# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>4</td>
</tr>
<tr>
<td>Before Using Rapport III</td>
<td>5</td>
</tr>
<tr>
<td>Safety Information</td>
<td>6</td>
</tr>
<tr>
<td>Product Introduction</td>
<td>10</td>
</tr>
<tr>
<td>Major functions of Rapport III</td>
<td>10</td>
</tr>
<tr>
<td>Standard item</td>
<td>11</td>
</tr>
<tr>
<td>Introduction</td>
<td>12</td>
</tr>
<tr>
<td>Product Specification</td>
<td>18</td>
</tr>
<tr>
<td>General specification</td>
<td>18</td>
</tr>
<tr>
<td>Meter specification</td>
<td>19</td>
</tr>
<tr>
<td>Functional Specification</td>
<td>20</td>
</tr>
<tr>
<td>Power ON/OFF</td>
<td>20</td>
</tr>
<tr>
<td>Mode setup</td>
<td>21</td>
</tr>
<tr>
<td>Video tester</td>
<td>22</td>
</tr>
<tr>
<td>DVR function</td>
<td>25</td>
</tr>
<tr>
<td>Digital multimeter</td>
<td>34</td>
</tr>
<tr>
<td>PTZ controller</td>
<td>38</td>
</tr>
<tr>
<td>UTP cable tester</td>
<td>41</td>
</tr>
</tbody>
</table>

| Symbols       | 43  |
| Drawing       | 44  |
**General**
- Rapport III is a Portable Service Monitor & Multimeter with a built-in 3.5 inch digital monitor.
- It’s a simple and convenient multi-functional measurement and test tool which provides monitoring and analytical data when installing CCTV systems.

**Product Functions**
- Video Input and Output
- Multimeter (Voltage and Resistance)
- Cable Test (UTP)
- PTZ Control
- Video Storage Function (DVR, Rapport III - PRO)
- Operating Temperature: -10℃ ~ 50℃
- Relative Humidity: 30% ~ 90%
- Recharge Voltage: 12V ±10%, 1.2 A or above
- *Normal operation: Without using DVR and Multimeter*

*The Rapport III and Rapport III Pro support the same basic functions, but the Rapport III does not include the DVR function.*
Precautions

The following describes how to safely operate the Rapport III.

Please read carefully "the precautions for use of this product" prior to using this device. Check the input and output ranges of any voltages being applied to all inputs and outputs of the device, and ensure their connections have been made properly so no abnormal load is placed on the operation of the device. If the measurement value is unknown when measuring a resistance, set the Rapport III meter to its maximum value so that no abnormal load is placed upon the device.

The Rapport III should only be used under the environmental conditions shown in the specification where temperature and humidity figures should be adhered to.

Before using the multimeter function for circuit testing, always disconnect all Video In/Out connections made to any other external devices. Connecting the Test Lead Set to a circuit for testing, with these connections made, causes them to use a common grounding path and could result in damage to the device.

Pay attention to the following precautions when using the Rapport III.

- Do not use the unit in damp, humid or gaseous environments.
- Do not touch it with wet hands.
- Be mindful not to shock or shake the unit while in use to avoid damage.
- Avoid areas with strong magnetic or electromotive fields, which can cause incorrect measurements or operability.
- Do not expose the ports or joints to dirt or liquids.
- Do not disassemble the Rapport III.
- Do not use the meter function, if the Rapport III or the Test Lead set look damaged.
- Do not measure resistance when power is applied to a circuit.
- When using the meter function, do not forget to turn on the power to the Rapport III and use the correct measurement range before connecting to a circuit to be measured.
- Turn off the power to the circuit under test and discharge all high voltage capacitance before starting resistance or continuity tests to avoid damage to the Rapport III.
- Place fingers behind the protecting pad when using a test probe.
Precautions

Battery Charging Precautions

The Rapport III has a built-in Lithium Polymer Battery. It can be recharged using a DC12V power adapter with an output of 1.2A or above and reaches its full charge after a period in excess of 6 hours. After the battery has been fully charged for the first 2~3 charging cycles, it can be used for approximately 6 hours (Max. 8 hrs) (in normal operation).

The battery can be recharged by connecting it to the DC adapter, regardless of OSD power, when the slider switch has been turned on.

The discharge operation starts when the Main Switch is turned on and it then consumes power from the battery. Therefore, when the Rapport III is not being used for a period of time, make sure the Main Switch is turned off.

Battery Handling

- Avoid short circuits, as this will cause internal damage to the battery.
- The soft packaging can easily be damaged by contact with sharp surfaces or objects, take care when handling or storing.
- The sealed edge adjacent to the battery contacts is a very sensitive area; take care not to bend or fold the edges.
- Do not open the folded edges.
- Do not bend the tabs as these are breakable.
- Avoid mechanical shocks to the battery.
- Do not immerse the battery in water.
- Only use the supplied battery charger or one with a safety guarantee.
- Stop charging immediately if the battery is overheating, emitting a burning smell, changed in colour or distorted.
- Keep away from static electronic fields while using, charging or when storing.
- Do not disassemble; the battery is not a serviceable item.
- Never short circuit the positive and negative poles of the battery.
- Do not charge the battery in ambient temperatures above 40°C/104°F.
Summary

Designed, with portability and serious CCTV engineers in mind, the Rapport III is an advanced piece of video test equipment consisting of many useful test functions needed to professionally install a CCTV system; test functions include Video Level, Service Monitor, Multimeter, UTP Test, PTZ Test, RS-422 and RS-485 Communication Test, etc.

Major Functions of Rapport III

- Video Testing
  - Tests whether a video image is present, and its quality, by displaying the image on the built-in 3.5” Digital Monitor
  - Conducts and displays the Video Level (IRE test) of the image.
  - Video signal generator Mode: It outputs a Colour Bar which allows the engineer to test a video monitor or DVR.
  - Rapport III supports both PAL & NTSC video signal format
- DVR Function (This function is only supported by the Rapport III-PRO)
  - Store the video input on to a SD Card and play it back.
- Meter
  - Functions for testing voltage, resistance and short circuits.
- PTZ Protocol Analyzer
  - It determines which protocol controls a PTZ camera from a PTZ Controller or DVR. This helps the CCTV Installer to understand the protocol and find faulty devices.
- UTP Cable Testing
  - Test the integrity of connection conditions of a Category 5e UTP cable. Checks for continuity or short circuits.

Standard Items

Check the contents of your Rapport III package against the standard checklist below:

- Rapport III Main Test Unit
  - SD Card (2Gb Storage) - (optional, Rapport III-PRO)
  - Test Lead Set (1 x Red Lead, 1 x Black Lead)
  - Rechargeable Lithium Polymer Battery (7.4V 2000mA)
  - UTP Test Terminal - Dongle
- User Manual
- Power Adapter (DC12V)
- Safety Strap
- BNC Video Cable

Tester Carry Bag

Rapport III Package
**PRODUCT INTRODUCTION**

**Introduction**

The Rapport III and Rapport III-Pro support the same basic functions, but the Rapport III does not include the DVR function.

**LED Indicator**

- The LED turns Red or Green depend on the recharging status.
  - On charging: RED LED ON
  - Fully charged: GREEN LED ON
- When operating the Rapport without an adapter:
  - On operating: RED LED ON
  - Low battery: RED LED flickers on and off

<table>
<thead>
<tr>
<th>Item</th>
<th>Power LED</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charging mode</td>
<td>RED LED</td>
<td>GREEN LED</td>
</tr>
<tr>
<td>Charging</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>Fully charged</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>Charging error</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>Operating mode</td>
<td>RED LED</td>
<td>OFF</td>
</tr>
<tr>
<td>Operating</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>Low battery</td>
<td>Flicker</td>
<td>OFF</td>
</tr>
</tbody>
</table>

*This is for power LED status when the power switch is ON.*
## PRODUCT INTRODUCTION

### Rapport III-Pro

<table>
<thead>
<tr>
<th>Part</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LCD</td>
<td>TFT LCD</td>
</tr>
<tr>
<td>2</td>
<td>POWER</td>
<td>Red LED is on when the OSD POWER is on</td>
</tr>
<tr>
<td>3</td>
<td>Data Transmitting LED</td>
<td>Red LED is on when Data is Transmitted</td>
</tr>
<tr>
<td>4</td>
<td>Data Receiving LED</td>
<td>Red LED is on when Data is Received</td>
</tr>
</tbody>
</table>

#### Key Button
- **MODE Button** Used to Change Setup
- **SET Button** OSD Selection
- **OSD Button** It toggles OSD & POWER on/off
- **FAR Button** Adjusts PTZ Focus (Far Direction) & Increases Video Image Brightness
- **NEAR Button** Adjusts PTZ Focus (Near Direction) & Decreases Video Image Brightness
- **TELE Button** Zooms PTZ (Zoom In) & Increases Video Image Contrast
- **WIDE Button** Zooms PTZ (Zoom Out) & Decreases Video Image Contrast
- **Shift Setup Button** Moves PTZ Up, Down, Right, Left & Also Used for Menu Functions

#### METER
- **Voltage Button** Measures Voltage
- **Resistance Button** Measures Resistance
- **Setup Change Button** Changes setup Between AC & DC, Resistance/continuity Test

#### FILE
- **FILE** Image data list for SD card (Rapport III-PRO)
- **REC** Record Video (Rapport III-PRO)
- **PLAY** Playback Recorded Video (Rapport III-PRO)

#### Test Lead Connection
- **COM** Position of Black Test Lead, Common Ground(-ve)
- **V/D** Position of Red test Lead for Measuring Voltage & Resistance(+ ve)

## Rapport III

<table>
<thead>
<tr>
<th>Part</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LCD</td>
<td>TFT LCD</td>
</tr>
<tr>
<td>2</td>
<td>POWER</td>
<td>Red LED is on when the OSD POWER is on</td>
</tr>
<tr>
<td>3</td>
<td>Data Transmitting LED</td>
<td>Red LED is on when Data is Transmitted</td>
</tr>
<tr>
<td>4</td>
<td>Data Receiving LED</td>
<td>Red LED is on when Data is Received</td>
</tr>
</tbody>
</table>

#### Key Button
- **MODE Button** Used to Change Setup
- **SET Button** OSD Selection
- **OSD Button** It toggles OSD & POWER on/off
- **FAR Button** Adjusts PTZ Focus (Far Direction) & Increases Video Image Brightness
- **NEAR Button** Adjusts PTZ Focus (Near Direction) & Decreases Video Image Brightness
- **TELE Button** Zooms PTZ (Zoom In) & Increases Video Image Contrast
- **WIDE Button** Zooms PTZ (Zoom Out) & Decreases Video Image Contrast
- **Shift Setup Button** Moves PTZ Up, Down, Right, Left & Also Used for Menu Functions

#### METER
- **Voltage Button** Measures Voltage
- **Resistance Button** Measures Resistance
- **Setup Change Button** Changes setup Between AC & DC, Resistance/continuity Test
- **IRE** Measures Video Level

#### Test Lead Connection
- **COM** Position of Black Test Lead, Common Ground(-ve)
- **V/D** Position of Red test Lead for Measuring Voltage & Resistance(+ ve)
**PRODUCT INTRODUCTION**

<table>
<thead>
<tr>
<th>Part</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>Input BNC</td>
<td>Input for External Video signal</td>
</tr>
<tr>
<td>②</td>
<td>Output BNC</td>
<td>Outputs the Screen Displayed on the Rapport III, or the Internally Generated Video Test Signals</td>
</tr>
<tr>
<td>③</td>
<td>Communication Port</td>
<td>Connections for RS422 and RS485</td>
</tr>
<tr>
<td>④</td>
<td>Safety Strap</td>
<td>Used to Carry the Rapport III Safely</td>
</tr>
</tbody>
</table>

**PRODUCT INTRODUCTION**

<table>
<thead>
<tr>
<th>Part</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>DC Power Jack</td>
<td>DC Power Input Jack (DC12V, 1.2A)</td>
</tr>
<tr>
<td>②</td>
<td>Power Switch</td>
<td>ON/OFF Main Power Switch</td>
</tr>
<tr>
<td>③</td>
<td>UTP RJ45 Jack</td>
<td>Test Jack for UTP cable</td>
</tr>
<tr>
<td>④</td>
<td>SD Card</td>
<td>SD Card Slot (Rapport III-PRO)</td>
</tr>
</tbody>
</table>
### General Specification

<table>
<thead>
<tr>
<th><strong>Electrical Characteristics</strong></th>
<th><strong>Input Voltage</strong></th>
<th>12V ± 10%, above 1.2A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Battery</strong></td>
<td>Lithium Polymer Battery (inner packaging)</td>
<td></td>
</tr>
<tr>
<td><strong>Built-in Charger</strong></td>
<td>Charging Time</td>
<td>More than 6 hrs</td>
</tr>
<tr>
<td><strong>Operation Time</strong></td>
<td>More than 6 hrs (Max.8hrs)</td>
<td></td>
</tr>
<tr>
<td><strong>Image</strong></td>
<td>TV Type</td>
<td>NTSC/PAL</td>
</tr>
<tr>
<td><strong>Image level</strong></td>
<td>1Vpp, 140 IRE</td>
<td></td>
</tr>
<tr>
<td><strong>PTZ Operation Test</strong></td>
<td>Protocol</td>
<td>Multi</td>
</tr>
<tr>
<td><strong>Transmission Speed</strong></td>
<td>2400bps ~ 115.2Kbps</td>
<td></td>
</tr>
<tr>
<td><strong>Transmission Mode</strong></td>
<td>RS-422, RS-485</td>
<td></td>
</tr>
<tr>
<td><strong>UTP Cable Test</strong></td>
<td>Tests</td>
<td>Continuity/Crossed Cable, and Breaks or Short-Circuit</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>W(88mm) X L(126mm) X D(40mm)</td>
<td></td>
</tr>
</tbody>
</table>

### Meter Specification

<table>
<thead>
<tr>
<th><strong>Mode</strong></th>
<th><strong>Range</strong></th>
<th><strong>Minimum Measuring</strong></th>
<th><strong>Accuracy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DC Voltage</strong></td>
<td>400mV</td>
<td>100uV</td>
<td>±(2.5% +4dgs)</td>
</tr>
<tr>
<td>4V</td>
<td>1mV</td>
<td></td>
<td>±(2.5% +4dgs)</td>
</tr>
<tr>
<td>40V</td>
<td>10mV</td>
<td></td>
<td>±(2.5% +4dgs)</td>
</tr>
<tr>
<td>300V</td>
<td>100mV</td>
<td></td>
<td>±(2.5% +4dgs)</td>
</tr>
<tr>
<td><strong>AC Voltage</strong></td>
<td>4V</td>
<td>1mV</td>
<td>±(2.5% +4dgs)</td>
</tr>
<tr>
<td>40V</td>
<td>10mV</td>
<td>(40Hz ~ 500Hz)</td>
<td>±(3.0% +5dgs)</td>
</tr>
<tr>
<td>300V</td>
<td>100mV</td>
<td></td>
<td>±(3.0% +5dgs)</td>
</tr>
<tr>
<td><strong>Resistance</strong></td>
<td>40Ω</td>
<td>0.1Ω</td>
<td>±(2.0% +4dgs)</td>
</tr>
<tr>
<td>4Ω</td>
<td>1Ω</td>
<td></td>
<td>±(2.0% +2dgs)</td>
</tr>
<tr>
<td>40Ω</td>
<td>10Ω</td>
<td></td>
<td>±(2.0% +4dgs)</td>
</tr>
<tr>
<td>400Ω</td>
<td>100Ω</td>
<td></td>
<td>±(3.0% +5dgs)</td>
</tr>
<tr>
<td><strong>Continuity</strong></td>
<td>Beep is activated when the resistance is below 80Ω</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mode setup
- The OSD menu changes whenever the MODE key is pressed, and sequences through in the following order: VIDEO – METER – PTZ – CABLE – SETUP
- The MODE SELECT menu is displayed when MODE key is depressed and moves to the next menu whenever the MODE key is pressed.

Power ON/OFF
Use a DC12V Power Adapter and connect it to the DC Jack. Turn the Rapport III ON/OFF by using the slider switch located on the side of the product. After switching the power switch to the ON position, press the OSD button and the Rapport III will boot up. To turn the Rapport III OFF, keep the OSD button depressed for at least 2 seconds and wait until a POWER OFF message is displayed on the Main Screen. Release the OSD button and turn off the ON/OFF slider switch; power is now turned off.
- When charging the battery, keep it on charge for more than 6 hours or until the unit is fully charged. On full charge the operational time is approximately 6 hours. (Max. 8hrs)
- If the battery indication shows less than , you need to recharge the battery. (Full recharge state: )

Initial Screen Display at Power On
After the power is applied the above on-screen message is displayed. Approximately 2 seconds later the screen switches to the last OSD before power was turned off. The Rapport III stores the last accessed OSD. The initial OSD message displays the Rapport's firmware level. Versions of the product change whenever new firmware is uploaded.

Video Tester Mode:
This function displays the image of an externally input video signal, or is used to output internally generated signals when in PATTERN GENERATOR mode.

DVR MODE (Rapport III-PRO only):
Used to record (onto SD Card) and playback input video images.

Digital Multimeter mode:
Tests voltage, resistance, & continuity.

PTZ Controller mode:
This function allows up, down, right and left movements of a PTZ camera to be made. Also, zoom & manual focus can be adjusted.

UTP Cable Tester mode:
Tests UTP cable connectivity – tests for straight & crossed cables, for breaks and short circuits.

Main Setup mode:
This function allows changes to be made to the basic setup of the Rapport III. (user name, auto power off time, beeper etc.)
VIDEO TESTER

Connect the output terminal of video output system to the video input BNC of Rapport III. Connect the video output BNC of Rapport III to the video input terminal of system.

OSD Screen Setup

VIDEO :
Indicates that the Rapport III is in video test mode. Whenever there is a video input in video test mode, the video level is automatically displayed.

On PAL mode, the video will be displayed in mV.

On NTSC mode, the video will be displayed in IRE.

Video and Testing : By default the Video will be displayed in the top portion of the screen. If there is no video signal at the VIDEO IN port of the Rapport III / Rapport III-PRO “LOSS” will be displayed.

Depending on the type of camera connected to the tester the Video and Sync level will automatically change between IRE (Institute of Radio Engineers) and mV. NTSC signals that are used in North America are measured in IRE units, PAL signals that are common throughout the rest of the world are measured in mV (millivolts).

Understanding Video and Sync Level

Rapport III / Rapport III PRO measures the combined Luminance and Burst levels of a composite video signal as the Video Level. The Sync signal is embedded between the Luminance and Colour Burst signals. See the following chart for a description of the levels that are expected.

<table>
<thead>
<tr>
<th></th>
<th>Luminance Level</th>
<th>Colour Burst Level</th>
<th>Video Level</th>
<th>Sync Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTSC</td>
<td>100 ± 10 IRE</td>
<td>40 ± 5 IRE</td>
<td>140 ± 15 IRE</td>
<td>40 ± 5 IRE</td>
</tr>
<tr>
<td>PAL</td>
<td>700 ± 140 mV</td>
<td>300 ± 35 mV</td>
<td>1000 ± 175 mV</td>
<td>300 ± 35 mV</td>
</tr>
</tbody>
</table>
The Video Level should be within the indicated range. Levels that are too low will result in a dim picture with reduced dynamic range. A Video Level that is too high will result in washed out pictures with decreased definition.

The Sync Level controls the drawing of each line on the monitor. Sync Levels that are too low will cause the picture to breakup or roll while Sync Levels that are too high will result in a picture with reduced grey colours and dynamic range.

In an installation with multiple cameras, the video and sync levels should be matched as closely as possible at the head-end to prevent noticeable picture quality differences when switching between cameras on a single monitor. Values outside the recommended tolerances can cause the operators to experience eye fatigue.

**VIDEO:** Indicates if the input or output video signal system is NTSC or PAL. Input video signal is output onto the LCD screen and automatically switches to NTSC or PAL without using a special setup key. The output video signal when in Pattern Generator mode can be switched to NTSC or PAL, using key.

**BRIGHT**
- Indicates screen brightness, and brightness increases by +1 when the key is pressed, and decreases by -1 when the key is pressed. It returns to the initial setup value when either of the two keys is depressed for more than 3 seconds.

**CONTRAST**
- Indicates screen contrast, and contrast increases by +1 when the key is pressed, and decreases by -1 when the key is pressed. It returns to the initial setup value when either of the two keys is depressed for more than 3 seconds.

DVR MODE: Indicates DVR Mode
- NTSC: Indicates NTSC or PAL System
- Indicates Screen Mode. Shows REC when in record and PLAY when in playback, otherwise will display LIVE for real time images.
- FILE NO: Indicates recorded file number.
- EMPTY: No SD card installed.
- IN: SD card has been installed.
- MODE: Change the mode.

1. Selecting the DVR mode causes the DVR (Rapport III-PRO) to initially boot up and after 2~3 seconds the start menu is displayed.
2. Basic Operation
Recording video: Support 8 files with 10-minute each.
- Input SD card: Input a SD card pre-formatted to a FAT32 format.
- Remove SD card: Remove the SD card after power off or move to another mode and remove it.
- Lock SD card: When the SD card is locked, recording and playback functions are not supported.

Button Key for DVR function
SET: Confirm the setting of each function. (=ENTER key)
DIRECTION KEY (← → ▲ ▼): Set the file, speed of playback.
STOP(■): Stop recording & playback.
FILE: To check the recorded video file.
CLEAR: Delete the recorded video.
REC: Record the video image.
PLAY: Playback the recorded video.

1) Video Storing Function
Designate the file storage location using the Up & Down buttons. Pressing the REC button starts the recording process and REC is displayed.

Press the REC button to stop recording.

There is an option for recording a video file. Press the REC button and "UPDATE FILE" is displayed. Select YES and press the REC button to start video recording.

If another video clip has already been stored in the selected file location the message "UPDATE FILE" is displayed. The existing file is deleted and the location updated with the new video clip when the quick menu is selected.
2) Video Playback

- Designate the file storage location by using the Up & Down keys and press the Video button. The play mode (▶) is shown with the video.

To stop playback press the ◄ button.

- Use the Left and Right keys to adjust playback speed. Options are 2x, 4x, 8x or 16x.

3) Delete Recorded File

Press CLEAR button, is shown on the LCD Screen with a Clear File message. Select YES or No using the keys and press button. The recorded file is deleted.

The file deletion can be checked by pressing the button. (If the file has been deleted “Empty” is displayed).

4) Check Recorded File

Shows the SD Card files, and their recorded file size.
How to playback the video file on a PC

Please contact the manufacturer or your local agent to obtain the download details for the Rapport III-Pro PC playback software program.

Supported PC spec. & O/S

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Min. Requirements</th>
<th>Recommended Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Pentium III 800</td>
<td>Above Pentium IV 2.0G</td>
</tr>
<tr>
<td>Main Memory</td>
<td>256 MB</td>
<td>Above 256MB</td>
</tr>
<tr>
<td>O/S*</td>
<td>Windows 2000</td>
<td>Windows 2000 or XP, VISTA, WINDOWS 7</td>
</tr>
<tr>
<td>Web Browser</td>
<td>I.E 5.0</td>
<td>Above I.E 5.0</td>
</tr>
<tr>
<td>Resolution</td>
<td>1,024 X 768</td>
<td>1,152 X 864</td>
</tr>
<tr>
<td>Network</td>
<td>100Base - T Ethernet</td>
<td>100Base - T Ethernet</td>
</tr>
</tbody>
</table>

2. Supported O/S

Windows 2000 Professional
Windows XP Professional
Windows XP Home Edition
Windows 2000 Server
Windows VISTA
Windows 7 (32 bit only)

3. Installation (Setup)

① Select language => click NEXT
② Setup the program
③ License => Select agree
④ Setup Status
⑤ Setup Complete => click Finish button
4. AKR Player Screen

You will find the icon on your PC desktop after program set up. Click the icon and AKR Play Screen starts.

① Select file.
② Click the file.
③ The file will playback.
④ Use the right mouse button to define the image size.

<table>
<thead>
<tr>
<th>Insert SD Card as shown in the picture.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Please make sure power is off before inserting the SD Card.</td>
</tr>
<tr>
<td>- The SD Card label should be on the reverse side when inserted into the Rapport III-Pro.</td>
</tr>
<tr>
<td>- The SD Card could be damaged if incorrectly inserted.</td>
</tr>
</tbody>
</table>

You will find the icon on your PC desktop after program set up. Click the icon and find the video file you want.
Digital Multimeter
Voltage, resistance and continuity can be tested.

**WARNING**

To prevent electric shocks, injury, or damage to the Rapport III, disconnect the power supply to the circuit under test, and discharge all high-voltage capacitors before testing resistance and continuity.

When using the meter function of the Rapport III, make sure the unit is switched on and set to the appropriate test mode before connecting the test lead set to the circuit under test.

**Setup Keys**

Press the button to measure resistance; pressing the button changes from the OHM scale to BUZZER (for continuity testing).

Press the button to measure voltage; pressing the button causes the measurement range to toggle between ACV and DCV.

**Description of Meter Function LCD Window**

<table>
<thead>
<tr>
<th>Part</th>
<th>Function Set Up</th>
<th>Description</th>
</tr>
</thead>
</table>
| ①   | Type of Test Set Up | - Resistance Test  
- Continuity Test  
- DC and AC Voltage |
| ②   | Test value Displayed | - Unit of resistance Test  
- Indicates either the AC or DC Voltage Range  
- AC Voltage is indicated as RMS (Root Mean Square) Values |
| ③   | Measured Graph Value | - The Measured Input value is Displayed in the Form of a Graph  
- The Graph is Changed Automatically and is Equal to the Measured Value  
- DVER is Displayed When the Measured Value is Higher Than the Setup Value |
| ④   | Measured Value on Hold | The Measured Value is Stored and Displayed Here When the SET Key is pressed. |
| ⑤   | MODE Display | Digital Multimeter Mode is displayed |
| ⑥   |                  | DC DC Voltage Test  
AC AC Voltage Test  
OHM Resistance Test ( Measuring Unit : Ω )  
VOLT Voltage Test ( Measuring Unit : V )  
BUZZ Continuity Test ( Starts to beep when below 80Ω ) |
**FUNCTIONAL SPECIFICATION**

- **Measuring Resistance**
  The unit of resistance is the Ω. The meter sends a low current into the circuit so that the resistance can be measured. This current runs along all paths between the two probes and enables the total resistance to be calculated.

  How to measure: Connect the red lead to **V** and the black lead to **COM**, as shown in the figure to the left, and measure the resistance directly.

- **Continuity Testing**
  Continuity means the presence of a complete path for current to flow. The continuity test features a beep that sounds when a circuit is complete. The beep allows users to quickly test continuity without having to watch the display.

  How to test: Resistance mode changes to continuity mode, when **MODE** is pressed. The beeper is activated when the resistance between the red and black probes is less than 80Ω.

- **Measuring AC & DC Voltage**
  Voltage is the difference in electrical potential between two points. The polarity of an AC voltage varies with time, while DC polarity is constant. The meter displays AC voltage as RMS values (root mean square readings). The RMS value is the equivalent DC voltage measured in a time varying sinusoidal signal.

  How to measure: Press the **V** voltage measuring button, and then select AC or DC by pressing **VOL/buzz button. When DCV is being measured, place the red lead on +ve side and the black lead on -ve side of the voltage source.
PTZ Controller

How to connect each terminal and LCD screen

PTZ Operation Test: Performs basic operational PTZ movements: Up, Down, Left, Right, Zoom, and Manual Focus. It also tests various protocols and their transmission speeds. In order to control a PTZ, connect the PTZ communications cables to TX terminals of the Rapport III.

- PTZ Control Setup Screen
- Keyboard Controller Code Screen
- The controlling protocol from the keyboard or the DVR is displayed on this screen.

More important, however is that the communications speeds are matched.

How to Control a PTZ Camera

PTZ functions - Up, Down, Left, Right, Zoom, and Manual Focus. It also tests various protocols and their transmission speeds. In order to control a PTZ, connect the PTZ communications cables to TX terminals of the Rapport III.

Function Setup of the PTZ

PTZ functions - Up, Down, Left, Right movements are carried out using the SETUP Buttons. Focus and Zoom adjustments are made using the FAR/NEAR (Focus) and TELE/WIDE (Zoom) buttons.

Use the SETUP keys to adjust GPST / SPST / FUNC / SPD and MENU settings (displayed on the lower part of the LCD screen) by pressing the SET key once.

GPST (GO TO PRESET): Moves the camera view to a designated preset location; Presets are numbered 000 to 255. The cursor moves to the GPST position when the key is pressed. Select the previously stored PRESET number using keys (move by +1, -1 step). Once selection is complete, press the key once more and the camera will move to the PRESET location.

SPST (SET PRESET): Sets and stores PRESET information in the range from 000 to 255. First, move the camera to the required view and press the key, and use keys to place the cursor at the location of the chosen preset. Then set up the address where the preset is to be stored by using keys, and press the key once more. The location information is now stored as a preset address.

FUNC: Follows the FUNC set up using the SPST and MENU information. The Setup range is from 00 to 63. It can be set by +1, -1 step by using keys.

SPD (SPEED): Move the cursor to the SPD icon, using the procedures described above. A total of 16 increments in speed (1 to 16) are available for selection using keys.

MENU: Place the cursor at the MENU location, using the procedures described above. The MENU of the PTZ can be displayed on LCD screen using the key.

When set the above functions, it can be set by +10, -10 steps by using keys.

FUNCTIONAL SPECIFICATION

How to Control a PTZ Camera

PTZ functions - Up, Down, Left, Right, Zoom, and Manual Focus. It also tests various protocols and their transmission speeds. In order to control a PTZ, connect the PTZ communications cables to TX terminals of the Rapport III.

- PTZ Control Setup Screen
- Keyboard Controller Code Screen
- The controlling protocol from the keyboard or the DVR is displayed on this screen.

More important, however is that the communications speeds are matched.
CAUTION

1. Make sure to check the communication protocol, transmission speed, and PTZ ID.
2. The input signal from the controller can be checked when the communication line is connected to the Rx terminal of the Rapport III.

Control Setup of PTZ

The PTZ ADDR menu bar is accessed, on the top section of the LCD screen, when the key is depressed for more than 3 seconds. The activated menu can be changed to PROTOCOL and BAUDRATE by pressing the & keys.

PTZ ADDR: Setup the PTZ ID. The default value is 001. To change the PTZ ID use the & keys and it moves by +1, -1 steps. The available values are 001 through to 255.

PROTOCOL: Used to set the PTZ PROTOCOL. The default value is set to PELCO-D. To change to another protocol, use the & keys to see the available protocols.

BAUDRATE: Sets the TRANSMISSION SPEED. The default value is 2.4Kbps. Use the & keys to alter the speed – the available options are from 2.4Kbps ~ 115.2Kbps.

PARITY: Set the parity to NONE, ODD and EVEN by using & keys.

CAUTION

Check the CAMERA ID, PROTOCOL and BAUDRATE settings prior to testing. A PTZ camera cannot be controlled unless all three settings are correct.

FUNCTIONAL SPECIFICATION

UTP CABLE TESTER

- Change the mode by pressing button.
- Connect the UTP cable to be tested to the UTP port of the Rapport III, and connect the other end of the cable to the yellow UTP test dongle.
- Once the connection is complete, the connectivity of the cable under test is checked by pressing the button. Straight through and crossed cables can be verified. Disconnections and short-circuits are also displayed.
**FUNCTIONAL SPECIFICATION**

**SETUP**
Mode Select: To access this menu depress the \[MOD\] key and select SETUP icon.

Select a menu item by pressing the \[ & ] keys. Each setup value can be changed by pressing the \[ & ] keys.

Selecting USER NAME initiates an editing menu and shows the associated key strokes.

SLEEP TIME: Select sleep time by using \[ buttons. The options are OFF, 1, 5, 10, 30, 60 minutes.

BUZZER: Select ON/OFF by using \[ button.

- SLEEP TIME makes the power go OFF automatically, unless button is pressed.

**TABLE 1 - SYMBOLS**

<table>
<thead>
<tr>
<th>Number</th>
<th>Symbol</th>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>IRE 60417 - 5031</td>
<td>Direct current</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>IRE 60417 - 5032</td>
<td>Alternating current</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>IRE 60417 - 5033</td>
<td>Both direct and alternating current</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>Three-phase alternating current</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>IRE 60417 - 5017</td>
<td>Earth (ground) TERMINAL</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>IRE 60417 - 5019</td>
<td>PROTECTIVE CONDUCTOR TERMINAL</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>IRE 60417 - 5020</td>
<td>Frame or chassis TERMINAL</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>IRE 60417 - 5021</td>
<td>Equipotentiality</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>IRE 60417 - 5007</td>
<td>On(Supply)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>IRE 60417 - 5008</td>
<td>Off(Supply)</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>IRE 60417 - 5172</td>
<td>Equipment protected throughout by DOUBLE INSULATION or REINFORCED INSULATION</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td>Caution, risk of electronic shock</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>IRE 60417 - 5041</td>
<td>Caution, hot surface</td>
</tr>
</tbody>
</table>

**The equipment shall not be used for measurements of categories II, III and IV**

**If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.**
DRAWING (mm)

Net weight: 380g