THERMAL IMAGING CAMERA SYSTEM

SAFETY NOTES

Before using this product, the customer shall read and understand all the instructions and warnings. e2v technologies does not accept responsibility for damage or injury resulting from failure to follow the instructions provided.

Refer to PSD775845A for safety and warning notes.

FCC Compliance Information (US)

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, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

Any modification not approved by e2v could void the user's authority to operate this equipment.

CONTENTS

This manual contains information covering operation of the system and operating techniques, user maintenance, care of the product and a full technical specification.

INTRODUCTION

The Argus®4 is the latest generation of the Argus® Thermal Imaging Camera (TIC) from e2v technologies. With over 25 years' experience in fire-fighters' thermal imaging, e2v technologies continues to produce high quality, affordable systems designed for fire and heat detection for use with civilian, industrial and military rescue services.

The Argus®4 has been designed with digital imaging technology for a sharper picture and uses the highly successful Amorphous Silicon (ASi) Microbolometer Detector that is in use by many of the world's fire brigades.

The Argus®4 is simple to operate. It is a robust, self-contained camera, which has fully automatic operation; no control or adjustment is required in use. The Argus®4 is a small, lightweight, ergonomic camera and through proper use, the user will be able to:

- See through dense smoke and in darkness.
- Detect and display the relative temperatures of objects within the scene.
- Locate the seat and spread of the fire.
- Move swiftly in search and rescue of casualties.
- Have the ability to see in zero visibility conditions.
- Significantly improve safety and mobility.
- Monitor temperatures for preventive maintenance and condition monitoring of equipment.

The Argus®4 is designed to withstand the high temperatures, knocks and driving spray often encountered in the fire-fighting environment and has many features that can be customised by the end user. These features include:

- Capture of 100 images.
- Direct Temperature Measurement.
- Choice of colour palettes.
- Ambient Temperature Measurement.
- Customisable Start-up Screen.
- 2x Zoom (Argus®4 HR320, Argus®4 320: 2x and 4x Zoom).
- Time and Date.
- Removable Handle.
- On screen set-up menu.

Note: The P7050, P7130 and P7150 series of thermal imaging cameras are subject to export controls. An export licence will be required if exported outside the EU.

Camera Warnings
- All users must be trained in the correct operation, functionality and features of the Argus®4 before use.
- The Argus®4 can only be serviced by authorised personnel. There are no end-user serviceable parts except those described in the maintenance section of this manual.
- e2v technologies recommends that the Argus®4 is stored in the supplied case or storage mount.

1.   OPERATION AND USE

1.1   System Configuration

1.	Rear Bumper	5.	Battery Release Button
2.	Battery	6.	Side Strap
3.	USB Data Lead Socket	7.	Ambient Temperature Sensor
4.	Front Bumper	8.	Removable Handle

1.	Date	7	Time
2.	Spot Temperature Target	8.	Training Bar
3.	Power LED	9.	Battery Bar
4.	Ambient Temperature Value	10.	Spot Temperature Value
5.	Image Capture Button	11.	Zoom Button
6.	ON/OFF Button		

1.2   Getting Started

- In the case with a standard camera are the following:

    o Camera with handle and side straps.
    o Two rechargeable battery packs.
    o Battery charger with mains leads.
    o Battery charging shoe.
    o Neck strap.
    o This manual
    o Remote control.
    o CD with customer software and datasheets.
    o USB Data lead.

    Customer configured cameras will only be accompanied by the items specified with the order.

- The rechargeable batteries should be fully charged before use (see section 3). Fit the battery into the compartment on the top of the camera and push down until a click is heard. To remove the battery, press the battery release button and the battery will eject and can be removed.

- Turn on the camera using the middle red button on the rear. A RED light will be illuminated to show the camera is powered. A long (3 second) press is required to switch the camera off. This is 6 seconds if the button menu is in use.

- After switch-on and for approximately 5 seconds, a start-up screen will be displayed on the camera screen while the system performs a self-test routine. This start-up screen is end-user configurable.

- The thermal image, with battery status display, training bar, time and date and ambient and spot temperature and spot target markings, will appear.

- While the Argus®4 is in operation, the camera has to recalibrate to maintain its performance and image quality. This is achieved by an internal shutter that "freezes" the image; this in turn allows the electronics to recalibrate and redisplay the image. This recalibration will only occur when necessary due to a change in scene or internal temperatures. The freezing of the image will last for less than 0.2 seconds.

- The Argus®4 camera can be used with or without the handle. To remove the handle, spin the large thumbwheel anti-clockwise until the handle detaches from the camera body. Refitting is the reverse of this, making sure that the locating pip is positioned correctly.

1.3   Camera Features

- **Dynamic Scene Colourisation (DSC)**
  The Argus$^®$4 provides the end-user with a selection of colour palettes, which colourises the thermal image to allow the user to pinpoint the hottest areas within the fire scene.

  These colour palettes are:

  o Grey Scale (White Hot)
    Basic white-hot greyscale, expanded to cover the dynamic range of the scene with no colourisation.

  o Grey Scale (Black Hot)
    Basic black-hot grey scale, expanded to cover the dynamic range of the scene with no colourisation.

  o Heat-Finder Red (White Hot)
    Basic white-hot grey scale, expanded to cover the dynamic range of the scene with red colourisation of the hottest part of the scene.

  o Heat-Finder Red (Black Hot)
    Basic black-hot grey scale, expanded to cover the dynamic range of the scene with red colourisation of the hottest part of the scene.

  o Heat-Finder Soft Red (White Hot)
    Basic white-hot grey scale, expanded to cover the dynamic range of the scene with yellow to red colourisation of the hottest part of the scene.

  o Heat-Finder Soft Red (Black Hot)
    Basic black-hot grey scale, expanded to cover the dynamic range of the scene with yellow to red colourisation of the hottest part of the scene.

  o Heat Marker Red
    Basic white-hot grey scale, expanded to cover the dynamic range of the scene with a gradient of red colourisation above 150 °C.

  o Heat Marker Soft Red
    Basic white-hot grey scale, expanded to cover the dynamic range of the scene with a gradient of yellow through to red colourisation above 150 °C.

  o Half Colour
    A limited colour scheme that expands to cover the dynamic range of the scene.

  o Full Colour 1
    A full colour scheme that expands to cover the dynamic range of the scene.

- o Full Colour 2
  An alternative full colour scheme that expands to cover the dynamic range of the scene.

- o Full Colour 3
  An alternative full colour scheme that expands to cover the dynamic range of the scene.

- o Green Scale
  Basic green scale colour scheme that expands to cover the dynamic range of the scene.

- **Direct Temperature Measurement**

  The Argus®4 allows the operator to view the average temperature of the centre spot of the scene (defined by the target markings). The temperature reading is displayed in the bottom right-hand corner of the display. This system is intended to give the operator the ability to detect possible hazards such as hot gas bottles or tanks.

  The camera can be configured to give a reading in degrees Celsius or degrees Fahrenheit by using the user software or the remote control. Scene temperatures between 0 and +800 °C (32 and +1472 °F) can be displayed. (Argus®4 HR320: −40 and +1000 °C; −40 and +1832 °F). This feature can be turned off if not required by using the software provided.

  Note: If the object in the scene does not fully fill the target marks then a false reading may be obtained.
  Different materials have differing surface emissivities, which will produce variations in the temperature readings. Variations can also be caused by the distance from the object. This temperature measurement must be regarded as an indication and not a guaranteed reading.
  If the temperature falls outside the maximum value, the display will show "++++" in red; if below the minimum, "0°C" in blue.

- **SceneSave™ Image Capture**

  Up to 100 images can be captured and stored in the Argus®4. These images can then be viewed or deleted using the remote control or software provided. See section 2 for details of remote control. Using the software provided, captured images can be downloaded to a suitable laptop/PC in several formats.

  To capture an image, press the left-hand button. The image capture symbol appears for a short time above the ambient temperature reading and the number of the image out of 100 will also be indicated on the display.

  If the image capture button is pressed and the camera already has 100 images stored, a 'CAMERA FULL' warning will appear. Before further images can be captured, unwanted images will need to be deleted using the remote control or software.

- **Tri-Mode Sensitivity**

  The Argus®4 has three levels of sensitivity: High, Low and Extended Low. These levels provide the user with a thermal image over the widest possible temperature range. The Argus®4 will switch to the optimum level of sensitivity automatically and will indicate which mode the camera is using by a coloured "M" symbol at the top of the display.

  - High Sensitivity Mode **M**

    The Argus®4 will operate in High Sensitivity mode under normal operating conditions and is indicated by a green "M" symbol. The image that is produced is clearer and will show more detail. The temperature range for this mode is between −40 °C and 150 °C (−40 °F and 302 °F). (Argus®4 HR320: 100 °C; 212 °F).

  - Low Sensitivity Mode **M**

    The Argus®4 will automatically switch to Low Sensitivity mode when higher temperatures have been detected. It is indicated by an orange "M" symbol. The image that is produced loses some clarity, but will still show a significant amount of detail. The temperature range for this mode is up to 400 °C (750 °F).

  - Extended Low Sensitivity Mode **M**

    If the scene has extreme temperatures, the Argus®4 will automatically switch to Extended Low Sensitivity mode, indicated by a red "M" symbol, and allows an image to be produced that is clear and will show some detail. The temperature range for this mode is up to 800 °C (1472 °F). (Argus®4 HR320: 1000 °C; 1832 °F).

- **Zoom**

  A short press on the right-hand button operates the zoom function. The zoom symbol will appear to the right of the display above the spot temperature reading and is indicated by the magnifying glass icon on the screen.

  The temperature measurement sample window is also expanded to suit. The zoom feature can be turned off if not required by using the software provided.

- **Ambient Temperature**

  The ambient temperature sensor is fitted to the front of the camera and the ambient temperature is displayed on the bottom left-hand side of the display.

  The range for ambient temperature measurement is −15 °C (5 °F) to 150 °C (302 °F). If ambient temperature measurement is not required, it can be turned off using the software and the reading will be removed from the display. The ambient temperature will be shown with any image captured.

Note: The ambient temperature is an indication only.
If the temperature falls outside the minimum value, the display will show "---".
If the temperature falls outside the maximum value, the display will show "+++".

- **Time and Date**

  Time and date are displayed at the top of the screen in the format:

  dd/mm/yy   hh:mm:ss

  The date and time can be adjusted using the remote control or software provided and will be shown on any image captured. US date format can be selected via the customer software if required. This feature can be turned off if not required by using the customer software.

1.4   Display Warning Graphics

The Argus®4 is equipped with an advanced microprocessor based control and user warning system. In addition to controlling the automatic operation of the camera to ensure the best possible picture at all times, the control system provides graphics on the display to alert the user to certain conditions as follows:

- **Over-temperature Warning**

   As the circuitry within the camera approaches its maximum internal operating temperature, a warning symbol in the shape of a thermometer will appear to the left of the battery display. The camera will continue to operate at this temperature, but the user may see some degradation of the image quality.

  If the user ignores this warning and continues to operate the camera in very high temperatures, the warning symbol will flash.

  When the flashing temperature warning is present, the camera is very close to its absolute operating limit and the image will start to degrade considerably. The user must remove the unit from the high ambient temperature at this time; failure to comply may result in permanent damage to the unit. Failure to act upon this level of warning may result in serious damage to the system and may invalidate the warranty.

- **General System Failure Warning**

   As part of the operation of the system, the microprocessor monitors certain functions and displays an internationally recognised warning symbol if it detects a fault. The warning, which takes the form of an exclamation mark within a triangle, will appear to the left of the battery status indicator.

  If the warning appears and if appropriate, turn the camera off and leave for five minutes. Turn the camera on and check if the warning symbol has disappeared. If the warning symbol is still present, or the symptoms return, contact e2v technologies.

  Failure to act upon this level of warning may result in serious damage to the system and may invalidate the warranty.

1.5   Operating Notes

The following information relates to a "white-hot" image.

- **Interpreting The Image – Relative Temperatures**
  The image displayed is simply a black and white picture of the infrared energy entering the lens. The camera displays relative temperature differences between individual objects and their surroundings irrespective of overall ambient temperature.
  The camera is set up to display objects at various shades between black for cooler items and white for hotter bodies, e.g. in a room at 20 °C a cold drink would appear black whilst a hot radiator would appear white. However, in a room at 250 °C, it is possible that the same hot radiator may appear darker than, for example, burning materials.

- **Identification of Fire and Hotspots**
  The camera will represent zones of very high temperature as white zones within the picture. When sufficient heat has been detected, e.g. a large area of fire, the camera will automatically enter low sensitivity mode. This will extend the dynamic range of the camera and allow the image of surrounding objects to remain clearly visible.

- **Hidden Fires**
  It is possible that fires may be burning or smouldering behind doors, in ducting or in wall or floor cavities. In such circumstances, the operator should look for areas that appear whiter when compared with the surroundings.
  For example, a fire behind a door will cause the door to appear whiter against the background. Similarly, a white area on an otherwise dark wall could indicate an area of fire behind the masonry.

- **Search for Persons and Objects**
  The camera is not restricted to locating fires. In many cases, the fire-fighter will be using the camera to search for casualties, to seek out dangerous items such as fuel tanks or gas cylinders and also as an aid to navigation through unknown premises.

- **Image Clarity**
  The sharpness and clarity of the image provided is related to the temperature of the scene and objects in view. A cold room provides little infrared energy and less detail is detected than in a warm environment where objects give off significant energy. In general, the warmer the scene, the more thermal contrast and hence the greater detail in the picture.

- **Heat Layers in Closed Spaces**
  In a major fire, a layer of hot gases may build up in the upper region of the closed space. Attempting to use the camera in this hot layer will cause the image to become featureless. By bringing the camera down beneath this layer, the unit is able to provide the fire-fighter with a clearer picture of the scene ahead.

- **Windows and Polished Surfaces**
  Glass is not transparent to long wavelength infrared energy and it is not possible for the operator to use the camera to look through a window. A white window would indicate that the window itself is relatively warm and may be being heated by a fire behind it. Just as we see reflections in glass under normal circumstances, it is possible that the camera can detect infrared reflections in glass, mirrors and polished or painted surfaces. Care must be taken to ensure that the image seen is not simply a reflection. Experience will give the operator added confidence.

- **Control of Water Streams/Jets**
  When viewed through the camera, water streams from hose reels will appear black against the background scene. The control and direction of a water flow can be monitored by viewing its flow and effect on the fire through the camera. It may be necessary, if employing a water wall, to drop the wall momentarily to view the effects of the extinguishing stream.

- **Smoke Types**
  The camera will provide vision through all types of smoke and steam.

- **Lens Cleaning During Operation**
  The camera lens, like the BA visor, may become obscured during use. The lens may be cleaned with a glove or cloth if necessary.

2. MENU CONTROL FUNCTIONS

Some of the Argus®4 features can be adjusted and set up without the need to connect the camera to a laptop/PC.
The setup menu is accessed by the remote control or, optionally, via the button menu.
The button menu is enabled via the camera software supplied.

The exact design of remote control may vary over time. The camera menu will work with most standard Philips TV remote controls.

To enter the menu using the remote control, press the **on/off** button on the remote.
To enter the menu using the camera buttons, press the centre on/off button on the camera for 3 seconds.

IR remote menu

Button menu
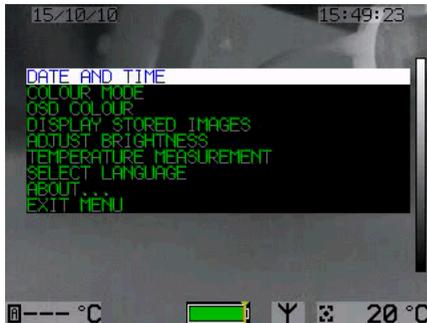
To access any function, press the **menu ▲** or **menu ▼** buttons until the desired option is displayed. Once the desired option has been selected, each option has further actions (see below).
Pressing the **on/off** button again will set any changes required and exit the option list.
Pressing the **menu ▲** or **menu ▼** buttons another option can be selected. The menu will disappear from the image after 8 seconds.
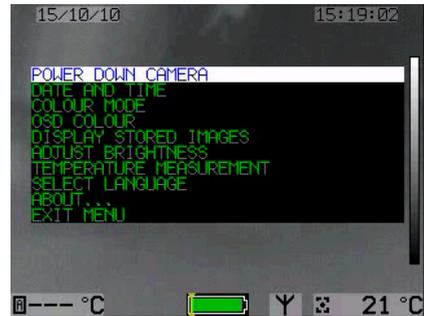
To access any function, press the left or right grey buttons to scroll up and down, until the desired option is displayed. Once the desired option has been selected press the centre button to access further actions described below. Pressing the centre button again will perform or set the action and return to the previous menu.
Scrolling down to the 'EXIT MENU' function and pressing the centre button will exit the menu.

The menu has the following items:

    Power Down Camera (Button driven menu only)
    Date and Time
    Colour Mode
    OSD Colour
    Display Stored Images
    Adjust Brightness
    Temperature Measurement
    Select Language
    About
    Exit Menu

- **Power Down Camera** (button menu only)
  Hold down the RED button for 3 seconds to make the camera turn off. This menu item is only present when using the menu through the camera buttons.

- **Date and Time**
  Press the OK button to enter the time and date settings using the **menu ▲** or **menu ▼** buttons. Adjust each setting as required by using the + or - buttons. Once the desired setting has been achieved, scroll to "save time and date" and press OK.
  The button menu cannot be used to set the time, only to choose the time and date format.

- **Colour Mode**
  By pressing the + or - buttons, the colour options can be scrolled through. These are:

  Grey Scale (White Hot)
  Grey Scale (Black Hot)
  Heat-Finder Red (White Hot)
  Heat-Finder Red (Black Hot)
  Heat-Finder Soft Red (White Hot)
  Heat-Finder Soft Red (Black Hot)
  Heat-Marker Red
  Heat-Marker Soft Red
  Half Colour
  Full Colour 1
  Full Colour 2
  Full Colour 3
  Green Scale

- **OSD Colour**
  By pressing the + or - buttons, the colour of the text, black or white, can be selected.

- **Display Stored Images**

  By pressing the + or - buttons, the stored images can be scrolled through.

  By pressing the **delete** button twice the image can be deleted.

  When using the button menu the camera grey buttons allow the user to scroll through the images. Clicking the camera red button brings up the options to view another image, return to the menu or to delete the image.

- **Adjust Brightness**

  By pressing the + or - buttons, the LCD brightness is increased or reduced.

- **Temperature Measurement**

  By pressing the + or - buttons, the temperature units, Celsius or Fahrenheit, can be selected.

- **Select Language**

  By pressing the + or – buttons, the on-screen language can be set to English, French or German.

3.   RECHARGEABLE BATTERY PACK AND CHARGER

The rechargeable battery system supplied with the Argus®4 camera has been specifically designed to fast-charge the Argus®4 Ni-MH rechargeable batteries (P7030R). The charger is to be used with the Argus®4 Charging Shoe and is mains powered. The charger is a fully automatic "smart charger", monitoring voltage, time and temperature and ensures optimum charge for the battery.

3.1   Rechargeable Battery Pack

The Argus®4 camera is supplied with two rechargeable battery packs. The rechargeable packs are designed to power an Argus®4 for 4 hours from a full charge and use Nickel Metal Hydride (Ni-MH) cells. The battery pack contains circuitry that monitors the cell's temperature to ensure that maximum performance is provided and that correct charging is performed. The pack also has a recoverable short-circuit protection.

The battery pack provides an output to the 'battery status Indicator' on the camera display. This battery status indicator provides a continuous colour display of the remaining charge, allowing the fire-fighter to avoid unpredicted power loss.

Battery Indicator

With a new, fully charged battery, the battery indicator will show full with a solid green bar.

The full length of the battery indicator represents 4 hours of normal use, so a new good condition battery will show 'full' (solid green bar) for some time, as it will run for a little over 4 hours.

When using transmitter accessories the solid coloured bar will drop faster as they consume more power.

The solid coloured bar will progressively decrease as the battery capacity is consumed. When the bar has reached a quarter full, its colour will turn orange and there is approximately one (1) hour of battery life remaining.
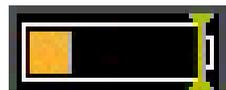
As the battery capacity is consumed further, the bar will turn red and there is approximately 30 minutes of battery life remaining.

When the battery capacity has been consumed, the battery status bar border will turn red and flash to alert the operator. The time remaining will typically be 10 minutes.

Battery Age Indicator (Yellow Marker)

The yellow marker shows the maximum charge capacity of a given battery placed into the camera. This keeps track of the battery condition as the cells age to give the user a guide as to how well the battery can perform. When the battery is charged, the capacity will be approximately the same as the indicator.
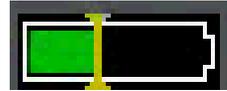
The image shown right is a fully charged old battery, which shows it will run the camera for around 1½ hours.

To maintain the accuracy of the battery charge indicator, e2v recommends that batteries be occasionally run through a full charge and discharge cycle as follows:

- Charge battery and make sure that the battery indicator has gone up to reach the yellow marker.
- Discharge fully.
- Recharge.

This will measure the battery health and reset the yellow line to the current maximum battery capacity.

Note:

- It is recommended that before each BA team enters the fire, the camera should be used with a fully charged rechargeable battery.
- Disposal of batteries should be in line with local procedures and they should be segregated from domestic waste. Alternatively, the batteries may be returned to e2v technologies for safe disposal.
- It is recommended that the rechargeable batteries are placed into storage fully charged and are routinely recharged so as to be ready for use and to maintain performance.
- Shelf life is optimised by storage between -10°C and 40°C (14°F and 104°F).

3.2   Battery Charger

Warnings

- The charger has been designed for indoor use only and should not be exposed to water or dust. Do not cover the charger while in use.
- The charger is turned on once connected to the mains. Disconnecting it from the mains will turn it off. The mains socket should be accessible to allow disconnection if a fault should occur.
- The charger is supplied with several mains cables for worldwide use; ensure that the correct mains lead is used. Check the condition of the mains lead before use.

Hazards

- The charger contains dangerous voltages and the cover should not be removed. There are no user-serviceable parts inside the charger or charging shoe.

Cautions

- Do not charge batteries with too high or low battery temperatures.
- Only use the Argus®4 Rechargeable Battery (P7030R) and Charging Shoe with this charger.

- Ensure that the battery charger output lead has been correctly fitted to the charging shoe before connection to the mains. If purchasing replacement parts, ensure that the correct version of charger is obtained as the connector has been revised during the product lifecycle.

Indications on Charger

Normal Charging Operation

Wait for yellow before inserting battery

Fast Charging (up to 2 hours)

Top up charge (2 hours)
Battery is at least 80% charged in this state

Charging finished. Maintenance mode.

To charge another battery

Remove charged battery

Wait for yellow before inserting next battery, 30 seconds

Other indications
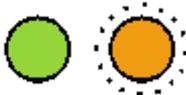
Battery cold (<0 °C, 32 °F), slow charging.
Fast charging will begin when it warms up.

Battery warm (40-60 °C, 104-140 °F).
Fast charging will begin when it cools down.

Battery Hot. (>60 °C, 140 °F).
Remove battery and allow to cool before charging

Other Fault

Note
If the battery has not been used for some time, or is completely discharged, the charger allows 3 minutes for the battery to recover. If this is not enough and the charger indicates 'top up' after 3 minutes, allow the battery to 'top up' for the full 2 hours before recharging as normal.

4. SOFTWARE & CUSTOMER CD

The Argus® camera is supplied with a CD containing current datasheets on both the camera range and the accessories available. The CD also contains the customer software for our range of cameras.

The customer software runs on a PC with Windows XP / Vista / Win7. This allows the user to perform the following tasks:

- View and download images to the PC and save them in standard formats (bmp and jpg)

- Delete images from the camera

- Upload a splash screen to the camera, for example a brigade logo

- Set the time and adjust camera features to suit the user, such as colour mode and time/date display.

- Retrieve a status report

Detailed instructions on installation are on the CD.
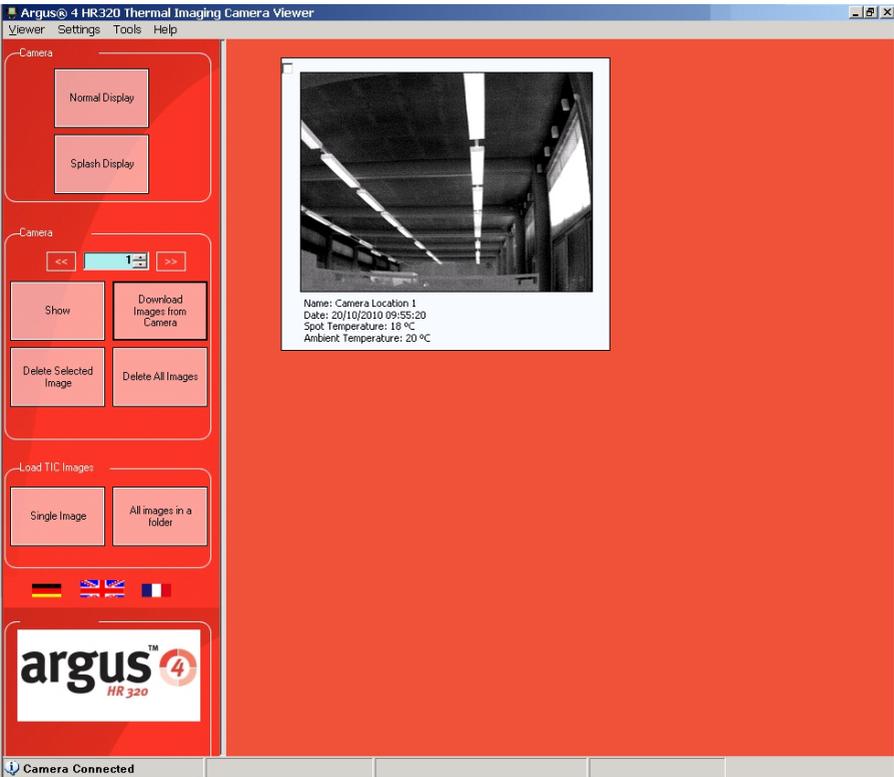
Note

The software is specific to camera types, it is important to install and run the correct software for the camera that is connected. The camera will only connect to the correct software.

5.   CLEANING, MAINTENANCE AND REPLACEABLE PARTS

- **Cleaning**

  After use and prior to stowing, the camera should be cleaned. This is best carried out using a cloth soaked with warm soapy water. **Solvents should not be used. If in doubt, contact your supplier.**

- **Maintenance**

  No routine maintenance is required for the camera. If it is not in regular use, it should be switched on for a period of ten minutes every month to check correct operation.

- **Replaceable Parts**

  Due to the environment in which the camera is used, the user can replace certain parts. If any damage beyond these parts occurs, return the camera to e2v technologies or an authorised repair centre.

  Any attempt at repair by unauthorised personnel may cause serious damage and will invalidate the warranty. **THERE ARE NO OTHER USER SERVICEABLE PARTS.**

  ### Handle (P7030HA)

  To remove the handle, spin the large thumbwheel anti-clockwise until the handle detaches from the camera body. Refitting is the reverse of the above, making sure that the locating pip is positioned correctly.

  ### Side Straps (P7030SS)

  To replace the side straps, remove the front and rear bumpers. Unbuckle the straps and pull through the retaining pins. Replacement is the reverse of removal.

  ### Front Bumper (P7030FB), Rear Bumper (P7030RB)

  To replace the front and rear bumpers, unclip the bumper from the groove in the case body and peel off. Replacement is the reverse of removal, making sure that the bumper fits into the groove.

  ### Other Spares and Accessories

Accessory	Part Number	Alternative
Neck Strap	P7030NS	
Rechargeable Battery Pack	P7030R	
Battery Charger Unit	P7030BC	ARGUS4-BC2
Battery Charging Shoe	P7030CS	ARGUS4-CS2
Remote Control	P7030RC	
USB Computer Lead	P7030PC	
Bung	P7030BU	
User Manual	P7030UM	
CD-ROM	P7030CD	
Camera Carry Case	P7030SC	
Hard Carry Case	P7030HC	

6. WARRANTY TERMS

6.1 Express Warranty

e2v technologies ("e2v") warrants that this product is free from mechanical defects or faulty workmanship for two (2) years from the date of shipment, with the exception that the warranty period for the rechargeable battery pack is one (1) year from that date, provided it is maintained and used in accordance with e2v's instructions and/or recommendations.

This warranty does not apply to expendable or consumable parts whose normal life expectancy is less than one (1) year. Replacement parts and repairs are warranted for ninety (90) days from the date of shipment.

e2v shall be released from all obligations under this warranty in the event that persons other than its own or authorised service personnel make repairs or modifications, or if the warranty claim results from misuse of the product. No agent, employee or representative of e2v may bind e2v to any affirmation, representation or modification of this warranty concerning the goods sold under this contract.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AND IS STRICTLY LIMITED TO THE TERMS HEREOF. e2v SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

6.2 Exclusive Remedy

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