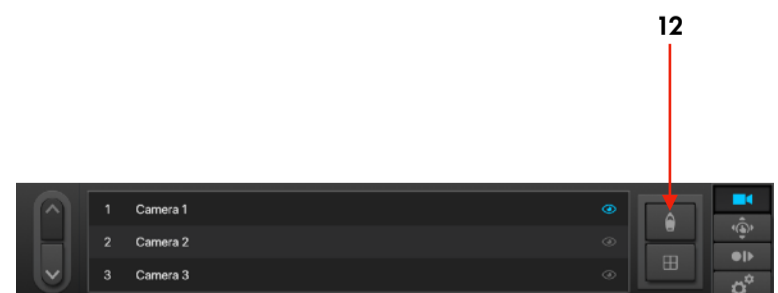
## CAMERA SELECTION PANEL (GRAPHIC MODE / LIST MODE)

Select devices from graphical plans / photos:



1	Panel Navigation Controls. Links to additional control panels		
2	Plan / Deck Name		
3	Plan Window		
4	Automation Icon		
5	Camera Icon		
6	Device Select / List Mode (see below)		
7	Camera Selection Page Navigation Button		
8	Camera Control Page Navigation Button		
9	Recorder Page Navigation Button		
10	Setup Navigation Button		
11	Quad / PiP Display Mode Toggle		
12	Device Select / Plan/Photo Mode		

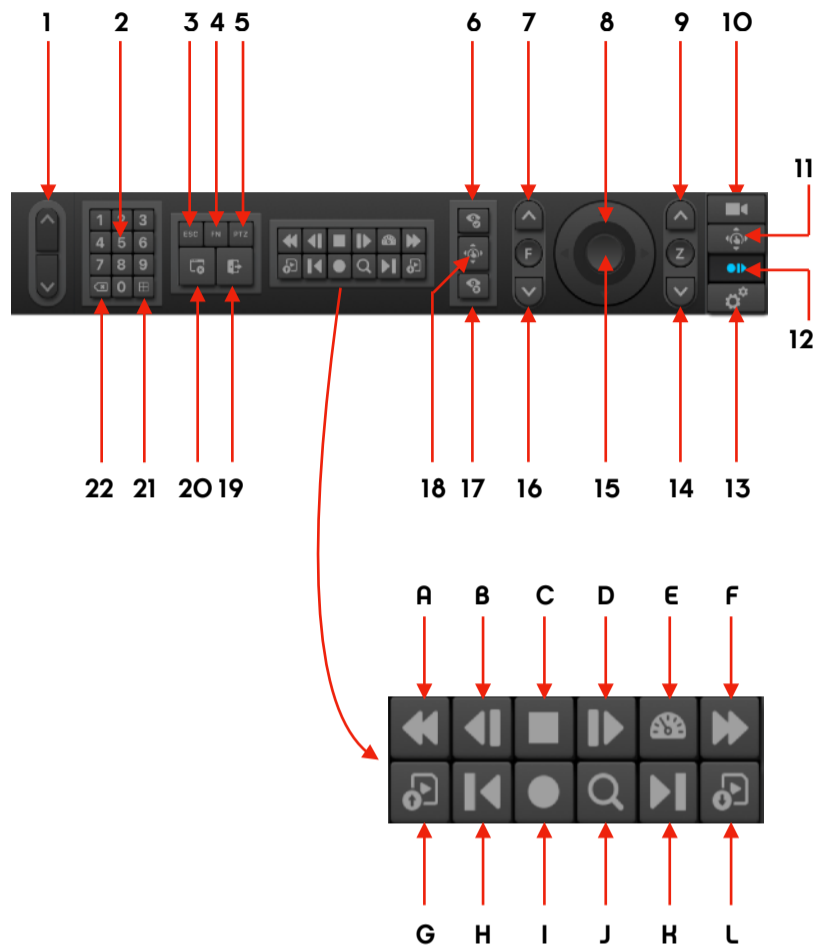
Select devices (cameras, alarms) and automated routines (presets, macro commands etc) from a deck plan or from the list view. Use default deck plans or upload your own plans and photos.



List Mode

## DIGITAL RECORDER CONTROL PANEL

Mimics the controls of the integrated NVR:



1	Panel Navigation Controls. Links to additional control panels	19	Log Out
2	Numeric Keypad	20	Close All
3	Escape	21	Split Screen Toggle
4	Function	22	Delete
5	PTZ Control (Via NVR)		
6	Iris Open	A	Fast Reverse
7	Focus Far	B	Reverse
8	Up, Down, Left, Right Controls	C	Stop
9	Zoom Tele	D	Play / Pause
10	Camera Selection Page Navigation Button	E	Slow
11	Camera Controls Page Navigation Button	F	Fast Forward
12	Recorder Page Navigation Button	G	Previous File
13	Setup Navigation Button	H	Previous Frame
14	Zoom Wide	I	Record
15	Enter / Confirm	J	Search
16	Focus Near	K	Next Frame
17	Iris Close	L	Next File
18	PTZ Control (Via NVR)		

## NOTES ON RECORDER CONTROLS / OPERATION

The Digital Recorder control panel within CMAC mimics the front panel operation of a hardware DVR / NVR.

Navigating set-up menus is achieved by using the Up Down Left Right controls (8) to work your way through the menu trees, the iris controls (6 & 17) to increase and decrease selected values and the enter button (15) to confirm your selection.

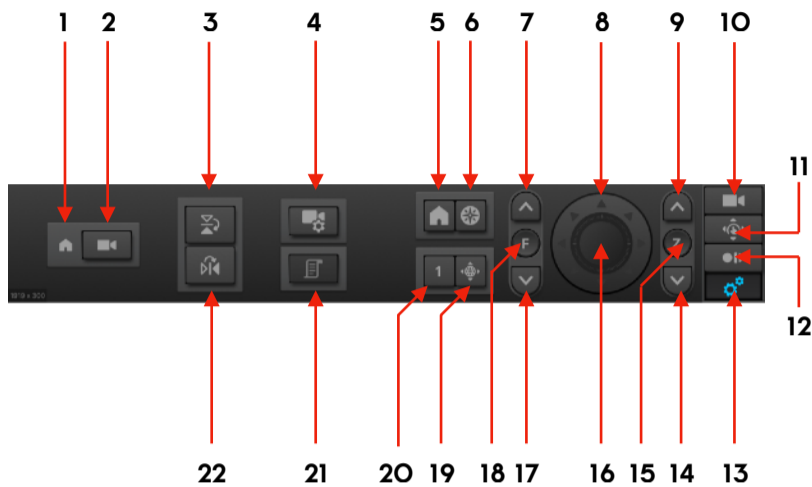
## USING THE NVR TO CONTROL IP PTZ CAMERAS

IP PTZ Cameras can be controlled from the DVR Control Panel page. Like a hardware recorder however, Pan & Tilt control is limited to transmit Up, Down, Left and Right controls independently. It is not possible to pan and tilt simultaneously.

For optimum control we recommend using the RS485 serial data control interface to Iris PTZ cameras. Iris Sentinel cameras support IP and RS485 connections so the video stream can be transmitted via your IP network whilst serial control from CMAC is transmitted across an RS485 data network.

## SETUP MODE

In setup mode you can configure all aspects of the camera control element of CMAC, such as upload plans and photos, add cameras, alarms and configure automated tasks, set camera orientation, scans, tours and presets etc.



1	Home Screen Select Panel	13	Setup Navigation Button
2	Set Home Screen (Camera Select or Camera Controls)	14	Zoom Wide
3	Set Vertical Flip for Currently Selected Camera	15	Auto-Zoom Fully Wide
4	Device Setup	16	Virtual Joystick
5	Set Home Position - Currently Selected Camera	17	Focus Near
6	Absolute Referencing Feature	18	Auto / Manual Focus Toggle
7	Focus Far	19	Set Selected Preset
8	Pan & Tilt Nudge / Absolute Referencing Position Select	20	Select Preset
9	Zoom Far	21	Automation Setup
10	Camera Selection Page Navigation Button	22	Set Horizontal Flip for Currently Selected Camera
11	Camera Controls Page Navigation Button		
12	Recorder Page Navigation Button		

## NOTES ON SETUP

### HOME SCREEN SETUP

Toggle button **(2)** to determine whether the camera select screen or the camera control screen is displayed as default on bootup. Users with fixed only cameras should set to Camera Select. Users with PTZ cameras may prefer to set this to Camera Control

### IMAGE FLIP CONTROLS

Set the horizontal **(22)** and vertical **(3)** flip for the currently selected camera (usually only ever required when installing the camera).

### DEVICE SETUP

Navigates to Device Setup page (below).

### SET HOME POSITION

Sets the Home Position of the currently selected camera (PTZ only). Navigate to the desired position then press button **5** to save position.

### SET PRESETS

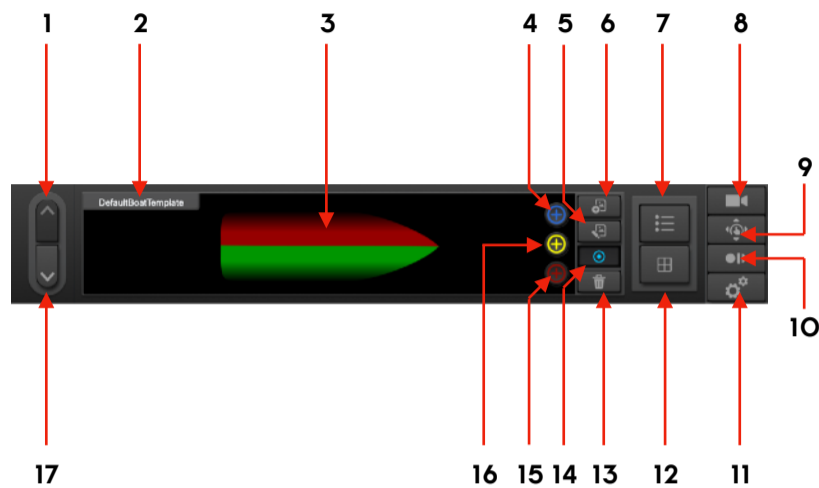
Toggle button **20** to choose the desired Preset Memory position of the currently selected PTZ camera, move the camera to the desired position then press button **19** to store. Presets are used to automatically send a camera to a pre-determined position at the touch of a button or as part of an Automation.

### AUTOMATION SETUP

Input automation instructions. Automation can be used to trigger simple or complex instructions automatically when manually activated (choosing yellow icons from the map) or automatically (upon alarm activation).

## DEVICE SETUP

Upload deck plans and photos to use as graphically representative backgrounds onto which you can place device (camera, alarm) and automation icons.



1	Scroll UP Through Plan List	13	Delete Object
2	Plan Description	14	Add Icon
3	Plan / Photo Window	15	Add Alarm Icon
4	Add Camera Icon	16	Add Automation Icon
5	Edit Plan / Photo	17	Scroll Down Through Plan List
6	Upload Plan / Photo		
7	Display Device List		
8	Camera Selection Page Navigation Button		
9	Camera Control Page Navigation Button		
10	Recorder Page Navigation Button		
11	Setup Navigation Button		
12	Display Quad / PIP Toggle		

## UPLOAD DECK PLAN / PHOTO PROCESS

- 1) Plug USB Drive into USB/Touch Port
- 2) In Setup Mode Select Device Setup
- 3) Select Upload Plan / Photo Icon
- 4) The App will then read the USB drive and display available files.
- 5) Select Desired Plan / Photo from List

## NOTES ON DEVICE SETUP

### UPLOAD DECK PLANS / PHOTOS

The system defaults to show a generic boat shape deck plan as shown in the previous column.

You can customise deck plans by uploading your own artwork or photos and then position your camera, alarm and automation icons onto the images. Many leading boat manufacturers feature deck plans on their websites, or you can request specific deck plans from your boat builder.

As well as deck plans, photos can be uploaded. A great example of use here is to upload a photo of your engine room and then place Automation icons over specific areas of the photo such as indicators or dials, and configure these to link to Preset positions from PTZ cameras. For example, if you have an IRIS106 PTZ camera in your engine room you can set Presets to zoom into indicators. Then by placing an Automation icon over the area you can trigger the camera to spin round and zoom in on the indicator at the touch of a button. Similarly for larger vessels, you can configure automation icons to send multiple cameras to specific preset positions so that by touching the 'Port Side' Automation icon for example, cameras will automatically spin around to cover the port side (during docking for example).

### UPLOAD SPECIFICATIONS:

**Image Size:** This depends on your Chart Plotter. Please contact Iris or visit the Iris Control page of our website for information / template downloads.

**Graphic Size:** 1370 x 240

**Filename Conventions:** Name the file as you intend to name the plan within the App (such as: upperdeck.jpg or engine-room.png for example)

**File Types:** jpg, jpeg, png, gif

**Upload Media:** USB Drive

**Upload Requirement:** File must be located in the root directory of your USB drive.

**Connection:** Connect USB drive to USB/Touch port on rear panel of unit.

## IRIS CONTROL FEATURE GUIDE

### MAIN CAMERA CONTROL PANEL FEATURES:

#### **Thermal Camera Palette Select:**

Iris thermal cameras support multiple colour palettes used to highlight differences in temperatures under different conditions. Use this control to toggle through the available colour palettes.

#### **ICE Controls:**

Iris thermal cameras feature an Image Contrast Enhancement feature referred to as ICE. This features accentuates object edges and has seven levels of intensity.

#### **N.U.C Control:**

Fires the Non Uniformity Correction (N.U.C) filter on thermal models to perform a live recalibration of the cameras sensor which sharpens the image in situations where there is low thermal contrast.

#### **Gyro Toggle:**

Operates / Disables gyroscope function on supported cameras.

#### **Trim Controls:**

Trim camera up or down as required during gyro operation.

#### **Home Button:**

Send your camera to its pre-defined home position at the touch of a button.

#### **Absolute Referencing Mode:**

In Absolute Referencing Mode the virtual joystick graphic changes to a compass style indicator, with the bow of the boat at the 0° (straight up) position. Now you can send the camera to a specific position instantly by just touching the corresponding place on the dial of the indicator, or you can pan your camera by dragging your finger around the dial rather than by moving the joystick. This feature is extremely useful for moving the camera quickly to a specific point (in a man overboard situation for example) and then for panning the camera in relation to the boat.

#### **Auto Focus Toggle:**

Toggles between Auto and Manual focus controls on supported cameras.

#### **Auto Zoom Out Button:**

Zoom out to full extent on supported cameras.

#### **Presets:**

Iris PTZ cameras support multiple user definable preset memory positions. Once you have stored a preset position you can 'Call' the preset, which automatically sends the camera to the stored position. Use this control to toggle through to the desired preset and then Call the preset.

#### **Infra Red LED On/Off:**

Toggles automatic Infra Red LED operation on supported PTZ cameras

#### **Day / Night Mode:**

Switches between Daylight Camera and Thermal Camera on dual payload PTZ cameras.

#### **A.I.S Tracking Button:**

Opens AIS Tracking feature panel.

## SECONDARY CAMERA CONTROL PAGE FEATURES:

### **Auto Scan Controls:**

The AutoScan feature allows you to define a start point and a stop point and then continually scan between the two (camera chooses direct route between the two positions) at the touch of a button.

### **Pattern Scan Feature:**

There are four pattern scans available. A pattern scan allows you to define a start position and then 'record' the movement of the camera until you define the stop position. Then on activation, the camera will 'play back' through the user defined pattern, thus providing a patrol feature. Good for security applications.

### **Lock Button:**

Press the Lock button to prevent scans from being accidentally suspended by an inadvertent control press.



# RECORDER

CMAC features a high definition digital video recorder module with integrated video web server to facilitate remote connection on a LAN or WAN.

Aspects of the video recorder, including IP camera addressing needs to be configured independently and cannot be accessed with the IrisControl App. To configure the recorder you will need to use a USB mouse (supplied) and connect this to the USB socket on the front face of your CMAC unit.

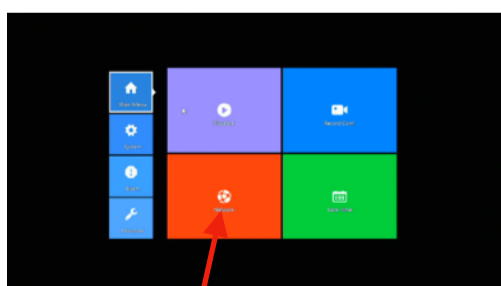
## INITIAL SETUP:

1. Power up your system. When the system has initialised you will be presented with a blank split screen image. Right click the mouse button and a drop down menu appears. Click on the Main Menu option and you will be presented with the Log In box. The default user name is **admin** and the default password is either left **blank** or set to **Password1234**



2. Once you have logged in you will be presented with the Main Setup Menu as shown below. To set the device network address, click on the NETWORK window:

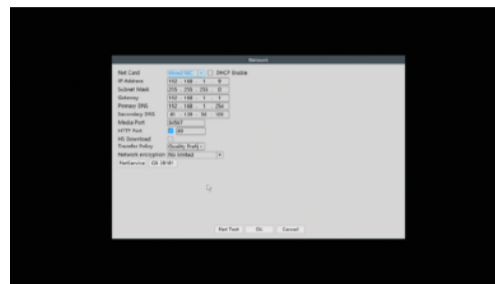
Main Setup Menu



NETWORK

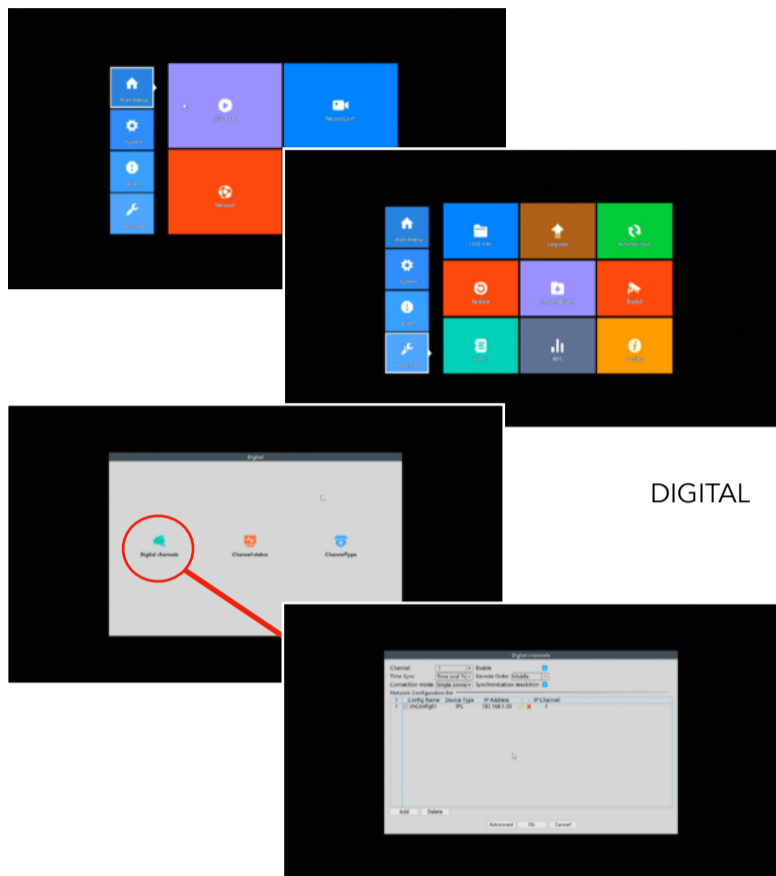
3. Configure your Network Settings as required. Unless specified we ship the system configured with a static IP addressed as below:

Default IP address: 192.168.1.201



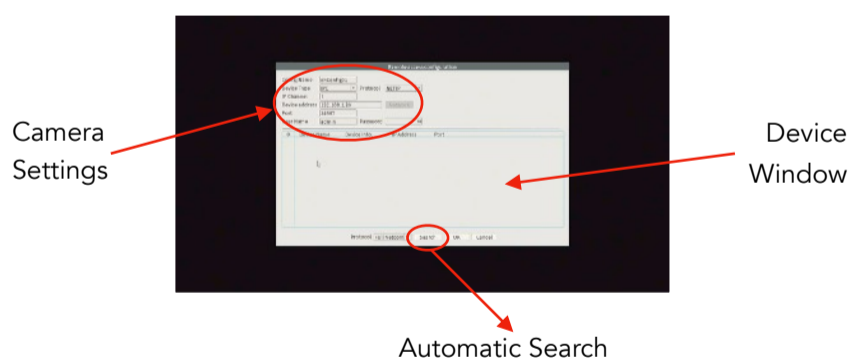
## IP CAMERA CONFIGURATION:

To configure your IP cameras, from the Main Setup Menu select ADVANCED and then the DIGITAL window, then click on DIGITAL CHANNELS to bring up the device configuration window:



To add a new camera, select the desired channel number (camera number) and check the enable box, then press Add and the Remote Access Configuration window (below) is displayed.

Remote Access Configuration window



From here you can manually enter the cameras IP address, login credentials and other configuration, or you can automatically search for connected devices.

## ADDING CAMERAS MANUALLY:

You can add your cameras manually or you can automatically search for cameras connected to your network.

To add cameras manually, select each dialogue box and enter the appropriate information from your camera (IP address, login credentials (if used), Port (as defined in your cameras network setting - default is 554 for RTSP feed), and protocol (default is ONVIF). The device type (for a camera) should be set to IPC (IP Camera).

Once you have entered the appropriate information select OK and if the camera is connected to the network (in the same address range as the NVR) and powered up the NVR should find the camera and the details will automatically update in the Device Window. Press OK to add the camera to the NVR.

Repeat this step until all desired cameras are added.

## ADDING CAMERAS AUTOMATICALLY:

You can also add cameras automatically using the Search function.

Press the search function and the NVR will interrogate the network for any connected cameras. The NVR will automatically find any ONVIF compatible IP cameras within the same network address range.

When the search is complete, details of each camera will appear in the Device Window.

In the Device Window, double click on the details for the camera you wish to add. You will see the camera details are highlighted and also now populate the Camera Settings fields at the top of the window. Press OK and the camera configuration will be stored.

# IRISCONTROL - UPGRADING FIRMWARE

As new features are rolled into our IrisControl App, and as any bugs that may be present are fixed, we will issue firmware upgrades free of charge.

The upgrades will be added to the IrisControl page on our website: [www.boat-cameras.com/iris-control](http://www.boat-cameras.com/iris-control)

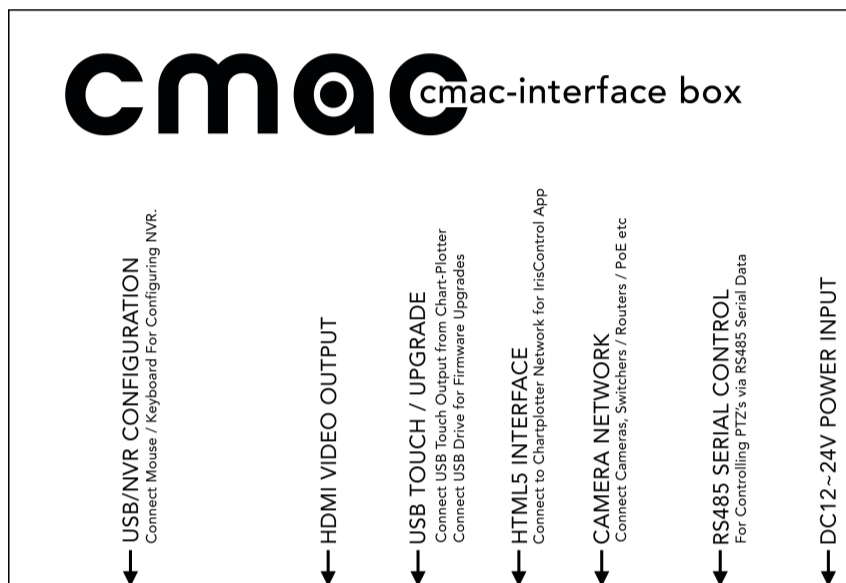
We have tried to make the upgrade procedure as easy as possible. The process for upgrading is as follows:

1. Download the latest firmware from our website and copy to the root directory of a USB drive. Do not rename the file.
2. Go to the SETUP page and you will see the current software revision displayed in the bottom left hand corner of the panel (see below). Take a note of this version number.
3. Connect your USB drive to the USB socket on the rear panel of your CMAC labelled TOUCH/DRIVE.
4. The IrisControl software will automatically detect the drive and look for a valid update file. If the file is found it will automatically upgrade your IrisControl software.
5. After approximately 30 seconds, the upgrade will be complete. The firmware version number in the bottom left hand corner of the SETUP page should change to reflect the new firmware version number.
6. Once the new version number is displayed, your system is updated and you can remove the USB drive safely.

# CMAC INTERFACE BOX

CMAC is available as as 'interface only', without the built in recorder module. The CMAC interface box is designed to host the IrisControl App so you can control and switch your cameras from your chart plotter.

## Connection details for CMAC-INT-001 Models



To install the CMAC-INT box, lift the flaps at either end of the enclosure lid to reveal fixing positions.

Ensure sufficient distance is allowed to neatly dress in the cables to the box, making room for a suitable cable bite so as not to put stress on the connectors.

