

# Digital Video Camera Module

## 数字视频摄像机组件

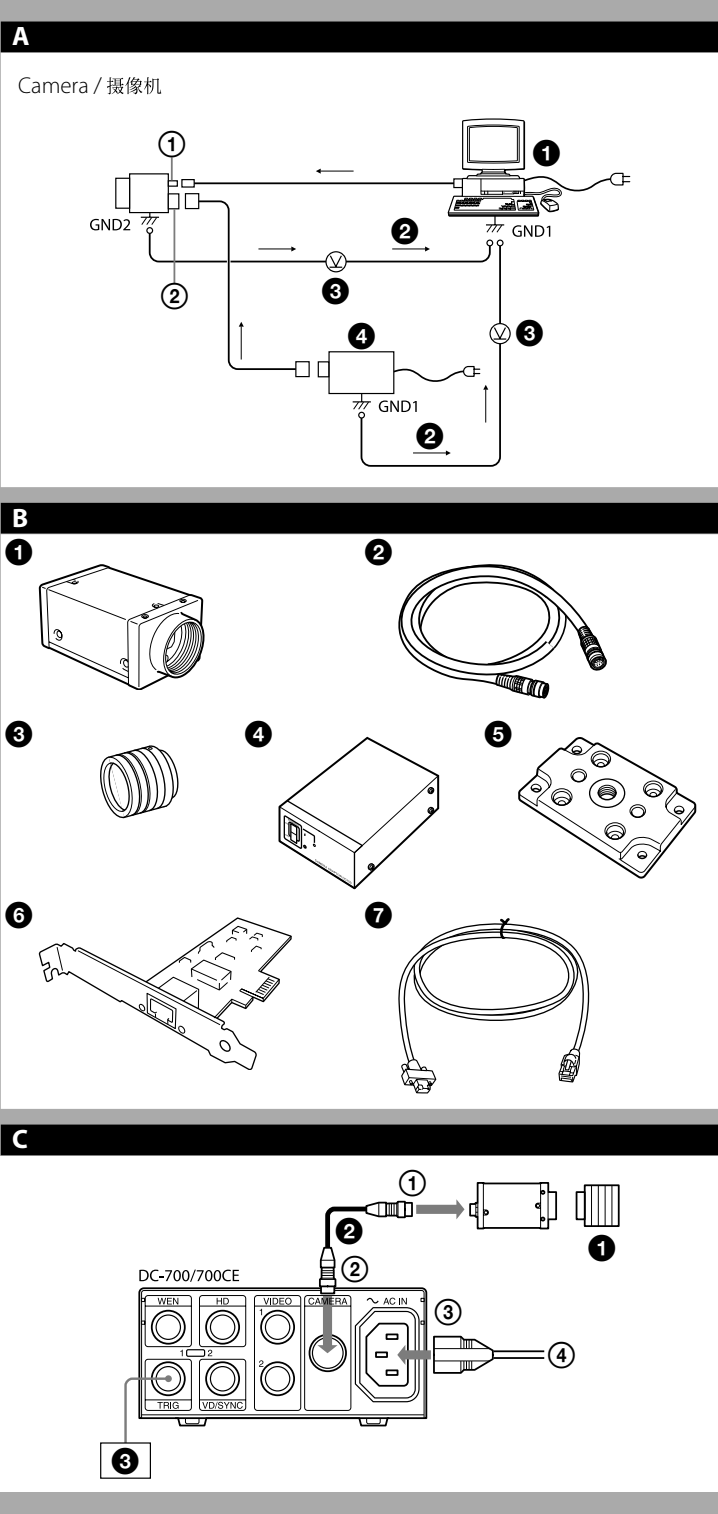
Operating Instructions  
使用说明书

XCG-U100CR / XCG-5005CR

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4283350210



### Owner's Record

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_

### WARNING

**To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.**

**To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.**

### 警告

为减少火灾或电击危险，请勿让本设备受到雨淋或受潮。

为防止触电严禁拆开机壳，维修请咨询具备资格人士。

#### Power Supply

The XCG-U100CR/5005CR operates on DC12V power.

#### 电源

XCG-U100CR/5005CR采用DC12V电源。XCG-U100CR/5005CR会自动检测电源。

#### CAUTION

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

#### IMPORTANT

The nameplate is located on the bottom.

#### 重要

设备铭牌位于底部。

#### 警告

此为A级产品。在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对干扰采取切实可行的措施。

### English

#### When installing the camera

When you install the camera with various peripheral devices and if the devices have different ground electric potential, ground only one device. In case there is an ground electric potential difference, the camera may be damaged.

- |  |                                    |
|--|------------------------------------|
| ① RJ45 connector                       | ② DC IN connector                  |
| ① Host device (e.g., Computer)         | ② Abnormal electricity             |
| ③ Ground electric potential difference | ④ Power supply unit (DC-700/700CE) |

### Notes on Operation

#### Power supply

You can supply power via the DC IN connector using the power adapter. Use DC-700/700CE which is the stable power source free from ripple or noise.

#### Foreign bodies

Be careful not to spill liquids, or drop any flammable or metal objects in the camera body.

#### Locations for operation and storage

Avoid operation or storage in the following places.

- Extremely hot or cold locations. Operating temperature is  $-10^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $122^{\circ}\text{F}$ ).
- Locations subject to strong vibration or shock.
- Near generators of strong electromagnetic radiation such as TV or radio transmitters.

#### Care

Use a blower to remove dust from the surface of the lens or optical filter. Clean the exterior with a soft, dry cloth. If the camera is very grimy, apply a cloth soaked in a mild detergent then wipe with a dry cloth. Do not apply organic solvents such as alcohol or benzine which may damage the finish.

#### Note on laser beams

Laser beams may damage a CCD. You are cautioned that the surface of a CCD should not be exposed to laser beam radiation in an environment where a laser beam device is used.

### Overview

Before operating the unit, please read this manual thoroughly and retain for future reference.

The XCG-U100CR/5005CR is a color digital video camera module that supports 1000BASE-T interface.

#### GigE Vision-compliant

Conforming to GigE Vision version 1.2 standards, this unit is capable of transmitting uncompressed images at high efficiency.

#### High image quality

Using progressive scan CCD, this unit is capable of producing high-speed, high-resolution images.

The XCG-U100CR equips a 2,000,000-pixel CCD that enables image output at 27 frames per second.

The XCG-5005CR equips a 5,000,000-pixel CCD that enables image output at 15 frames per second.

By adopting square pixels, images can be processed using the original aspect ratio without a converting procedure.

#### Body fixing

The screw holes to install the camera module are located under the front and rear panels. Installing the camera module at these points minimizes deviation of the optical axis. (For details, see Figure **D**.)

#### Electronic shutter function

Shutter speed can be selected from variety of available speeds.

#### External trigger shutter function (2 sec. to 1/100,000 sec.)

You can obtain still images by synchronizing with external trigger signals and operating the shutter at your own timing. This function is useful to shoot a fast-moving object clearly.

#### Partial scan

The camera module can limit the number of effective video output lines to achieve high frame rates, enabling high-speed image processing.

#### Gamma

You can switch to OFF or ON. When you switch to ON, you can select from various modes, and draw not only the default gamma line but also an original gamma line.

#### White Balance

The white balance can be adjusted by setting the R and B levels relative to the G level. The camera also has the one-push white balance feature by which the camera automatically adjusts the white balance.

#### Switching an Output Bit Length

You can select 8 bit output (default setting), 10 bit output, or 12 bit output.

#### Binarization

Outputs an binarized image. The threshold can be changed.

#### Frame rate control

You can change the frame rate while maintaining the shutter setting. This is useful when you want to reduce packet sizes per time by lowering the frame rate and reduce network traffic.

### System Components

The Camera Module system comprises the following optional products (available separately).

#### ① Camera Module

This is a small-size, high-resolution, video camera module using a progressive scan CCD image sensor.

#### ② CCXC-12P02N (2 m, 6.6 ft)/05N (5 m, 16.4 ft)/10N (10 m, 32.8 ft)/25N (25 m, 82 ft) camera cable

This is attached to the DC IN connector of the camera module and is used for power supply and exchange of trigger signals.

#### ③ C-mount lens

Use a lens suitable for the intended use.

#### ④ DC-700/700CE camera adaptor

This is connected to the camera module to enable power supply from ordinary AC power source.

#### ⑤ VCT-ST70I tripod adaptor

This attaches to the bottom of the camera module to fix the camera module to a tripod.

#### ⑥ Camera module interface board

Install the board in the expansion slot of the host device (ex: computer). Select a board that is appropriate for your system and that supports 1000BASE-T and jumbo packets.

#### ⑦ LAN cable

This cable connects to the RJ45 connector on the rear panel of the camera module. Image/control signals are transmitted via this cable. Select a LAN cable that supports 1000BASE-T (CAT5e or higher cable standard). Depending on the attributes of the LAN cable, images may become less clear and the camera module may become unstable. Be sure to use a LAN cable that has sufficient noise reduction.

#### CAUTION

When you connect the LAN cable of the unit to peripheral device, use a shielded-type cable to prevent malfunction due to radiation noise.

### Connection Example

#### Connecting DC-700/700CE (not supplied)

Connect the camera module to the power via the camera adaptor DC-700/700CE.

For details on the camera adaptor DC-700/700CE, see the DC-700/700CE Instruction Manual.

- |                                   |                        |
|-----------------------------------|------------------------|
| ① C-mount lens                    | ① To DC IN connector   |
| ② Camera cable (e.g. CCXC-12P05N) | ② To CAMERA connector  |
| ③ Trigger generator               | ③ To ~ AC IN connector |
|                                   | ④ To AC power source   |

### 中文

使用产品前请仔细阅读本使用说明书，并请妥善保管。

### 安装摄像机时

当与各种外部设备一起安装摄像机时，且若设备有不同的接地电位，请只将一台设备接地。若有接地电位差存在，则摄像机可能会损坏。

- |             |                      |
|-------------|----------------------|
| ① RJ45接口    | ② DC IN接口            |
| ① 主机设备（电脑等） | ② 异常电流               |
| ③ 接地电位差     | ④ 电源设备（DC-700/700CE） |

### 操作须知

#### 电源

可使用电源适配器通过DC IN接口供电。请使用不会产生波纹或干扰的稳定电源DC-700/700CE。

#### 异物

请小心不要让液体溅在机身上，或让任何易燃物或金属物掉入机身。

#### 操作和存放场所

- 避免在下列地点操作或存放。
  - 极热或极冷的地方。操作温度为 $-10^{\circ}\text{C}$ 至 $+50^{\circ}\text{C}$ 。
  - 易于受到强力振动或撞击的地方。
  - 靠近电视机或无线电发射器等强电磁辐射源的地方。

#### 保养

使用吹灰器将镜头或滤光片表面的灰尘清除。使用柔软、干燥的布清洁外表面。如果摄像机很脏，请使用蘸有中性清洁剂的布，然后再用干燥的布擦拭。请勿使用可能会破坏表面光洁度的有机溶剂，例如酒精或汽油。

#### 有关激光束的注意事项

激光束可能会损坏CCD。请注意，在使用激光束设备的环境中，CCD的表面不得暴露于激光束辐射中。

### 概述

在操作本机之前，请通读本手册，并妥善保管以备将来参考。

XCG-U100CR/5005CR是彩色数字视频摄像机组件，支持1000BASE-T接口。

#### 兼容GigE Vision

符合GigE Vision 1.2版标准，本机可高效传输未压缩的影像。

#### 高品质影像

采用逐行扫描CCD，本机可产生高速、高分辨率的影像。XCG-U100CR具有2000000像素的CCD，可每秒输出27帧影像。XCG-5005CR具有5000000像素的CCD，可每秒输出15帧影像。通过采用方形像素，无需转换步骤即可使用原纵横比处理影像。

#### 机身固定

安装摄像机组件的螺丝孔位于前后面板下方。将摄像机组件安装在这些位置使光轴的偏离度最小。（有关详情，请参见图**D**。）

#### 电子快门功能

可从各种可用的速度中选择快门速度。

#### 外部触发快门功能（2秒至1/100000秒）

通过与外部触发信号同步并自己定时操作快门可获取静止影像。此功能在拍摄清晰的快速移动物体时非常有用。

#### 部分扫描

摄像机组件可限制有效视频输出线路的数量，以达到高帧速进行高速影像处理。

#### 伽马

可切换为OFF或ON。当切换为ON时，可从各模式中进行选择，不仅绘制默认伽马线而且还绘制原伽马线。

#### 白平衡

通过对应G值设定R和B值可调节白平衡。本摄像机还具有一键白平衡功能，通过使用此功能摄像机可自动调节白平衡。

#### 切换输出比特长度

可选择8比特输出（默认设定）、10比特输出或12比特输出。

#### 二值化

输出二值化影像。可改变阈值。

#### 帧速控制

当保持快门设定时改变帧速。当想要通过降低帧速和减少网络流量缩小每次的数据包大小时非常有效。

### 系统组件

摄像机组件系统由以下选购产品（另售）组成。

#### ① 摄像机组件

这是采用逐行扫描CCD影像传感器的小尺寸、高分辨率的视频摄像机组件。

#### ② CCXC-12P02N (2 m)/05N (5 m)/10N (10 m)/25N (25 m) 摄像机电缆

此电缆连接摄像机组件的DC IN接口，并用于供电以及触发信号交换。

#### ③ C卡口镜头

使用适合预期用途的镜头。

#### ④ DC-700/700CE摄像机适配器

此适配器连接摄像机组件，可通过普通的交流电源供电。

#### ⑤ VCT-ST70I三脚架适配器

此适配器安装在摄像机组件的底部，用于将摄像机组件固定在三脚架上。

#### ⑥ 摄像机组件接口板

将此接口板安装在主机设备（电脑等）的扩展槽中。选择适合系统且支持1000BASE-T和特大数据包的接口板。

#### ⑦ LAN电缆

此电缆连接摄像机组件背面板上的RJ45接口。影像/控制信号经此电缆传输。选择支持1000BASE-T（CAT5e或更高电缆标准）的LAN电缆。视LAN电缆的属性而定，影像可能会变得不清晰，且摄像机组件可能会变得不稳定。务必使用能有效降噪的LAN电缆。

#### 注意

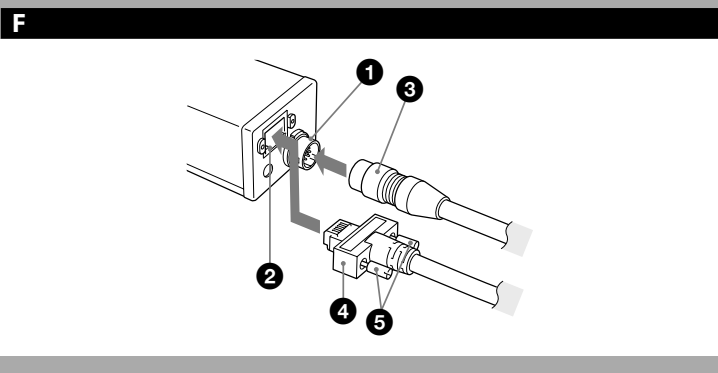
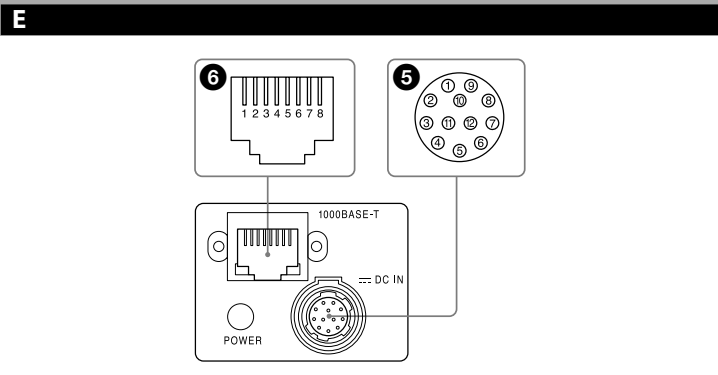
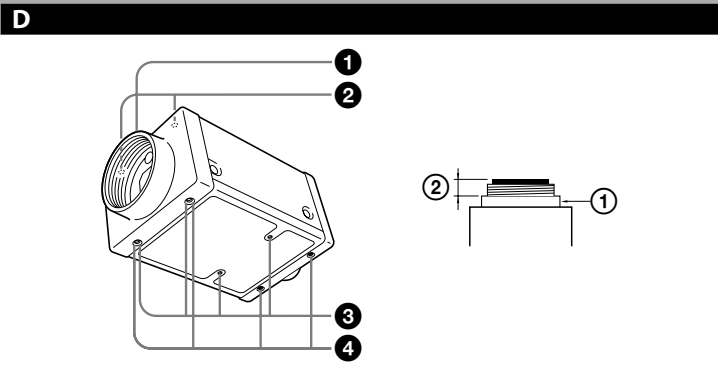
将本设备的LAN电缆连接到外围设备时，请使用屏蔽型电缆防止电磁噪声造成的故障。

### 连接示例

#### 连接DC-700/700CE（不附送）

将摄像机组件通过摄像机适配器DC-700/700CE连接至电源。有关摄像机适配器DC-700/700CE的详情，请参见DC-700/700CE的使用说明书。

- |                        |              |
|------------------------|--------------|
| ① C卡口镜头                | ① 至DC IN接口   |
| ② 摄像机电缆（例如CCXC-12P05N） | ② 至CAMERA接口  |
| ③ 触发脉冲发生器              | ③ 至~ AC IN接口 |
|                        | ④ 至交流电源      |



## English

## Location and Function of Parts and Operation

### Front/Top/Bottom

**① Lens mount (C-mount)**  
Attach any C-mount lens or other optical equipment.

**Note**  
The lens must not project more than 10 mm (13/32 inch) from the lens mount.  
① Lens mount face                      ② 10 mm (13/32 inch) or less

**② Guide screw holes (Top)**  
**③ Guide screw holes/Tripod screw holes (Bottom)**  
When using a tripod, use these four screw holes to attach a VCT-ST70I tripod adaptor (not supplied).

**Note**  
Use the screws (M2 × 6 (2); M3 × 8 (2)) supplied with the tripod adaptor when installing it on the camera module.

**④ Reference screw holes (Bottom)**  
These precision screw holes are for locking the camera module. Locking the camera module into these holes secures the optical axis alignment.

For details, refer to the User's Guide.

### Rear

**⑤ DC IN (DC power input) connector**  
You can connect a CCXC-12P05N camera cable to input the +12 V DC power supply. The pin configuration of this connector is as follows.  
(For details on the pin arrangement, see Figure **E-⑥**.)

| Pin No. | Signal                         | Pin No. | Signal            |
|---------|--------------------------------|---------|-------------------|
| 1       | Ground                         | 7       | GPI input (ISO +) |
| 2       | 12 V DC                        | 8       | Ground            |
| 3       | Ground                         | 9       | NC                |
| 4       | Multi-function* output (TTL)   | 10      | NC                |
| 5       | Multi-function* output (ISO -) | 11      | Trigger input     |
| 6       | Multi-function* output (ISO +) | 12      | GPI input (ISO -) |

**\*About multi-function output**  
You can select from the following signals based on settings.  
Exposure output/strobe control signals/GPO (fixed value Hi or Low)

**⑥ RJ45 connector**  
You can connect a LAN cable to this connector to control the camera module from a host device to output image to a host device.  
(For details on the pin arrangement, see Figure **E-⑥**.)

| Pin No. | Signal | Pin No. | Signal |
|---------|--------|---------|--------|
| 1       | TP1 +  | 5       | TP3 -  |
| 2       | TP1 -  | 6       | TP2 -  |
| 3       | TP2 +  | 7       | TP4 +  |
| 4       | TP3 +  | 8       | TP4 -  |

### Connecting the cables

Connect the camera cable to the DC IN connector and the LAN cable to the RJ45 connector respectively. When you connect the LAN cable, turn the two fastening screws on the connector to secure the cable tightly.

- ① DC IN connector
- ② RJ45 connector
- ③ Camera cable
- ④ LAN cable
- ⑤ Fastening screws

Connect the other end of the camera cable to the DC-700/700CE and the other end of the LAN cable to the camera module interface board.

### Controlling the camera module from the host device

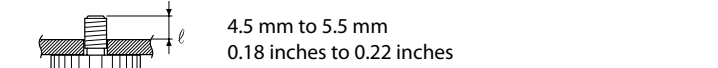
You can control the camera from host devices such as a computer. The following table shows the control functions.

| Control functions     | Description   |
|-----------------------|---|
| Gain                  | 0 dB to +18 dB  |
| Shutter speed         | 2 s to 1/100,000 s  |
| Partial Scan          | OFF/ON Divide in H/V direction.   |
| White balance         | Adjust the white balance by setting the R and B levels relative to the G level. The one-push white balance is also featured.  |
| Gamma control         | OFF/ON Set gamma coefficients or arbitrary settings.  |
| Binarization          | OFF/ON  |
| Multi-function output | Select from exposure output, strobe control signals, or a fixed value (Hi or Low).  |
| Memory channel        | Switch between 16 user settings channels.   |
| Trigger               | Hardware trigger/software trigger   |
| Special trigger       | Continuously recall and output all memory channel settings in response to a single trigger input (Bulk trigger). Recall and output a memory channel setting with each trigger input (Sequential trigger). |

**Note**  
Make sure to supply power to the camera module and confirm that the camera module is operating before inputting a trigger signal. If you input trigger signal to a camera module without the power supplied, this may cause a malfunction of the camera module.

### Using a tripod

To use the tripod, install the tripod adaptor VCT-ST70I (not supplied) on the camera module.  
Use a tripod screw with a protrusion (ℓ) extending from the installation surface, as follows, and tighten it, using a screwdriver.



**Note**  
If you install a tripod adapter (not supplied), use the screws provided.

### Typicala CCD Phenomena

The following effects on the monitor screen are characteristic of CCD cameras. They do not indicate any fault with the camera module.

**Smear**  
This occurs when shooting a very bright object such as electric lighting, the sun, or a strong reflection.  
This phenomenon is caused by an electric charge induced by infrared radiation deep in the photosensor. It appears as a vertical smear, since the CCD imaging element uses an interline transfer system.

**Vertical aliasing**  
When you shoot vertical stripes or lines, they may appear jagged.

**Blemishes**  
A CCD image sensor consists of an array of individual sensor elements (pixels). A malfunctioning sensor element will cause a single pixel blemish in the picture. (This is generally not a problem.)

**White speckles**  
While CCD image pickup device is made by an accurate technique, imperceptible speckless may rarely come up on the screen due to cosmic rays and so on. This is connected to the principle of CCD image pickup device, not a malfunction. And the white speckless are easy to come up in the following conditions.

- Using the camera in high temperature
- When turning up the gain

**Blooming**  
This is a phenomenon in which the light from very bright objects appears to overflow into neighboring areas in an image.

**Note**  
If strong light enters a wide area of the screen, the screen may become dark. This is not a malfunction. If this occurs, avoid strong light or adjust the lens iris to reduce the light amount.

### Specifications

|  |   |
|--|---|
| Pickup device                          | Progressive scan IT CCD<br>XCG-U100CR: 1/1.8-type<br>XCG-5005CR: 2/3-type |
| Cell size (H/V)                        | XCG-U100CR: 4.40 × 4.40 μm<br>XCG-5005CR: 3.45 × 3.45 μm                  |
| Effective picture elements (H/V)       | XCG-U100CR: 1628 × 1236<br>XCG-5005CR: 2456 × 2058                        |
| Standard output picture elements (H/V) | XCG-U100CR: 1600 × 1200<br>XCG-5005CR: 2448 × 2048                        |
| Lens mount                             | C-mount   |
| Flange focal length                    | 17.526 mm   |
| Interface                              | 1000BASE-T  |
| Standard frame rate                    | XCG-U100CR: 27 fps<br>XCG-5005CR: 15 fps                                  |
| External trigger signal                | Pulse width: 10 μs or more  |
| Minimum illumination                   | 6 lx (with the gain control at 18 dB, F1.4)                               |
| γ                                      | OFF/ON (arbitrary LUT setting possible)                                   |
| Gain                                   | 0 dB to 18 dB   |
| Shutter speed                          | 2 s to 1/100,000 s  |
| Power                                  | 12 V DC (10.5 V to 15 V)  |
| Power consumption                      | XCG-U100CR: 3.5 W<br>XCG-5005CR: 4.3 W                                    |
| Performance guarantee temperature      | 0 °C to 40 °C (32 °F to 104 °F)   |
| Operating temperature                  | −10 °C to +50 °C (14 °F to 122 °F)  |
| Storage temperature                    | −30 °C to +60 °C (−22 °F to 140 °F)                                       |
| Operating relative humidity            | 20% to 80% (no condensation)  |
| Storage relative humidity              | 20% to 95% (no condensation)  |
| Vibration resistance                   | 10 G (20 Hz to 200 Hz, when using the reference holes for stabilization)  |
| Shock resistance                       | 70 G  |
| External dimension (w/h/d)             | 44 × 33 × 67.5 mm (1 3/4 × 1 1/4 × 2 5/8 inches) (excluding protrusions)  |
| Mass                                   | About 145 g (5.1 oz)  |
| Suupled accessories                    | Lens mount cap (1)<br>Operating Instructions (1)                          |

Design and specifications are subject to change without notice.

**Note**  
Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.

## 中文

## 部件的位置和功能与操作

### 正面/顶部/底部

**① 镜头卡口（C卡口）**  
安装C卡口镜头或其他光学设备。

**注**  
镜头不能距镜头卡口凸出超过10 mm。  
① 镜头卡口面                      ② 10 mm或以下

**② 导螺杆孔（顶部）**  
**③ 导螺杆孔/三脚架孔（底部）**  
当使用三脚架时，请用这四个螺丝孔安装VCT-ST70I三脚架适配器（不附送）。

**注**  
当将三脚架适配器安装在摄像机组件上时，请使用随其附送的螺丝（M2 × 6 (2)；M3 × 8 (2)）。

**④ 参考螺丝孔（底部）**  
这些精确的螺丝孔用于锁定摄像机组件。将摄像机组件锁定在这些孔上可固定光轴校准。

◆ 详情请参阅使用手册。

### 背面

**⑤ DC IN（直流电源输入）接口**  
可连接CCXC-12P05N摄像机电缆以输入+12 V直流电源。此接口的管脚配置如下所示。  
（有关管脚排列的详情，请参见图**E-⑥**。）

| 管脚号码 | 信号            | 管脚号码 | 信号           |
|------|---------------|------|--------------|
| 1    | 接地            | 7    | GPI输入（ISO +） |
| 2    | 12 V直流        | 8    | 接地           |
| 3    | 接地            | 9    | NC           |
| 4    | 多功能*输出（TTL）   | 10   | NC           |
| 5    | 多功能*输出（ISO -） | 11   | 触发输入         |
| 6    | 多功能*输出（ISO +） | 12   | GPI输入（ISO -） |

\* 关于多功能输出  
可根据设置从以下信号中进行选择。  
曝光输出/闪光控制信号/GPO（定值Hi或Low）

**⑥ RJ45接口**  
可将LAN电缆连接至此接口以从主机设备控制摄像机组件，使影像输出至主机设备。  
（有关管脚排列的详情，请参见图**E-⑥**。）

| 管脚号码 | 信号    | 管脚号码 | 信号    |
|------|-------|------|-------|
| 1    | TP1 + | 5    | TP3 - |
| 2    | TP1 - | 6    | TP2 - |
| 3    | TP2 + | 7    | TP4 + |
| 4    | TP3 + | 8    | TP4 - |

### 连接电缆

分别将摄像机电缆连接至DC IN接口，将LAN电缆连接至RJ45接口。当连接LAN电缆时，旋转接口上的两颗紧固螺丝以固定电缆。

- ① DC IN接口
- ② RJ45接口
- ③ 摄像机电缆
- ④ LAN电缆
- ⑤ 紧固螺丝

将摄像机电缆的另一端连接至DC-700/700CE，并将LAN电缆的另一端连接至摄像机组件的接口板。

### 从主机设备控制摄像机组件

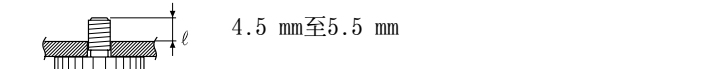
可从电脑等主机设备控制摄像机。下表表示控制功能。

| 控制功能  | 说明   |
|-------|--|
| 增益    | 0 dB至+18 dB  |
| 快门速度  | 2秒至1/100000秒   |
| 部分扫描  | OFF/ON分成水平/垂直方向。   |
| 白平衡   | 根据G值设定R和B值调节白平衡。还具有一键白平衡功能。                              |
| 伽马控制  | OFF/ON设定伽马系数或任意设置。                                       |
| 二值化   | OFF/ON   |
| 多功能输出 | 从曝光输出、闪光控制信号或定值（Hi或Low）中进行选择。                            |
| 存储通道  | 在16个用户设置通道之间切换。  |
| 触发    | 硬件触发/软件触发  |
| 特殊触发  | 响应单个触发输入连续调用和输出所有存储通道设置（大量触发）。每次触发输入调用和输出一个存储通道设置（连续触发）。 |

**注**  
在输入触发信号前，确保摄像机组件供电，并确认摄像机组件处于操作状态。如果在没有供电的情况下将触发信号输入摄像机组件，则可能会导致摄像机组件故障。

### 使用三脚架

若要使用三脚架，请将三脚架适配器VCT-ST70I（不附送）安装在摄像机组件上。  
请使用伸出安装面的凸起部分（ℓ）的三脚架螺丝，如下图所示，并使用螺丝刀拧紧。



**注**  
如果安装三脚架适配器（未附送），请使用附送的螺丝。

### 典型CCD现象

监视器屏幕上的以下效果是CCD摄像机的特性。并不表示摄像机组件有任何故障。

**拖影**  
当拍摄电灯、太阳光或强反射光源等明亮物体时会出现该现象。此现象是由于光传感器中的红外辐射引起的电荷所造成。由于CCD成像元件采用隔行传输系统，会显示为垂直拖影。

**垂直折叠失真**  
当拍摄垂直条纹或线条时，它们可能会呈锯齿状。

**坏点**  
CCD影像传感器由单个传感器元件（像素）排列组成。出现故障的传感器元件会导致图像中的单个像素坏点。（这通常不是故障。）

**白斑**  
虽然CCD图像拾取设备采用高精度技术生产的，但由于宇宙射线等的影响，其屏幕上可能会出现细小的白斑（极少数情况）。这与CCD图像拾取设备的原理有关，并不是故障。在以下情况中，比较容易出现白斑。

- 在高温环境下使用摄像机时
- 调高增益时

**模糊**  
这是一种图像中极其明亮的物体发出的光外流到旁边的区域的现象。

**注**  
如果强光进入屏幕上的宽广区域，则屏幕可能会变暗。这并不是故障。若出现此情况，请避免强光或调节镜头光圈以减少光量。

### 规格

|             |  |
|-------------|--|
| 拾取设备        | 逐行扫描1T CCD<br>XCG-U100CR: 1/1.8类型<br>XCG-5005CR: 2/3类型   |
| 单元尺寸（H/V）   | XCG-U100CR: 4.40 × 4.40 μm<br>XCG-5005CR: 3.45 × 3.45 μm |
| 有效像素（H/V）   | XCG-U100CR: 1628 × 1236<br>XCG-5005CR: 2456 × 2058       |
| 标准输出像素（H/V） | XCG-U100CR: 1600 × 1200<br>XCG-5005CR: 2448 × 2048       |
| 镜头卡口        | C卡口  |
| 凸缘焦距        | 17.526 mm  |
| 接口          | 1000BASE-T   |
| 标准帧速        | XCG-U100CR: 27 fps<br>XCG-5005CR: 15 fps                 |
| 外部触发信号      | 脉冲宽度: 10 μs或以上   |
| 最低照度        | 6 lx（增益控制为18 dB，F1.4）                                    |
| γ           | OFF/ON（可进行任意LUT设定）                                       |
| 增益          | 0 dB至18 dB   |
| 快门速度        | 2秒至1/100000秒   |
| 电源          | 12 V DC（10.5 V至15 V）                                     |
| 耗电量         | XCG-U100CR: 3.5 W<br>XCG-5005CR: 4.3 W                   |
| 性能保证温度      | 0 °C至40 °C   |
| 操作温度        | −10 °C至+50 °C  |
| 存放温度        | −30 °C至+60 °C  |
| 操作相对湿度      | 20%至80%（无湿气凝结）   |
| 存放相对湿度      | 20%至95%（无湿气凝结）   |
| 抗振          | 10 G（为稳固使用参考孔时为20 Hz至200 Hz）                             |
| 抗震          | 70 G   |
| 外部尺寸（长/宽/高） | 44 × 33 × 67.5 mm（不包括突出部分）                               |
| 质量          | 约145 g   |
| 随机附件        | 镜头卡口盖（1）<br>使用说明书（1）                                     |

设计和规格如有变更，恕不另行通知。

**注意**  
在使用前请始终确认本机运行正常。  
无论保修期内外或基于任何理由，SONY对任何损坏概不负责。由于本机故障造成的现有损失或预期利润损失，不作（包括但不限于）退货或赔偿。

### 产品中有毒有害物质或元素的名称及含量

| 部件名称 | 有毒有害物质或元素 |        |        |               |            |              |
|------|-----------|--------|--------|---------------|------------|--------------|
|      | 铅 (Pb)    | 汞 (Hg) | 镉 (Cd) | 六价铬 (Cr (VI)) | 多溴联苯 (PBB) | 多溴二苯醚 (PBDE) |
| 实装基板 | ×         | ○      | ○      | ○             | ○          | ○            |
| 外壳   | ×         | ○      | ○      | ○             | ○          | ○            |
| 光学组件 | ○         | ○      | ○      | ○             | ○          | ○            |
| 附属品  | ○         | ○      | ○      | ○             | ○          | ○            |

○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量要求以下。  
×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。

### About the Technical Manual

GigE Vision is a trademark of AIA (Automated Imaging Association).

The Operating Instructions describe the functions and use of this product.

For more details, see the Technical Manual. Please ask your sales representative about the Technical Manual.

### 关于技术说明书

GigE Vision是AIA (Automated Imaging Association) 的商标。

使用说明书介绍本产品的功能和使用。

详见技术说明书。有关技术说明书，请咨询销售代表。

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