Cautions for Safety

WAT-902H2/3 ULTIMATE is designed to be used safely; however, if not used safely, it may lead to a physical accident caused by fire and electric shock. Please consult the distributor or dealer from which the WAT-902H2/3 ULTIMATE was purchased, if you do not understand the installation, operation, safety instructions laid out in this manual. Not understanding the contents of the Operation Manual sufficiently may damage the camera.

Guide to the Safety Symbols

The definitions of the symbols used in this operation manual are:

- (exclamation point): Indicates a situation that may be dangerous.  
- (a triangular sign): Indicates the protection against accidents.
- (a closed circle): Indicates the protection against damage to the unit.
- (a red triangle): Indicates the protection against fire and electric shock.

About EMC

The WAT-902H2/3 ULTIMATE is in conformity with EMC last standards carried out by authorised organizations in Japan.

EIA

FCC Part15 class B

CCIR EN61000-6-3/EN50130-4

Do not modify the WAT-902H2/3 ULTIMATE. A modified camera may not conform to EMC last standards.

Contents

Using the contents figures below, check to make sure all parts are present before use.

Lens Mount Cap  WAT-902H2/3 ULTIMATE  DC plug  Iris connector

Description of Parts

Avoid the striking of hard objects or dropping the WAT-902H2/3 ULTIMATE.

The WAT-902H2/3 ULTIMATE uses high quality electrical parts and precision components.

Do not connect any power supply directly to the video output terminals.

Do not connect the WAT-902H2/3 ULTIMATE with any monitor using a video/power single transmission terminal.

Do not install the WAT-902H2/3 ULTIMATE in a position subject to direct sunlight.

Sunlight shining directly onto the WAT-902H2/3 ULTIMATE lens can cause damage to the CCD.

Select a stable place for installation of the WAT-902H2/3 ULTIMATE.

Use a support of durable strength around an installation position on a wall, etc. when a camera stand or tripod is used.

Do not move the WAT-902H2/3 ULTIMATE with the cables connected.

Before moving the WAT-902H2/3 ULTIMATE, always remove the video cable and power cable from the rear of the camera.

Problems and Trouble Shooting

If any of the following problems occur when using the WAT-902H2/3 ULTIMATE:

- An optical picture cannot be obtained, after checking that all the cables and connections are correctly in place.
- Smoke or any unusual odor emerges from the WAT-902H2/3 ULTIMATE.
- An object becomes embedded or a quantity of liquid seeps into the camera housing.
- Movements of the recommended voltage and armpage have been applied to the WAT-902H2/3 ULTIMATE by mistake.
- Anything unusual occurring to any equipment connected to the WAT-902H2/3 ULTIMATE.

Disconnect the camera immediately according to the following procedures:

1. Switch off the main power supply to the camera.
2. Remove the power and video cables connected to the WAT-902H2/3 ULTIMATE.
3. Contact the distributor or dealer from which the WAT-902H2/3 ULTIMATE was purchased.

Power Supply

Use a stabilized power adapter designed for DC+12V±10%, with a current capacity of more than 250mA for the WAT-902H2/3 ULTIMATE.

The terminal of the unit.

The terminal for composite video signal output.

The volume for setting manual gain control:

The switch for selecting electronic shutter mode:

The switch for the shutter speed mode control according to the object being monitored.

Auto-iris Lens

Before connecting the auto-iris lens, please make sure that the pin configuration is correct by connecting with the following table. If the configuration of your iris connector is different from the following, the plug and iris lens will need to be reversed.

Lens Base

There is a tripod mounting screw hole as shown in the diagram on the right. In addition, there are 4 camera holes M3 size and one Ø5 for stability.

Camera Base

There is a tripod mounting screw hole as shown in the diagram on the right. In addition, there are 4 camera holes M3 size and one Ø5 for stability.

LENS MOUNT

Mount for the lens (Thread type)

SHUTTER LEVEL - VOLUME

By controlling the volume, the iris level of a DC iris lens can be adjusted.

FOCUSING ADJUSTMENT SCREWS

There are 3 hex. adjustment screws placed each at intervals of 120° for fine focusing of the lens.

AUTO-IRIS SOCKET

This socket is for a video or DC auto-iris lens connector.

(Video DC: Auto selected by the camera)

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HOLDING HOLES

Mounting holes for stands. The size of these threads are 1/4”, 20 threads, 4.5 ±0.2mm, which is the same as any standard camera tripod (UTV-1).

CAMERA BASE

The camera base has a thread for fixing to a standard tripod and four M3 size holes for additional easy fixing.

VIDEO OUT (BNC)

The terminal for coaxial cable video signal input.

GAMMA-CORRECTION SWITCH

Three gamma values are selectable: 1.0, 0.45, 0.35.

POWER IN

The terminal designed for the DC-plug of the power adaptor.

VOLUME ADJUSTING SECTION

The volume for setting manual gain control.

SWITCHING SELECT

The switch for selecting electronic shutter mode.

SWITCH FOR SETTING AGC, HI, LO OR MGC

BACK LIGHT

The switch for back light compensation.

ELECTRONIC SHUTTER ON/OFF SWITCH

The switch for adjusting electronic shutter mode.

Set-up and Operation

1) Ensure that the power to the WAT-902H3/2 ULTIMATE and the peripheral equipment is turned off before installation.

2) Remove the lens mount cap from the WAT-902H2/3 ULTIMATE and attach the CS-mount lens. Use the optional C-mount adaptor (JSCM01A-R) when a C-mount lens is used.

3) Connect the iris control cable to [AUTO-IRIS SOCKET] on the WAT-902H2/3 ULTIMATE when an auto-iris lens is being used.

4) Connect [VIDEO OUT] on the WAT-902H2/3 ULTIMATE with the monitor, using a coaxial cable with 75Ω impedance, such as RG-59 or RG-6/U. Select a monitor with the same specifications as the WAT-902H2/3 ULTIMATE: EIA or CICR. A monitor with more than 600TV lines is recommended.

5) Insert the plug port of the power adaptor into [POWER IN] on the back panel of the WAT-902H3/2 ULTIMATE. Confirm that the power adaptor is not connected to the power supply before insertion of the power plug into [POWER IN].

6) Turn on the power to the WAT-902H2/3 ULTIMATE, monitor and all other allied equipment. When a picture cannot be obtained on the monitor, or a problem occurs, check and follow the procedure mentioned in the [Problems and Trouble Shooting] section.

7) After following the procedure below and the picture is still out of focus, open the iris fully to ensure the following alignment screws with the hex wrench and move the lens forwards until a clear picture is obtained.

8) Select any required gamma by the [GAMMA-CORRECTION SWITCH].

9) Select any required gain control by the [EAG-MGC SELECTION SWITCH].
11) Select any required back light area by BACK LIGHT to one of its 4 positions.

<table>
<thead>
<tr>
<th>Area</th>
<th>Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Default</td>
<td></td>
</tr>
<tr>
<td>2. Center</td>
<td></td>
</tr>
<tr>
<td>3. Lower</td>
<td></td>
</tr>
<tr>
<td>4. Center - Lower</td>
<td></td>
</tr>
</tbody>
</table>

※The switches are set to OFF(Default) upon shipment.

12) Set the shutter mode by ELECTRONIC SHUTTER ON/OFF SWITCH.
When shutter mode is OFF, fix the shutter speed to EIA1/60, CCIR1/50.
When shutter mode is ON, select the shutter speed mode by AE MODE CONTROL.
※The switch is set to OFF upon shipment.

13) Select any required shutter speed by the AE MODE CONTROL to one of its 10 positions.

<table>
<thead>
<tr>
<th>No.</th>
<th>Mode</th>
<th>Shutter Speeds (Sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>FL</td>
<td>1/100 - 1/1000000</td>
</tr>
<tr>
<td>1</td>
<td>LS</td>
<td>1/1000 - 1/1000000</td>
</tr>
<tr>
<td>2</td>
<td>ES</td>
<td>1/500 - 1/1000000</td>
</tr>
<tr>
<td>3</td>
<td>LS</td>
<td>1/1000 - 1/1000000</td>
</tr>
<tr>
<td>4</td>
<td>ES</td>
<td>1/5000 - 1/1000000</td>
</tr>
<tr>
<td>5</td>
<td>ES</td>
<td>1/10000 - 1/1000000</td>
</tr>
<tr>
<td>6</td>
<td>ES</td>
<td>1/100000 - 1/1000000</td>
</tr>
<tr>
<td>7</td>
<td>ES</td>
<td>1/1000000 - 1/1000000</td>
</tr>
<tr>
<td>8</td>
<td>FL</td>
<td>1/1000000 - 1/1000000</td>
</tr>
<tr>
<td>9</td>
<td>FL</td>
<td>1/10000000 - 1/1000000</td>
</tr>
</tbody>
</table>

※An intense light may leave a trail on the screen longitude. This smearing is a natural phenomenon and is not due to equipment failure or fault.
※The dial is set to 0(FL) upon shipment.

Options
To purchase these options, please contact the distributor or dealer from which you purchased the WAT-902H2/3 ULTIMATE.

C-mount Adaptor (30CMA-R)
This lens mount adapter is used to convert a CS-mount to a C-mount.

Mini Stand (MS50)
A convenient stand for the WAT-902H2/3 ULTIMATE. With this stand, the camera can be adjusted to any desired angle.