FUJITSU

INSTRUCTION MANUAL

CCD CAMERA

CG-512 Series

CG-532 Series

WARNING - TO PREVENT RISK OF FIRE OR SHOCK, DO NOT EXPOSE THIS CAMERA TO RAIN OR MOISTURE.

PRECAUTION :
DO NOT REMOVE ANY COVER WHILE THE CAMERA IS OPERATING.
PAL : USE ONLY RECOMMENDED POWER SUPPLY, 230 VAC (195.5 to 264.5 VAC) 50 Hz.

CAUTION :
LENS MOUNT OF THE CAMERA IS "CD" MOUNT.
CAMERA LENS MOUNT IS SHALLOW, SOME CAMERA LENSES MAY BOTTOM OUT AND DAMAGE TO THE CCD IMAGER.
DO NOT TOUCH THE CCD GLASS SURFACE.
THE CAMERA MUST BE INSTALLED NEAR A SOCKET-OUTLET WHICH COULD BE EASILY ACCESSIBLE.

Device noise information regulation -3.GPSGV, according to EN ISO7779, Max noise is not higher than 70 dB(A).

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.

GRAPHIC SYMBOL EXPLANATION
The lighting flash with an arrow- head symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products 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.

CONTENTS

IMPORTANT SAFEGUARDS

1. Read Instructions–All the safety and operating instructions should be read before the camera is operated.

2. Retain Instructions–The safety and operating instructions should be retained for future reference.

3. Heed Warnings–All warnings on the camera and in the operating instructions should be adhered to.

4. Follow Instructions–All operating and use instructions should be followed.

5. Cleaning–Unplug the power unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6. Attachments–Do not use attachments not recommended by your appliance dealer, as they may cause hazards.

7. Water and Moisture–Do not use the camera in any location in which it may be exposed to water or moisture.(Ex. Dripping, splashing, liquid near equipment etc.)

8. Accessories–Do not place the camera on an unstable cart, stand, tripod, bracket, or table. The camera may fall, causing serious injury to a child or adult, and serious damage to the camera. Use only with mounting accessories recommended by your appliance dealer or sold with the camera. Any mounting of the camera should follow your appliance dealers instructions.
∗ It installs in the place which can withstand by three times over of total weight(contain lens and camera mount adapter etc.)

9. An appliance and cart combination should bemoved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to over turn.

PORTABLE CART WARNING
(Symbol provided by RETAC)

S3125A

10. Ventilation–The camera should never be placed near or over a radiator or heat register.
The camera should not be placed in a built-in instalation such as a bookcase or rack unless proper ventilation is provided or your appliance dealers instructions have been adhered to.

11. Power Sources–The camera should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your installation site, consult your appliance dealer or local power company. For cameras intended to operate from battery power, or other sources, refer to the operating instructions.

12. Power-Cord Protection–Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the camera.

13. Lightning–For added protection for the camera 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 cable system. This will prevent damage to the camera due to lightning and power-line surges.

14. Overloading–Do not overload wall outlet and extension cord, as this can result in a risk of fire or electric shock.

15. Object and Liquid Entry–Never push objects of any kind into the camera through openings, 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 camera.

16. Servicing–Do not attempt to service the camera yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

17. Damage Requiring Service–Unplug the power unit from the wall outlet. Refer servicing to qualified service personnel under the following conditions.
 a. When the power-supply cord or plug is damaged.
 b. If liquid has been spilled, or objects have fallen into the camera.
 c. If the camera has been exposed to rain or water.
 d. If the camera does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often re-quire extensive work by a qualified technician to restore the camera to its nor-mal operation.
 e. If the camera has been dropped or the cabinet has been damaged.
 f. When the camera exhibits a distinct change in performance. This indicates a need for service.

18. Replacement Parts–When replacement parts are required, be sure the service technician has used replacement parts specified by qualified dealer or that have the same characteristics as the original part.
Unauthorized substitutions may result in fire, electric shock or other hazards.

19. Safety Check–Upon completion of any service or repairs to the camera, ask the service technician to perform safety checks to determine that the camera is in proper operating condition.

INTRODUCTION

Thank you for purchasing this product. This product is a multiple function and a high quality CCD camera developed considering a high-end security.

The following functions are built-in:

(1) On Screen Display function (Only Day & Night model (CG-512))

(2) High Quality picture

(3) Small Size

CAUTIONS FOR OPERATION

Do not touch the photoconductive surface of the CCD imager element. Scratches may occur.
If dust sticks on the surface, wipe it off softly with a lens cleaning paper.

Do not use this camera outdoors.
Avoid places where an inflammable gas or a corrosive atmosphere exists.

If the camera case becomes dirty, wipe off with a soft dry cloth. For the large dirt on the case, wipe it off using a soft cloth moistened a neutral detergent diluted with water and wipe again with the dry cloth. Never use alcohol, benzine or other volatile solutions.

Don't image excessive light sources (sunlight etc.) for many hours.
If CCD imager element is exposed to ultraviolet rays for many hours, the filter color on the surface of CCD imager element fades. Don't image sunlight or illumination directly, when a camera is left as it is. Don't image sunlight or illumination directly, even if the power is turned off.

White spots may appear on the screen. However this is not a failure.

EXTERNAL CONTROLS AND CONNECTORS

TOP/FROMT VIEW

BACK VIEW
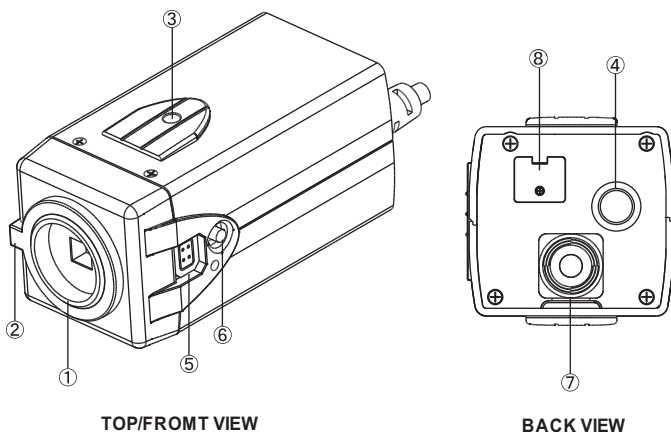
Fig.1

①**Lens Mount**
The camera has a standard CS lens mount but can use a C-mount lens when a C/CS-mount adapter is installed between the lens and camera.

②**Back Focus Lock Screw**
Loosen to adjust the back focus to match the lens attached to the CS mount. Refer to the section on Back Focus Adjustment in this manual.

③**Camera Mounts**
Top or bottom mounting. Maximum thread length is 3/16-inch. Attach the camera mount adapter to extend hread depth to a standard 1/4-inch.

④**Video Output Connector**
This coaxial connector (BNC type) outputs the video signals.

⑤**Lens Connector**
Four-pin DC-control connector for auto iris lens. Refer to the section on Lens in this manual for pin connections.

⑥**Setup Switch**
This is the switch to display and operate the menu when OSD function is used.
It is used for the selection of ON or OFF. Refer to the section on Setting Operation in this manual.

⑦**Power Input**
Power cord: 230VAC for PAL model.

⑧**External Control Input Terminal** (Only Day & Night model (CG-512))
This is the control signal input terminal for DAY&NIGHT function.

LENS

This camera can accommodate Video signal control and DC voltage drive auto-iris lens.
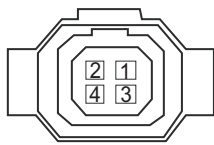
ELECTRONIC CONNECTIONS
Table.1 shows wiring scheme for the 4pin Auto iris connector.

CAUTION:
The output power for auto-iris lens is +9VDC and the maximum current capacity is 40mA.
When using an auto-iris lens requiring voltage and current other then specified, supply lens power only from an external power supply.

Table1

PIN	VIDEO SIGNAL CONTROL	DC VOLTAGE CONTROL
1	+9 VDC (40 mA max.)	Control coil (-)
2	+9 VDC (40 mA max.)	Control coil (+)
3	AI-Video	Drive coil(+)
4	GND	Drive coil(-)

Fig.2

MECHANICAL CONNECTION
Before mounting any lens onto this camera, check that the rear lens dimensions do not exceed the following maximum length, otherwise CCD imager could be damaged. The camera is shipped, ready to accept "CS" type lens. If standard "C"-mount lens are to be used, it is necessary to install the "C-mount Adapter" ring first, then the lens.

X
CS = 0.2"(6mm)
C = 0.4"(10mm)

LENS   "X"
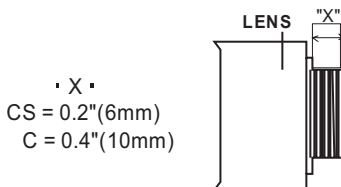
Fig.3

BACK FOCAL LENGTH ADJUSTMENT

The camera has been factory-adjusted for the proper back focal length using a standard CS Mount lens. However, when the lens is mounted, it may be necessary to readjust back focal length to match the lens being used.

ALLEN WRENCH

10mm

50mm

Approx.15

Fig.4

CAMERA
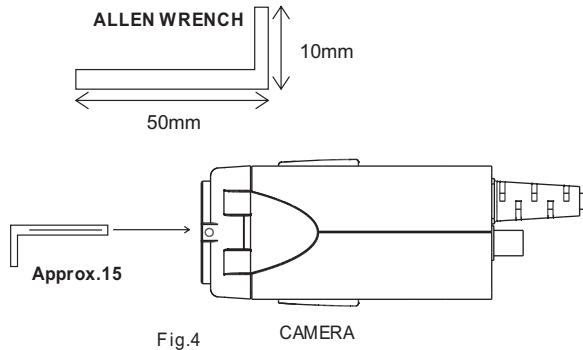
CAUTION :
If the back focus locking screw is tightened too strong, the thread section of "Lens Mount" may be damaged.
To tighten the back focus locking screw, use a 1.5 mm ALLEN WRENCH.
Hold the short side of the handle (as shown in Fig.4), and turn it clockwise lightly to the stop position. Turn a little more (approx. 15 degrees) from this position.

For zoom lens:
1. With the camera in operation, view an object at least 70 feet (25 m) away.
2. Make sure the lens iris is wide open.
3. Set LENS FOCUS to FAR position.
4. Adjust lens ZOOM to WIDE angle. (Wide field of view)
5. Loosen the back focus lock screw at the side of the camera using a 1.5 mm ALLEN WRENCH.
   Turn the lens mount to obtain the sharpest image on the monitor.
   Then tighten the back focus locking screw clockwise. (See Fig.1 for location.)
6. Move lens ZOOM to TELEPHOTO. (Smallest field of view)
7. Adjust LENS FOCUS (by the controller) for best picture.

LENS ADJUSTMENT

Before using a DC voltage drive auto-iris lens, do the DC IRIS LEVEL.
Refer to the section on Setup Items on this manual in details.

AC POWER CONNECTION

A main supply of 230VAC (195.5 to 264.5 VAC) 50Hz is required.
This main supply must also have a minimum rating of 50mA. Insert the plug of the power cord into a 50Hz electrical outlet (with ground).

CAUTION :
Disconnect the plug of the power cord during installation.

SETUP MENU

This product built in OSD function andcan customize the camera setting.
The menu list is shown in the following.

```
MODE  SELECT

STANDARD
DAY&NIGHT *
CASINO
USER MODE


RETURN        END
```

```
MAIN  MENU

MODE  SELECT              →
EXPOSURE  SET.            →
FUNCTION  SET.            →
MODE  SAVE               →
BLEMISH  COMPENSATION     →
INITIALIZE               →
FIRMWARE  VERSION         →

              END
```

```
EXPOSURE SET.

AE  MODE        →  ESC
ECLIPSER        →
DC  IRIS LEVEL  →  -8
FLICKERLESS     →  OFF
AGC             →  LOW
DAY&NIGHT       →  AUTO *
DETECT TIME     →  5SEC *
FILTER LIMIT    →  10MIN *
```

NEXT PAGE

```
BLEMISH  COMPENSATION

COVER  THE  LENS

OK         CANCEL
```

```
FUNCTION  SET.

SYNC  SELECT              →
WHITE  BALANCE           → AUTO
CHROMA                   →
GAMMA                    → 0.6
APERTURE                 → SHARP
CABLE  COMPENSATION      → SHORT
MASKING                  →
TITLE                    →

RETURN        END
```

NEXT PAGE

```
INITIALIZE

ALL  SETTINGS  ARE
INITIALIZED

OK         CANCEL
```

```
MODE  SAVE

CURRENT  SETTINGS
ARE  SAVED

OK         CANCEL
```

```
FIRMWARE  VERSION

FIRMWARE  VERSION  #.##
OSD VERSION        #.##

RETURN        END
```

* Only Day & Night model (CG-512)

ECLIPSER

ECLIPSER → ON
THERSHOLD → 17
LEVEL → 4

RETURN   END

SYNC SELECT

SYNC MODE → AUTO
PHASE VALUE → 32   *Only when AUTO is selected

RETURN   END

CHROMA

CHROMA GAIN → 0
RY HUE → -1
BY HUE → 0

RETURN   END

MASKING

MASK → ON
MASK COLOR → BLACK
MASK EDIT →
MASK ERASE

RETURN   END

MASK SETTING

SELECT START POSITION

NOW POINT = (088, 051)

*Only when ON is selected for MASK

TITLE

TITLE → ON
TITLE EDIT

RETURN   END

TITLE EDIT

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklm
nopqrstuvwxyz

BS
RETRUN

*Only when ON is selected for TITLE

SETTING METHOD

This camera has multiple functions, and can be adapted to a shooting place.

The method of setting the function of the camera is the following.
(1) Setting method by using OSD(On-screen Display)function. Refer to the next section in details.

The SW which is described to the following sentence shows Fig.1 ⑥.

Press and hold down, the SETUP MENU is displayed.

UP
SELECT
LEFT
RIGHT
DOWN
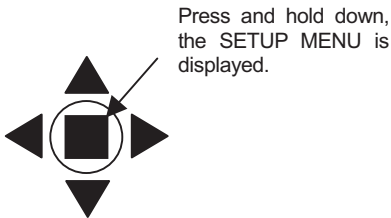
Fig.7-1 Normal SW setting (menu non-display)   Fig.7-2   SETUP MENU SW Setting
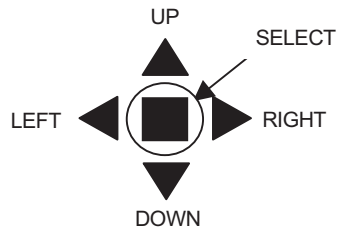
SETTING OPERATION
This camera has OSD function. To change settings on the menu, operate the following procedure.

1. Press and hold down the SW for 2 seconds or more. The SW on the rear panel is used. (Fig.1⑥)
2. MAIN MENU appears on the monitor as shown in Fig.7-3.
3. Move the cursor to an item you want to change by using the SW.
   The menu of the selected item is displayed. The SW can be used as direction key. (Fig.7-2)
4. Select a parameter you want to change and specify it.
5. To close the menu, move the cursor to END and press the SW.
   To return the previous page, move the cursor to RETURN and press the SW.

```
MAIN  MENU

  MODE SELECT            →
  EXPOSURE  SET.         →
  FUNCTION  SET.         →
  MODE SAVE              →
  BLEMISH  COMPENSATION  →
  INITIALIZE             →
  FIRMWARE  VERSION      →


                     END
```
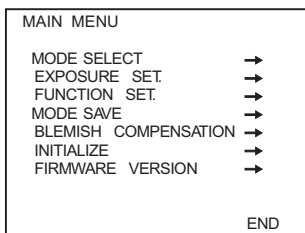
Fig.7-3 MAIN MENU

Note)
If you don t operate the menu for 1 minute, the menu disappears automatically.
When selecting RETURN or END on the menu, current settings are stored in the EEPROM.
As for items limited by setting the function, * mark is displayed in the item.
The switch operation becomes possible four seconds after it starts.

SETUP ITEMS
(1) MODE SELECT
MODE SELCET can set parameters to the preset setting by selecting each mode.
It is also possible to register the setting edited by a user.
Refer to the section of MODE SAVE for setting procedure of USER MODE.

The following modes can be selected.
  STANDARD
  DAY&NIGHT*
  CASINO
  USER MODE

```
MODE  SELECT

  STANDARD
  DAY&NIGHT*
  CASINO
  USER MODE




  RETURN              END
```

Fig. 7-4 MODE SELCET menu

*Only Day & Night model (CG-512)

Parameters of each mode is shown in Fig.7-5,7-6,7-7.

STANDARD

```
EXPOSURE  SET.

AE MODE              ➔ ESC
ECLIPSER             ➔ OFF
DC IRIS LEVEL        ➔
FLICKERLESS          ➔ OFF
AGC                  ➔ LOW
DAY & NIGHT          ➔ COLOR *1
*DETECT TIME *1
*FILTER LIMIT *1
```

```
FUNCTION  SET.

SYNC SELECT             ➔ AUTO
WHITE  BALANCE          ➔ AUTO
CROMA                   ➔
GAMMA                   ➔ 0.6
APERTURE                ➔ SHARP
CABLE  COMPENSATION     ➔ SHORT
MASKING                 ➔
TITLE                   ➔

     RETURN            END
```

Fig. 7-5 Setting parameters of STANDARD

DAY & NIGHT *1

```
EXPOSURE  SET.

AE MODE              ➔ ESC
ECLIPSER             ➔ OFF
DC IRIS LEVEL        ➔
FLICKERLESS          ➔ OFF
AGC                  ➔ LOW
DAY & NIGHT          ➔ AUTO
DETECT TIME          ➔ 5SEC
FILTER LIMIT         ➔ 10MIN

   RETURN            END
```

```
FUNCTION  SET.

SYNC SELECT             ➔ AUTO
WHITE  BALANCE          ➔ AUTO
CROMA                   ➔
GAMMA                   ➔ 0.6
APERTURE                ➔ SHARP
CABLE  COMPENSATION     ➔ SHORT
MASKING                 ➔
TITLE                   ➔

     RETURN            END
```

Fig.7-6 Setting parameters of DAY&NIGHT

CASINO

```
EXPOSURE  SET.

AE MODE              ➔ ESC
ECLIPSER             ➔ OFF
DC IRIS LEVEL        ➔
FLICKERLESS          ➔ OFF
AGC                  ➔ LOW
DAY & NIGHT          ➔ COLOR *1
*DETECT TIME *1
*FILTER LIMIT *1
```

```
FUNCTION  SET.

SYNC SELECT             ➔ INT
WHITE  BALANCE          ➔ INDOOR
CROMA                   ➔
GAMMA                   ➔ 0.6
APERTURE                ➔ SHARP
CABLE  COMPENSATION     ➔ SHORT
MASKING                 ➔
TITLE                   ➔

     RETURN            END
```

Fig.7-7 Setting parameters of CASINO

*1 Only Day & Night model (CG-512)

(2) EXPOSURE SET.
In this menu, the exposure system of the camera can be specified.

```
EXPOSURE  SET.

AE  MODE          →  ESC
ECLIPSER          →
DC  IRIS  LEVEL   →  - 8
FLICKERLESS       →  OFF
AGC               →  LOW
DAY&NIGHT         →  AUTO *
DETECT TIME       →  5 SEC *
FILTER LIMIT      →  10 MIN *

RETURN               END
```

* Only Day & Night model (CG-512)

Fig. 8-1 EXPOSURE SET. menu

AE MODE
AE operation mode can be selected.
ESC -> NORMAL -> BLC -> BLC+ESC The mode turns in this order.

ESC:
  Electronic Sensitivity Control
  This function offers optimal brightness level by increasing the number of stored fields.
NORMAL :
  This mode is AE operation which is controlled by the electronic shutter and mechanical iris.
BLC :
  The Back Light Compensation function allows fine picture correction to prevent the subject.
  from being extremely dark due to strong backlight. strong backlight.
BLC+ESC :
  The above-mentioned reference.

Note) When ON is selected for FLICKERLSS, ESC mode is not available.
      When OFF is selected for AGC, BLC mode is not available.

DC IRIS LEVEL
The video output level can be adjusted. (Adjustable range : -20 ~ 20)

FLICKERLESS
When ON is selected, the shutter speed is fixed at 1/120s (PAL)

AGC
AGC automatically controls the gain in low-brightness zones.
This function can be switched HIGH, LOW, OFF.

DAY & NIGHT (Only Day & Night model (CG-512))
This item specifies the switch between Color and BW picture.

AUTO : Auto mode enables the camera to switch between Color and BW picture in response to light condition.
COLOR : Fixes to Color picture.
BW : Fixes to BW picture.
EXT. : This mode allows the camera to control by the external signal. Refer to the section on EXTERNAL CONTROL INPUT TERMINAL in this manual.

Note)
When OFF is selected for AGC, AUTO mode is not available.
If you switch OFF for AGC while selecting AUTO, COLOR is selected for DAY&NIGHT compulsorily.

When AUTO is selected, it is a possibility not to be shifted the filter under the angle of view or illumination conditions.
This camera provides a function to stop the filter when the hunting occurs, to prevent this problem.
Specify the stop time of the filter in FILTER LIMIT item.
To do a more certain method, we recommend EXT mode which switch between Color and BW picture by the external input.

DETECT TIME (This item is used when AUTO or EXT is selected for DAY&NIGHT.)
The detect time of DAY&NIGHT function can be selected. The filter shifts when the change of the brightness level is kept more than the selected time in this item.
    5sec, 30sec

FILTER LIMIT (This item is used when AUTO or EXT is selected for DAY&NIGHT.)
When the hunting occurred while DAY&NIGHT function is active, the stop time of the filter can be set in the following value.
    OFF, 10min, 30min

Note) *mark is displayed while this function operates, and the filter has been stopped.

(2-1) ECLIPSER

The ECLIPSER function is set.

```
ECLIPSER

ECLIPSER     → ON
THRESHOLD    → 17
LEVEL        → 4




RETURN       END
```

Fig.8-2 ECLIPSER menu

ECLIPSER
Select one of the following Eclipser options:
  ON When using Eclipser settings.
  OFF When not using Eclipser settings. (Factory setup is OFF.)

THRESHOLD
The threshold of the brightness of the corrected subject can be adjusted..
The range is 0 to 25.

LEVEL
The intensity level of subject can be corrected..
The range is 1 to 8.

  Adjusting procedure
1. Set the function
    AGC : OFF
    ESC : OFF
    BLC : OFF
    ECLIPSER : OFF
2. Set the video output level
    Video type : Set response selector of auto-iris lens to AVERAGE.
              Viewing gray scale (logarithmic) or an object, set video output level of camera to
              0.75Vp-p by adjusting LEVEL VR of auto-iris lens.
    DC type : Viewing gray scale (logarithmic) or an object, set video output level of camera to
              0.75Vp-p by adjusting "DC IRIS LEVEL".
3. Viewing an object in front of a bright background.
4. Set "ECLIPSER" : ON
5. Set "LEVEL" to 4 or 5.
6. Adjust the "THRESHOLD" until the object can be seen with good highlight.
7. Adjust "LEVEL" if you want to change the brightness of an object.

(3) FUNCTION SET.
In this menu, functions other than exposure system can be specified.

```
FUNCTION  SET.

SYNC SELECT           →
WHITE  BALANCE        → AUTO
CROMA                 →
GAMMA                 → 0.6
APERTURE              → SHARP
CABLE  COMPENSATION   → SHORT
MASKING               →
TITLE                 →

RETURN        END
```

Fig.9-1 FUNCTION SET. menu

(3-1) SYNC SELECT
This camera supports the synchronization mode such as line lock and internal.

```
SYNC  SELECT

  SYNC MODE      → AUTO
  PHASE  VALUE   → 32




  RETURN              END
```
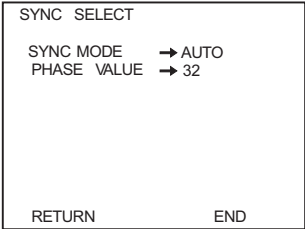
Fig.9-3 SYNC SELECT menu

SYNC MODE
The synchronization mode can be selected.
  AUTO : At AC power supply, this mode allows the camera to use the phase of the AC power as the reference. The camera operates in Line Lock mode.
   INT : In this mode, the camera always use an inside crystal oscillator as INT. Sync Generator.

PHASE
The vertical phase can be shifted in Line Lock mode.
  Adjusting procedure
1. Move the cursor to SYNC MODE and select AUTO.
2. Move the cursor to PHASE and press SW. PHASE SHIFT menu is displayed.
3. On menu, the vertical phase can be adjusted by turning on the SW up or down. Refer to Fig.9-4.
Note) The phase of each camera is set to same phase at the factory. Usually, the phase doesn't need readjustments.

Adjustable range

0 ~ 62 (PAL)

DOWN ⇔ UP
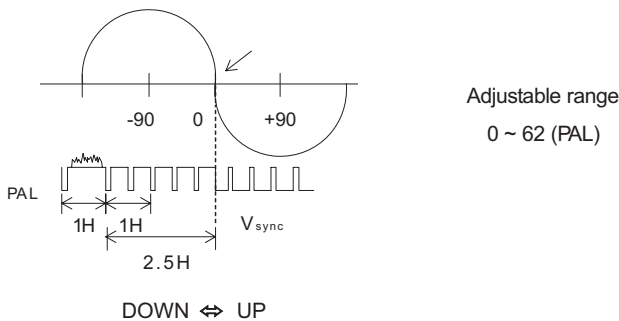
Fig.9-4 PHASE SHIFT

(3-2) WHITE BALANCE
WHITE BALANCE
You can select one of 3 modes for white balance adjustment as follows.
AUTO, HOLD, INDOOR (Approx. 3200K)
　　AUTO : The white balance is adjusted automatically to provide the optimum picture.
　　HOLD : In this mode, the WB gain just before changing to this mode is kept.
　　INDOOR: These modes are the fixed WB gain.

　Setting procedure for HOLD
1. Image a subject. Move the cursor to WHITE BALANCE and select AUTO.
2. Change WHITE BALANCE from AUTO to HOLD.
　With this procedure, WB gain is kept.
Note) If white balance mode is changed from HOLD to other modes, the stored gain is lost.

(3-3) CHROMA
　The chroma gain and hue level can be adjusted.

```
┌─────────────────────────────────┐
│  CHROMA                         │
│                                 │
│  CHROMA  GAIN    →  0           │
│  RY HUE          →  -1          │
│  BY HUE          →  0           │
│                                 │
│                                 │
│                                 │
│  RETURN            END          │
│                                 │
└─────────────────────────────────┘
```

　　　　Fig.9-5 CHROMA menu

CHROMA GAIN
The chroma gain level can be adjusted. Adjustable range -1 ~ 1
RY HUE
The chroma hue level can be adjusted. Adjustable range -5 ~ 5
BY HUE
The chroma hue level can be adjusted. Adjustable range -5 ~ 5

(3-4) GAMMA
GAMMA
Gamma curve can be selected.
　0.6 (Approx. 0.6), 1.0(Approx. 1.0)

(3-5) APERTURE
APERTURE
Setting of edge enhancement
　SHARP, SOFT A, SOFT B.

(3-6) CABLE COMPENSATION
Cable compensation mode can be selected.
SHORT -> MIDDLE -> LONG   The mode turns in this order.
(Factory setup is SHORT)

 SHORT: From 0 to 100 meters the length of the cable
MIDDLE: From 100 to 300 meters the length of the cable
LONG: From 300 to 500 meters the length of the cable

    These modes adjust the output in proportion to the length of the cable.

NOTE : Cable specification(5C-2V)

(3-7) MASKING
This camera contains MASK function.
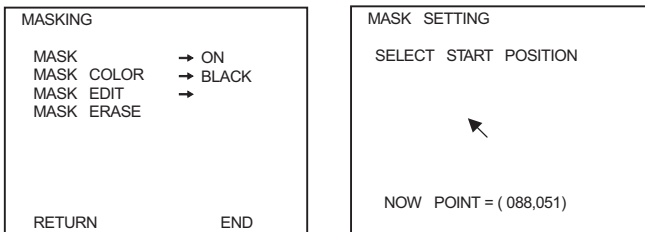
```
┌─────────────────────────┐  ┌─────────────────────────┐
│  MASKING                │  │  MASK  SETTING          │
│                         │  │                         │
│   MASK        → ON      │  │   SELECT  START  POSITION│
│   MASK  COLOR → BLACK   │  │                         │
│   MASK  EDIT  →         │  │                         │
│   MASK  ERASE           │  │              ▶          │
│                         │  │                         │
│                         │  │                         │
│                         │  │   NOW  POINT = ( 088,051)│
│   RETURN         END    │  │                         │
└─────────────────────────┘  └─────────────────────────┘
```
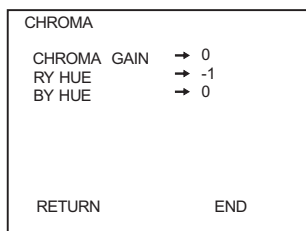Fig.9-6 MASKING menu

MASK
The mask display can be switched ON or OFF on the monitor screen.

MASK COLOR
The color of the mask is set.
BLACK → WHITE → GRAY → RED → GREEN → BLUE → YELLOW

MASK EDIT
The area of a mask can be edited. It is possible to make up to 8.

 Editing procedure
1. Move the cursor to MASK and select ON.
2. Move the cursor to MASK EDIT and press the SW. MASK SETTING menu is displayed.

3. The pointer is displayed on the monitor screen. The area of a mask can be edited by using this
pointer. At first, move the cursor to the upper left position you want to make a mask and press the
SW. Next, move the cursor to the lower right position you want to make a mask and press the SW.
 In the above procedure, a mask can be made.

MASK ERASE
The made mask is erased.

 Erasing procedure
1. Move the cursor to MASK ERASE.
2. The made mask is erased by pressing the SW.

Note) When two or more masks are made, the mask is erased contrary to the making order.

(3-8) TITLE
You can assign a name to the camera, and display on the monitor.

```
┌─────────────────────────┐   ┌─────────────────────────┐
│ TITLE                   │   │ TITLE  EDIT             │
│                         │   │                         │
│ TITLE        → ON       │   │ ABCDEFGHIJKLM           │
│ TITLE EDIT   →          │   │ NOPQRSTUVWXYZ           │
│                         │   │ abcdefghijklm           │
│                         │   │ nopqrstuvwxyz           │
│                         │   │  0123456789-/           │
│                         │   │                         │
│                         │   │ BS                      │
│                         │   │ RETURN                  │
│ RETURN       END        │   │                         │
└─────────────────────────┘   └─────────────────────────┘
```
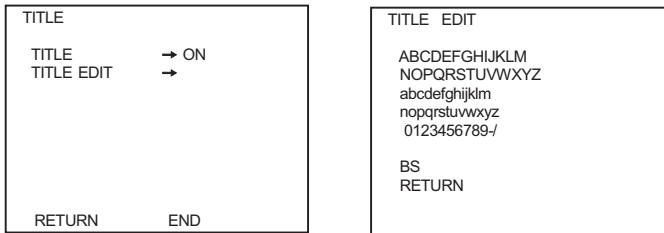
Fig.9-7 TITLE menu

TITLE
The title display can be switched ON or OFF on the monitor screen.

TITLE EDIT
The display character can be edited. The title consists of up to 16 alphanumeric characters.

Editing procedure
1. Move the cursor to TITLE and select ON.
2. Move the cursor to TITLE EDIT and press the SW. TITLE EDIT menu is displayed.
3. Move the cursor to the character you want to edit. After selecting the character, and press the SW.
   The selected character appears in the editing area.
4. Repeat the steps above until all characters are edited.
5. To clear the character, move the cursor to BS and press the SW. Whenever the SW is pushed, one character is deleted.

(4) MODE SAVE

Current settings can be saved. Saved settings can read by selecting USER MODE of MODE SELECT.

```
┌─────────────────────────────────┐
│  MODE  SAVE                     │
│                                 │
│   CURRENT  SETTINGS             │
│   ARE  SAVED.                   │
│                                 │
│                                 │
│                                 │
│                                 │
│   OK           CANCEL           │
│                                 │
└─────────────────────────────────┘
```

Fig.12 MODE SAVE menu

  Operation procedure
1. After changing parameters and adjustments, move the cursor to MODE SAVE and press the SW. MODE SAVE menu is displayed.
2. Move the cursor to OK and press the SW. Parameters and adjustments are saved.
3. The screen automatically reverts to the MAIN MENU when the save of setting ends.
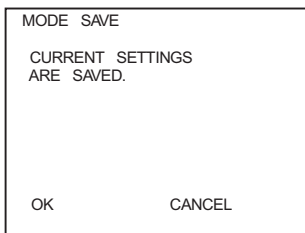
(7) BLEMISH COMPENSATION

Blemish of CCD is automatically detected and compensated.
This function can protect the picture quality though a simple operation.

```
┌─────────────────────────────────┐
│  BLEMISH  COMPENSATION          │
│                                 │
│   COVER  THE  LENS              │
│                                 │
│                                 │
│                                 │
│                                 │
│                                 │
│   OK           CANCEL           │
│                                 │
└─────────────────────────────────┘
```
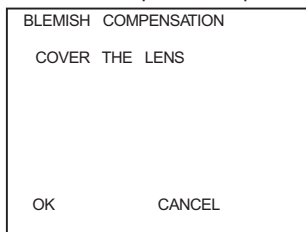
Fig.13 BLEMISH COMPENSATION menu

 Operation procedure
1. Cover the lens during use so that no light enters. Move the cursor to BLEMISH COMPENSATION and press the SW. BLEMISH COMPENSATION menu is displayed.
2. Move the cursor to OK and press the SW. The compensation is executed.
3. The screen automatically reverts to MAIN MENU when the compensation is finished.

Note)
Even if this function is executed, Blemish of CCD will not be compensated completely.
The structure of the mechanical iris lens aperture prevents complete of blocking light. When the mechanical iris lens is used, perform in dark environment or apply the lens cap to shade the lens.

(6) INITIALIZE

Present settings are reset to the factory default settings.

```
┌─────────────────────────────┐
│ INITIALIZE                  │
│                             │
│  ALL  SETTINGS  ARE         │
│  IINITIALIZED               │
│                             │
│                             │
│                             │
│                             │
│  OK           CANCEL        │
│                             │
└─────────────────────────────┘
```

Fig.14 INITIALIZE menu

Operation procedure

1. Move the cursor to INITIALIZE and press the SW. INITIALIZE menu is displayed.
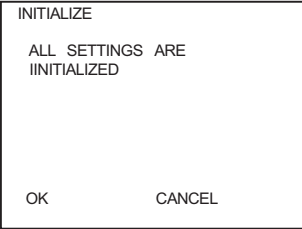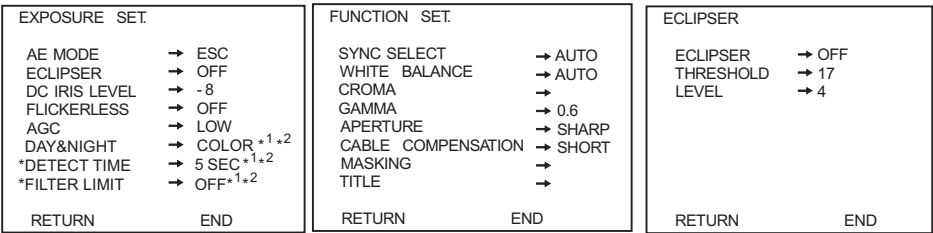2. Move the cursor to OK and press the SW. All parameters and adjustments are reset to the factory default settings.
3. The screen automatically reverts to MAIN MENU when the initialization is finished.

Note) Even if this function is executed, the following item is not initialized.

Adjustment value of PHASE on SYNC SELECT menu
Blemish Compensation

The fig.15 shows parameters after executing INITILIZE. (factory default settings)

```
┌─────────────────────────────┐  ┌──────────────────────────────────┐  ┌─────────────────────────────┐
│ EXPOSURE  SET.              │  │ FUNCTION  SET.                   │  │ ECLIPSER                    │
│                             │  │                                  │  │                             │
│  AE MODE         → ESC      │  │  SYNC SELECT        → AUTO       │  │  ECLIPSER      → OFF        │
│  ECLIPSER        → OFF      │  │  WHITE  BALANCE     → AUTO       │  │  THRESHOLD     → 17         │
│  DC IRIS LEVEL   → - 8      │  │  CROMA              →            │  │  LEVEL         → 4          │
│  FLICKERLESS     → OFF      │  │  GAMMA              → 0.6        │  │                             │
│  AGC             → LOW      │  │  APERTURE           → SHARP      │  │                             │
│  DAY&NIGHT       → COLOR *1*2│ │  CABLE  COMPENSATION → SHORT     │  │                             │
│ *DETECT TIME     → 5 SEC *1*2│ │  MASKING            →            │  │                             │
│ *FILTER LIMIT    → OFF*1*2   │ │  TITLE              →            │  │                             │
│                             │  │                                  │  │                             │
│  RETURN       END           │  │  RETURN       END                │  │  RETURN       END           │
└─────────────────────────────┘  └──────────────────────────────────┘  └─────────────────────────────┘
```

*[1] Only Day & Night model (CG-512)
*[2] The value is displayed when DAY & NIGHT is effective

```
┌─────────────────────────────┐        ┌─────────────────────────────┐
│ CHROMA                      │        │ MASKING                     │
│                             │        │                             │
│  CHROMA  GAIN  → -0         │        │  MASK          → OFF        │
│  RY HUE        → -1         │        │  MASK  COLOR   → BLACK      │
│  BY HUE        → 0          │        │  MASK  EDIT    →            │
│                             │        │  MASK  ERASE                │
│                             │        │                             │
│                             │        │                             │
│                             │        │                             │
│  RETURN       END           │        │  RETURN       END           │
└─────────────────────────────┘        └─────────────────────────────┘
```

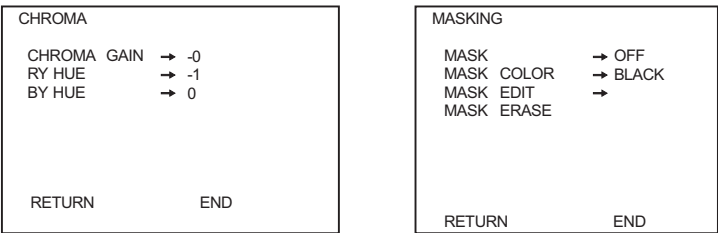Fig.15   Setting parameters of INITIALIZE

(7) FIRMWARE VERSSION
Select this option to display the camera firmware information

```
FIRMWARE  VERSION

 FIRMWARE  VERSION    #. ##
 ODD VERSION          #. ##




 RETURN        END
```
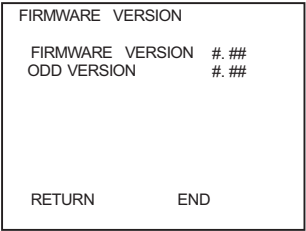
Fig.16   FIRMWARE VERSION menu

EXTERNAL CONTROL INPUT TERMINAL   (Only Day & Night model (CG-512))

This camera has an external control input terminal and can be operated remotely by supplying a control signal to this terminal.

CONNECTIONS
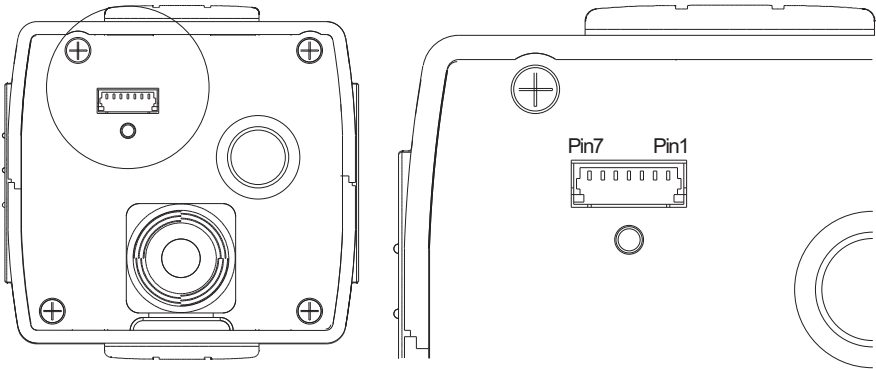Connections of control signals are as follows.

Magnified Figure

Fig.17

Pin No	Description
1	No Use
2	No Use
3	No Use
4	No Use
5	No Use
6	GND
7	D&N Control Signal Input

If you operate cameras remotely by using this terminal, connect the following enclosed cable.
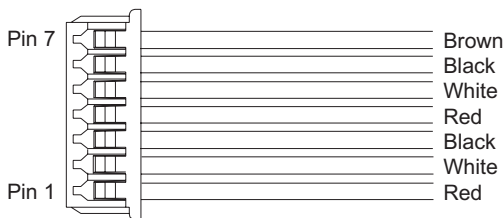We recommend to extend it with a twisted pair cable.

Fig.18

Note)
Turn off the power supply of the camera and connect the cable.

SETUP

To control DAY&NIGHT function remotely, do the following procedure.

 Setting procedure
1. Select EXT. for DAY&NIGHT function on EXPOSURE SET. menu.
2. The mode of DAY&NIGHT function can be switch to supply the control signal.
    Open or High Input : Operates AUTO mode
    Short or Low input : Operates BW mode
(This line is pulled up in the camera. The power of this line is not enough to drive an external unit.)

Rating and electronic characteristics
  Input Voltage VIN : -0.3 ~ 3.3V
  Input Voltage High VIH : Min.3.0V
  Input Voltage Low VIL : Max.0.3V

Notice so that the above value is not exceeded.

SPECIFICATIONS

Model Name	CG-512P	CG-532P
TV System	PAL	
Power	AC230V (±15%) 50Hz	
Power Consumption	50mA	
Imager	1/3" Interline transfer CCD	
Picture Elements (active)	Approx. 440K pixels	
Synchronization	Internal / Line Lock	
Signal to Noise Ratio	48dB(AGC off, weighting)	
Video Output	1.0Vp-p/ Composite (75ohms)	
Horizontal Resolution	540TVLines(Color) / 570TVLines(BW) *	
Minimum Scene Illumination	0.8lux (Color) / 0.1lux (BW) * (at F1.2 50IRE)	
Function	OSD Function Blemish compensation Function Eclipser Function DAY&NIGHT Function * Iris lens automatic operation change Function (VIDEO/DC) Cable compensation Function Auto White Balance AGC Function ESC Function SYNC Selectable (Internal / Auto) Flickerless Function Aperture Function	
Lens Mount	CS Mount (Flange Back Adjustable)	
Usable Auto Iris Lens	VIDEO/DC Voltage Drive Auto-Iris Lens	
Camera Mount	1/4"-20, top or bottom	
Weight (Excluding Lens)	0.4kg	
Dimensions (Less Lens)	55 (W)×50(H)×110(D) (mm)	
Operating Temperature	-10 to +50degrees (0 to +40degrees;Performance Guaranteed)	
Operating Humidity	20 to 80%	
Connectors	(1) Video Signal Output (BNC, 75 Ohm) (2) Auto Iris Lens Output (4pin) (3) External control Input (7pin) *	
Controls	Setup Switch	
Accessories (Supplied)	4Pin Plug (Small) Type 1pc ALLEN WRENCH 1pc CD-ROM 1pc WIRE WITH CONNECTOR * 1pc INSTRUCTION MANUAL 1pc	

* Only Day & Night model (CG-512)

Design and specifications are subject to change without notice.

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