**CCD Monochrome Video Camera**

**Operation Manual**

**Model**

CS8620i (EIA) CS8620Ci (CCIR)

**WARNING & CAUTIONS**

The meaning of each mark used in this instruction manual is given below:

- **DANGER**
  - Warning against a possible hazard.
  - Extreme care should be taken when this mark is indicated.

- **CAUTION**
  - Warning against possible hazards.
  - The details of the mark when the user must be aware of are described next to this mark.

- **MUST**
  - Mark indicating which the user must do or should not do.
  - The details of things which the user should do or should not do are described next to this mark.

- **PANIC**
  - Mark indicating which the user should do immediately.

**Handling Precautions**

- **CAUTION**
  - This mark is used to indicate a condition or state which the user must avoid in order to prevent possible accidents.

**Maintenance**

- **CAUTION**
  - Use alcohol as cleaning agent.

- **PANIC**
  - Never try to pull apart, repair, or modify the camera yourself. Always visit an authorized service center.

**DISCLAIMER (LIMITED WARRANTY)**

- **MUST**
  - Never attempt to pull apart, repair, or modify the camera yourself.

**OPERATION**

- **CAUTION**
  - When you connect/disconnect camera connector, make sure to turn off power in order to prevent possible accidents.

**FUNCTIONS**

- **CAUTION**
  - Do not look into the lens when the camera is turned on. This may cause blindness or severe eye damage.

- **PANIC**
  - The built-in electronic shutter allows this camera to capture images at any timing given by R.R. pulse input (VD inputs).

**CONNECTIONS**

- **CAUTION**
  - The built-in electronic shutter allows this camera to capture images at any timing given by R.R. pulse input (VD inputs).

- **PANIC**
  - Avoid any operation that may cause the unit to be turned on while it is plugged in. Do not use any kind of cleaning fluid that may cause the unit to be turned on while it is plugged in.

**FEATURES**

- **MUST**
  - Make sure to select input or output images specified in this operation manual only. When connected with any other non-guaranteed peripheral devices, the images may not be outputted, or the images may fail to be outputted in full capacity. In the worst case, it may cause a fire or an electric shock accident.

- **CAUTION**
  - On no account do not remove any screws or attempted to repair, or modify your camera yourself. To do so might lead to a fire or an electric shock accident. Contact the service center or the dealer from which you purchased this device for repair service.

**DISCLAIMER (LIMITED WARRANTY)**

- **MUST**
  - Do not use any kind of cleaning fluid or cleaning agent.

**OPERATION**

- **CAUTION**
  - If any malfunction is observed, discontinue use immediately.

**WARNING & CAUTIONS**

- **DANGER**
  - Do not use any kind of cleaning fluid or cleaning agent.

**CONNECTIONS**

- **CAUTION**
  - Do not use any kind of cleaning fluid or cleaning agent.

**FEATURES**

- **MUST**
  - Do not look into the lens when the camera is turned on. This may cause blindness or severe eye damage.

**DISCLAIMER (LIMITED WARRANTY)**

- **MUST**
  - Do not use any kind of cleaning fluid or cleaning agent.

**OPERATION**

- **CAUTION**
  - Do not look into the lens when the camera is turned on. This may cause blindness or severe eye damage.

**WARNING & CAUTIONS**

- **DANGER**
  - Do not use any kind of cleaning fluid or cleaning agent.

**DISCLAIMER (LIMITED WARRANTY)**

- **MUST**
  - Do not use any kind of cleaning fluid or cleaning agent.

**OPERATION**

- **CAUTION**
  - Do not look into the lens when the camera is turned on. This may cause blindness or severe eye damage.

**FEATURES**

- **MUST**
  - Do not use any kind of cleaning fluid or cleaning agent.

**DISCLAIMER (LIMITED WARRANTY)**

- **MUST**
  - Do not use any kind of cleaning fluid or cleaning agent.

**OPERATION**

- **CAUTION**
  - Do not look into the lens when the camera is turned on. This may cause blindness or severe eye damage.

**WARNING & CAUTIONS**

- **DANGER**
  - Do not use any kind of cleaning fluid or cleaning agent.

**CONNECTIONS**

- **CAUTION**
  - Do not use any kind of cleaning fluid or cleaning agent.

**FEATURES**

- **MUST**
  - Do not use any kind of cleaning fluid or cleaning agent.

**DISCLAIMER (LIMITED WARRANTY)**

- **MUST**
  - Do not use any kind of cleaning fluid or cleaning agent.

**OPERATION**

- **CAUTION**
  - Do not look into the lens when the camera is turned on. This may cause blindness or severe eye damage.

**WARNING & CAUTIONS**

- **DANGER**
  - Do not use any kind of cleaning fluid or cleaning agent.

**DISCLAIMER (LIMITED WARRANTY)**

- **MUST**
  - Do not use any kind of cleaning fluid or cleaning agent.

**OPERATION**

- **CAUTION**
  - Do not look into the lens when the camera is turned on. This may cause blindness or severe eye damage.

**FEATURES**

- **MUST**
  - Do not use any kind of cleaning fluid or cleaning agent.

**DISCLAIMER (LIMITED WARRANTY)**

- **MUST**
  - Do not use any kind of cleaning fluid or cleaning agent.
(1) Contact system composer or illuminator in Section 4 above.
(2) Turn on the power switch of the video monitor ON.
(3) Feed power to the camera.
(4) Confirm that images appear on the video monitor. Adjust the lens aperture so that the optimal illumination is obtained.
(5) While monitoring the images on the video monitor, adjust the lens aperture so that the sharpest images are obtained.
(6) Adjust sensitivity. The factory setting is in MGC (Manual Gain Control), AGC (Automatic Gain Control) mode is also available. The selection is made via DIP SW on the rear side. Under the MGC mode, the rear-panel GAIN potentiometer is enabled for manual gain adjustment by an external.
(7) Select gamma function. The factory setting is 1.0. The selection between 1.0 and 0.45 is made via the rear DIP switch selection.
(8) Select the electronic shutter ON/OFF. The factory setting is in MGC (Manual Gain Control) mode.
(9) Select integration mode. The selection between the frame/field integration and OFF is possible by rear panel DIP-SW selection.
(10) Adjust sensitivity. The factory setting is in MGC (Manual Gain Control) mode.
(11) Turn the power switch of the video monitor ON.
(12) Select the electronic shutter ON/OFF. The factory setting is in MGC (Manual Gain Control) mode.
(13) Output signal
   (a) Vertical sync
   (b) Horizontal sync
   (c) H drive frequency
   (d) VD/SYNC/VS Switch-able by the rear panel DIP-SW selection.
   (e) Switch Selection (Initial factory setting: OFF)
   (f) Rear panel (high impedance) VD: 5.0V, H: 2V
   (g) Pulse width
   (h) Frequency
   (i) Signal level

(14) Sensitivity setting
   Mode selection via panel SW (initial factory setting: MGC)
   Manual sensitivity adjustment available via panel SW selection.

(15) MGC
   Manual sensitivity adjustment available via panel SW selection.

(16) Gamma
   1.0 / 0.45 selectable via rear panel DIP switch selection.

(17) White clip
   (initial factory setting: 1.0)
   Clip-level: 2V (4V-peak/0V-p/p)

(18) Electronic shutter
   The following shutter speed setup is possible by rear panel DIP switch selection.
   Normal: 1/25, 1/50, 1/100, 1/200, 1/400, 1/1000, and 1/2000 (Initial Factory setting: Normal)
   Slow-speed shutter
   (1/2s, 1/4s, 1/8s, 1/16s, 1/32s, 1/64s, 1/128s, 1/256s, 1/512s)

(19) Resolution
   Resolution available via panel SW selection.

(20) Special-shutter
   User-defined shutter-time and shutter-speed can be set for the shutter trigger and restart/reset operation only at the field synchronization mode.
   "High impulse" is possible by rear panel DIP-SW selection.

(21) CCD (integration mode)
   Field / Frame (storage/averaging) Switchable by rear panel DIP switch selection (Initial factory setting: Frame)
   Remark: CS8630i, CS8630Ci are possible for the restart/reset operation only at the field synchronization mode.

(22) Power source
   DC12V ±10% (Rated level: Less than 1000mA approx. 1.3W)

(23)Ambient conditions
   (a) Performance assurance
      Temperature: 0°C ~ 40°C
      Humidity: 20% ~ 80% (No condensation)
      Storage: Temperature: -20°C ~ 60°C
      Humidity: 20% ~ 80% (No condensation)

   (b) Long term
      Flange back: 17.2mm
      Dimensions: 295(D) × 205(T) × 31(D) (Excluding protruding part)
      Mass: Approx. 70g

   (c) Mass
      Mass: Approx. 70g

    (d) Option unit
      Power adapter: CA103C (AC/DC)
      Power / Video connector (Maker: Hirose denki)
      Camera cable: CP2800 (2m)
      Tripod adapter: IH-12S
      IR cut filter

   (e) Described (Type)
      If you use tripod, use camera mounting kit (optional) and fix camera.
      Please use screws (M4 and M5).
      Please use screw less than 4mm.

CAUTION
   If the screw is long, it reaches with printed circuit board, and it causes some trouble and accident.

-Typical spectral response
   (The characteristic and light-source characteristics is not reflected in the table.)