Please read this operating manual before attempting to use the Explorer system. Contact Spatan Tool or visit www.spartantool.com for the latest information and any documentation or software updates.

Please observe all safety notices and warnings in this manual before operating any Spartan Tool product.
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HOW TO CONNECT THE CAMERA AND CHARGER POWER SUPPLY

Caution: Only use the power supply and connecting cords supplied with this system. Using any other power supply or connecting cord may cause damage to the unit and will void any warranty.

Caution: The power adaptor is not rated for outdoor use or use in wet conditions. Only charge or operate the unit from line power when used in a dry, indoor environment. A 12V adaptor cable is provided for use outdoors, e.g. by charging from a vehicle auxiliary supply.

1. Plug the 7 pin XLR connector cable into the camera socket on the back of the unit. Plug the other end of the camera cable into the socket on the coiler axle.

2. For line power operation or charging, plug the 4 pin XLR connector from the power adaptor into the power socket on the back of the unit. Connect the power adaptor to a suitable power supply (100V-240V ac 50-60Hz).

3. For 12V operation or charging, plug the 4 pin XLR connector from the 12V adaptor cable into a 12V auxiliary socket (lighter socket) on your vehicle.

CAUTION: Ensure the vehicle can supply 12V at 5A from the auxiliary socket. Do not use adaptors or splitters between the socket and the Explorer unit as this may overload the vehicle or adaptor wiring and cause it to overheat.

4. When charging, the LED on the ear of the unit should glow red. When the unit is fully charged the LED will turn green. If no power supply is present the LED will be off.

BUILT IN HELP SYSTEM

The built in help system can be accessed by pressing the Help key. Information and instruction on using the Explorer is provided through the help menu. Press ESC to exit the help system.
HOW TO TURN THE UNIT ON AND OFF

1. To turn on, press the power button for more than 2 seconds. The unit will start and progress will be shown on the screen.

2. When the unit is ready for use, press the return key to start the video display.

3. Make sure all video recording is finished and files have been saved before shutting down the unit.

4. Press the power button for more than 2 seconds to shut the unit down. The power button light will flash until the unit has finished shutting down.

5. If the battery is low, the unit will beep once per second. If the unit is left running it will shut down automatically after approximately 10 minutes of low battery warning.

HOW TO USE THE COILER

WARNING: The coiler and camera assembly used with the Explorer unit are heavy. Observe safe lifting procedures when lifting or moving any components of this system.

1. To set the position of the footage readout on screen, press the footage counter key.

2. Use the arrow keys to move the footage readout to the required position on screen.

3. Press the OK button to fix the position.

4. Turn the coiler until the camera head is in the start position and then press the footage zero button.

5. The footage on screen will return to zero. Hold for 2 seconds.

6. The footage readout is reset to zero when the unit is turned on.

7. The footage will not be accurate unless the coiler type matches the one selected in the settings menu. To change the coiler type, go to the settings menu, select coiler and select the coiler type or add a manual calibration number (feet per turn). Select Save Settings and press OK.
HOW TO ADJUST THE CAMERA LIGHT

WARNING: The camera LED’s are very bright. Do not look directly at LEDs or point them at other people when turned on.

1. To make the light brighter press the lamp + button.
2. To make the light dimmer press the lamp - button.
3. There are 20 steps of brightness plus off.
4. The lamp off button will switch the lamp off.

HOW TO RECORD A STANDARD SURVEY

1. Press the Survey key and select New Project (providing an empty site info form) or Existing Project (providing the last set of site info pre-loaded).
2. When the site info is complete press Survey Key to accept or Esc to return to Basic Mode.
3. Press the Survey Key again and select either New Section or Close Project.
4. If new section was chosen, the Run Info screen should be brought up.
5. When this is complete press Survey Key to accept or Esc to cancel changes and start again.
6. On completing this, Run Info can be edited by pressinf the Survey key again and choosing Edit Section.
7. To begin capture press the record button; the Run Info can no longer be edited once recording begins.
8. When recording pressing the snapshot button at anytime will store a jpeg screen capture.
9. Text can also be overlaid into the video using the text overlay button. Text size and style can be adjusted using the size and style keys. OK stamps text into the video and ESC cancels changes. Pressing “G” will also overlay graphics into the video. Pressing “G” will cycle through available graphics. Size and style keys work as per text entry.
10. When the survey is complete press the stop button to end the survey.
11. Pressing the Survey Key again will allow a new section under the same project to be started or the project can be closed.
12. With the project open, the project can be exported to provide a Survey Report by pressing the Survey Key and selecting “Export Project.”
HOW TO RECORD A BASIC SURVEY

1. Press the WinCan button at the top of the keyboard and select “New Project.”
2. Enter the project name and press the WinCan key to confirm.
3. Press the WinCan key again and select “New Section.” Once all the required section information is entered (use page up/down to move between screens) press the WinCan key to confirm.
4. Press the record button to start recording. Press the snapshot button at any point to store a still image.
5. When the survey is complete press the stop button or press the WinCan Key and select “End Section” to stop recording and store the survey files.
6. With the project open, the project can be exported to provide a WinCan Report in the MiraculIX format by pressing the WinCan key and selecting “Export Project.”
7. When the survey is complete, press the stop button to end the survey.

HOW TO RECORD A WINCAN SURVEY

1. Select the device to store the survey using the arrow keys.
2. Press the WinCan button at the top of the keyboard and “New Project.”
3. Enter the project name and press the WinCan Key to confirm.
4. Press the WinCan key again and select “New Section.” Once all the required section information is entered (use page up/down to move between screens) press the WinCan key to confirm.
5. Press the record button to start recording. Press the snapshot button at any point to store a still image.
6. When the survey is complete, press the stop button or press the WinCan Key and select “End Section” to stop recording and store the survey files.
7. With the project open, the project can be exported to provide a WinCan Report in the MiraculIX format by pressing the WinCan key and selecting “Export Project.”
HOW TO ADD OBSERVATIONS TO A WINCAN SURVEY

1. While recording a WinCan survey, observations can be added.

2. Pressing the snapshot button will automatically add a “General Photograph” observation to the survey.

3. If the observation code is known, press the WinCan key and select “Add By Code” and then enter the desired code. On a valid code being entered the parameter entry menu will open.

4. If the code isn’t known press the WinCan key and select “Add Observation.” Follow the on screen prompts to find the code. Upon completion the parameter entry menu will open.

5. On the parameter entry screen any fields marked with (M) are mandatory and the menu will not display the “OK to Confirm” or allow the observation to be added until these fields contain valid data.

6. If data is entered in non-mandatory fields, it must be valid (i.e. clock points are numerical values from 1-12) or the “OK to Confirm” option will not be visible and the observation cannot be added until all entered data is valid.

7. The parameter entry can be cancelled by pressing the ESC key. This will cancel the observation.

8. Once parameter entry is complete and all data is valid OK can be pressed to confirm it. The option to add a Snapshot will then be displayed before completion.

9. If an observation is set as a Continuous Defect it will be listed with its defect number and observation code in the Continuous Defects menu. To close a continuous defect, press the WinCan Key from the main recording screen and select “Continuous Defects.” Select the defect to close from the list of open defects. The defect will then be closed. On pressing stop or ending the section, all open Continuous Defects will be erased.
HOW TO USE THE FILE MANAGER

1. Press the file manager key.
2. Use the arrow keys to select the storage device of interest and press OK or right arrow to view.
3. To delete a whole site, press the backspace key and confirm in the pop-up box.
4. To copy a whole site press Ctrl+C and confirm location to copy to in the pop-up box, wait for it to complete.
5. Use the arrow keys to select the site of interest and press OK or right arrow to view.
6. The copy and delete processes for the surveys are the same as for the sites.
7. Use the arrow keys to select the survey of interest and press OK or right arrow key.
8. From within a survey folder the video can be played back or images viewed.

HOW TO CONNECT AN EXTERNAL DISPLAY

Caution: Video display monitors are not generally rated for outdoor use or use in wet conditions. Only connect an external display monitor to the unit when used in a dry, indoor environment.

1. The video display must be enabled in the settings menu. Go to the settings menu and select General. Enable or disable the external screen. Select Save Settings and press OK.
2. Connect a VGA cable (15 way D-sub type) to the socket on the back of the unit.
3. Connect the other end of the cable to a suitable video display monitor.
4. Connect the monitor power supply and turn on the monitor.
The monitor displays a copy of the screen contents from the unit.
EXPLORER CAMERA INSPECTION SYSTEM SP1610
TECHNICAL SPECIFICATION

External power supply input voltage: ................................................................................................................ 90 - 264V
External power supply input frequency: ............................................................................................................. 47 - 63Hz
External power supply input current: ................................................................................................................ 1.7A max
External power supply output power: ............................................................................................................ 65W nominal
External power supply output voltage: ...................................................................................................... 24V nominal
External power supply efficiency: .............................................................................................................. Level V
External power supply input connector: ...................................................................................................... IEC320-C14
External power supply safety approvals: ........................................................................................................ IEC60950-1, EN60950-1, UL/cUL60950-1
12v DC input voltage: ................................................................................................................................................... 8 - 16V
12V DC input current: .................................................................................................................................................. 4A max
24V DC input voltage: ............................................................................................................................................. 18 - 25.2V
24V DC input current: .............................................................................................................................................. 2.5A max

LCD Screen Size: ........................................................................................................................................ 10.4” (diagonal)
Resolution: ........................................................................................................................................ 800 x 600 RGB (SVGA)
LCD screen brightness: ........................................................................................................................................ 350cd/m²
LCD screen viewing angle: ................................................................................................................................... 85° Typical

Camera supply output voltage: .......................................................................................................................... 14.0V max
Camera supply output current: ...................................................................................................................... 205mA max
Camera LED supply output voltage (open circuit): .................................................................................... 23.5V max
Camera LED supply output current (short circuit): .................................................................................. 600mA max
Charger LED: ........................................................................................................................................... Red - charging  Green - fully charged
VGA output: ........................................................................................................................................ 800x600 SVGA, DE15 socket (rear)
Operating and Storage temperature range: ........................................................................................... 14°F to 122°F
Battery charging temperature range: .......................................................................................................... 32°F - 104°F
Dimensions: ........................................................................................................................................... 360mm x 290mm x 160mm (closed)
Weight: ............................................................................................................................................................. 12.13lbs.

Insulation rating for external power supply (indoor use only):
................................................................................................................................................. 3000 VAC Input to Output
................................................................................................................................................. 1500 VAC Input to Ground
................................................................................................................................................. Negative output is connected to ground
IP rating per IEC60529:
With lid closed and catches engaged ........................................................................................................... IP65
With lid open, connector flap closed .......................................................................................................... IP54

The safety protection may be impaired if the equipment is used in a manner other than described in this manual.
SAFETY NOTICES

Spartan Tool has taken care to provide all necessary information in this manual for the safe operation, maintenance and disposal of the equipment. However, a risk assessment should be performed prior to commencing work as it may highlight additional safety issues specific to the application.

WARNING: Do not use a power supply cord except the one supplied with this unit for use with the power supply.

WARNING: The coiler and camera assembly used with the Explorer unit are heavy. Observe safe lifting procedures when lifting or moving any components of this system.

WARNING: If the system or any auxiliary components are connected to the power supply, then the external equipment must be grounded in accordance with the manufacturer’s instructions. Failure to comply with this may cause a risk of electrocution.

WARNING: The line power adaptor supplied with the unit is not intended for use in wet or outdoor environments. Do not attempt to charge or operate the unit from the line supply in wet areas or outdoors locations.

NOTE: The unit will operate from its internal battery for up to 6 hours in normal use. A 12V adaptor cable is provided for charging from a vehicle auxiliary system when in remote or wet locations. There should be no requirement to charge or operate from line power while outdoors.

WARNING: Foul sewer systems and other watercourses can be a source of biological hazards. Always use appropriate PPE and take suitable precautions to prevent infection when using the Explorer camera system and coiler.

WARNING: This unit is not designed or approved for use where potentially explosive gases, vapors, liquids or solids may be present. Always carry out a risk assessment of the site where the equipment is to be used.

CAUTION: Take care that video or power cables do not become entangled in the coiler reel.

WARNING: Only use the line power adaptor and 12V adaptor cable supplied with the unit. Use of any other power supply or adaptor may cause a safety hazard or damage the unit and will void any warranty.

WARNING: Power equipment is inspected and factory tested for electrical safety. Routine inspection of cables and connections is recommended (and may be required by law) to maintain protection from electric shock. If you are unsure, contact your local safety authority for advice.

WARNING: The camera LED’s are very bright. Do not look directly at the LEDs or point them at other people when turned on.

CAUTION: Exposing the battery to temperatures above 140°F may activate safety systems and cause a permanent battery failure.

CAUTION: Do not attempt to operate or charge the unit outside its recommended temperature specification. The unit will not charge outside the recommended temperature range of the battery. Attempting to charge it outside this range may damage the battery or reduce its life.
MAINTENANCE

CAUTION: Do not attempt to open or repair the unit or remove or replace the battery.

CAUTION: If battery failure is suspected, return the unit to the manufacturer or their authorized agent for investigation and repair. Local, national or international transport regulations may restrict the shipment of faulty batteries. Check with your local safety authority for advice.

NOTE: The battery includes safety protection circuits to protect it against over charge, over-discharge and short circuit. Other batteries may not include these elements.

CAUTION: Do not dismantle any components or connectors of this system unless directed by this operation manual. Dismantling components not specified may void the product warranty or damage the equipment.

For information regarding servicing, please visit www.SpartanTool.com or contact your nearest Spartan Tool representative or agent.

WARNING: Clean and sanitize the Explorer unit at regular intervals and after conducting a survey. Consider the work environment and clean/sterilize the unit appropriately before shipment or transport. Follow local or national laws and guidelines on biohazards.

DISPOSAL

Waste Li-Ion batteries must be disposed of properly, according to local or national regulations. Use an approved recycling center or contact the manufacturer or their authorized agent for disposal. Do not attempt to dismantle the unit or remove the battery. Do not puncture, incinerate or dispose of the unit in landfill.

This equipment is covered by WEEE and other waste regulations. Do not dispose of in landfill or domestic waste recycling facilities. Check local regulations for disposal of electronic products, batteries and other types of waste.

Spartan Tool complies with the requirements of the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment.

COMPLIANCE

This equipment complies with the following EC directives:

Low Voltage Directive: 2006/95/EC.
FCC compliance.

This equipment complies with Part 15 of the FCC rules, limits for Class B digital devices.

Industry Canada Compliance.

This Class B digital apparatus complies with Canada ICES-003.

Avis NMB-003, Classe B: Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.