

# ***CCD Color Video Camera Module***

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**Technical Manual**



**XC-555/555P**

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# Overview

The XC-555/555P is an ultra-small color camera module that utilizes a 1/2- type Charge Coupled Device.

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## Main Features

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### Ultra-small size and lightweight

The camera is so small and light that you can install it anywhere: even in locations where conventional video cameras cannot be installed.

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### High resolution

A built-in Super HAD (Hole Accumulated Diode) sensor, allows high sensitivity, low smear images. You can shoot, even under poor lighting conditions.

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### High sensitivity

With a CCD offering 380,000 effective pixels, high-resolution images can be obtained.

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### Four white balance adjustment modes

Using the white balance DIP switches, you can choose from among four white balance modes (3200K/5600K/ATW/MAN) to choose the best settings for shooting conditions, and the most appropriate color compensation.

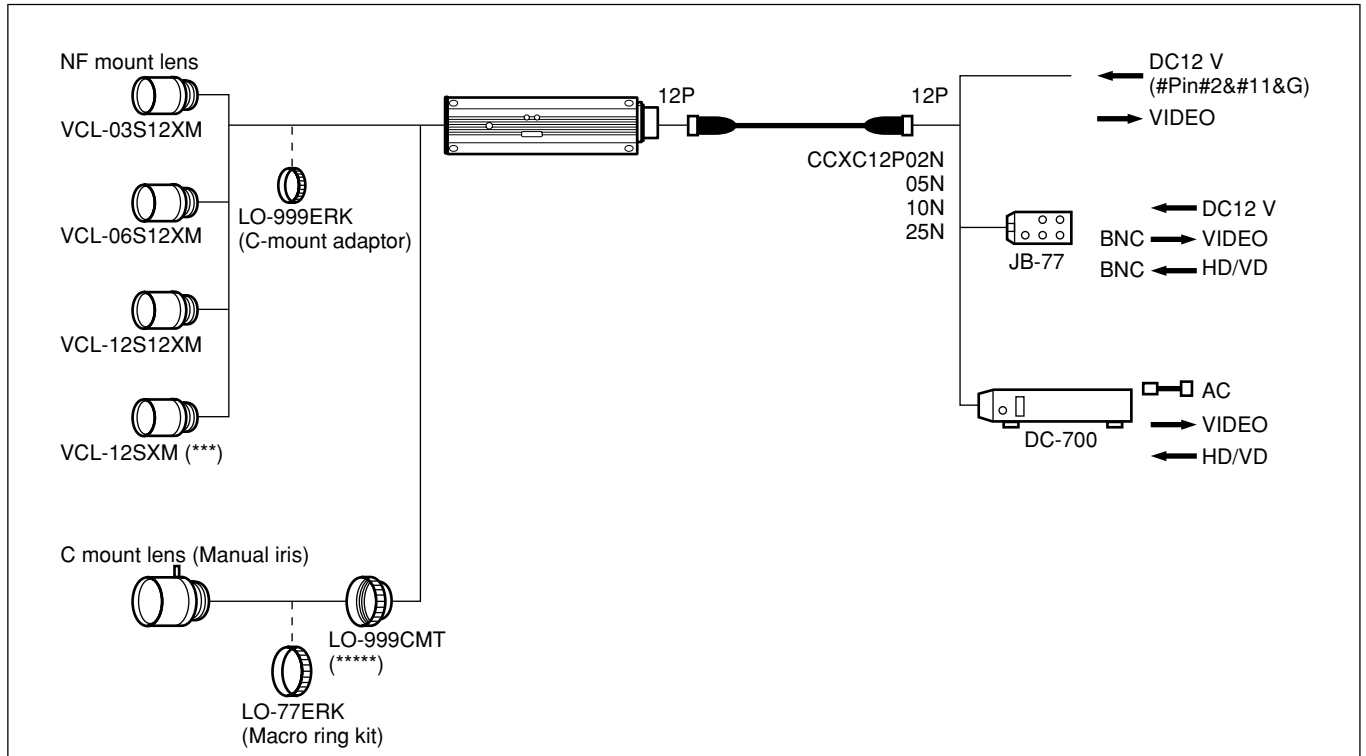
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### Electronic shutter with a wide range of operating speeds

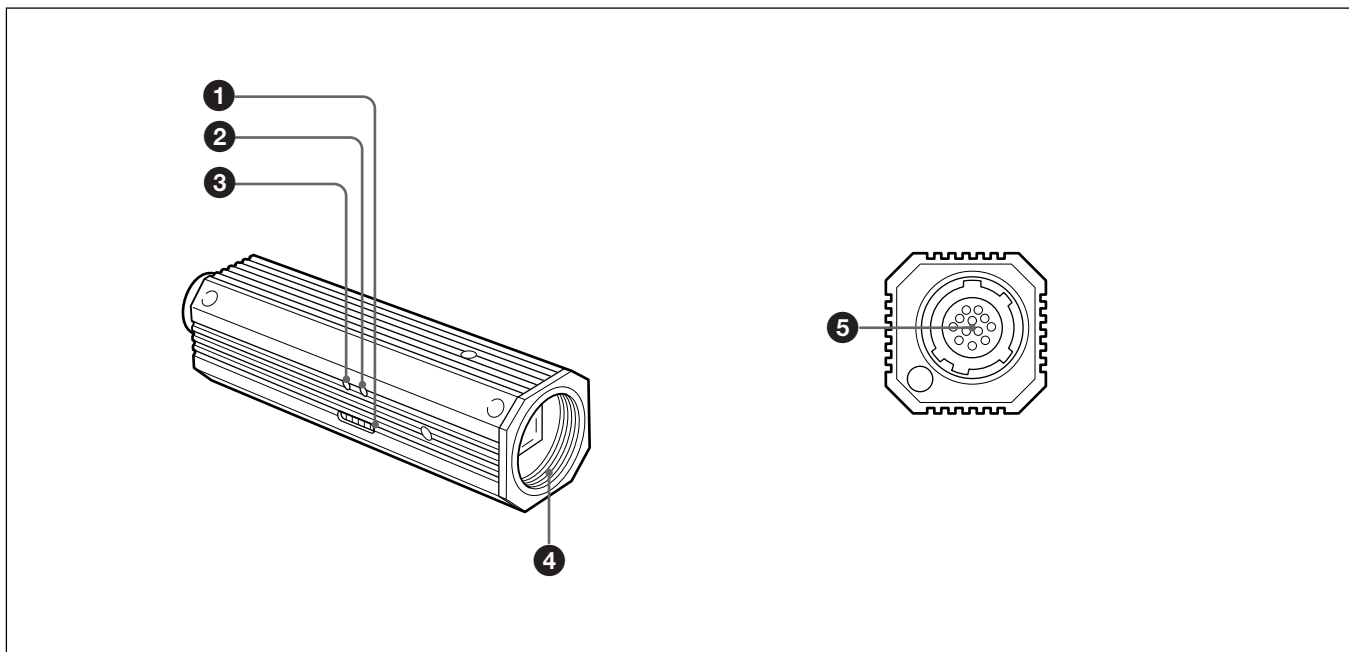
Using the electronic shutter DIP switches, these levels of shutter speed (OFF, 1/1000, and FLICKERLESS) are available to allow you to match the shutter speed to the shooting conditions.

When you set the DIP switches for the CCD IRIS function, the shutter speed is adjusted automatically, based on the amount of light allowed to enter, ensuring the most appropriate level of image signal.

# Connection Diagram



# Location of Parts and Operation



## ❶ Dip switches for setting functions

This switches are used to adjust white balance and shutter speed; and to flip AGC (ON/OFF) and output signals (Y/C/VBS).

For details, see “Mode Setting” on page 6.

## ❷ R control for manual white balance adjustment

This control is effective when the white balance switches are set to MAN. Adjust the red color by turning the control.

## ❸ B control for manual white balance adjustment

This control is effective when the white balance switches are set to MAN. Adjust the blue color by turning the control.

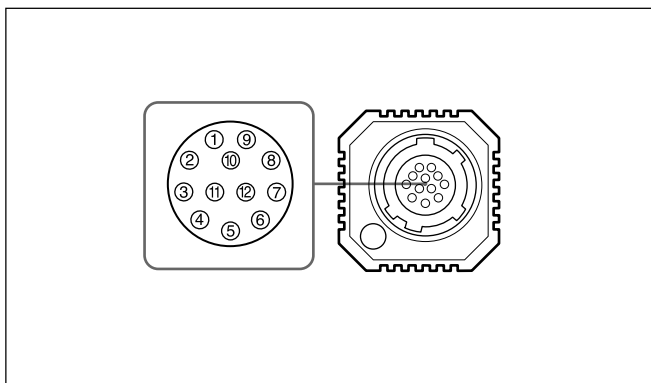
## ❹ Lens mount (special mount)

## ❺ DC IN/SYNC/VIDEO connector (multi 12-pin)

This connector inputs DC 12V power and outputs the video signal when the CCXC-12P02N/12P05N/12P10N/12P25N camera cable is connected.

If the unit is connected to devices that originate a synchronized signal, the external synchronous signal (VS, HD/VD) can be used to move the color camera module.

## Pin assignment of the DC IN/SYNC/VIDEO connector



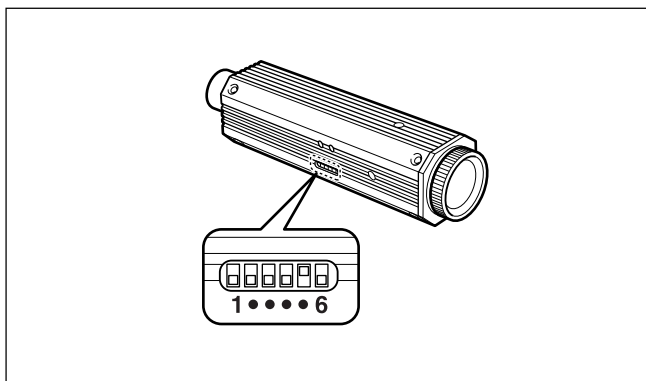
Signal Pin No.	Sync signal types		
	External Sync signal		Internal Sync signal
	HD,VD	VS Input	
1	GND (Earth)	GND (Earth)	GND (Earth)
2	+12V	+12V	+12V
3	VBS/Y Output (Earth)	VBS/Y Output (Earth)	VBS/Y Output (Earth)
4	VBS/Y Output (signal)	VBS/Y Output (signal)	VBS/Y Output (signal)
5	HD Input (Earth)	-	-
6	HD Input (signal)	-	-
7	VD Input (signal)	VS Input (signal)	-
8	GND (-/C)	GND (-/C)	GND (-/C)
9	-/C Output (signal)	-/C Output (signal)	-/C Output (signal)
10	RS-232C (TXD) *		
11	RS-232C (RXD) *		
12	VD Input (Earth)	VS Input (Earth)	GND
	RS-232C (Earth)		

## Mode Setting

By flipping the DIP switches located on the side of this camera, you can adjust the following functions.

### Note

Each switch is assigned to the function. The switches that should be set for a certain function (white balance, shutter speed, AGC (Auto Gain Control), switching of output signals(Y/C/VBS)) are specified. The effective switches are indicated by shade in the illustrations.



### To Adjust the white balance

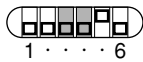
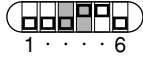


Select the white balance setting according to the lighting conditions.

	Lighting condition	DIP switch setting
3200K (fixed)	For indoor shooting under incandescent light (factory setting).	1 . . . . 6
5600K (fixed)	For outdoor shooting on sunny days.	1 . . . . 6
ATW (auto tracing white balance)	The white balance is adjusted according to the color temperature transition of the subject. This mode is suitable for shooting with variable lighting.	1 . . . . 6
MAN (manual)	Select this position when you want to adjust the red color with the R control and the blue color with the B control.	1 . . . . 6



## To adjust the shutter speed

Set the shutter speed switches to select the desired shutter speed.

Using the CCD IRIS function, set the CCD IRIS mode.

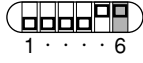

	Shutter speed	DIP switch setting
OFF	1/60 sec. (factory setting) (XC-555) 1/50 sec. (factory setting) (XC-555P)	 1 . . . . . 6
1/1000	1/1000 sec.	 1 . . . . . 6
CCD IRIS	Set the CCD IRIS mode.	 1 . . . . . 6
FLICKERLESS	1/100 sec. (XC-555) 1/120 sec. (XC-555P)	 1 . . . . . 6

## AGC (Auto Gain Control) ON/OFF

	Gain	DIP switch setting
ON	Auto gain control (factory setting)	 1 . . . . . 6
OFF	0 dB	 1 . . . . . 6

## Y/C/VBS

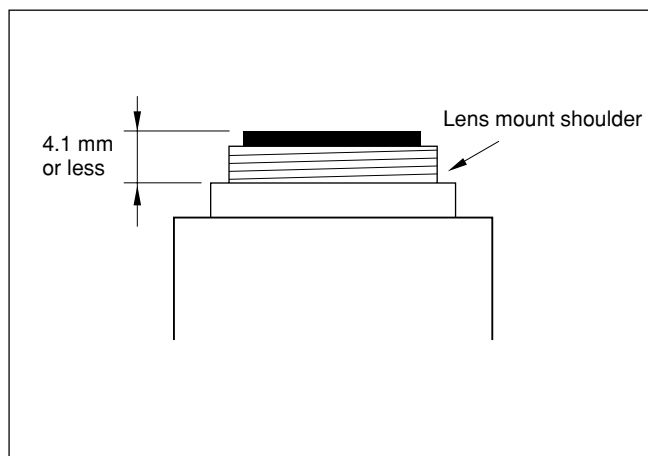
Select the camera output signal.

	Output signal	DIP switch setting
Y/C	Select this position to output the Y/C separated signal from the DC IN/VIDEO connector.	 1 . . . . . 6
VBS	Select this position to output the VBS signal from the DC IN/VIDEO (factory setting).	 1 . . . . . 6

## Installation

### Usable Lenses

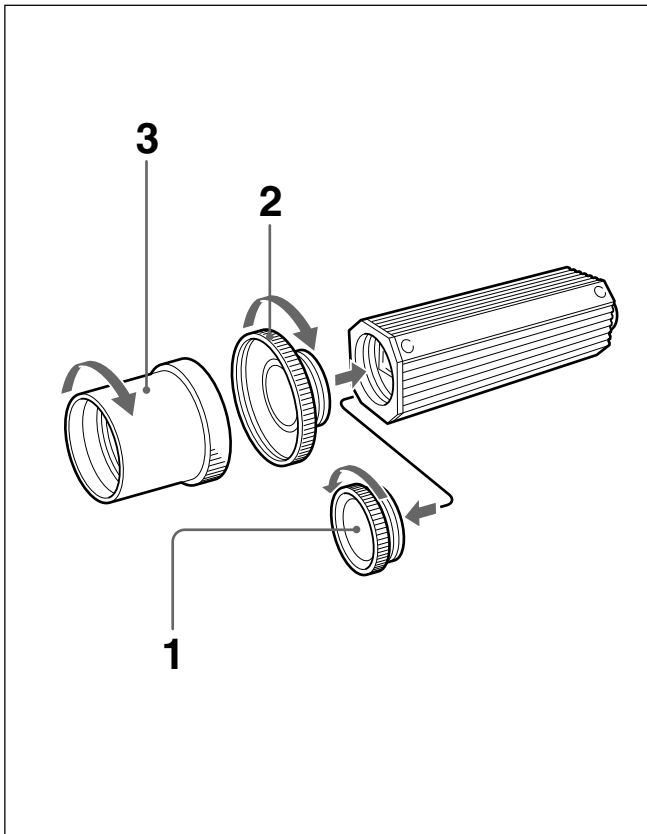
- VCL-12S12XM NF mount lens (f=12mm)
- VCL-06S12XM NF mount lens (f=6mm)
- VCL-03S12XM NF mount lens (f=3.5mm)
- VCL-12SXM NF mount lens (f=12mm)
- C-mount lens for 1/2-inch CCD.



### Notes

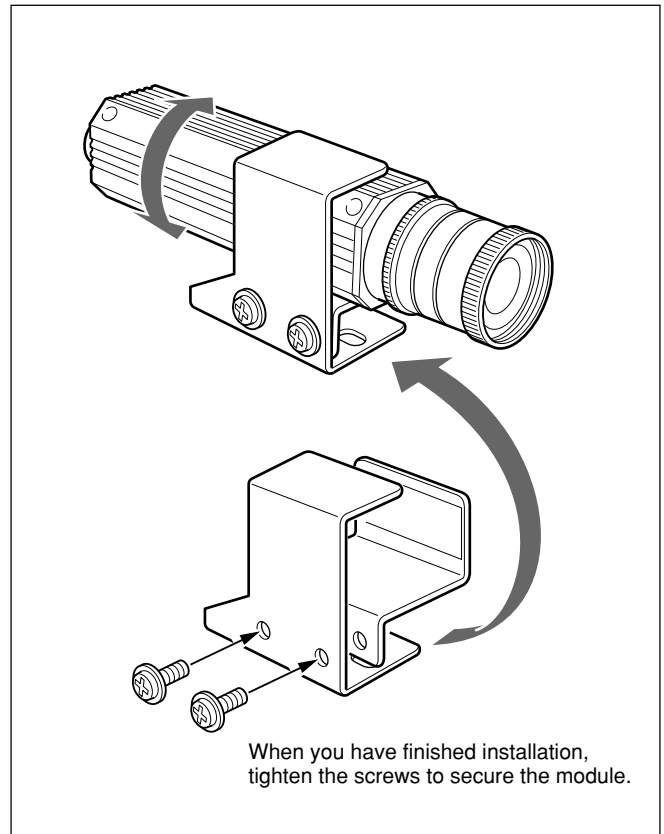
- To attach a C-mount type lens, the C-mount adaptor (LO-999CMT) is required.
- This camera uses a 1/2-inch CCD. So the lens should be used with this size of CCD. If used with a lens intended for 2/3-inch CCD, the angle of view will be different.
- When connecting a heavy lens, make sure that it is supported properly.
- When connecting heavy lens, make sure that it is not subject to shocks or vibration.

## To attach a lens



- 1** Remove the lens mount cap by turning it counterclockwise.
- 2** Screw the C-mount adaptor (LO-999CMT) into the lens mount of the camera. (only when using a C-mount lens)
- 3** Screw the lens.

## To install the camera on a tripod



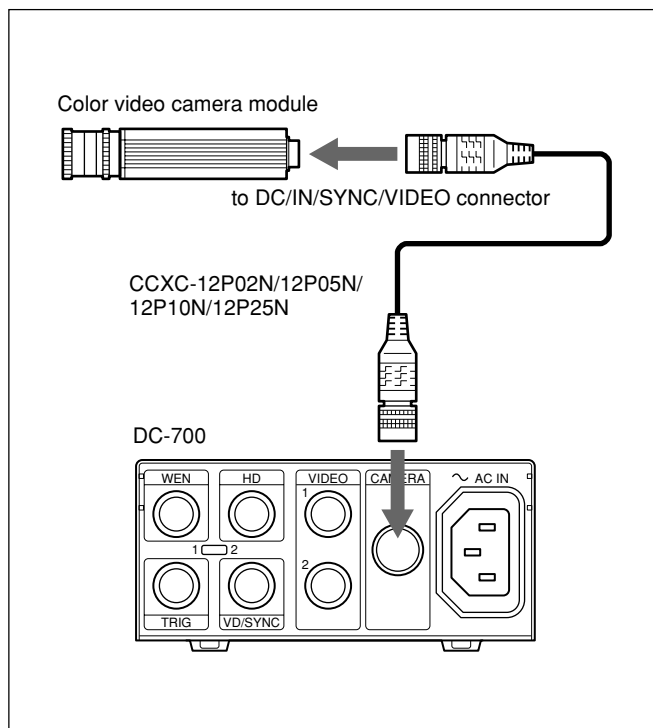
When mounting the camera on a tripod, use the supplied tripod adaptor.

- 1** Assemble the tripod adaptor parts.
- 2** Mount the video camera module on the tripod adaptor.



## Connections

An example of the assembly of the DC700/DC700CE Camera Adaptor.



### Notes

- Make sure to turn off the power to the units you are connecting or their components may be damaged.
- When disconnecting the cord, pull it out by the plug. Never pull the cord itself.
- Connect the power cord after completing all other connections.

## Genlock

The color video camera module is designed so that internal sync and external sync are switched automatically. When the color video camera module receives the following external sync signal, the camera is synchronized to that external sync signal.

Input signal	HD/VD, VS
<b>Output signal</b>	
VBS out	The Signal is horizontally synchronized with an HD signal externally input and is vertically synchronized with an VD signal externally input. The burst signal is not externally synchronized.
Y/C out	Same as above

### Notes

- Use a synchronous signal specified by this Technical Manual. For details on the specifications, see page 25.
- You cannot input a VBS signal to the camera as a synchronous signal.

# ***RS-232C Command List***

Use of RS-232C control software which has been developed based upon this command list may cause malfunction or damage to hardware and software. Sony Corporation is not liable for any such damage.

You can control various camera functions externally by sending commands via the camera's RS-232C I/F (interface). Because the camera is equipped with internal memory, setting values for various functions input via RS-232C commands can be saved. The memory is not volatile memory, so the information will be preserved, even if the power to the camera is turned off, enabling you to use the camera with the same settings, and in the same way, both before and after the power is cut off restored.

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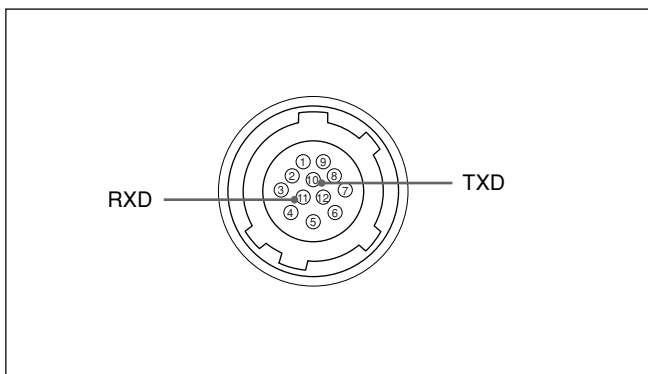
## **Functions That can be Controlled via the RS-232C Interface**

You can control the following functions using the program developed according to this command list.

AGC	: ON/OFF
AGC Max Gain	: 6, 12, 18dB, 3 levels
Step Gain	: 0 to 18 dB, in 1 dB steps
Shutter mode	: OFF/CCD Iris/Variable/STEP
Shutter speed (Variable)	: 1/50 (PAL), 1/60 (NTSC) to 1/100,000 sec.
CCD Iris Max Speed	: 1/250 to 1/1000,000 sec., 9 levels (Operation guaranteed to 1/4,000 sec.)
Exposure correction	: Approx. -1EV to +0.5 EV
AE speed	: 3 levels
WB mode	: AWB/ATW/Manual/3200K/5600K
AWB	: One Push AWB start
ATW speed	: 3 speeds
R, B-gain	: Manual White Balance
Pedestal	: Black level Brightness
Sharpness	: Adjustment by contour compensation
Gamma	: ON/OFF
Nega	: ON/OFF
Output	: VBS/YC
H-phase	: External synchronization based on amount of H-delay
Mem.Load	: Factory/A/B 3 types of settings loaded
Mem.Save	: A/B 2 types of settings saved

## Precautions to be Observed When Using RS-232C Commands

- When the unit is shipped from the factory, the RS-232C input item is set to [OFF]. To send RS-232C commands to the camera, flip the DIP-switch to [ON]. For details, refer to “Setting the RS-232C switch” in the next column.
- Changing the setting of the RS-232C switch falls under the heading of dismantling the camera, and is outside the scope of the warranty. To change the setting, request assistance from the dealer from whom you purchased your camera.**
- When toggling the RS-232C Input/Output function on and off, and when connecting the camera and a host computer, be sure perform any operations only after shutting off the power of both the camera and the host computer.
  - When controlling the camera using the RS-232C feature, the DIP switches on the camera and the R/B adjustment volume settings are disabled.
  - Use only the Sony DC-700/700CE power adaptors. The DC-77RR/77RRCE, DC-777/777P, CMA-D2/D2CE, and CMA-D2MD adaptors cannot be used.
  - Keep in mind the following with respect to the RS-232C TXD and RXD connectors:
    - Do not allow the voltage applied to exceed a margin of  $\pm 10V$  with the RXD (pin 11 of the 12 multi-connector).
    - The signal level output from the TXD (pin 10 of the 12 multi-connector) is within  $\pm 5.4V$  (TYP). Do not apply external voltage.



## Setting the RS-232C Switches

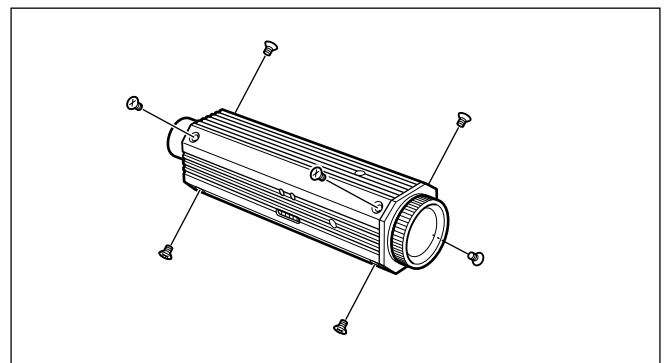
### Warning

Be aware that changing the setting of the RS-232C switches falls under the heading of dismantling the camera, and anything beyond this change of settings, carried out by a Sony-authorized repair department (company), is outside the scope of the warranty.

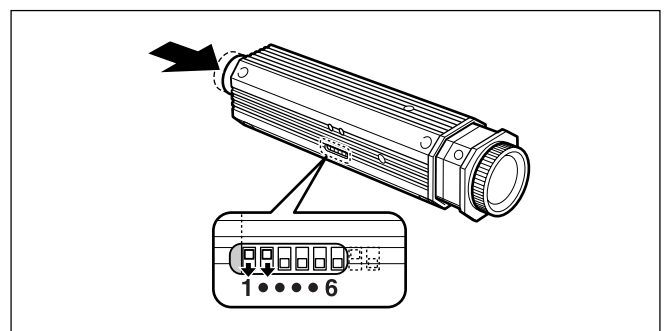
### Notes

- Be sure to make these changes only after turning off the power to the camera.
- In order to keep dust from adhering to the light-receptor surface of the CCD, attach the lens mount cap, etc., beforehand.

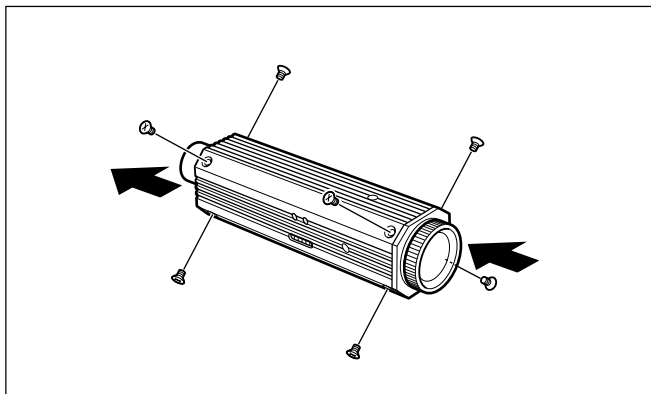
- 1 Detach the 12-pin cable from the camera.
- 2 Using a Philips screwdriver, remove the Philips screws (7) from the camera. At this point, the head block may fall out because of elasticity of wires attached to the CCD head block. Take care to avoid this.



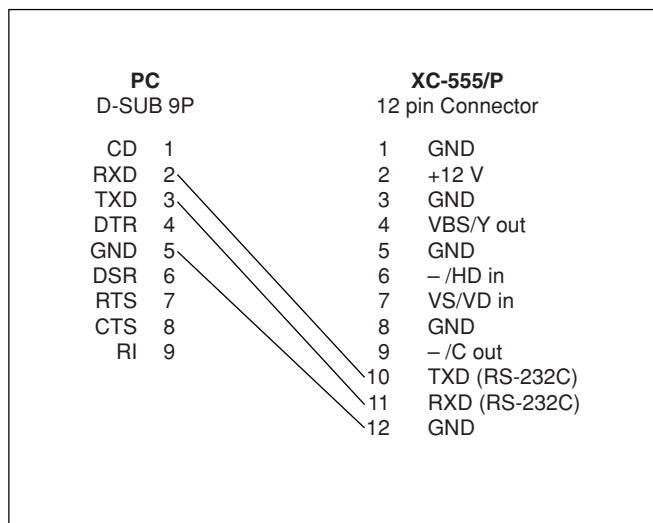
- 3 Push the rear panel to which the 12-pin connector is attached about 3 mm into the frame of the camera. The hidden RS-232C DIP switches will become visible in the little window provided to carry out DIP switch operations.
- 4 Switch both of the last two switches on the left end of the row to the down position.



- 5** Push the back panel and the CCD head block back into their previous positions, and tighten the Philips screws ( 7 ) to a torque of 0.18 N•m.



## Connections



## Communication Specifications

This unit utilizes an RS-232C-compliant, flow controlled, synchronous serial interface.

Because the RS-232C setting is set to OFF when the unit is shipped from the factory, you must change the setting of the internal DIP switches to utilizes the RS-232C function. (Before changing the settings make absolutely sure that the power to the unit is turned off. (See “Setting the RS-232C Switches” (page 11).))

The parameters are as follows.

Communication speed : 9600 bps  
 Data length : 8 bit  
 Stop bit : 1 bit  
 Parity : None

This is a no-flow-control, no-handshake protocol, each bite is transmitted from the LSB line.

Characters that can be transmitted are ASCII codes 30h to 39h, 41h to 5Ah (Alphabetic capital letters A to Z, Arabic numerals 0 to 9), a space (20h), and a Carriage Return (0Dh).

Thus the commands used to control the camera are made up of the character set specified above, and each command must end with a Carriage Return character (0Dh).

Because this is a no-flow-control protocol, to prevent communication overflows, if the host side sends one byte, before sending the next byte, insert a 1 ms stop period.

# The Sequence from “Power up” to Beginning/End of Communication

Commands expressed in writing as alphabetic letters are always enclosed in brackets [ ], and Carriage Return is abbreviated. For example, what is written on the page as [12AB] is sent as 31h, 32h, 41h, 42h, and 0Dh in data.

- 1** Immediately after the power is turned on, the camera makes the required settings based on information stored in non-volatile memory, and the camera begins to start up.

At this point in time, RS-232C communication is not permitted.

- 2** After start-up is completed, the camera sends [ACTV] to the host.

After the host has received this [ACTV] transmission, send your commands to the camera.

- 3** Send the version confirmation command [VERS] from the host.

Based on this, the camera enters the RS-232C mode.

- 4** The camera sends its software version information [X1\*\*]<sup>1)</sup> and [OKAY] to the host.

<sup>1)</sup> [X] indicates that this is an XC series camera.

[1] is a product code that indicates this is an XC-555. A [2] would indicate an XC-555P.

[\*\*] indicates the version of the software. [10] in place of \*\* would indicate Version 1.0.

- 5** After the [OKAY] is sent in step 4, the camera is able to receive setting change commands from the host, and it waits for communication.

- 6** Send a command from the host.

- 7** The camera receives the command, and when execution is complete, it returns an [OKAY]. (For all commands except the One Push AWB command.)

If a receive error or a command error occurs, [CERR] is returned from the camera.

Do not send the next command from the host until an answering (Ack) [OKAY] or [CERR] is received from the camera.

- 8** If you send a [STOP] from the host, the camera returns an [OKAY], then it exits the RS-232C mode and re-enters the normal operating mode. (That is, it returns to the state it was in after step 1, above.)

# Camera Function Setting Commands

## Setting Gain

### AGC ON/OFF

Applicable to both AGC Max Limit and STEP gain.

### AGC Max Limit (AGC ON)

6dB	[E220]
12dB	[E221]
18dB	[E222]

### AE speed

Also applicable to CCD Iris

Slow	[EB00]
Norm	[EB02]
Fast	[EB04]

### STEP Gain (AGC OFF)

0dB	[E200]
1dB	[E201]
2dB	[E202]
:	:
15dB	[E20F]
16dB	[E210]
17dB	[E211]
18dB	[E212]

### Exposure Correction

Also applicable to CCD Iris

Over Max	[A2FF]
:	:
Standard	[A280]
:	:
Under Max	[A201]

## Shutter Settings

### Shutter OFF

Send two commands together, in a [E3\*\*], [E4\*\*] order, one after the other.

(The camera returns an [OKAY] after each and every command.)

Shutter OFF	[E300][E400]
-------------	--------------

### CCD Iris ON & Max Limit

Send two commands together, in a [E3\*\*], [E4\*\*] order, one after the other.

(The camera returns an [OKAY] after each and every command.)

CCD Iris ON (Max 1/250)	[E360] [E400]
CCD Iris ON (Max 1/500)	[E360] [E401]
CCD Iris ON (Max 1/1000)	[E360] [E402]
CCD Iris ON (Max 1/2000)	[E360] [E403]
CCD Iris ON (Max 1/4000)	[E360] [E404]
CCD Iris ON (Max 1/10000)	[E360] [E405]
CCD Iris ON (Max 1/20000)	[E360] [E406]
CCD Iris ON (Max 1/50000)	[E360] [E407]
CCD Iris ON (Max 1/100000)	[E360] [E408]

However, operation is guaranteed up to 1/4000.

### AE speed

Also applicable to AGC

Slow	[EB00]
Norm	[EB02]
Fast	[EB04]

### Exposure Correction

Also applicable to AGC

Over Max	[A2FF]
:	:
Standard	[A280]
:	:
Under Max	[A200]

---

## Flicker Less ON

Send two commands together, in a [E3\*\*], [E4\*\*] order, one after the other.  
(The camera returns an [OKAY] after each and every command.)

Flicker Less ON	[E328] [E401]
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## Shutter speed (STEP)

Send two commands together, in a [E3\*\*], [E4\*\*] order, one after the other.  
(The camera returns an [OKAY] after each and every command.)

1/60 (PAL 1/50)	[E328][E400]
FL	[E328][E401]
1/250	[E328][E403]
1/500	[E328][E404]
1/1000	[E328][E405]
1/2000	[E328][E406]
1/4000	[E328][E407]
1/10000	[E328][E408]
1/20000	[E328][E409]
1/50000	[E328][E40A]
1/100000	[E328][E40B]

---

## Shutter speed (Variable)

Send two commands together, in a [E3\*\*], [E4\*\*] order, one after the other.  
(The camera returns an [OKAY] after each and every command.)

Shutter speed		NTSC	PAL
Slow	1/50	–	[E348] [E400]
:	:	–	:
:	1/59.7	–	[E348] [E432]
:	1/60	[E348] [E432]	[E348] [E433]
:	:	:	:
:	1/120	[E348] [E4B5]	[E348] [E4B5]
:	:	:	:
:	1/1000	[E349] [E428]	[E349] [E428]
:	:	:	:
Fast	1/100000	[E349] [E4FF]	[E349] [E4FF]

For details on the shutter speed, see “Shutter Speed and the Settings Command” on page 21.

## White Balance Settings

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### WB mode (AWB/ATW/Manu/3200K/5600K)

AWB	[EA30](One Push AWB)
ATW	[EA31]
Manu	[EA33]
3200K	[EA34]
5600K	[EA35]

---

### One Push AWB

start	[C800]
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One Push AWB: Starts after the image is taken with the appropriate exposure when a white object fills the entire screen.

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### AWB Answer (Acknowledgement (Ack) returned from the camera in response to a One Push AWB)

OK	[C208]	AWB Finished Normally
NG	[C018]	Automatic adjustment not possible due to unacceptable level of accuracy
Level Hi	[C003]	Exposure too bright
Level Lo	[C004]	Exposure too dark
Ctemp Hi	[C005]	Light source color temperature too high
Ctemp Lo	[C006]	Light source color temperature too low

From the time [C800] is received, until Answer Back is sent, a delay of a maximum of as long as approximately 10 seconds may occur. During that period, do not send commands from the host.

---

### ATW speed

slow	[EB31]
norm	[EB32]
fast	[EB33]

## R,B-gain (Effective only when WB mode = Manu)

R-gain Min.	[A000]
:	:
Standard	[A080]
:	:
R-gain Max.	[A0FF]

B-gain Min.	[A100]
:	:
Standard	[A180]
:	:
B-gain Max.	[A1FF]

## Video Process Setting

### Pedestal

Pedestal Min.	[AD71]
:	:
Standard	[AD80]
:	:
Pedestal Max.	[AD8F]

#### Note

The settings that can actually be made are limited to 16 levels, including [AD80h].

### Gamma ON/OFF

ON	[E880]
OFF	[E800]

### Sharpness

Sharpness Min.	[A500]
:	:
Standard	[A580]
:	:
Sharpness Max.	[A5FF]

### Nega/Posi

posi	[EAB1]
nega	[EAB0]

The operation of AGC, CCD Iris, AWB, and ATW is not guaranteed when nega is set.

## System Settings

### Memory Load Factory/Bank A/Bank B

Load Factory	[EF12]
Load from A	[EF00]
Load from B	[EF01]

### Memory Save Bank A/Bank B

Save to A	[EBFA]
Save to B	[EBFB]

### Output Sel. VBS/YC

VBS	[EA81]
YC	[EA80]

### H-Phase

Shift -Max	[A400]
:	:
Standard	[A480]
:	:
Shift +Max	[A4FF]

Only effective when the camera is operated with external synchronization. Other than that, the camera returns a [CERR].



## Camera Setup Readout from a List

### Read Request [RMEM]

Sends the relative address and the data, in order, from the beginning of the Camera Setup Memory area.

Host Computer	Camera
[RMEM] →	
←[S00_**]	** are assumed to be 8bit(LSB: b0) b1=0: AGC OFF, b1=1: AGC ON b3=0: Shutter Manual, b3=1: Shutter Auto
←[S01_**]	** = AGC Max Gain 00: 6dB, 01: 12dB, 02: 18dB
←[S02_**]	** = Gain 00: 0dB – 12h: 18dB
←[S03_**]	** = AE Compensation 00: under – 80h: Standard – FFh: over
←[S04_**]	** = Shutter Speed(1) The first digit of the 00,01h Shutter Speed variable's 3 digits
←[S05_**]	** = Shutter Speed(2) The last two digits of the 00 – FFh Shutter Speed variable's 3 digits
←[S06_**]	** = [E3**] The last two digits of the most recently received [E3**] command
←[S07_**]	** = [E4**] The last two digits of the most recently received [E4**] command
←[S08_**]	** = CCD Iris Max Speed 00: 1/250 – 04h: 1/4000 – 08h: 1/100000
←[S09_**]	** = AE Speed 00: slow,02: norm,04: fast
←[S0A_**]	** = White Balance Mode 00: AWB,01: ATW,03: manual,04: 3200K,05: 5600K
←[S0B_**]	** = ATW Speed 01: slow,02: norm,03: fast
←[S0C_**]	** = R-Gain 00: min – 80h: Standard – FFh: max
←[S0D_**]	** = B-Gain 00: min – 80h: Standard – FFh: max
←[S0E_**]	Not Defined
←[S0F_**]	Not Defined
←[S10_**]	** = Pedestal 71h: min – 8Fh: Standard – FFh: max
←[S11_**]	** = Gamma 00: OFF, 80h: ON
←[S12_**]	** = Memory Bank 00: Factory, 01: Bank A, 02: Bank B
←[S13_**]	** = Sharpness 7Ah: min – 89h: Standard – FFh: max
←[S14_**]	Not Defined
←[S15_**]	Not Defined
←[S16_**]	** = Picture 00: Nega, 01: Norm
←[S17_**]	** = Output 00: Y/C, 01: VBS
←[S18_**]	** = H-Phase (VS mode) 00: Phase Delayed – 80h: Standard – FFh: Phase Advanced
←[S19_**]	** = H-Phase (HR/VR mode) 00: Phase Delayed – 80h: Standard – FFh: Phase Advanced
←[S1A_**]	Not Defined
←[S1B_**]	Not Defined

---

## Examples

Commands expressed in writing as alphabetic letters are always enclosed in brackets [ ], and Carriage Return is abbreviated. For example, what is written on the page as [12AB] is sent as 31h, 32h, 41h, 42h, and 0Dh in data.

---

### Setting RS-232C mode

- 1 Set the RC-232C switches to ON (see “Setting the RS-232C Switches” (page 11)).
- 2 Connect the camera and the host (see “Connections” (page 12)).
- 3 Supply power to the camera.
- 4 Confirm that [ACTV] has been sent from the camera.
- 5 Send the version confirmation command [VERS] to the camera.
- 6 Confirm that the version information [X1\*\*]<sup>1)</sup> and an [OKAY] have been sent from the camera.

<sup>1)</sup> [X] indicates that this is an XC series camera.

[1] is a product code that indicates this is an XC-555. An XC-555P would send a [2].

[\*\*] indicates the version of the software. If it is [10], the version is Version 1.0.

After sending an [OKAY], the camera is able to receive RS-232C commands, and it remains in a wait state, watching for communication.

---

### Setting AGC to ON

AGC is set to ON using the AGC Max Limit command.

- 1 Send the AGC Max Limit command (18dB), [E222], to the camera.
- 2 Confirm that an [OKAY] has been sent from the camera.

---

### Setting the Shutter speed to 1/2000

Send the two commands needed to set the shutter speed together, one right after the other.

- 1 Send the first half of the Shutter speed command (STEP), [E328], to the camera.
- 2 Confirm that an [OKAY] has been sent from the camera.
- 3 Send the second half of the Shutter speed command (STEP), [E406], to the camera.
- 4 Confirm that an [OKAY] has been sent from the camera.

---

### Activating One Push AWB

Set WB mode to AWB, then send the start command.

- 1 Send the WB mode AWB command, [EA30], to the camera.
- 2 Confirm that an [OKAY] has been sent from the camera.
- 3 Send the AWB start command, [C800], to the camera.
- 4 Confirm that an [OKAY] has been sent from the camera.  
(One of the following will be returned.)
 

OK	:	[C208]	AWB Finished Normally
NG	:	[C018]	Automatic adjustment not possible due to unacceptable level of accuracy
Level Hi	:	[C003]	Exposure too bright
Level Lo	:	[C004]	Exposure too dark
Ctemp Hi	:	[C005]	Light source color temperature too high
Ctemp Lo	:	[C006]	Light source color temperature too low

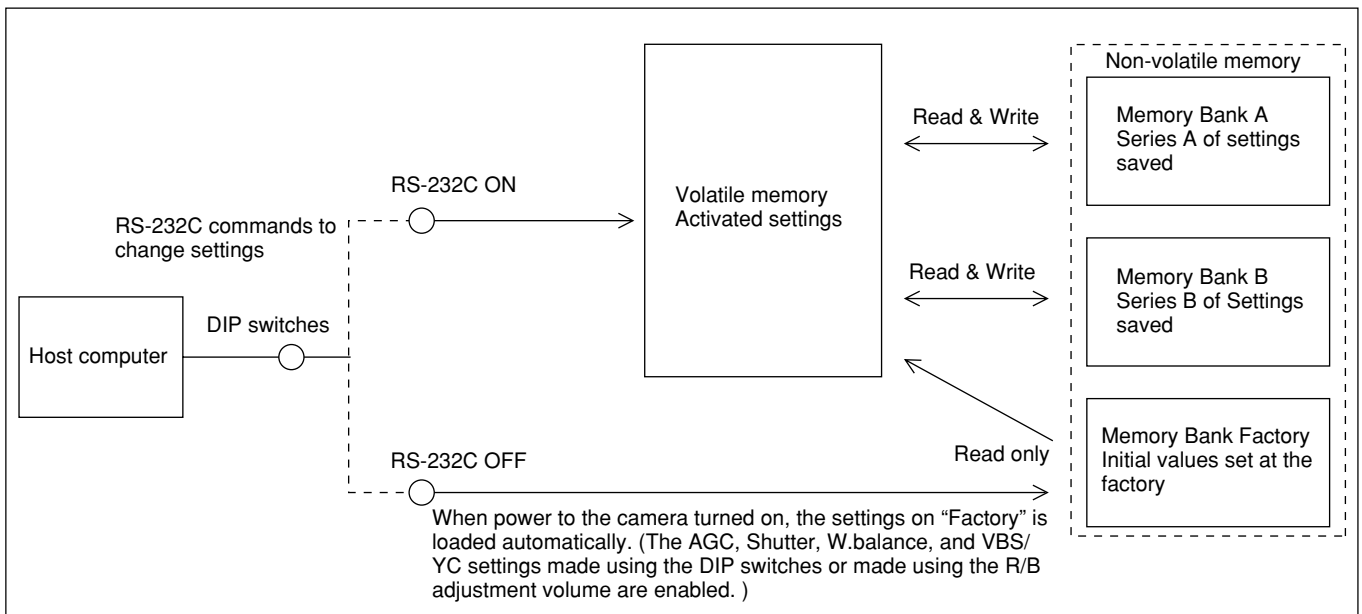
---

### Ending RS-232C mode

- 1 Send the “end RS-232C mode” command, [STOP] to the camera.
- 2 Confirm that an [OKAY] has been sent from the camera.  
The camera will return to the same internal settings it had when the power was first turned on.
- 3 Confirm that an [ACTV] has been sent from the camera.

# RS-232C Mode and the Memory Banks

## Structure of the Memory Banks



The XC-555 is equipped with three Memory Banks (Factory/A/B) to hold camera settings. Factory is "read only," holding the settings made when the camera was shipped from the factory. A and B can be written to, as well as read from, and the user utilizes these locations to hold setting values, calling them up when needed.

When the camera is in operation, valid settings are held in volatile memory. The user sends RS-232C commands to change the camera settings, overwriting the settings information held in these memory locations.

Using the "Memory Save" command, setting information can be written to either of the non-volatile Memory Bank A or Memory Bank B locations.

Using the "Memory Load" command, the information stored in Memory Banks Factory, A, or B, can be read out.

When power to the camera turned on, the settings information loaded with the most recent "Memory Load" command is read out of memory, and used as the current settings. (When the camera is shipped from the factory, the information stored in the Memory Bank Factory is set to be read out when power is turned on.)

Settings made with the DIP switches on the side of the camera or with the R/B adjustment volume are recognized as the same as some of those held in the Factory memory location. However, when "Memory

Load (Factory)" is carried out in RS-232C mode, settings made with the DIP switches on the side of the camera or with the R/B adjustment volume are rendered invalid, and the settings are returned to those made when the camera was shipped from the factory.

When the RS-232C switches hidden by the camera cover are set to OFF, Memory Banks A and B are disabled, so when power to the camera is turned on, the camera starts up normally, using the settings stored in Memory Bank Factory.

(This is the way the camera is shipped from the factory.)

## Functions Available with Memory Load/Save

Category	Data	Initial values
Gain	AGC ON/OFF	ON
	AGC Max Gain	18dB
	Step Gain	0dB
Shutter speed	Shutter OFF/CCD Iris/ Variable	OFF
	Shutter speed	NTSC:1/60 PAL:1/50
	CCD Iris Max Speed	1/4000
Exposure	Exposure Compensation	80h : Normal Status
	AE speed	normal
White Balance	WB mode AWB/ATW/ manual/3200K/5600K	3200K
	ATW speed	normal
	Manual R-gain	80h : Normal Status
	Manual B-gain	80h : Normal Status
	AWB R-gain <sup>1)</sup>	–
	AWB B-gain <sup>1)</sup>	–
Video Process	Pedestal	80h : Normal Status
	Sharpness	80h : Normal Status
	Gamma ON/OFF	ON
	Nega ON/OFF	OFF
	Output VBS/YC	VBS
	VS H-phase	80h : Normal Status
	HD/VD H-phase	80h : Normal Status

<sup>1)</sup> AWB R,B-gain retains the results of the last One Push AWB operation. If “Memory Load” is carried out when WB mode is set to AWB, the AWB R, B-gain results held in memory are activated.

## The Memory Bank to be Activated When Power is Turned on

---

### When the RS-232C switches are set to OFF

The “Factory” settings are activated. The AGC, Shutter, WB, and VBS/YC settings made using the DIP switches on the side of the camera or made using R/B adjustment volume are given priority.

---

### When the RS-232C switches are set to ON

The settings in the Memory Bank (Factory/A/B) selected in the last Memory Load operation are activated.

If started using “Factory,” immediately after the power is turned on, the AGC, Shutter, W.Balance, and VBS/YC settings made using the DIP switches on the side of the camera or made using R/B adjustment volume are given priority. After that, if the camera enters RS-232C mode, and “Memory Load Factory” is carried out, settings made using the DIP switches on the side of the camera or made using R/B adjustment volume are disabled, and the initial values shown in “Functions Available with Memory Load/Save” on the previous column are activated.

# Appendix

## Shutter Speed and the Settings Command

(See “Shutter speed (Variable)” (page 15).)

The shutter speed (in units of microseconds) to be set and the relevant command (in hexadecimal) are read out from the table below. Add the first digit to [E348], and add the last two digits to [E400], then send this value to the camera.

### Note

The Shutter speed shown in the table is a logical value for the camera’s internal shutter control circuits, and errors occurring during operation are not included.

### Example

When the Shutter speed is set to 1,311 microseconds for the NTSC model

From the table, the relevant command [123] is identified. The actual command sent to the camera is calculated as E348 + 1 = E349 / E400 +23 = E423, yielding [E349], [E423].

### XC-555 NTSC Shutter speed

command	μS	command	μS	command	μS	command	μS	command	μS	command	μS	command	μS	command	μS
000	16,627.6	040	15,737.9	080	11,670.4	0C0	7,602.9	100	3,535.4	140	439.9	180	147.4	1C0	40.5
001	16,627.6	041	15,674.3	081	11,606.8	0C1	7,539.4	101	3,471.9	141	435.3	181	145.3	1C1	39.7
002	16,627.6	042	15,610.8	082	11,543.3	0C2	7,475.8	102	3,408.3	142	430.6	182	143.2	1C2	38.8
003	16,627.6	043	15,547.2	083	11,479.7	0C3	7,412.3	103	3,344.8	143	426.0	183	141.1	1C3	38.0
004	16,627.6	044	15,483.7	084	11,416.2	0C4	7,348.7	104	3,281.2	144	421.4	184	139.0	1C4	37.2
005	16,627.6	045	15,420.1	085	11,352.6	0C5	7,285.2	105	3,217.7	145	416.8	185	136.9	1C5	36.3
006	16,627.6	046	15,356.6	086	11,289.1	0C6	7,221.6	106	3,154.1	146	412.2	186	134.8	1C6	35.5
007	16,627.6	047	15,293.0	087	11,225.5	0C7	7,158.0	107	3,090.6	147	407.6	187	132.7	1C7	34.7
008	16,627.6	048	15,229.5	088	11,162.0	0C8	7,094.5	108	3,027.0	148	403.0	188	130.6	1C8	33.8
009	16,627.6	049	15,165.9	089	11,098.4	0C9	7,030.9	109	2,963.5	149	398.4	189	128.5	1C9	33.0
00A	16,627.6	04A	15,102.3	08A	11,034.9	0CA	6,967.4	10A	2,899.9	14A	393.8	18A	126.4	1CA	32.1
00B	16,627.6	04B	15,038.8	08B	10,971.3	0CB	6,903.8	10B	2,836.3	14B	389.2	18B	124.3	1CB	31.7
00C	16,627.6	04C	14,975.2	08C	10,907.8	0CC	6,840.3	10C	2,772.8	14C	384.6	18C	122.2	1CC	31.3
00D	16,627.6	04D	14,911.7	08D	10,844.2	0CD	6,776.7	10D	2,709.2	14D	379.9	18D	120.1	1CD	30.9
00E	16,627.6	04E	14,848.1	08E	10,780.6	0CE	6,713.2	10E	2,645.7	14E	375.3	18E	118.0	1CE	30.5
00F	16,627.6	04F	14,784.6	08F	10,717.1	0CF	6,649.6	10F	2,582.1	14F	370.7	18F	115.9	1CF	30.0
010	16,627.6	050	14,721.0	090	10,653.5	0D0	6,586.1	110	2,518.6	150	366.1	190	113.9	1D0	29.6
011	16,627.6	051	14,657.5	091	10,590.0	0D1	6,522.5	111	2,455.0	151	361.5	191	111.8	1D1	29.2
012	16,627.6	052	14,593.9	092	10,526.4	0D2	6,458.9	112	2,391.5	152	356.9	192	109.7	1D2	28.8
013	16,627.6	053	14,530.4	093	10,462.9	0D3	6,395.4	113	2,327.9	153	352.3	193	107.6	1D3	28.4
014	16,627.6	054	14,466.8	094	10,399.3	0D4	6,331.8	114	2,264.4	154	347.7	194	105.5	1D4	27.9
015	16,627.6	055	14,403.2	095	10,335.8	0D5	6,268.3	115	2,200.8	155	343.1	195	103.4	1D5	27.5
016	16,627.6	056	14,339.7	096	10,272.2	0D6	6,204.7	116	2,137.2	156	338.5	196	101.3	1D6	27.1

command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$
017	16,627.6	057	14,276.1	097	10,208.7	0D7	6,141.2	117	2,073.7	157	333.8	197	99.2	1D7	26.7
018	16,627.6	058	14,212.6	098	10,145.1	0D8	6,077.6	118	2,010.1	158	329.2	198	97.1	1D8	26.3
019	16,627.6	059	14,149.0	099	10,081.5	0D9	6,014.1	119	1,946.6	159	324.6	199	95.0	1D9	25.9
01A	16,627.6	05A	14,085.5	09A	10,018.0	0DA	5,950.5	11A	1,883.0	15A	320.0	19A	92.9	1DA	25.4
01B	16,627.6	05B	14,021.9	09B	9,954.4	0DB	5,887.0	11B	1,819.5	15B	315.4	19B	90.8	1DB	25.0
01C	16,627.6	05C	13,958.4	09C	9,890.9	0DC	5,823.4	11C	1,755.9	15C	310.8	19C	88.7	1DC	24.6
01D	16,627.6	05D	13,894.8	09D	9,827.3	0DD	5,759.8	11D	1,692.4	15D	306.2	19D	86.6	1DD	24.2
01E	16,627.6	05E	13,831.3	09E	9,763.8	0DE	5,696.3	11E	1,628.8	15E	301.6	19E	84.5	1DE	23.8
01F	16,627.6	05F	13,767.7	09F	9,700.2	0DF	5,632.7	11F	1,565.3	15F	297.0	19F	82.4	1DF	23.3
020	16,627.6	060	13,704.1	0A0	9,636.7	0E0	5,569.2	120	1,501.7	160	292.4	1A0	80.3	1E0	22.9
021	16,627.6	061	13,640.6	0A1	9,573.1	0E1	5,505.6	121	1,438.1	161	287.8	1A1	78.2	1E1	22.5
022	16,627.6	062	13,577.0	0A2	9,509.6	0E2	5,442.1	122	1,374.6	162	283.1	1A2	76.1	1E2	22.1
023	16,627.6	063	13,513.5	0A3	9,446.0	0E3	5,378.5	123	1,311.0	163	278.5	1A3	74.9	1E3	21.7
024	16,627.6	064	13,449.9	0A4	9,382.4	0E4	5,315.0	124	1,247.5	164	273.9	1A4	73.6	1E4	21.2
025	16,627.6	065	13,386.4	0A5	9,318.9	0E5	5,251.4	125	1,183.9	165	269.3	1A5	72.4	1E5	20.8
026	16,627.6	066	13,322.8	0A6	9,255.3	0E6	5,187.9	126	1,120.4	166	264.7	1A6	71.1	1E6	20.4
027	16,627.6	067	13,259.3	0A7	9,191.8	0E7	5,124.3	127	1,056.8	167	260.1	1A7	69.9	1E7	20.0
028	16,627.6	068	13,195.7	0A8	9,128.2	0E8	5,060.7	128	993.3	168	255.5	1A8	68.6	1E8	19.6
029	16,627.6	069	13,132.2	0A9	9,064.7	0E9	4,997.2	129	929.7	169	250.9	1A9	67.3	1E9	19.2
02A	16,627.6	06A	13,068.6	0AA	9,001.1	0EA	4,933.6	12A	866.2	16A	246.3	1AA	66.1	1EA	18.7
02B	16,627.6	06B	13,005.0	0AB	8,937.6	0EB	4,870.1	12B	802.6	16B	241.7	1AB	64.8	1EB	18.3
02C	16,627.6	06C	12,941.5	0AC	8,874.0	0EC	4,806.5	12C	739.0	16C	237.1	1AC	63.6	1EC	17.9
02D	16,627.6	06D	12,877.9	0AD	8,810.5	0ED	4,743.0	12D	675.5	16D	232.4	1AD	62.3	1ED	17.5
02E	16,627.6	06E	12,814.4	0AE	8,746.9	0EE	4,679.4	12E	611.9	16E	227.8	1AE	61.1	1EE	17.1
02F	16,627.6	06F	12,750.8	0AF	8,683.3	0EF	4,615.9	12F	554.3	16F	223.2	1AF	59.8	1EF	16.6
030	16,627.6	070	12,687.3	0B0	8,619.8	0F0	4,552.3	130	513.6	170	218.6	1B0	58.5	1F0	16.2
031	16,627.6	071	12,623.7	0B1	8,556.2	0F1	4,488.8	131	509.0	171	214.0	1B1	57.3	1F1	15.8
032	16,627.6	072	12,560.2	0B2	8,492.7	0F2	4,425.2	132	504.4	172	209.4	1B2	56.0	1F2	15.4
033	16,564.1	073	12,496.6	0B3	8,429.1	0F3	4,361.6	133	499.8	173	204.8	1B3	54.8	1F3	15.0
034	16,500.5	074	12,433.1	0B4	8,365.6	0F4	4,298.1	134	495.2	174	200.2	1B4	53.5	1F4	14.5
035	16,437.0	075	12,369.5	0B5	8,302.0	0F5	4,234.5	135	490.6	175	195.6	1B5	52.3	1F5	14.1
036	16,373.4	076	12,305.9	0B6	8,238.5	0F6	4,171.0	136	486.0	176	191.0	1B6	51.0	1F6	13.7
037	16,309.9	077	12,242.4	0B7	8,174.9	0F7	4,107.4	137	481.4	177	186.3	1B7	49.7	1F7	13.3
038	16,246.3	078	12,178.8	0B8	8,111.4	0F8	4,043.9	138	476.7	178	181.7	1B8	48.5	1F8	12.9
039	16,182.8	079	12,115.3	0B9	8,047.8	0F9	3,980.3	139	472.1	179	177.1	1B9	47.2	1F9	12.4
03A	16,119.2	07A	12,051.7	0BA	7,984.2	0FA	3,916.8	13A	467.5	17A	172.5	1BA	46.0	1FA	12.0
03B	16,055.7	07B	11,988.2	0BB	7,920.7	0FB	3,853.2	13B	462.9	17B	167.9	1BB	44.7	1FB	11.6
03C	15,992.1	07C	11,924.6	0BC	7,857.1	0FC	3,789.7	13C	458.3	17C	163.3	1BC	43.9	1FC	11.2
03D	15,928.5	07D	11,861.1	0BD	7,793.6	0FD	3,726.1	13D	453.7	17D	158.7	1BD	43.0	1FD	10.8
03E	15,865.0	07E	11,797.5	0BE	7,730.0	0FE	3,662.5	13E	449.1	17E	154.1	1BE	42.2	1FE	10.4
03F	15,801.4	07F	11,734.0	0BF	7,666.5	0FF	3,599.0	13F	444.5	17F	149.5	1BF	41.4	1FF	9.9

## XC-555P PAL Shutter speed

command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$
000	19,942.8	040	15,847.1	080	11,751.3	0C0	7,655.6	100	3,559.9	140	443.7	180	148.5	1C0	40.7
001	19,878.8	041	15,783.1	081	11,687.3	0C1	7,591.6	101	3,495.9	141	439.0	181	146.4	1C1	39.8
002	19,814.8	042	15,719.1	082	11,623.4	0C2	7,527.6	102	3,431.9	142	434.4	182	144.3	1C2	39.0
003	19,750.8	043	15,655.1	083	11,559.4	0C3	7,463.6	103	3,367.9	143	429.7	183	142.2	1C3	38.1
004	19,686.8	044	15,591.1	084	11,495.4	0C4	7,399.6	104	3,303.9	144	425.1	184	140.1	1C4	37.3
005	19,622.8	045	15,527.1	085	11,431.4	0C5	7,335.6	105	3,239.9	145	420.4	185	137.9	1C5	36.5
006	19,558.8	046	15,463.1	086	11,367.4	0C6	7,271.6	106	3,175.9	146	415.8	186	135.8	1C6	35.6
007	19,494.8	047	15,399.1	087	11,303.4	0C7	7,207.6	107	3,111.9	147	411.1	187	133.7	1C7	34.8
008	19,430.8	048	15,335.1	088	11,239.4	0C8	7,143.6	108	3,047.9	148	406.5	188	131.6	1C8	33.9
009	19,366.8	049	15,271.1	089	11,175.4	0C9	7,079.6	109	2,983.9	149	401.8	189	129.5	1C9	33.1
00A	19,302.9	04A	15,207.1	08A	11,111.4	0CA	7,015.6	10A	2,919.9	14A	397.2	18A	127.4	1CA	32.2
00B	19,238.9	04B	15,143.1	08B	11,047.4	0CB	6,951.7	10B	2,855.9	14B	392.5	18B	125.3	1CB	31.8
00C	19,174.9	04C	15,079.1	08C	10,983.4	0CC	6,887.7	10C	2,791.9	14C	387.9	18C	123.1	1CC	31.4
00D	19,110.9	04D	15,015.1	08D	10,919.4	0CD	6,823.7	10D	2,727.9	14D	383.2	18D	121.0	1CD	31.0
00E	19,046.9	04E	14,951.1	08E	10,855.4	0CE	6,759.7	10E	2,663.9	14E	378.6	18E	118.9	1CE	30.5
00F	18,982.9	04F	14,887.1	08F	10,791.4	0CF	6,695.7	10F	2,599.9	14F	373.9	18F	116.8	1CF	30.1
010	18,918.9	050	14,823.1	090	10,727.4	0D0	6,631.7	110	2,535.9	150	369.3	190	114.7	1D0	29.7
011	18,854.9	051	14,759.1	091	10,663.4	0D1	6,567.7	111	2,471.9	151	364.6	191	112.6	1D1	29.3
012	18,790.9	052	14,695.2	092	10,599.4	0D2	6,503.7	112	2,407.9	152	360.0	192	110.5	1D2	28.8
013	18,726.9	053	14,631.2	093	10,535.4	0D3	6,439.7	113	2,344.0	153	355.3	193	108.3	1D3	28.4
014	18,662.9	054	14,567.2	094	10,471.4	0D4	6,375.7	114	2,280.0	154	350.7	194	106.2	1D4	28.0
015	18,598.9	055	14,503.2	095	10,407.4	0D5	6,311.7	115	2,216.0	155	346.0	195	104.1	1D5	27.6
016	18,534.9	056	14,439.2	096	10,343.4	0D6	6,247.7	116	2,152.0	156	341.3	196	102.0	1D6	27.1
017	18,470.9	057	14,375.2	097	10,279.4	0D7	6,183.7	117	2,088.0	157	336.7	197	99.9	1D7	26.7
018	18,406.9	058	14,311.2	098	10,215.4	0D8	6,119.7	118	2,024.0	158	332.0	198	97.8	1D8	26.3
019	18,342.9	059	14,247.2	099	10,151.4	0D9	6,055.7	119	1,960.0	159	327.4	199	95.7	1D9	25.9
01A	18,278.9	05A	14,183.2	09A	10,087.5	0DA	5,991.7	11A	1,896.0	15A	322.7	19A	93.5	1DA	25.5
01B	18,214.9	05B	14,119.2	09B	10,023.5	0DB	5,927.7	11B	1,832.0	15B	318.1	19B	91.4	1DB	25.0
01C	18,150.9	05C	14,055.2	09C	9,959.5	0DC	5,863.7	11C	1,768.0	15C	313.4	19C	89.3	1DC	24.6
01D	18,086.9	05D	13,991.2	09D	9,895.5	0DD	5,799.7	11D	1,704.0	15D	308.8	19D	87.2	1DD	24.2
01E	18,022.9	05E	13,927.2	09E	9,831.5	0DE	5,735.7	11E	1,640.0	15E	304.1	19E	85.1	1DE	23.8
01F	17,958.9	05F	13,863.2	09F	9,767.5	0DF	5,671.7	11F	1,576.0	15F	299.5	19F	83.0	1DF	23.3
020	17,894.9	060	13,799.2	0A0	9,703.5	0E0	5,607.7	120	1,512.0	160	294.8	1A0	80.9	1E0	22.9
021	17,830.9	061	13,735.2	0A1	9,639.5	0E1	5,543.7	121	1,448.0	161	290.2	1A1	78.7	1E1	22.5
022	17,767.0	062	13,671.2	0A2	9,575.5	0E2	5,479.7	122	1,384.0	162	285.5	1A2	76.6	1E2	22.1
023	17,703.0	063	13,607.2	0A3	9,511.5	0E3	5,415.8	123	1,320.0	163	280.9	1A3	75.4	1E3	21.7
024	17,639.0	064	13,543.2	0A4	9,447.5	0E4	5,351.8	124	1,256.0	164	276.2	1A4	74.1	1E4	21.2
025	17,575.0	065	13,479.2	0A5	9,383.5	0E5	5,287.8	125	1,192.0	165	271.6	1A5	72.8	1E5	20.8
026	17,511.0	066	13,415.2	0A6	9,319.5	0E6	5,223.8	126	1,128.0	166	266.9	1A6	71.6	1E6	20.4
027	17,447.0	067	13,351.2	0A7	9,255.5	0E7	5,159.8	127	1,064.0	167	262.3	1A7	70.3	1E7	20.0
028	17,383.0	068	13,287.2	0A8	9,191.5	0E8	5,095.8	128	1,000.0	168	257.6	1A8	69.0	1E8	19.5
029	17,319.0	069	13,223.2	0A9	9,127.5	0E9	5,031.8	129	936.0	169	253.0	1A9	67.7	1E9	19.1
02A	17,255.0	06A	13,159.3	0AA	9,063.5	0EA	4,967.8	12A	872.0	16A	248.3	1AA	66.5	1EA	18.7
02B	17,191.0	06B	13,095.3	0AB	8,999.5	0EB	4,903.8	12B	808.1	16B	243.7	1AB	65.2	1EB	18.3
02C	17,127.0	06C	13,031.3	0AC	8,935.5	0EC	4,839.8	12C	744.1	16C	239.0	1AC	63.9	1EC	17.8
02D	17,063.0	06D	12,967.3	0AD	8,871.5	0ED	4,775.8	12D	680.1	16D	234.4	1AD	62.7	1ED	17.4
02E	16,999.0	06E	12,903.3	0AE	8,807.5	0EE	4,711.8	12E	616.1	16E	229.7	1AE	61.4	1EE	17.0
02F	16,935.0	06F	12,839.3	0AF	8,743.5	0EF	4,647.8	12F	558.7	16F	225.1	1AF	60.1	1EF	16.6
030	16,871.0	070	12,775.3	0B0	8,679.5	0F0	4,583.8	130	518.1	170	220.4	1B0	58.9	1F0	16.2

command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$	command	$\mu\text{S}$
031	16,807.0	071	12,711.3	0B1	8,615.5	0F1	4,519.8	131	513.5	171	215.8	1B1	57.6	1F1	15.7
032	16,743.0	072	12,647.3	0B2	8,551.5	0F2	4,455.8	132	508.8	172	211.1	1B2	56.3	1F2	15.3
033	16,679.0	073	12,583.3	0B3	8,487.6	0F3	4,391.8	133	504.2	173	206.5	1B3	55.1	1F3	14.9
034	16,615.0	074	12,519.3	0B4	8,423.6	0F4	4,327.8	134	499.5	174	201.8	1B4	53.8	1F4	14.5
035	16,551.0	075	12,455.3	0B5	8,359.6	0F5	4,263.8	135	494.9	175	197.1	1B5	52.5	1F5	14.0
036	16,487.0	076	12,391.3	0B6	8,295.6	0F6	4,199.8	136	490.2	176	192.5	1B6	51.3	1F6	13.6
037	16,423.0	077	12,327.3	0B7	8,231.6	0F7	4,135.8	137	485.6	177	187.8	1B7	50.0	1F7	13.2
038	16,359.0	078	12,263.3	0B8	8,167.6	0F8	4,071.8	138	480.9	178	183.2	1B8	48.7	1F8	12.8
039	16,295.0	079	12,199.3	0B9	8,103.6	0F9	4,007.8	139	476.2	179	178.5	1B9	47.4	1F9	12.3
03A	16,231.1	07A	12,135.3	0BA	8,039.6	0FA	3,943.8	13A	471.6	17A	173.9	1BA	46.2	1FA	11.9
03B	16,167.1	07B	12,071.3	0BB	7,975.6	0FB	3,879.9	13B	466.9	17B	169.2	1BB	44.9	1FB	11.5
03C	16,103.1	07C	12,007.3	0BC	7,911.6	0FC	3,815.9	13C	462.3	17C	164.6	1BC	44.1	1FC	11.1
03D	16,039.1	07D	11,943.3	0BD	7,847.6	0FD	3,751.9	13D	457.6	17D	159.9	1BD	43.2	1FD	10.7
03E	15,975.1	07E	11,879.3	0BE	7,783.6	0FE	3,687.9	13E	453.0	17E	155.3	1BE	42.4	1FE	10.2
03F	15,911.1	07F	11,815.3	0BF	7,719.6	0FF	3,623.9	13F	448.3	17F	150.6	1BF	41.5	1FF	9.8



# Specifications

## Pickup device

Pickup device	Interline transfer 1/2-type CCD
Color filter	Complementary color mosaic
Output video	XC-555: Approx. 380,000 dots, 768(H) × 494(V) XC-555P: Approx. 440,000 dots, 752(H) × 582(V)

## Optical and others

Lens mount	Special mount (NF mount)
Signal system	XC-555: NTSC standard XC-555P: PAL standard
Scanning system	XC-555: 525 lines, 2:1 interlace, 30 frames/sec. XC-555P: 625 lines, 2:1 interlace, 25 frames/sec.
Sync system	Internal/External (automatic switching)
External synchronous input	HD/VD, VS
Horizontal resolution	XC-555: 470 TV lines XC-555P: 460 TV lines
Minimum illumination	3 lux at F1.2, AGC: ON
Sensitivity	2000 lux at F8, AGC: OFF (0 dB)
Video output	VBS/Y/C (selected with the switch) VBS: 1 Vp-p, 75 ohms, sync negative Y: 1 Vp-p, 75 ohms C: C level depends on the composite video out signal
Video signal to noise ratio	XC-555: 48 dB (standard) AGC: OFF (0 dB) XC-555P: 46 dB (standard) AGC: OFF (0 dB)
Shutter speed	4 speeds selectable: 1/60 sec. (OFF) (NTSC)/ 1/50 sec. (OFF) (PAL), 1/1000 sec., CCD IRIS, and FLICKERLESS
CCD IRIS	XC-555: 1/60 to 1/4000 sec. XC-555P: 1/50 to 1/4000 sec.
White Balance	4 modes selectable: ATW (Auto Tracing White balance), 3200K, 5600K, and MAN (Manual)
Gain control	2 modes selectable: AGC (0 to 18 dB) and fixed (0 dB)
Output connect	DC IN/SYNC/VIDEO: multi 12-pin

## Input of externally synchronization

Input level	XC-555: Video signal: 0m Vpp to 1.4m Vpp CSYNC signal: 0.15m Vpp to 0.6m Vpp XC-555P: Video signal: 0m Vpp to 1.4m Vpp CSYNC signal: 0.15m Vpp to 0.6m Vpp
Input horizontal frequency	XC-555: 15734 Hz ±0.2 Hz XC-555P: 15625 Hz ±0.2 Hz
Input vertical frequency	XC-555: 59.94 Hz ±0.00089 Hz XC-555P: 50 Hz ±0.00075 Hz
Termination	75 ohms, terminated by the camera

## HD/VD signal input of externally synchronization

Input level (Common to the XC-555 and the XC-555P)	High: DC4.0V to 5V Low: DC0V to 0.5V Negative
Frequency of input HD signal	XC-555: 15734 Hz ±0.2 Hz XC-555P: 15625 Hz ±0.2 Hz
Frequency of input VD signal	XC-555: 59.94 Hz ±0.00089 Hz XC-555P: 50 Hz ±0.00075 Hz
Termination	75 ohms, terminated by the camera

## General

Power requirement	10.5 to 15 V DC
Power consumption	2.4 W
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-30°C to 60°C (-22°F to 140°F)
Operating humidity	20 to 80% (no condensation permissible)
Storage humidity	20 to 90% (no condensation permissible)
Shock resistance	70 G

## Dimensions

Dimensions	22 × 22 × 75 (mm) (7/8 × 7/8 × 2 15/16 inches) (w/h/d, excluding projecting parts and controls)
Mass	60g (2 oz)

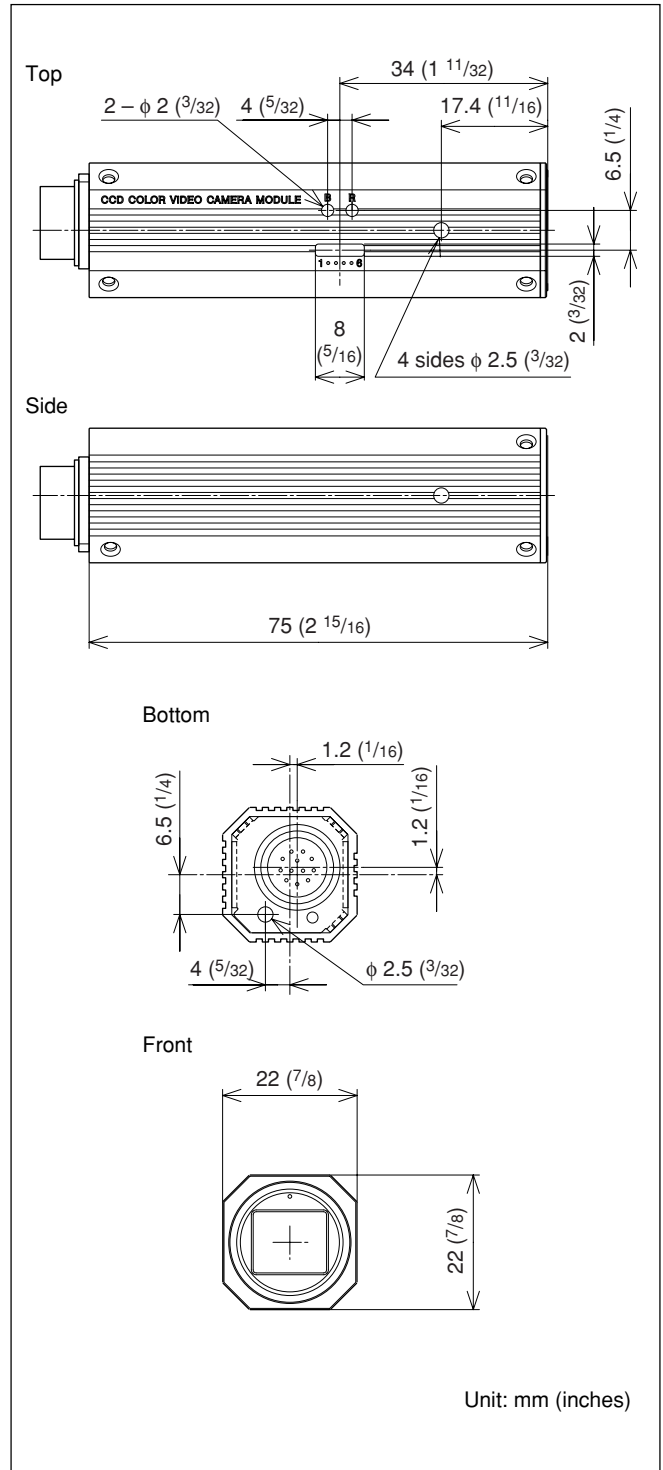
**Accessories supplied**

- Lens mount cap (1)
- Tripod adaptor (1 set)
- Operating Instructions (1)

**Accessories not supplied**

- Camera adaptor DC-700/DC-700CE
- Usable lens
  - NF mount lens
    - VCL-12S12XM (f=12 mm)
    - VCL-06S12XM (f=6 mm)
    - VCL-03S12XM (f=3.5 mm)
    - VCL-12SSXM (f=12 mm)
  - C mount Lens
    - VCL-50Y-M (f=50 mm)
    - VCL-25Y-M (f=25 mm)
    - VCL-16Y-M (f=16 mm)
    - VCL-12Y-M (f=12 mm)
    - VCL-08Y-M (f=8 mm)
- C-mount Adaptor
  - LO-999CMT
- Extension ring kit
  - LO-999ERK
- 12-pin camera cable
  - CCXC-12P02N/12P05N/12P10N/  
12P25N

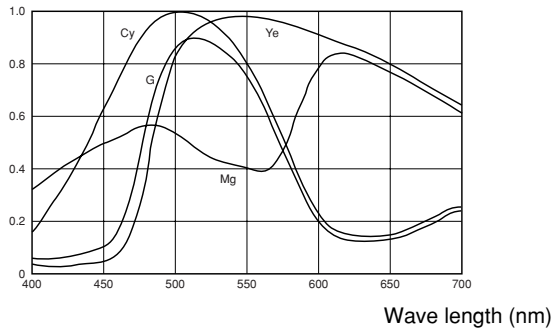
Design and specifications are subject to change without notice.

**Dimensions**

# Spectral Sensitivity Characteristics (Typical Value)

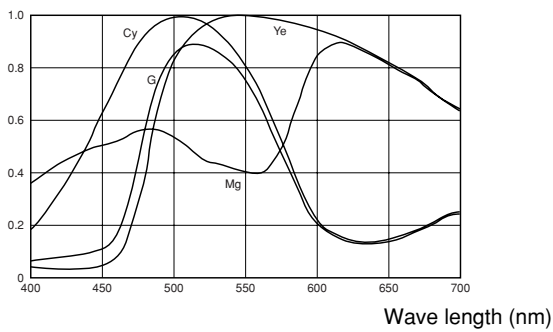
## XC-555

Relative sensitivity



## XC-555P

Relative sensitivity



### Note

The lens characteristics and light source characteristics are excluded.

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