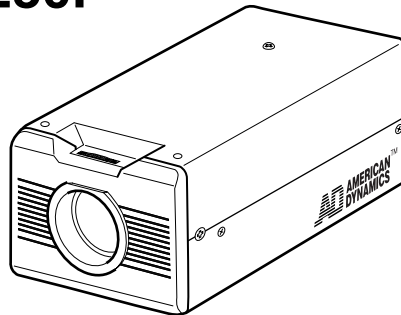




TRUE D/N CAMERA

ADCTDN2412N
ADCTDN2412P
ADCTDN0230P

INSTRUCTIONS



For Customer Use:

Enter below the Serial No. which is located on the body. Retain this information for future reference.

Model No. _____

Serial No. _____

LST0617-001A

8200-0852-00-A0

FOR USA

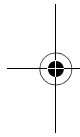
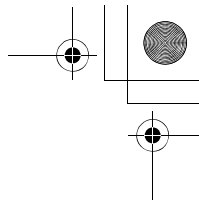
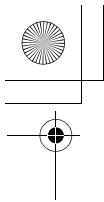
These are general IMPORTANT SAFEGUARDS and certain items may not apply to all appliances.

IMPORTANT SAFEGUARDS

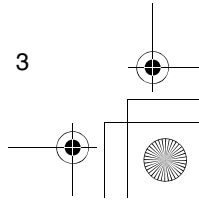
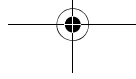
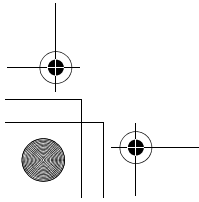
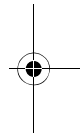
1. Read all of these instructions.
2. Save these instructions for later use.
3. All warnings on the product and in the operating instructions should be adhered to.
4. Unplug this appliance system from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use attachments not recommended by the appliance manufacturer as they may cause hazards.
6. Do not use this appliance near water - for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
7. Do not place this appliance on an unstable cart, stand, or table. The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance.
 Use only with a cart or stand recommended by the manufacturer, or sold with the appliance. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
8. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to insure reliable operation of the appliance and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the appliance on a bed, sofa, rug, or other similar surface. This appliance should never be placed near or over a radiator or heat register. This appliance should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
9. This appliance should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company. For appliance designed to operate from battery power, refer to the operating instructions.
10. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

PORTABLE CART WARNING
(symbol provided by RETAC)





- 11.** Do not allow anything to rest on the power cord. Do not locate this appliance where the cord will be abused by persons walking on it.
- 12.** Follow all warnings and instructions marked on the appliance.
- 13.** Do not overload wall outlets and extension cords as this can result in fire or electric shock.
- 14.** Never push objects of any kind into this appliance through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the appliance.
- 15.** Do not attempt to service this appliance yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- 16.** Unplug this appliance from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power cord or plug is damaged or frayed.
 - b. If liquid has been spilled into the appliance.
 - c. If the appliance has been exposed to rain or water.
 - d. If the appliance does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the appliance to normal operation.
 - e. If the appliance has been dropped or the cabinet has been damaged.
 - f. When the appliance exhibits a distinct change in performance - this indicates a need for service.
- 17.** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- 18.** Upon completion of any service or repairs to this appliance, ask the service technician to perform routine safety checks to determine that the appliance is in safe operating condition.



Introduction

Safety Precautions

FOR USA AND CANADA



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

AVERTISSEMENT:

POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A L'HUMIDITE OU A LA PLUIE.

INFORMATION (FOR CANADA)

RENSEIGNEMENT (POUR CANADA)

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

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

INFORMATION FOR USA

INFORMATION

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.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

CHANGES OR MODIFICATIONS NOT APPROVED BY American Dynamics COULD VOID USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

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 UNDESIRE OPERATION.

Introduction

Safety Precautions (continued)

Information for Users on Disposal of Old Equipment



[European Union]

This symbol indicates that the electrical and electronic equipment should not be disposed as general household waste at its end-of-life. Instead, the product should be handed over to the applicable collection point for the recycling of electrical and electronic equipment for proper treatment, recovery and recycling in accordance with your national legislation.

By disposing of this product correctly, you will help to conserve natural resources and will help prevent potential negative effects on the environment and human health which could otherwise be caused by inappropriate waste handling of this product. For more information about collection point and recycling of this product, please contact your local municipal office, your household waste disposal service or the shop where you purchased the product. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

Attention:

This symbol is only valid in the European Union.

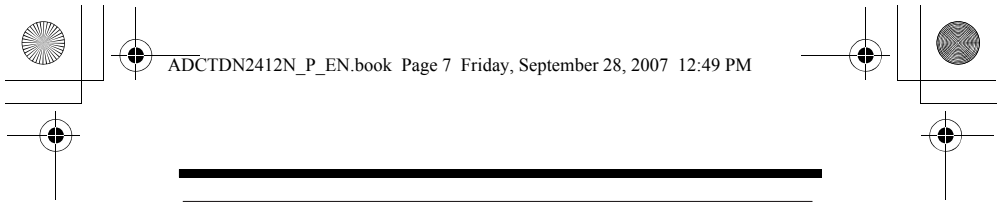
[Other Countries outside the European Union]

If you wish to dispose of this product, please do so in accordance with applicable national legislation or other rules in your country for the treatment of old electrical and electronic equipment.

Erklärung zum Rauschen (für die Bundesrepublik Deutschland):
Maschinenlärminformations-Verordnung 3. GPSGV, 06.01.2004: Der höchste
Schalldruckpegel beträgt 70 dB(A) oder weniger gemäß EN ISO 7779

Due to design modifications, data given in this instruction book are subject to possible change without prior notice.

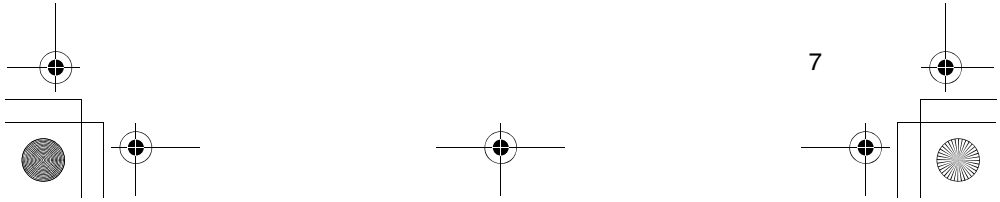
Wegen Entwurfsmodifikationen ist es möglich, dass die in dieser Anleitung gegebenen Daten ohne vorherige Ankündigung geändert werden.



POWER SYSTEM
ADCTDN0230P this unit operates on a mains supply voltage of 220V to 240V AC, 50/60HZ.
ADCTDN2412N/P these units are to be powered by DC 12V or an AC 24V power supply.
The AC 24V and DC 12V should conform to the following: Class 2 only (for USA), isolated power supply only (for Europe).

CAUTION
To prevent electric shock, do not open the cabinet.
No user serviceable parts inside. Refer servicing to qualified service personnel.

- This installation should be made by a qualified service person and should conform to all local codes.



Introduction

Thank you for using American Dynamics products. We support our products through an extensive worldwide network of dealers. The dealer through whom you originally purchased this product is your point of contact if you need service or support. Our dealers are empowered to provide the very best in customer service and support. Dealers should contact American Dynamics at (800) 507-6268 or (561) 912-6259 or on the Web at www.americandynamics.net.

Features

■ Realizing a High Picture Quality

This camera realizes 540 TV lines (standard) and S/N50 dB (standard) by employing a highly sensitive CCD with 380,000 pixels (ADCTDN2412N) or 440,000 pixels (ADCTDN2412P/ADCTDN0230P) and a high-resolution video processing circuit.

■ Day/Night surveillance

When the light is low, the camera automatically switches to high-sensitive mode (B&W mode) to allow for day/night surveillance.

■ CRT/LCD monitor compatible

This camera is compatible for both CRT/LCD monitors. You can make settings that are easier to view according to the type of monitor used.

How to read this manual

■ Conventions and symbols

Note : Indicates operating precautions.

Memo : Indicates reference data regarding limitations on functions, usage and the like.

☞ : Indicates a reference page or item.

- American Dynamics holds the copyright to this manual. Any part or all of this manual may not be reproduced without prior consent from the company.
- Product names of other companies described in this manual are trademarks or registered trademarks of the respective companies. Symbols such as [™], ® and © are omitted in this manual.
- Design, specifications and other contents described in this manual are subject to change for improvements without prior notice.

- Before starting an important recording, be sure to perform a test recording in order to confirm that a normal recording is possible.
- We do not accept liability for the loss of a recording when recording is not properly performed due to a problem in the video camera, VTR or video tape.
- We do not accept liability for any damage to the camera in cases where it is dropped because of bad installation due to failure to observe the installation instructions correctly. Please be careful when installing the camera.

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Introduction

Operating Precautions

Storage and Location of Use

- This camera has been designed for indoor use. When you use it outdoors, be sure to use a housing or the like.
- Do not install or use the camera in the following places.
 - In a place exposed to rain or moisture.
 - In a place with vapor or oil, for example in a kitchen.
 - When the ambient temperature rises above or falls below the acceptable range (from -10°C to 50°C)
 - In a place at which corrosive gases are emitted.
 - Near a source of radiation, X-rays, strong radio waves or magnetism.
 - In a place subject to vibration.
 - In a place with excessive dirt.
- Using this unit or cables connected to this unit at places at which strong radio waves and magnetism are emitted (e.g. near a radio, TV, transformer or motor) may give rise to noises in the image and changes in its color.

Maintenance

- Turn off the power before performing maintenance.
- Clean the camera with a soft cloth. Wiping it with thinner or benzene may melt the surface or cause it to fog. For tough stains, wipe using a cloth that is dipped into a neutral detergent diluted with water, followed by wiping with a dry cloth.

Energy Conservation

- When the camera is not in use for a long time, turn off the power of the system for safety and energy conservation reasons.

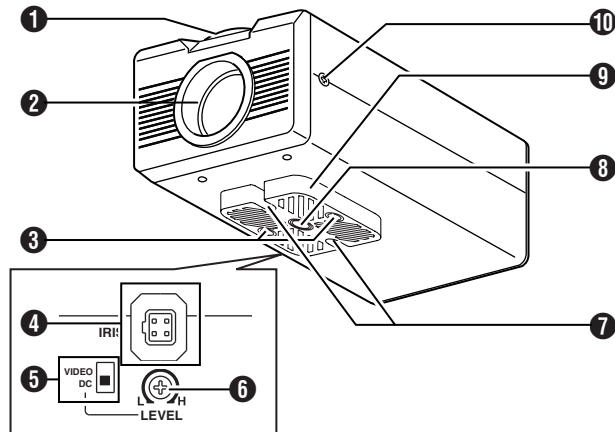
Others

- This camera comes with a built-in AGC circuit. The sensitivity increases automatically at a dark place and the screen may appear grainy. This is not a malfunction.
- While the AGC is activated, if a transceiver which causes strong electromagnetic wave is used near the camera, the picture may suffer from beat.
- Please use the camera more than five meters from such transceivers.
- You may hear some noise during power on and when the screen is switched between the color and the black and white mode, because of the movement of the optical filter switching motor. Also, the image will be somewhat distorted.
- The beat may sometimes appear on the screen if gain is raised when the line lock is in use, but the phenomenon takes place due to the fluctuation of power frequency and is not a malfunction.
- When this camera is used in the White Balance ATW (automatic tracking) mode, the color tone may differ slightly from the actual color due to the principle of the automatic tracking white balance circuit. This is not a malfunction.
- If a high brightness object (such as a lamp) is shot, the image on the screen may have white vertical tailings. This is a characteristic of the CCD known as the smear phenomenon and is not a malfunction.
- When a high brightness object is shot, sometimes undulations can be observed on the vertical lines of the object. However, this phenomenon is peculiar to the camera and is not a malfunction.
- Caution for operating the VIDEO IRIS lens
 If the LEVEL dial of the VIDEO IRIS lens is set to a low level (L position), a malfunction - such as the hunting phenomenon where the iris opens and closes involuntarily - can occur. In such a case, first set the LEVEL dial on the lens to the H position, and then adjust it to an optimum level while checking the video signal.
- This camera achieves optical performance by using specified lens (1/3 inch size) conformed to CCD size. However, some general lens may not meet this specification (effective image circle is small or optic displacement is big). When such lens are used, negative effects such as shading may occur.

Introduction

Name of Parts and their Functions

Front/Bottom/Side panel



1 Back focus adjustment ring

This ring switches between back focus adjustment and lens mounting method. When adjustment is required, loosen the back focus locking screw **10** by turning it anti-clockwise. After the adjustment, tighten the locking screw by turning it clockwise. This camera is factory-adjusted to a suitable position with CS-mount lens. (Pg. 26)

2 Lens Mount

To attach the lens. This is suitable for CS-mount lens (1/3 size) or C-mount lens (1/3 size). (Pg. 18)

3 Camera-mounting bracket fixing screws (x2: M2.6 x 6 mm)

Be sure to use a 6 mm long screw.

Note:

- Do not use a screw that is longer than the specified length. It may damage the internal parts.

4 [IRIS] Iris Terminal

This is connected to an autoiris control lens.

5 [VIDEO,DC] Iris Selector Switch

This should be set according to the type of lens if an autoiris control lens is used.

VIDEO : In case of lens with EE amp built-in
 DC : In case of lens without EE amp built-in
 (Default setting: DC) (Pg. 18)

6 [LEVEL] Iris Level Adjustment Dial

This adjusts the iris level of the autoiris control lens. Usually, adjustment is not required. When it is necessary, adjust the iris level according to the condition of the object. (Pg. 28)

To darken : Anti-clockwise direction (Towards L)
 To brighten : Clockwise direction (Towards H)

7 Rotation-preventive hole

Make use of this rotation-preventive hole to prevent any fall when mounting the camera. Always make sure that the camera is securely mounted.

8 Camera-mounting screw hole (1/4-20UNC)

Use this hole when mounting the camera onto a mount, pan/tilt unit and the like. Use a screw shorter than 7 mm. (Pg. 23)

Note:

- Do not use a screw that is longer than the specified length. It may damage the internal parts.

9 Camera-mounting bracket

The bracket has been attached on the bottom of the camera before shipment. It can also be attached on the top according to the circumstance. (Pg. 24)

10 [BF LOCK] Back focus locking screw

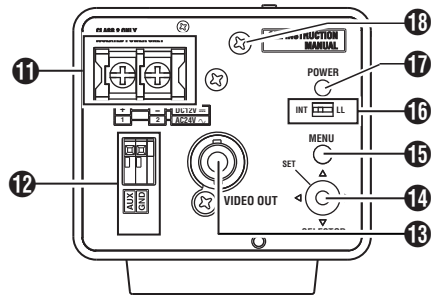
This serves to lock the back focus adjustment mechanism. (Pg. 26)

Introduction

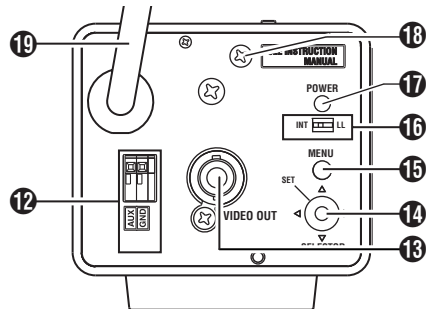
Name of Parts and their Functions (continued)

Back panel

■ ADCTDN2412




■ ADCTDN0230P




14

11 [AC24V,DC12V] Power input terminal

To connect to AC 24 V or DC 12 V power supply.
( Pg. 21)

12 [AUX,GND] External terminals


This terminal is for the input/output signals that are set in the AUX MODE of the AUX FUNCTION screen. ( Pg. 36)


- This terminal also outputs the B&W/Color signal. [Open-collector L signal. Maximum voltage 25 V, current 30 mA]
- When switching B&W/Color using the control signal, the signals are input through this terminal. [B&W: MAKE, Color: BREAK]

13 [VIDEO OUT] Video signal output connector


This connector outputs a composite video signal. Connect this to the video input connector of a video monitor, switcher and the like.

14 [SELECTOR/SET] Selector switch/Set button

This allows user to select menu screens and change or confirm settings.
( Pg. 32)

**Press the SELECTOR switch up (▲) and hold for 1 second to set to [FOCUS ADJUST MODE] and open the lens iris for easy focusing.
(As the depth of object field is lower, focus can be adjusted accurately.)**
( Pg. 26)

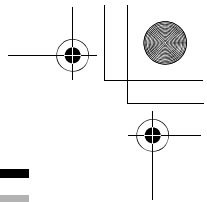
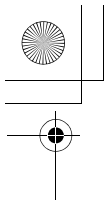
15 [MENU] Menu button

When pressed, a menu screen is brought up. ( Pg. 32)

16 [INT,LL] Selector Switch for Synchronizing System

This switch sets the synchronizing system for the camera.

- INT : This is set for internal synchronization (INT).
- LL (Line Lock) : This is set to synchronize the camera's vertical synchronization to the power frequency.
(Default setting: INT)



Introduction

Name of Parts and their Functions (continued)

17 [POWER] Power indicator lamp

This lamp lights up when power is supplied to the camera.

18 Mounting Screw for Fall Prevention Wire

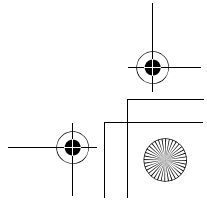
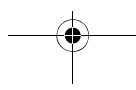
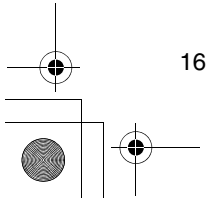
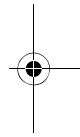
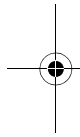
Use this screw when mounting the fall prevention wire to this unit.
(Fall prevention wire is not supplied with this product.)

Note:

- Connect the fall prevention wire to prevent this unit from falling accidentally.

19 AC 220 V–240 V power cord

This connects the camera to a commercial AC 220 V-240 V socket.



Setup

Flow for Connection/Settings

Follow the procedures below to connect/set this unit.
Turn off the power of devices to be used before connecting the cables.

step 1 **Mounting the lens (Pg. 18)**
Mount the lens.



step 2 **Connecting the back panel (Pg. 20)**
Connect the control signal cable, video signal coaxial cable and the like.



step 3 **Mounting the camera (Pg. 23)**
Mount the camera to the mounting location.



step 4 **Adjusting the back focus (Pg. 26)**
Adjust the back focus.



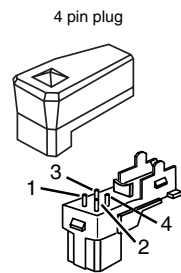
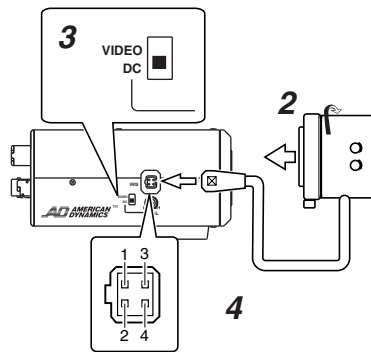
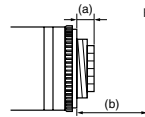
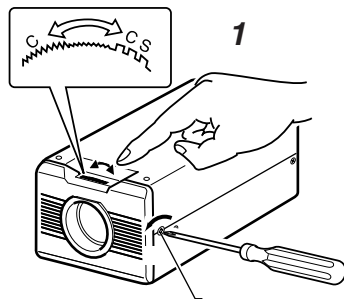
step 5 **Adjusting the lens (Pg. 28)**
Adjust the lens.



step 6 **Adjusting the auto white balance (Pg. 30)**

Setup

Mounting the lens



1. Check the mounting method of the lens before mounting

- This camera is set to CS-mount lens before shipment. To use a C-mount lens, loosen the back focus locking screw with a screwdriver, turn the back focus adjustment ring with your finger or the screwdriver and change the mounting method.
- For the dimension (a) of the lens mounting section as illustrated in the diagram, use the value that is shown in the table below.

Note:

- Never use one that exceeds the dimension (a) as it will damage the inner part of the camera and will not allow normal installation. This will result in a malfunction.

Lens	Flange back (b)	Dimension (a)
C-mount lens	17.526 mm	5.5 mm or less
CS-mount lens	12.5 mm	

2. Turn the lens clockwise and mount it securely on the camera.

3. For an autoiris control lens, select the switch on the side of this camera according to the lens used.

VIDEO : When using a lens with a built-in EE amplifier

DC : When using a lens without a built-in EE amplifier

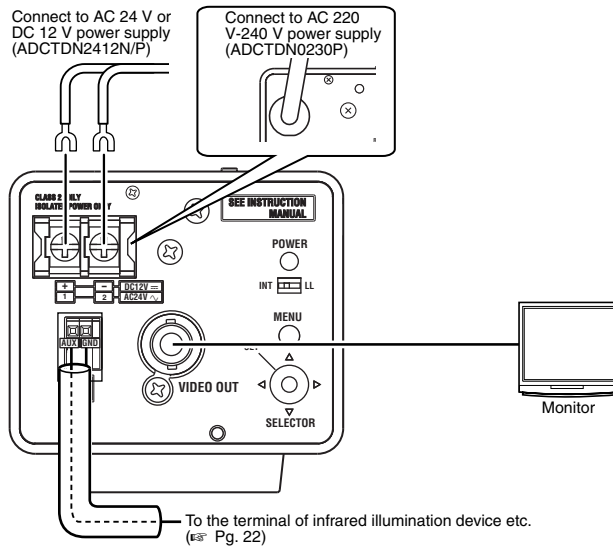
4. In the case of an autoiris control lens, check the pin arrangement and connect the lens cable to the socket.

■ 4 pin plug

Pin number	DC IRIS lens (Without built-in EE amplifier)	VIDEO IRIS lens (With built-in EE amplifier)
1	Brake (-)	9.0 V (Max. 50 mA)
2	Brake (+)	NC
3	Drive (+)	VIDEO
4	Drive (-)	GND

Setup

Connecting the back panel



When you install in a place where noise tend to appear, please use a cable with a shield. A shield cable should be connected to a GND terminal.

Memo:

- Turn off the power of devices to be used before connecting the cables.
- Read through the "Instruction Manual" of the devices to be used carefully before connecting.

Connecting the power cable

■ **ADCTDN2412 (AC24 V or DC12 V)**

Connect the AC 24 V or the DC 12 V power cord to the power input terminal. To prevent connection errors or a cable disconnection, we recommend the use of lug plates.



The following table shows the connection distances when 2-core VVF (vinyl-insulated vinyl sheath cables) are used.

Maximum connection distance	60 m (197 ft)	150 m (492 ft)	240 m (787 ft)	380 m (1247 ft)
Conductor diameter	AWG18 (ø1.0 mm) and more	AWG14 (ø1.6 mm) and more	AWG12 (ø2.0 mm) and more	AWG10 (ø2.6 mm) and more

Note:

- If thin cables are used, the resistance of the cables will be high and a significant voltage drop will occur when the camera is at its maximum power consumption. Either use a thick cable with low resistance or place the power supply near to the camera and shorten the length of the cable to restrict the voltage drop at the rated current of camera to below 10 %. If voltage drop occurs during operation, the performance will be unstable.
- Do not connect an AC 24 V cable to a commercial power supply. The camera will be damaged. If the wrong cable is connected, the internal circuit may be damaged. Do not use the camera. Bring it to your nearest American Dynamics dealer for inspection.

■ **ADCTDN0230P (AC 220 V–240 V)**

Connect the power supply cable to the AC 220 V–240 V power supply.

Note:

- When you use this camera, the socket - outlet must be installed near the equipment to make disconnect on easily.

Video signal coaxial cable

Use either RG-59 or RG-11 coaxial cable (BNC). Do not use other cables.

Setup

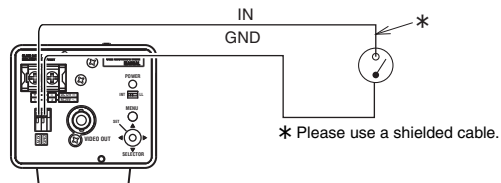
Connecting the back panel (continued)

Connecting alarm input/output terminal

■ Alarm input terminal

Connect infrared sensor, door sensor, metal sensor or sensor of manual switch and the like.

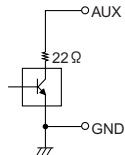
- To prevent noise from entering the internal circuit, supply non-voltage setting signal.
- Do not supply voltage.
- Can be set via menu whether to set to alarm when the contact is short (MAKE), or when the contact is open (BREAK). (Pg. 37)
- Supply such that the alarm signal continues for more than 200 ms. The recognition of alarm signal may not be guaranteed if less than 200 ms.



■ Alarm output terminal

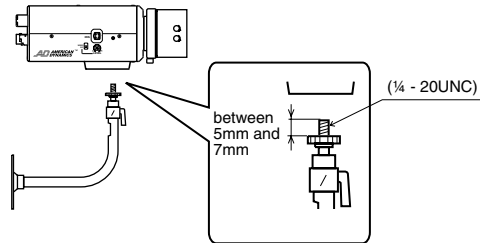
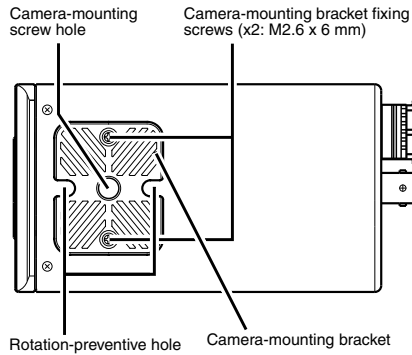
Connect to alarm devices such as alarm, indicator, light or buzzer.

- Open-collector Low signal.
- Maximum voltage 25 V, current 30 mA.



Mounting the camera

When mounting the camera on a mount, pan/tilt and the like, use the camera-mounting screw hole located on the camera-mounting bracket.



Note:

- Use a camera-mounting screw with a length between 5mm and 7mm from the camera-mounting face. Do not use a screw that is longer than the specified length. It may damage the internal parts.

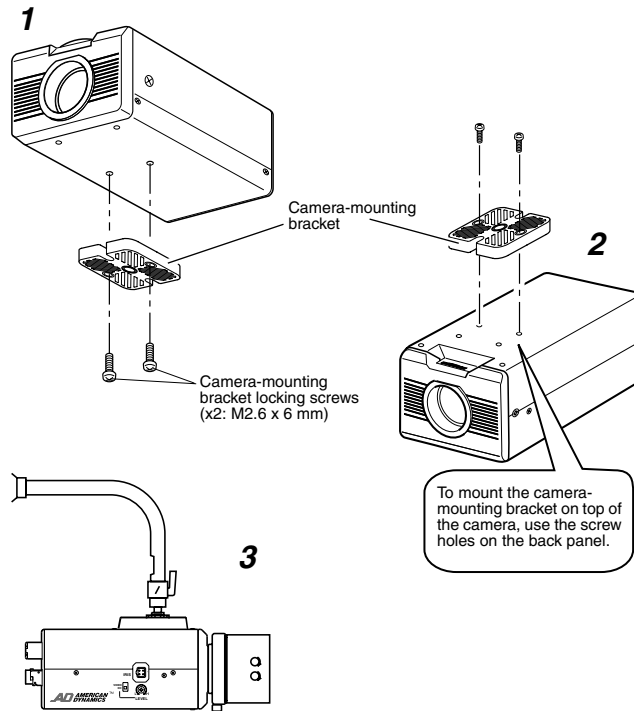
Setup

Mounting the camera (continued)

Mounting the camera-mounting bracket on top of the camera

The camera-mounting bracket is originally mounted at the bottom of the camera before shipment but it can also be mounted on top of the camera.

- Ask a professional to replace the camera-mounting.



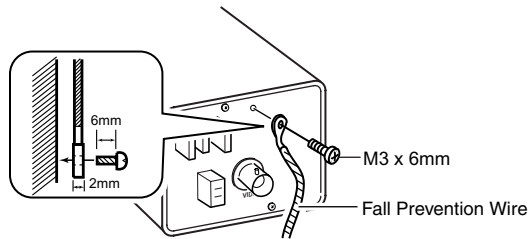
- 1. Remove the camera-mounting bracket locking screws (x2).**
The camera-mounting bracket is removed from the camera.
- 2. Mounting the camera-mounting bracket on top of the camera**
- 3. Mounting the camera onto a mount, pan/tilt unit and the like**

Note:

- Use a camera-mounting screw with a length between 5mm and 7mm from the camera-mounting face. Do not use a screw that is longer than the specified length. It may damage the internal parts.
- To mount the camera-mounting bracket on top of the camera, use the screw holes on the back panel.

Fall Prevention

Use the black mounting screw on the back of the camera to install the fall prevention wire



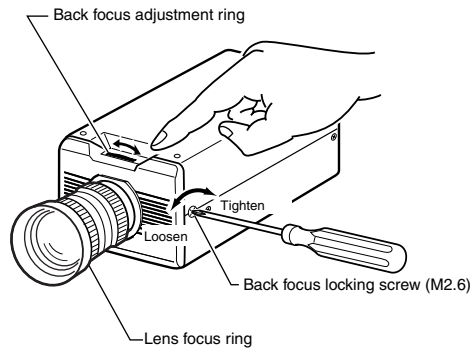
Precautions regarding fall prevention

- Special attention is required when installing the camera to the wall or ceiling. You should not engage in the installation work yourself. Ask a professional to do the job, since a falling camera can result in injuries and accidents.
- When installing the camera on a mount, pan/tilt unit and the like, make sure to install it firmly using a rotation-preventive hole to prevent fall.
- To prevent fall, connect the camera to a section with sufficient strength (ceiling slab or channel) using a fall prevention wire.
- Pay attention to the length, strength, routing and material (insulation properties) of the fall prevention wire used.
- Use the black screw (M3 x 6 mm) on the back of the camera for the installation of the fall prevention wire. Using other screws of different sizes may damage the inside.
- Before use make the fall prevention wire as short as possible.
- Use a fall prevention wire of sufficient strength and terminal treatment to support the weight of the camera, lens and fixer.

Setup

Adjusting the back focus

This camera is adjusted to a optimum wide range for CS-mount lens before shipment but readjustment is required when using zoom lens or C-mount lens or when the lens focus ring is out of focus. Use the following methods to adjust the back focus.



With a fixed-focus lens

If the focus cannot be adjusted correctly with the lens focus ring, adjust the back focus as follows.

1. Loosen the back focus locking screw by turning it anti-clockwise with a + screwdriver.
2. Shooting an object or a picture with fine patterns that is away from the object
3. Turn the lens focus ring to ∞ .
4. Turn the back focus adjustment ring to focus at the best point.
5. Tighten the back focus locking screw by turning it clockwise.

With a zoom lens

If the image is out of focus when zooming (telephoto - wide angle), adjust the camera as follows.

1. Loosen the back focus locking screw by turning it anti-clockwise with a + screwdriver.
2. Shooting an object or a picture with fine patterns that is away from the object
3. Zoom to the maximum telephoto position and turn the lens focus ring to adjust the focus.
4. Zoom to the maximum wide angle position and turn the back focus adjustment ring to adjust the focus.
5. Repeat steps 3 and 4 two or three times, until in focus both at wide and telephoto.
6. Tighten the back focus locking screw by turning it clockwise.

Note:

- In the case of B&W/Color mode, the lens performance may cause the image to be out of focus when the illumination of the object is near-infrared light. In such a case, use a lens that is compatible with near-infrared light.

Memo:

- Focus setting may differ on the color and on the black and white screen. Make adjustments so that the focus will come to the optimum on both screens.
-

Setup

Adjusting the lens

After the connection is complete, turn on the camera, display an image on the monitor and check the video image.

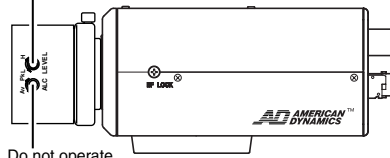
In the case of an autoiris control lens, the camera has been factory-adjusted to the best position, but it may need to be adjusted according to the condition of the object or the lens combination. If the image is unnatural, adjust it.

- Also read the instruction manual of the lens.

■ With a VIDEO autoiris lens (Autoiris control lens with built-in EE amplifier)

Set the switch at the side of the camera to "VIDEO" and adjust the LEVEL dial on the lens.

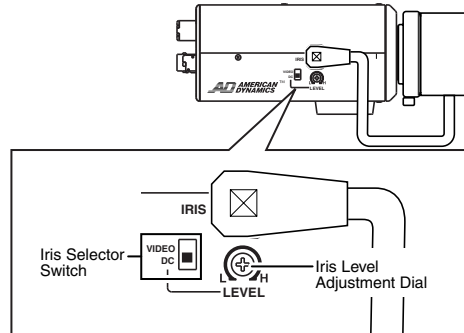
LEVEL adjustment



Do not operate

■ With a DC autoiris lens (Autoiris control lens without built-in EE amplifier)

Set the Iris Selector Switch at the side of the camera to "DC" and adjust the LEVEL with the Iris Level Adjustment Dial at the side of the camera.



● **LEVEL adjustment**

Monitor screen	LEVEL adjustment direction
To darken	Anti-clockwise (Towards L)
To brighten	Clockwise (Towards H)

Memo:

- If the LEVEL sensitivity adjustment is turned excessively to L, the sensitivity increases because of the AGC function of the camera and the image looks grainy.
- Depending on the lens used, if the LEVEL dial is turned excessively to L, the hunting phenomenon (floppy screen) where the iris opens and closes involuntarily may occur. In such a case, first set the LEVEL dial to the H position, and then readjust the LEVEL dial while checking the video signal.
- To adjust the focus accurately, open the lens iris. Below is how to open the lens iris for autoiris lens.
 - Press the [SELECTOR] switch on the back panel up (▲) for 1 second. [FOCUS ADJUST MODE] is displayed on the monitor screen.
 - When the focus adjustment is completed, press either [SELECTOR] switch (▲, ▼, ◀, ▶), [MENU] or [SET] button. [FOCUS ADJUST MODE] display disappears and the lens iris returns to original state.

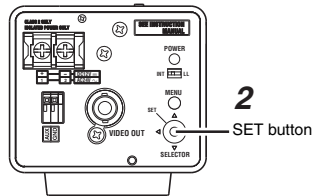
Setup

Adjusting the AWC (one touch manual balance)

Each light source has its own color temperature. Therefore, when the main light source lighting an object is changed, press the SET button for a while and adjust the AWC again.

Note:

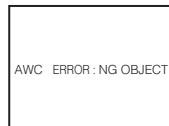
- This is a fixed setting and will not be changed in a change in the surrounding light conditions.



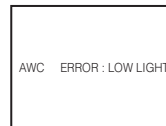
3



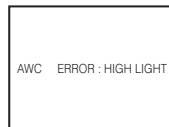
■ Error display



Object error



Insufficient Illumination



Excessive Illumination

1. Place a white object at the center of the screen, under the same lighting condition as the object to be shot and zoom in to fill the screen with white.

2. Press the SET button for approx. one second.

AWC adjustment begins. During operation, "AWC OPERATION" is displayed on the screen.

3. Adjustment is complete.

When the appropriate white balance is acquired, "AWC OK" is displayed.

■ **Error display**

When AWC adjustment is not successful, the following messages will be blinking on the monitor.

AWC ERROR : NG OBJECT (Object error)

Displayed when there is not enough white color on an object or the color temperature is not suitable.

Shoot a white object to fill the screen thoroughly and adjust the white balance again.

AWC ERROR : LOW LIGHT (Insufficient Illumination)

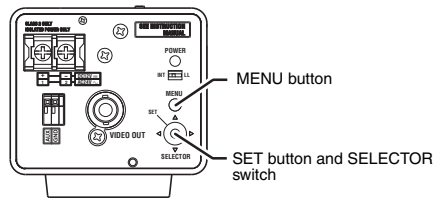
Displayed when the light is low. Increase the illumination, then readjust the white balance.

AWC ERROR : HIGH LIGHT (Excessive Illumination)

Displayed when the light is too bright. Decrease the illumination, then readjust the white balance.

Setting

Menu basic operation

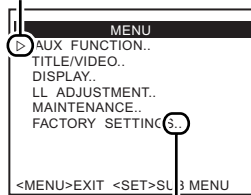


1. Press the MENU button

The MENU screen is displayed.

2. Press the SELECTOR switch up and down (▲, ▼) to set the cursor (>) to a desired menu.

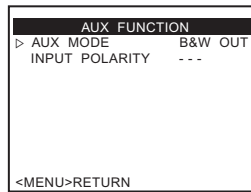
Cursor



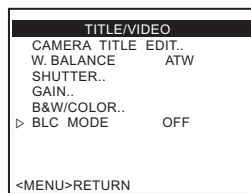
Sub-menu
(indicated by ... at the end.)

3. Press the SET button

The selected sub-menu screen is displayed.



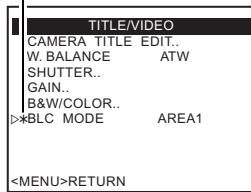
4. Press the SELECTOR switch up and down (▲, ▼) to set the cursor (▷) to a desired item.



5. Press the SELECTOR switch left or right (◀, ▶) to change the setting.

When a setting has been changed, a change mark (✱) is displayed.
The change mark (✱) disappears when the changed setting is saved.

Change mark (✱)



Memo:

- To change the settings of multiple items, repeat steps 4., 5..

6. Press the MENU button.

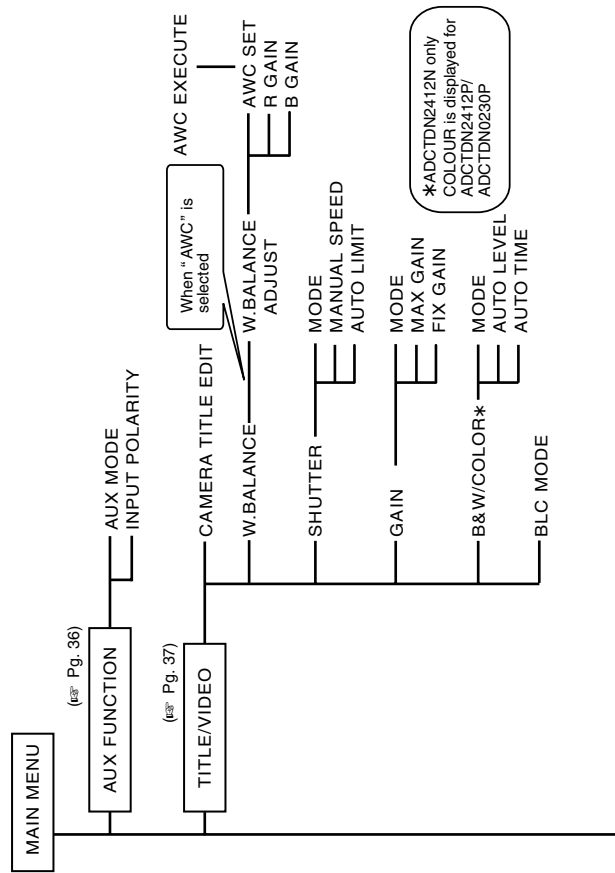
The screen returns to the previous one (MENU screen).

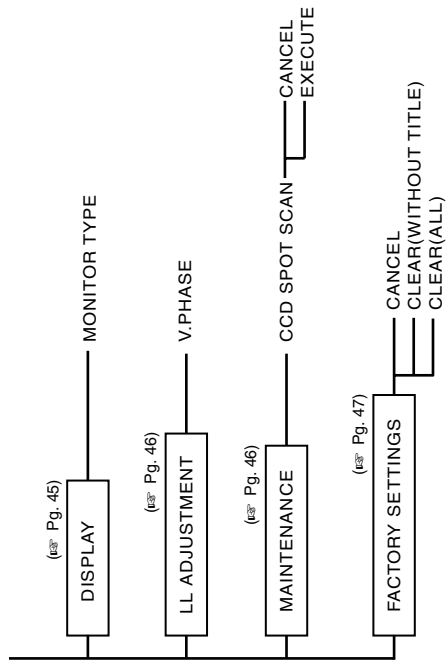
7. Press the MENU button again.

The screen returns to the normal screen (without the menu display).

Setting

The flow of menu screen





Setting

AUX FUNCTION screen

Item	Functions and settings
AUX MODE	<p>This item sets the signal input or output of the AUX terminal.</p> <p>B&W OUT : A signal is output when the camera switches to B&W or Color mode.</p> <p>IR IN : Depending on the input signal of the AUX terminal, the camera can switch between B&W and Color mode. When there is an alarm input, the mode will be B&W.</p> <ul style="list-style-type: none"> ※ When the INPUT POLARITY item of the AUX FUNCTION is "MAKE" When the contact is short (MAKE), the mode is B&W. When the contact is open (BREAK), the mode is Color. ※ When the INPUT POLARITY item of the AUX FUNCTION is "BREAK" When the contact is open (BREAK), the mode is B&W. When the contact is short (MAKE), the mode is Color. <p>[Default setting: B&W OUT]</p>

Item	Functions and settings
INPUT POLARITY	<p>This sets the polarity of the AUX input signal.</p> <p>MAKE : When the contact between all alarm input terminals and GND terminals changes from open to close, the alarm will activate.</p> <p>BREAK : When the contact between all alarm input terminals and GND terminals changes from close to open, the alarm will activate.</p> <p>[Default setting: MAKE]</p> <p>Memo:</p> <ul style="list-style-type: none"> When AUX MODE item is set to "B&W OUT", "--" will be displayed and settings is disabled.

TITLE/VIDEO screen

Item	Functions and settings
CAMERA TITLE EDIT	<p>This item sets the title to be displayed permanently on the lower part of screen. A maximum of 24 characters can be set for the title.</p> <p>"Camera title setting" (Pg. 48)</p>
W.BALANCE	<p>Select ATW or ATW wide for auto tracking white balance that respond to scene lighting changes. Select AWC when white balance is fixed and does not respond to scene lighting changes.</p> <p>Memo:</p> <ul style="list-style-type: none"> In B&W mode, "--" will be displayed and settings is disabled. <p>[Default: ATW]</p>
ATW	<p>This is the Auto-Tracking White Balance mode. (Automatic color temperature tracking.) The camera adjusts the white balance automatically according to the color temperature of the illumination.</p>
ATW(WIDE)	<p>This mode supports an even wider range of color temperature than ATW. Use this mode when white balance cannot be achieved using ATW mode.</p>

Setting

TITLE/VIDEO screen (continued)

Item	Functions and settings												
W.BALANCE	(continued)												
AWC (Manual WB)	<p>AWC SET: (one touch) The Auto White Control (automatic white balance adjustment) mode adjusts the white balance automatically and sets it not to react to any further scene lighting changes.</p> <table border="1"> <thead> <tr> <th>Display during AWC operation</th> <th>Meaning of display</th> </tr> </thead> <tbody> <tr> <td>AWC OPERATION</td> <td>AWC in operation</td> </tr> <tr> <td>AWC OK</td> <td>AWC completed normally</td> </tr> <tr> <td>AWC ERROR : NG OBJECT</td> <td>AWC completed outside range</td> </tr> <tr> <td>AWC ERROR : HIGH LIGHT</td> <td>AWC completed with overlighting</td> </tr> <tr> <td>AWC ERROR : LOW LIGHT</td> <td>AWC completed with low lighting</td> </tr> </tbody> </table> <p>R GAIN : Adjusts the R (red) hue during AWC. The larger the number, the redder the color becomes. [Setting:0 to 255]</p> <p>B GAIN : Adjusts the B (blue) hue during AWC. The larger the number, the bluer the color becomes. [Setting:0 to 255]</p>	Display during AWC operation	Meaning of display	AWC OPERATION	AWC in operation	AWC OK	AWC completed normally	AWC ERROR : NG OBJECT	AWC completed outside range	AWC ERROR : HIGH LIGHT	AWC completed with overlighting	AWC ERROR : LOW LIGHT	AWC completed with low lighting
Display during AWC operation	Meaning of display												
AWC OPERATION	AWC in operation												
AWC OK	AWC completed normally												
AWC ERROR : NG OBJECT	AWC completed outside range												
AWC ERROR : HIGH LIGHT	AWC completed with overlighting												
AWC ERROR : LOW LIGHT	AWC completed with low lighting												
SHUTTER	This item sets the electronic shutter.												
MODE	<p>Select the mode of the electronic shutter.</p> <p>MANUAL: This operates the shutter speed as set in the MANUAL SPEED option.</p> <p>AUTO : This automatically switches the shutter speed according to brightness. The fastest value of a shutter speed is set in the AUTO LIMIT item (Pg. 39).</p> <p>[Default setting: MANUAL] used for DACI lenses</p>												

Item	Functions and settings
SHUTTER	(continued)
MANUAL SPEED	<p>This sets a shutter speed when MANUAL mode is selected.</p> <p>ADCTDN2412N [Setting: NORMAL, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000] [Default setting: NORMAL]</p> <p>ADCTDN2412P/ADCTDN0230P [Setting: NORMAL, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000] [Default setting: NORMAL]</p> <p>Memo:</p> <ul style="list-style-type: none"> • When SHUTTER item is set to "AUTO", "-" will be displayed and settings is disabled.
AUTO LIMIT	<p>This sets the fastest value of a shutter speed when AUTO is set.</p> <p>ADCTDN2412N [Setting: 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/20000, 1/40000, 1/100000] [Default setting:1/100000]</p> <p>ADCTDN2412P/ADCTDN0230P [Setting: 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/20000, 1/40000, 1/100000] [Default setting:1/100000]</p> <p>Memo:</p> <ul style="list-style-type: none"> • When SHUTTER item is set to "MANUAL", "-" will be displayed and settings is disabled. • The higher the shutter speed becomes, the more smear phenomenon is emphasized, which is peculiar to the CCD.

Setting

TITLE/VIDEO screen (continued)

Item	Functions and settings
GAIN	This item sets the gain. Memo: <ul style="list-style-type: none"> ● If the gain is increased, the screen appears grainy in a dark place.
MODE	Select the gain adjustment mode. Sensitivity increases electronically for an object with low illumination. AGC (Automatic Gain Control) : This automatically adjusts the electronic gain according to the illumination of the object. FIXED (Fixed gain) : This operates in the gain set in the FIX GAIN item regardless of the illumination of the object. [Default setting: AGC] Memo: <ul style="list-style-type: none"> ● When the MODE item of B&W/COLOR is set to "AUTO", this item becomes AGC [(AGC) is displayed].

Item	Functions and settings
GAIN	(continued)
MAX GAIN	<p>This item sets a maximum gain of the AGC (Automatic Gain Control).</p> <p>0(OFF) : No AGC function.</p> <p>HIGH : Increase the gain up to a maximum of 26dB according to the illumination of an object.</p> <p>SUPER : Increase the gain up to a maximum of 32dB according to the illumination of an object.</p> <p>[Default setting: SUPER]</p> <p>Memo:</p> <ul style="list-style-type: none"> ● When the MODE item of B&W/COLOR is set to "AUTO", the MODE item becomes "AGC" [(AGC) is displayed] but "HIGH/SUPER" can be selected. When it is set to "0(OFF)", "HIGH" will be selected automatically. ● When MODE item is set to "FIXED", "- - -" will be displayed and settings is disabled.
FIX GAIN	<p>This sets the value of fixed gain when MODE is set to "FIXED".</p> <p>[Setting: 0 to 20]</p> <p>[Default setting: 10]</p> <p>Memo:</p> <ul style="list-style-type: none"> ● When MODE item is set to "AGC", "- - -" will be displayed and settings is disabled.

Setting

TITLE/VIDEO screen (continued)

The word "COLOR" display differs depending on the model.
 "COLOR" is displayed for ADCTDN2412N and "COLOUR" is displayed for
 ADCTDN2412P/ADCTDN0230P.
 From this point onwards, "COLOR" will be used for indication.

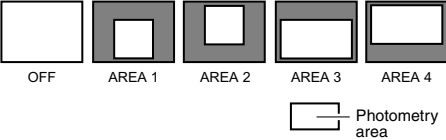
Item	Functions and settings						
B&W/COLOR (ADCTDN2412N) B&W/ COLOUR (ADCTDN2412P/ ADCTDN0230P)	This item sets the mode switching of B&W and Color. Memo: <ul style="list-style-type: none"> When switching the Color mode to B&W mode, the type of light source may cause the focus to shift. This is because the B&W mode is sensitive to both visible light and near-infrared light. When this happens, adjust the focus again in B&W mode or use a IR corrected lens (LIRC0308CS, LIRC2811CS, LIRC1040CS) to work in both visible and near IR light. Use infrared illumination if necessary. 						
MODE	This sets the function to switch from Color to B&W mode. The options change according to the setting of AUX MODE item in AUX FUNCTION (Pg. 36). <table border="1" data-bbox="647 1155 1094 1258" style="margin: 10px auto;"> <thead> <tr> <th>AUX MODE setting</th> <th>MODE options</th> </tr> </thead> <tbody> <tr> <td>IR IN</td> <td>(AUX IN)</td> </tr> <tr> <td>B&W OUT</td> <td>COLOR,B&W,AUTO</td> </tr> </tbody> </table> <p>COLOR : Sets the camera permanently to Color mode. B&W : Sets the camera permanently to B&W mode. AUTO : The camera automatically switches to Color mode when the object is bright and B&W mode when it is dark.</p>	AUX MODE setting	MODE options	IR IN	(AUX IN)	B&W OUT	COLOR,B&W,AUTO
AUX MODE setting	MODE options						
IR IN	(AUX IN)						
B&W OUT	COLOR,B&W,AUTO						

Item	Functions and settings
B&W/COLOR	(continued)
MODE (continued)	<p>[Default setting: AUTO]</p> <p>*Display for ADCTDN2412N. For ADCTDN2412P/ADCTDN0230P, COLOUR is displayed.</p> <p>Memo:</p> <p>To ensure a successful B&W/Color switching</p> <ul style="list-style-type: none"> • If the MODE item of B&W/COLOR is set to "AUTO", the B&W/Color setting can be switched according to the brightness of the object, but the condition of illumination and field angle may make this difficult. To be absolutely certain of B&W/Color switching, we recommend you to input signals of an external sensor (available separately) to the [AUX,GND] external terminal of this camera before switching. (☞ Pg. 54)

Setting

TITLE/VIDEO screen (continued)

Item	Functions and settings
B&W/COLOR	(continued)
AUTO LEVEL	<p>When the MODE item is set to "AUTO", this function sets the signal level of the object where the camera will switch to B&W mode.</p> <p>LOW : Switches to B&W mode when the signal level of the object indicates low illumination.</p> <p>NORMAL: Switches to B&W mode when the signal level of the object indicates normal illumination.</p> <p>HIGH : Switches to B&W mode when the signal level of the object indicates high illumination.</p> <p>[Default setting: LOW]</p> <p>*Display for ADCTDN2412N. For ADCTDN2412P/ADCTDN0230P, COLOUR is displayed.</p> <p>Memo:</p> <ul style="list-style-type: none"> • When MODE item of B&W/COLOR is set to "AUTO", " - - " will be displayed and settings is disabled.
AUTO TIME	<p>When the MODE item is set to "AUTO", this function sets the time required to switch to the B&W/Color mode.</p> <p>Example : When set to 30s, the camera will switch to B&W mode 30 seconds after it has become dark.</p> <p>[Setting: 5s,10s,20s,30s] [Default setting: 5s]</p> <p>Memo:</p> <ul style="list-style-type: none"> • When MODE item of B&W/COLOR is set to "AUTO", " - - " will be displayed and settings is disabled.

Item	Functions and settings
BLC MODE	<p>Sets the backlight compensation function. Set this item when there is a bright light source in the background of the object and the object becomes dark. Set such that unnecessary light source is outside the photometry area.</p> <p>OFF : No backlight compensation. AREA1 to AREA4 : Refer to the diagram below to set the item.</p> <p>[Default setting: OFF]</p> <div style="text-align: center;">  </div>

DISPLAY screen

Item	Functions and settings
MONITOR TYPE	<p>This sets the monitor type. You can change the output video settings according to the type of monitor used. Select an appropriate mode. [Setting: CRT,LCD1,LCD2] [Default setting: CRT]</p>

Setting

LL ADJUSTMENT screen

Item	Functions and settings
V.PHASE	<p>This adjusts the vertical synchronization to those other cameras when the INT-LL synch selector switch on the back of the camera is in "LL" mode.</p> <p>ADCTDN2412N This item can only operate in a region with a power frequency of 60 Hz. [Setting: -131 to 0 to 131] [Default setting: 0]</p> <p>ADCTDN2412P/ADCTDN0230P This item can only operate in a region with a power frequency of 50 Hz. [Setting: -156 to 0 to 156] [Default setting: 0]</p> <p>Memo:</p> <ul style="list-style-type: none"> When set to "INT", "--" will be displayed and settings is disabled.

MAINTENANCE screen

White spots may appear on the screen due to changes in properties with time. This is a general characteristic of CCDs. This camera has a built-in white spot compensation function to reduce these white spots.

Item	Functions and settings
CCD SPOT SCAN	<p>CANCEL : No white spot compensation. The screen returns to the main menu.</p> <p>EXECUTE : Starts CCD spot detection.</p> <p>Memo:</p> <ul style="list-style-type: none"> The white spot compensation function of this camera does not completely compensate white spots. Maximum number of compensation is 32. White spots may not be compensated due to its properties. As white spot compensation is interpolated from the surrounding pixels, the camera may not acquire accurate image information when the object has very fine pattern. The result of white spot compensation is maintained until the next compensation. Let the camera warm up for 30 minutes before executing.

FACTORY SETTING screen

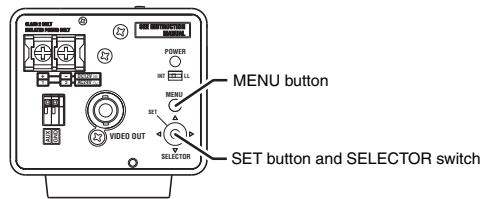
The values set on the menu are returned to the default settings.

Item	Functions and settings
CANCEL	Does not return to the default setting. The screen returns to the main menu.
CLEAR(WITH OUT TITLE)	Returns settings except titles to the default setting. Memo: _____ <ul style="list-style-type: none"> Once default setting is returned, the screen automatically returns to the main menu.
CLEAR(ALL)	Returns all settings including titles to the default setting. Memo: _____ <ul style="list-style-type: none"> Once default setting is returned, the screen automatically returns to the main menu.

Detailed setting

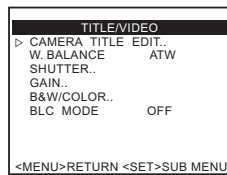
Camera title setting

A title can be selected for each camera. (Maximum 24 characters)

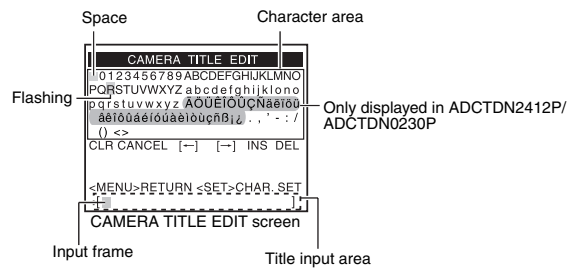


1. Select the item **CAMERA TITLE EDIT** on the **TITLE/VIDEO** screen and press the **SET** button.

The **CAMERA TITLE EDIT** screen is displayed.
The first character from the character area flashes on and off and is ready for input.



TITLE/VIDEO screen



2. Press the SELECTOR switch up, down, left or right (▲, ▼, ◀, ▶) and select a character from the character area.

The selected character is displayed flashing on and off.

3. Press the SET button

The first character is confirmed and the blinking title input area moves to the second character.

4. Repeat steps 2. to 3.

It is possible to use up to 24 characters to input the camera title.

5. Press the MENU button

The new camera title is saved and the top menu (TITLE/VIDEO screen) is displayed.

To set multiple camera titles, repeat steps 1. to 5.

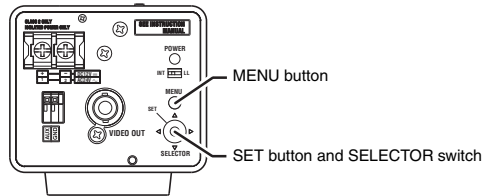
■ **How to operate**

Menu operation	State
CLR+SET	Clears all entered text.
CANCEL+SET	Cancels the edited setting and returns to the previous state.
[←]+SET	Moves the input frame of the title input area one step to the left.
[→]+SET	Moves the input frame of the title input area one step to the right.
INS+SET	Inserts one space and moves subsequent characters to the right.
DEL+SET	Deletes the character selected by the cursor and moves subsequent characters one step to the left.

Detailed setting

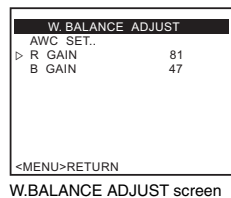
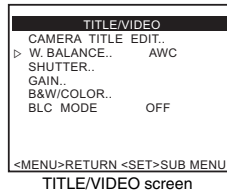
Manual adjustment of white balance

When automatic adjustment of the white balance results in a "reddish screen", adjust the white balance manually.



1. Set the **W.BALANCE** item on the **TITLE/VIDEO** screen to **"AWC"** and press the **SET** button.

The **W.BALANCE ADJUST** screen is displayed.



2. Press the SELECTOR switch up or down (▲, ▼) and select the hue to be adjusted (R GAIN or B GAIN).

3. Press the SELECTOR switch left or right (◀, ▶) to change the setting.

R GAIN : Adjusts the R (red) hue during AWC. The larger the number, the redder the color becomes.
[Setting 0 to 255]

B GAIN : Adjusts the B (blue) hue during AWC. The larger the number, the bluer the color becomes.
[Setting 0 to 255]

4. Press the MENU button

After the adjustment, press the MENU button to return to the TITLE/VIDEO screen.

Memo:

- When adjusting the hue, the screen will return to the TITLE/VIDEO screen if the mode is switched from Color to B&W. When this happens, any adjusted values will not be saved.

Detailed setting

Output of B&W/Color switching signal

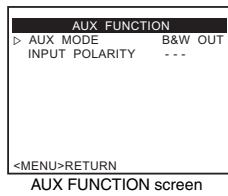
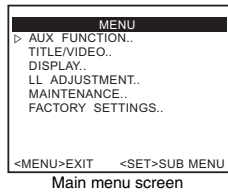
It is possible to output B&W/Color switching signal from the AUX terminal on the back of this camera.
B&W/Color switching signal is output by setting both the AUX MODE and B&W/COLOR items.

■ **Set the AUX MODE item to "B&W OUT"**

- 1. Select the item AUX FUNCTION on the main menu screen and press the SET button.**

The AUX FUNCTION screen is displayed.

- 2. Press the SELECTOR switch up or down (▲, ▼) and select AUX MODE.**
- 3. Press the SELECTOR switch left or right (◀, ▶) and set to B&W OUT.**



- 4. Press the MENU button twice.**

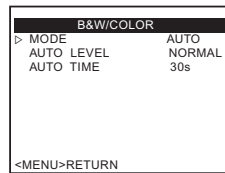
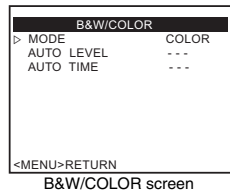
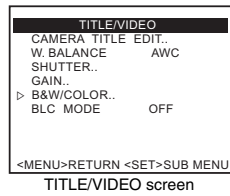
The setting is complete and the screen returns to the normal screen.

■ Set the B&W/COLOR item to AUTO

1. Select the item B&W/COLOR on the TITLE/VIDEO screen and press the SET button.

The B&W/COLOR screen is displayed.

2. Press the SELECTOR switch up or down (▲, ▼) and select MODE.
3. Press the SELECTOR switch left or right (◀, ▶) and set to AUTO.



4. Press the MENU button twice.

The setting is complete and the screen returns to the main menu.

Memo:

- When near-infrared illumination is used, a B&W screen may switch to a color screen if the object reflects light excessively. To perform switching with higher accuracy, we recommend that you use the settings mentioned in "Control by B&W/Color switching signal from external" (Pg. 54).
- In the case of B&W/Color mode, the lens performance may cause the image to be out of focus when the illumination of the object is near-infrared light. In this case, use a lens that is compatible with near-infrared light.

Detailed setting

Control by B&W/Color switching signal from external

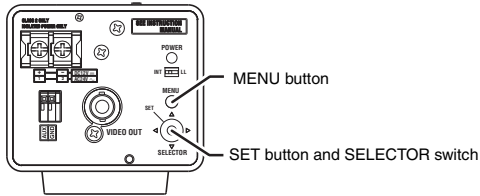
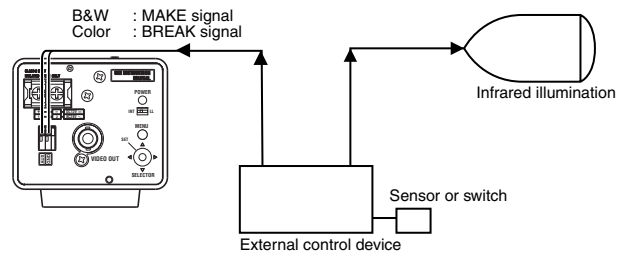
You can use the switching signal from an external control device to link the B&W/Color switching or near-infrared illumination of this camera.

Consult your nearby American Dynamics dealer on the connecting devices.

Example)

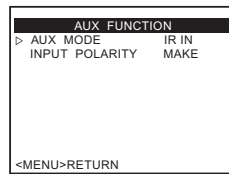
AUX MODE : IR IN

INPUT POLARITY : In the case of MAKE (Pg. 36)



■ When performing only B&W/Color mode switching without changing other video settings

1. Select the item AUX MODE on the AUX FUNCTION screen.
2. Press the SELECTOR switch left or right (◀, ▶) and set to "IR IN".



AUX FUNCTION screen

Memo:

- In the case of B&W/Color mode, the lens performance may cause the image to be out of focus when the illumination of the object is near-infrared light. In this case, use a lens that is compatible with near-infrared light.

Others

Specifications

■ Camera

Video standard

ADCTDN2412N : NTSC
ADCTDN2412P/ADCTDN0230P
: PAL

Image pickup device

: 1/3 type IT CCD

Scanning frequency

ADCTDN2412N : 15.734 kHz (horizontal), 59.94 Hz (vertical)
ADCTDN2412P/ADCTDN0230P
: 15.625 kHz (horizontal), 50 Hz (vertical)

Effective pixels

ADCTDN2412N : 380,000 pixels, 768 (H) x 494 (V)
ADCTDN2412P/ADCTDN0230P
: 440,000 pixels, 752 (H) x 582 (V)

Synchronization method

: Internal (INT)/Power synchronization (LL)

Video S/N ratio

: 50 dB (Standard, AGC OFF, White 50 % output)

Horizontal resolution

: 540 TV lines (standard)

Video output

: VBS 1 V (p-p) ,75 Ω

Minimum illumination

Color mode : 0.4 lx (F1.2, AGC SUPER)
B&W mode : 0.02 lx (F1.2, AGC SUPER)

■ **Lens**

Lens Mount : C/CS mount

■ **General**

Power supply

ADCTDN2412N : AC 24V 60 Hz (+33% -15%), DC 12V (±15%)
ADCTDN2412P : AC 24V 60 Hz (+33% -15%), DC 12V (±15%)
ADCTDN0230P : AC187V-276V 50Hz/60 Hz

Power consumption

ADCTDN2412N : 4.8 W
ADCTDN2412P : 400 mA
ADCTDN0230P : 75 mA

Ambient temperature

Operation : -10 °C to 50 °C (14 °F to 122 °F)

Humidity

:<90% (non-condensing)

Weight

ADCTDN2412N/P: Approx. 480 g
ADCTDN0230P : Approx. 700 g

Accessories

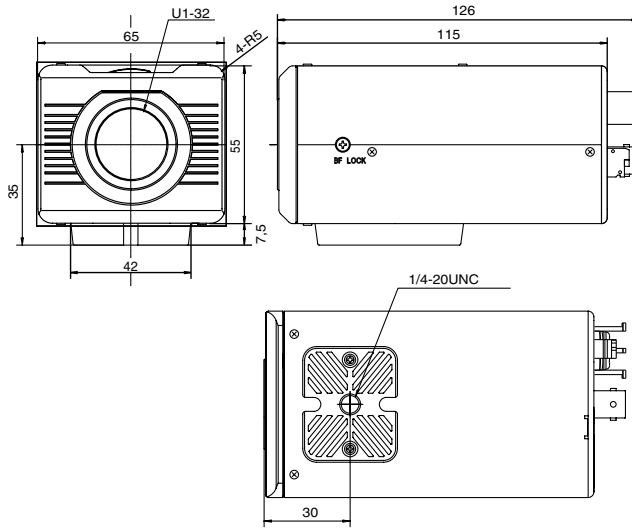
ADCTDN2412N : Instructions 1
ADCTDN2412P/ADCTDN0230P : Instructions 2

Others

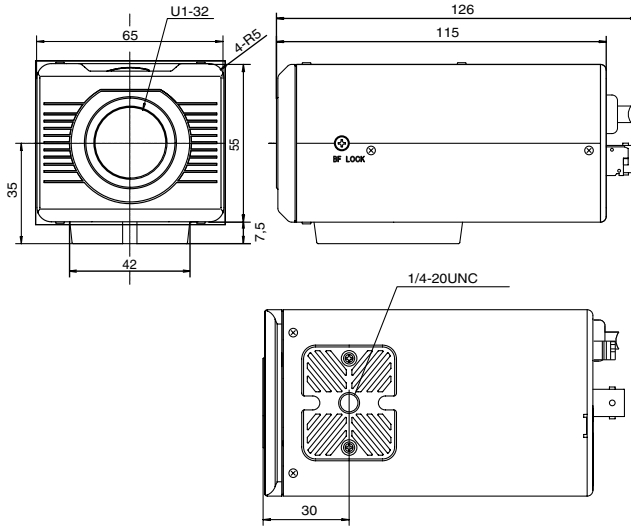
Specifications (continued)

■ Dimensions [Unit: mm]

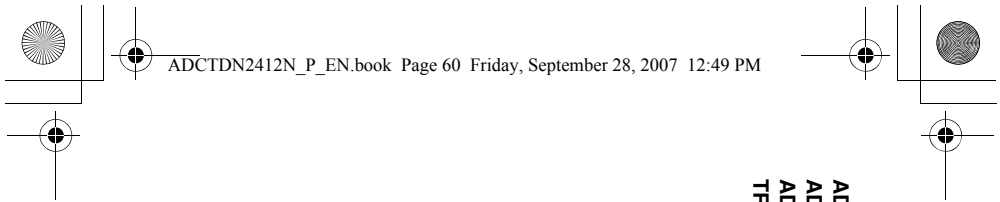
ADCTDN2412N



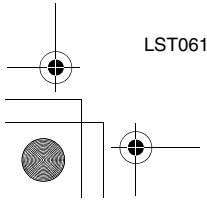
ADCTDN0230P



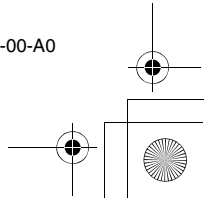
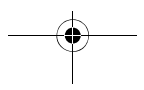
* Specifications and appearance of this camera and related products are subject to change for improvements without notice.



ADCTDN2412N
ADCTDN2412P
ADCTDN0230P
TRUE D/N CAMERA



LST0617-001A



8200-0852-00-A0

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