3-CCD Color Camera

MODELS
HV-C20A/AM

OPERATION MANUAL

This manual contains only the differences with respect to the
HV-C20/C20M. Please refer to the HV-C20/C20M Operation Manual
regarding other points.

Hitachi Denshi, Ltd.

Features

● A long time integration mode has been added as a new function. This enables obtaining a still image with superb vertical resolution. (An external memory is required for obtaining continuous images.)
● In place of the earlier field on demand, an external trigger can control the long time integration timing and duration.
● Capable of HD/VD genlock.
● The AGC/AES response time can be selected in 3 stages.
● In connection with the RC-C10 remote control box, the screen message can be cut off during AWB/ASC operation.
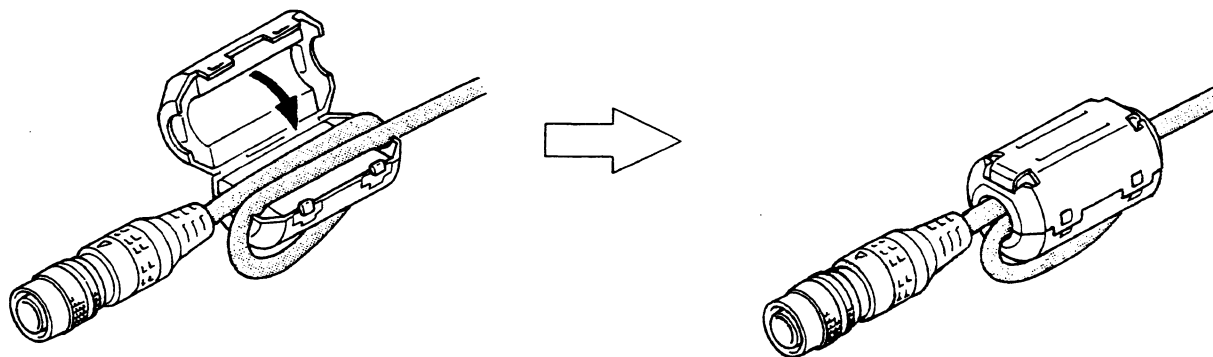
Rear panel button operation

Press the rear panel AWB/ASC button for longer than 2 seconds to activate these functions.
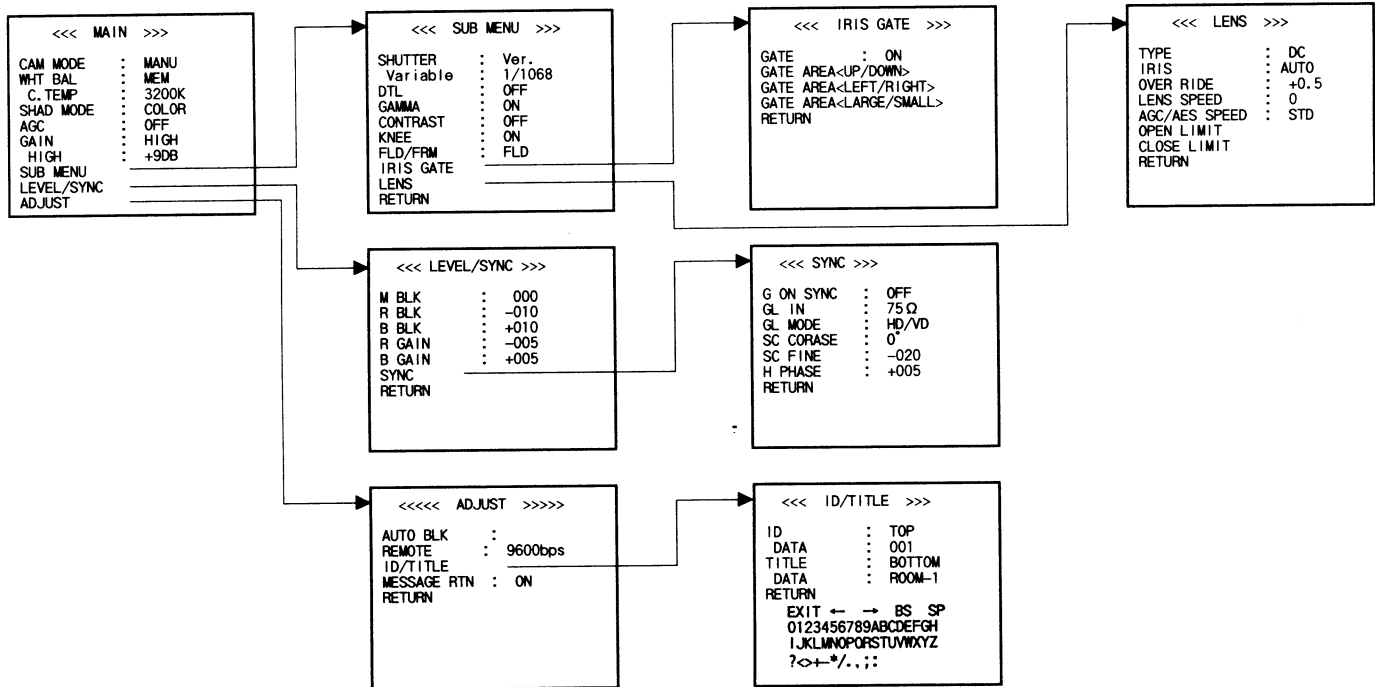
Notes When Using Cable

● RC Cable

Use after winding a cable around a clamp filter (ZCAT2035-0930:TDK) once at camera end in Europe, as shown in the following figure.

Menu screens

1.Configuration of menus

To accommodate the new functions, the menu composition has been changed as indicated below.

```
<<<  MAIN  >>>

CAM MODE      :  MANU
WHT BAL       :  MEM
  C.TEMP      :  3200K
SHAD MODE     :  COLOR
AGC           :  OFF
GAIN          :  HIGH
  HIGH        :  +9DB
SUB MENU
LEVEL/SYNC
ADJUST
```

```
<<<  SUB MENU  >>>

SHUTTER       :  Ver.
 Variable     :  1/1068
DTL           :  OFF
GAMMA         :  ON
CONTRAST      :  OFF
KNEE          :  ON
FLD/FRM       :  FLD
IRIS GATE
LENS
RETURN
```

```
<<<  IRIS GATE  >>>

GATE              :  ON
GATE AREA<UP/DOWN>
GATE AREA<LEFT/RIGHT>
GATE AREA<LARGE/SMALL>
RETURN
```

```
<<<  LENS  >>>

TYPE          :  DC
IRIS          :  AUTO
OVER RIDE     :  +0.5
LENS SPEED    :  0
AGC/AES SPEED :  STD
OPEN LIMIT
CLOSE LIMIT
RETURN
```

```
<<<  LEVEL/SYNC  >>>

M BLK         :   000
R BLK         :  -010
B BLK         :  +010
R GAIN        :  -005
B GAIN        :  +005
SYNC
RETURN
```

```
<<<  SYNC  >>>

G ON SYNC     :  OFF
GL IN         :  75Ω
GL MODE       :  HD/VD
SC CORASE     :  0°
SC FINE       :  -020
H PHASE       :  +005
RETURN
```

```
<<<<<  ADJUST  >>>>>

AUTO BLK      :
REMOTE        :  9600bps
ID/TITLE
MESSAGE RTN   :  ON
RETURN
```

```
<<<  ID/TITLE  >>>

ID            :  TOP
 DATA         :  001
TITLE         :  BOTTOM
 DATA         :  ROOM-1
RETURN
  EXIT  ←   →   BS  SP
  0123456789ABCDEFGH
  IJKLMNOPQRSTUVWXYZ
  ?<>+-*/.,;:
```

Additional and changed setting items are as follows.

1.SUB MENU

Variable: Setting of variable electronic shutter speed

        8.0 to 1/25:Long time integration mode

(Note) Increased integration time increases the likelihood of the CCD sensor to show fixed pattern and white noise.

EXTERNAL: Set long term integration to external control mode.

  1 TRIG mode

  Integration time can be set according to the pulse width.

  2 TRIG mode

  Integration time can be set to the interval between two trigger pulses.

FLD/FRM

  FRM mode

  Frame integration operates during long time integration mode and external mode.

2.ADJUST

MESSAGE RTN: Message display ON/OFF

  ON : Message indicates result of AWB/ASC in the DIRECT mode.

  OFF: Message indicates result of AWB/ASC in the DIRECT mode is not displayed.

3.LENS

AGC/AES SPEED: The AGC and AES operation can be set for **SLOW**, Standard(**STD**) or **FAST.**

4.SYNC

GL MODE:

VBS: The VBS signal or BBS (black burst) signal is input as an external synchronizing signal.

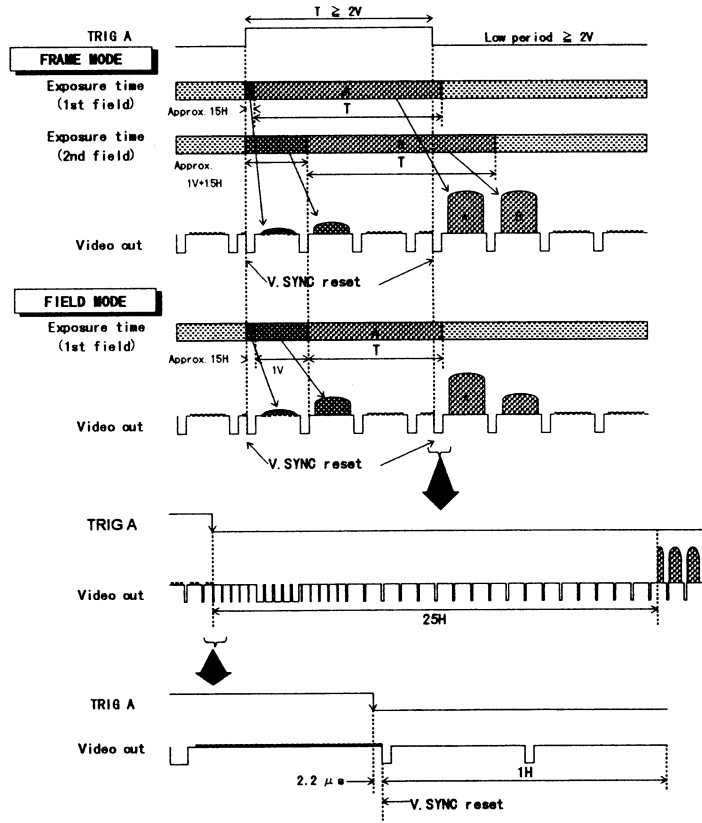**HD/VD:**The HD/VD signal is input as an external synchronizing signal.

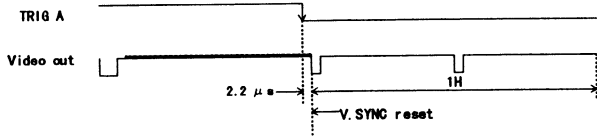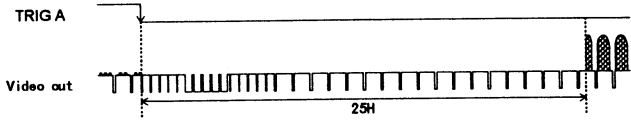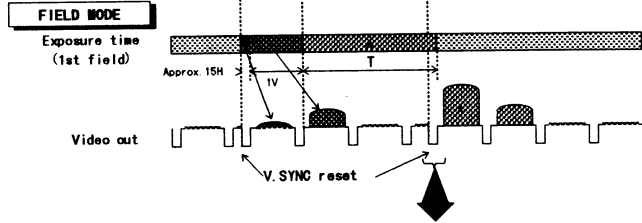(Note) During external sync with HD and VD signals, be sue to use either RGB or Y,B-Y,R-Y output signals. Although VBS and Y/C output signals are also produced, these cannot be used as normal output.
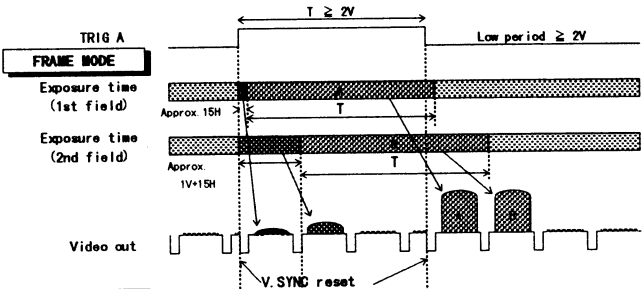
External trigger

1.1 TRIG MODE

The exposure is started by the rising edge of the TRIG A pulse, and V. SYNC is reset at the same timing. After V. SYNC is reset by the falling edge of the TRIG A pulse, and after reset, two fields (one frame) image are output. A exposure time is controlled by the duration (T) when the TRIG A pulse is high.
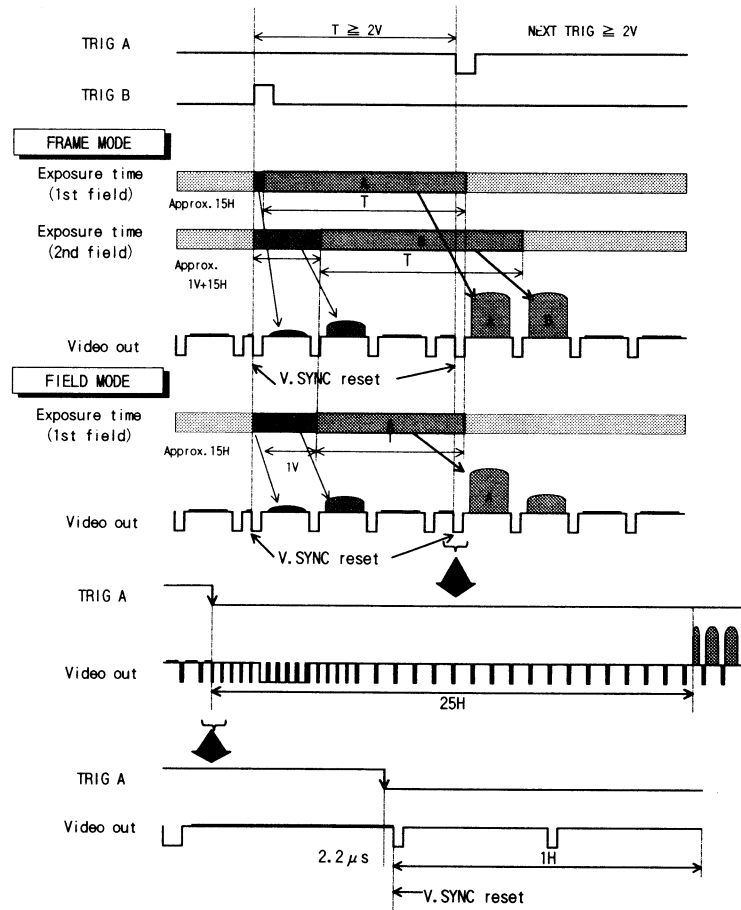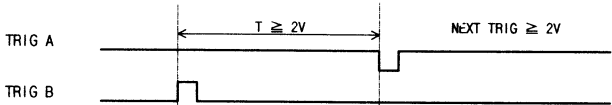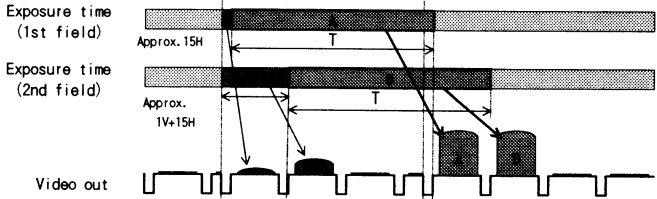

TRIG A

FRAME MODE

Exposure time (1st field)
Approx. 15H

Exposure time (2nd field)
Approx. 1V+15H

Video out

$T \geq 2V$ Low period $\geq 2V$

T

V. SYNC reset

FIELD MODE

Exposure time (1st field)
Approx. 15H   1V   T

Video out

V. SYNC reset

TRIG A

Video out
25H

TRIG A

Video out
2.2 μs   1H
V. SYNC reset

6

TRIG A

FRAME MODE

$T \geq 2V$

Low period $\geq 2V$

Exposure time (1st field)

Approx. 15H

T

Exposure time (2nd field)

Approx. 1V+15H

T

Video out

V. SYNC reset

FIELD MODE

Exposure time (1st field)

Approx. 15H

1V

T

Video out

V. SYNC reset

TRIG A

Video out

25H

TRIG A

Video out

2.2 μs

V. SYNC reset

1H

2.2 TRIG MODE

The exposure is started by the rising edge of the TRIG B pulse, and V. SYNC is reset at the same timing. After V. SYNC is reset by the falling edge of the TRIG A pulse, two fields (one frame) or one field image are output.

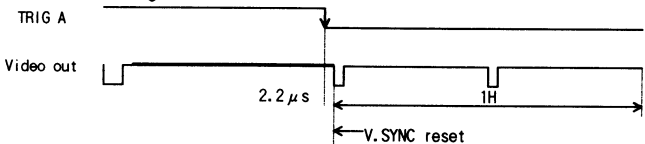A exposure time is duration (T) between the rising edge of TRIG B and the falling edge of TRIG A.
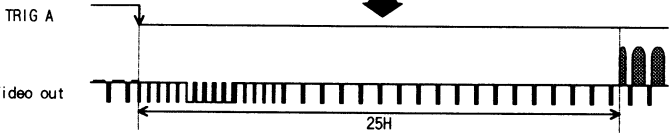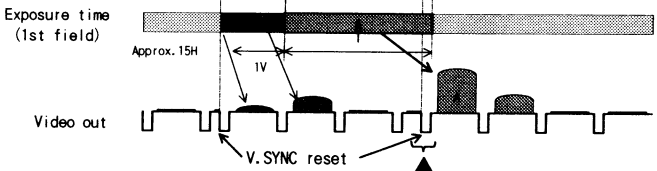

7

Connectors

MULTI connector

Pin No.	Signal
1	GND
2	WEN output
3	R output
4	G output
5	B output
6	VBS output
7	SYNC output
8	HD output/HD input/TRIG B input
9	VD output/VD input/TRIG A input

LENS connector

Pin No.	Signal
1	+12V
2	+5V/high
3	IRIS CONT／VIDEO
4	GND

(Note) HV-C20A/MA uses lens wiring prescribed by the EIAJ (Electronic Industries Association Japan).

8