JVC®

CONTROLS, INDICATORS AND CONNECTORS

CONNECTION EXAMPLES AND OPERATIONS

OTHERS

SCAN RATE CONVERTER

KM-F700

INSTRUCTIONS

POWER

SCAN RATE CONVERTER KM-F700

JVC®

VICTOR COMPANY OF JAPAN, LIMITED
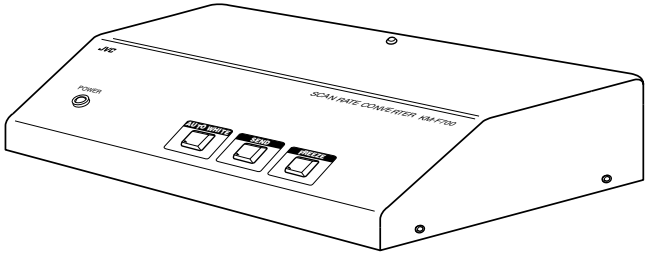
For Customer Use:
Enter below the Serial No. which is located on the bottom of cabinet. Retain this information for future reference.

Model No.   KM-F700

Serial No.
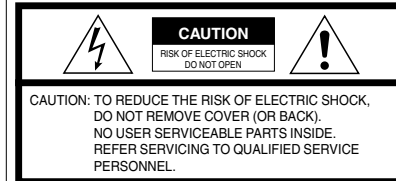
Printed in Japan
SC96987

SC96987

IMPORTANT SAFEGUARDS

1. Read all of these instructions.
2. Save these instructions for later use.
3. All warnings on the product and in the operating instructions should be adhered to.
4. Unplug this appliance system from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use attachments not recommended by the appliance manufacturer as they may cause hazards.
6. Do not use this appliance near water – for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
7. Do not place this appliance on an unstable cart, stand, or table. The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance.
Use only with a cart or stand recommended by the manufacturer, or sold with the appliance. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.
An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING
(symbol provided by RETAC)

S3126A

8. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to insure reliable operation of the appliance and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the appliance on a bed, sofa, rug, or other similar surface. This appliance should never be placed near or over a radiator or heat register. This appliance should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
9. This appliance should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company. For appliance designed to operate from battery power, refer to the operating instructions.
10. This appliance system is equipped with a 3-wire grounding type plug (a plug having a third (grounding) pin). This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding plug.
11. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
12. Do not allow anything to rest on the power cord. Do not locate this appliance where the cord will be abused by persons walking on it.
13. Follow all warnings and instructions marked on the appliance.
14. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
15. Never push objects of any kind into this appliance through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the appliance.
16. Do not attempt to service this appliance yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
17. Unplug this appliance from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power cord or plug is damaged or frayed.
    b. If liquid has been spilled into the appliance.
    c. If the appliance has been exposed to rain or water.
    d. If the appliance does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the appliance to normal operation.
    e. If the appliance has been dropped or the cabinet has been damaged.
    f. When the appliance exhibits a distinct change in performance – this indicates a need for service.
18. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
19. Upon completion of any service or repairs to this appliance, ask the service technician to perform routine safety checks to determine that the appliance is in safe operating condition.

SAFETY PRECAUTIONS

FOR USA AND CANADA

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Information for USA
This device complies with Part 15 of the FCC Rules. Changes or modifications not approved by JVC could void the user's authority to operate the equipment.

INFORMATION (FOR CANADA) RENSEIGNEMENT (POUR CANADA)
● This Class B digital apparatus complies with Canadian ICES-003.
● Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Changes or modifications not approved by JVC could void the user's authority to operate the equipment.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
This unit should be used with 12V DC only.
CAUTION:
To prevent electric shocks and fire hazards, do NOT use any other power source.

CAUTION:
To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

Due to design modifications, data given in this instruction book are subject to possible change without prior notice.

This unit is designed for professional use only.

FEATURES

● This unit converts video signals from KY-F70/KY-F70B Digital cameras into 7.5 frames/sec. to 75 frames/sec. signals so that high-resolution semi-movie signals can be displayed on an SXGA-compatible monitor.
● Some features on KY-F70/KY-F70B Digital cameras can be controlled remotely using this KM-F700 unit. (FREEZE, AUTO WHITE BALANCE and SEND operations).
● The Camera Remote connection function is distributed to the connector on the rear panel, so as to be used as the terminal box for the camera control.

● Thank you for purchasing this JVC product.
  Before operating this unit, please read the instructions carefully to ensure the best possible performance.
● When this unit is not used for an extended period of time, make sure that the system power is turned off in order to save energy.
● **These instructions are for KM-F700U.**

CONTENTS

┌─ **Characters and symbols used in this INSTRUCTION MANUAL** ─┐

CAUTION .... Cautionary notes concerning operation of the unit.

MEMO .... Reference such as restrictions of featuers, etc.

☞ .... Reference page or item.

1. CONTROLS, INDICATORS AND CONNECTORS

1-1 Front Panel
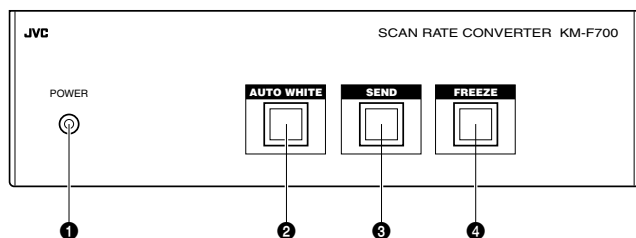
SCAN RATE CONVERTER KM-F700

Before connection, be sure to refer to the instruction manuals of the equipment to be used.

❶ [POWER] display lamp

This lights up when power is supplied to the unit.

❷ [AUTO WHITE] button

Press this button to start the Auto White balance function of an attached camera (KY-F70/KY-F70B). (Valid only when camera is in Auto White mode)

❸ [SEND] button

When a camera is in Freeze mode, press this button to send the image to an MO/ZIP® drive or a printer.

> **MEMO**
> Select image output equipment using the menu of the camera (KY-F70/KY-F70B). (☞ page 6.)
> ● Image output to ZIP® drives is only possible with KY-F70B cameras.
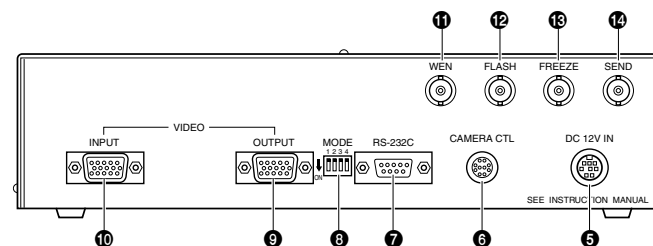
❹ [FREEZE] button

When this button is pressed, the image from the camera will be in the freeze mode (Still image), pressing the button again will release it from this mode.

> **MEMO**
> The ❷ AUTO WHITE, ❸ SEND and ❹ FREEZE button operations are available only when the ❻ CAMERA CTL terminal is connected to the REMOTE terminal of the camera (KY-F70/KY-F70B).

1-2 Rear Panel

WEN FLASH FREEZE SEND

VIDEO
INPUT OUTPUT MODE RS-232C CAMERA CTL DC 12V IN

SEE INSTRUCTION MANUAL

Before connection, be sure to refer to the instruction manuals of the equipment to be used.

❺ [DC 12V IN] power input terminal (Mini DIN 8-pin, female)

Supplies power (DC 12V) to the unit. Connect this terminal to an AA-P700 AC adapter (optional) using the power cable provided.

❻ [CAMERA CTL] Camera Control terminal

When connected to the camera (KY-F70/KY-F70B) using the provided cable, camera operations such as Auto White Balance or Freeze can be controlled remotely.

❼ [RS-232C] serial remote terminal (D-Sub 9-pin, male)

This terminal is used when remotely controlling the camera (KY-F70/KY-F70B) with a personal computer. Use the D-sub 9 pin cross cable, which is available on the market.

❽ [MODE] select switch

Select the output screen mode with this switch.
● Switches 2, 3 and 4 are not used. Leave them in OFF mode.

ON 1 2 3 4   Standard mode (1280 x 1024 pixels)

ON 1 2 3 4   Wide mode (1360 x 1024 pixels)
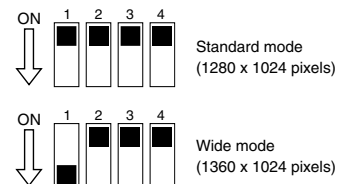
> **MEMO**
> ● When using the Wide mode with the D-ILA Projector connected, set the CLAMP item to [ST] in the ON SCREEN menu.
> ● When using the Wide mode, a distorted video may be displayed depending on which monitor is being used. In this case use the Standard mode.

❾ [VIDEO OUTPUT] terminal (Mini D-Sub 15-pin, female)

Connect to the video-input terminal of an SXGA-compatible monitor. Note that when a sync signal from the camera is not input to the ❿ VIDEO INPUT terminal, no video signal is output.

❿ [VIDEO INPUT] terminal (Mini D-Sub 15-pin, female)

Connect to the MONITOR terminal of the camera (KY-F70/KY-F70B).

⓫ [WEN] write enable output terminal

Outputs through the WEN (write enable) signal input to the ❻ CAMERA CTL terminal. (For specifications and operations ☞ KY-F70/KY-F70B INSTRUCTION MANUAL.)

⓬ [FLASH] control output terminal

Connect the external flash to this unit. The FLASH signal from the camera (KY-F70/KY-F70B) is output from here. (For specifications and operations ☞ KY-F70/KY-F70B INSTRUCTION MANUAL.)

⓭ [FREEZE] control input terminal

Used to control the freeze operation of the camera (KY-F70/KY-F70B) using an external switch. The external switch output signal is output to the ❻ CAMERA CTL terminal.

⓮ [SEND] SCSI output control terminal

Used when images from the camera (KY-F70/KY-F70B) are output to a MO/ZIP® drive or a printer using an external switch. The external switch output signal is output to the ❻ CAMERA CTL terminal.

> **MEMO**
> ● The ❼ RS-232C, ⓫ WEN, ⓬ FLASH, ⓮ SEND and ⓭ FREEZE terminals only function when the ❻ CAMERA CTL terminal of this unit is connected to the REMOTE terminal of a KY-F70/KY-F70B camera.
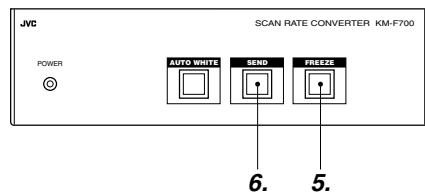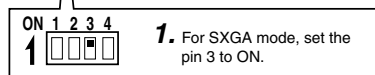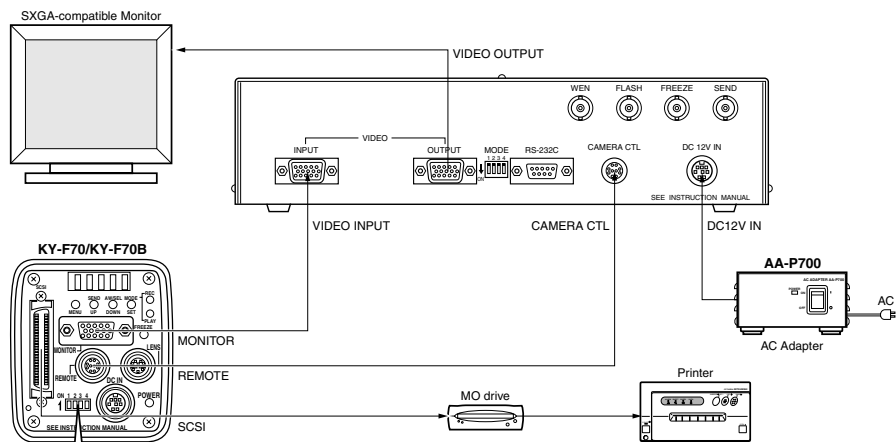> ● Image output to ZIP® drives is only possible with KY-F70B cameras.

2. CONNECTION EXAMPLES AND OPERATIONS

2-1 To Input Camera Images

Monitor images from the camera (KY-F70/KY-F70B)can be stored on an MO/ZIP® drive or output to a printer.

<Connection Example>
Before connection, be sure to refer to the instruction manuals of the equipment to be used.

1. For SXGA mode, set the pin 3 to ON.

<Operations>

1. Check connections and set the DIP switch of the camera (KY-F70/KY-F70B) to SXGA mode.

2. Turn on the power source to this unit and that to all connected equipment except for the camera (KY-F70/KY-F70B).

3. Turn on the power source to the camera (KY-F70/KY-F70B).
● The image from the camera (KY-F70/KY-F70B) is displayed on the monitor screen.

4. Perform the menu setting of the camera (KY-F70/KY-F70B).
(☞ KY-F70/KY-F70B INSTRUCTION MANUAL.)

5. Set the image to be input and press the FREEZE button.
● The still image is displayed on the monitor screen and the "FREEZE" indication appears.

6. Press the SEND button to output the image on the monitor screen to an MO/ZIP® drive or a printer.
● Select the equipment to which the image is output using the PRIORITY setting option in the SYSTEM SETTING MENU of the camera (KY-F70/KY-F70B).
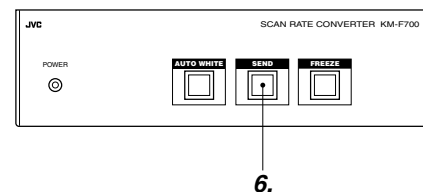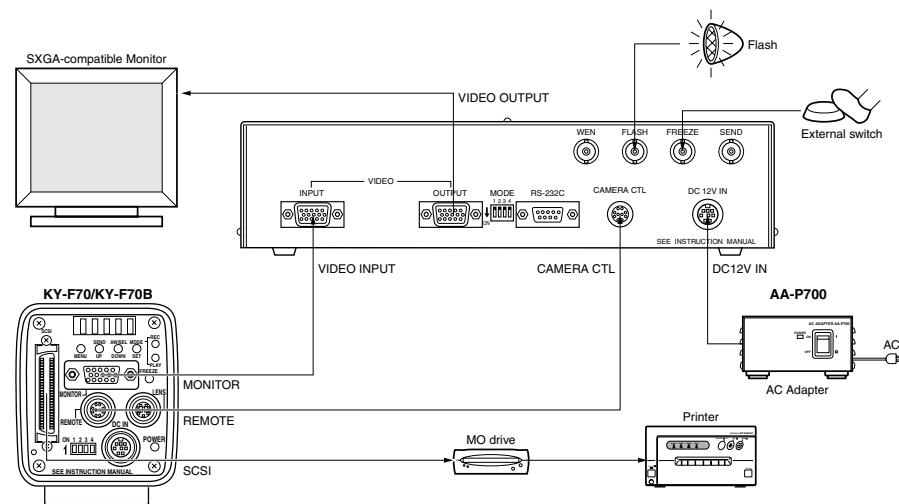
MEMO
● Image output to ZIP® drives is only possible with KY-F70B cameras.
● Make sure that the connections to and from the VIDEO INPUT and VIDEO OUTPUT terminals have been made correctly.

CAUTIONS
● Be sure to use an AA-P700 AC adapter (optional) as the power source for this unit.
● Make sure that the power supply to all equipment is turned off before making connections.

2-2 To Shoot Using an External Switch

An external switch can be used to capture still images from the camera (KY-F70/KY-F70B). When this switch is activated a flash lights up to indicate that the image has been captured.

<Connection Example>
Before connection, be sure to refer to the instruction manuals of the equipment to be used.

<Operations>

1. Check connections and set the DIP switch of the camera (KY-F70/KY-F70B) to SXGA mode.

2. Turn on the power source to this unit and that to all connected equipment except for the camera. (KY-F70/KY-F70B)

3. Turn on the power source to the camera. (KY-F70/KY-F70B)
● The image from the camera (KY-F70/KY-F70B) is displayed on the monitor screen.

4. Set the menu settings of the camera (KY-F70/KY-F70B).
(☞ KY-F70/KY-F70B INSTRUCTION MANUAL.)

5. Set the image to be input and press the external switch.
● A flash, lights up and the still image is displayed in the monitor screen together with the indicator "FREEZE".

6. Press the SEND button to output the image on the monitor screen to an MO/ZIP® drive or a printer.
● Select the equipment to which the image is output using the PRIORITY setting option in the SYSTEM SETTING MENU of the camera (KY-F70/KY-F70B).

MEMO
● Image output to ZIP® drives is only possible with KY-F70B cameras.
● Make sure that the connections to and from the VIDEO INPUT and VIDEO OUTPUT terminals have been made correctly.

CAUTIONS
● Be sure to use an AA-P700 AC adapter (optional) as the power source for this unit.
● Make sure that the power supply to all equipment is turned off before making connections.
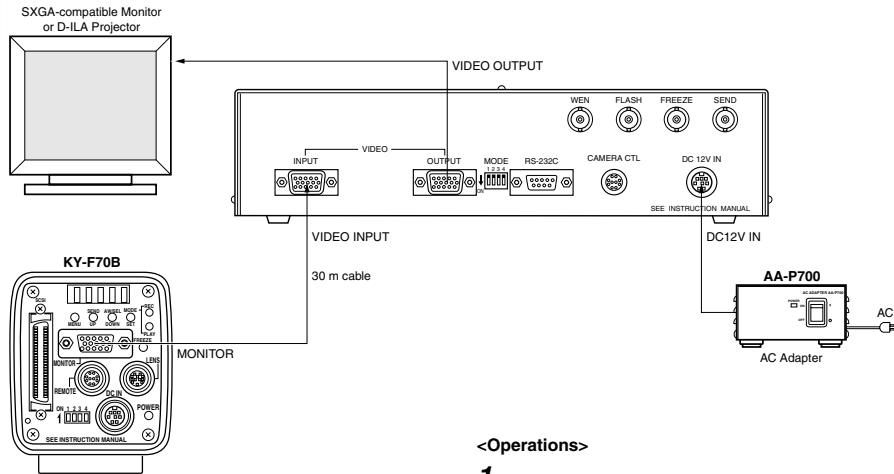
2-3 To Extend the Camera Cable (KY-F70B only)

The cable between this unit and the camera (KY-F70B) can be extended up to a maximum length of 30 meters, so that semi-movie presentations of 75 frames/sec. are possible.

When the cable length is extended to 5 m or longer, please take note of the following:

● Make sure that the "SYNC ON G" mode of the camera is ON.
● Do not input the HV separate SYNC.
● Use a cable that fits the RG-59/U

<Connection Example>
Before connection, be sure to refer to the instruction manuals of the equipment to be used.

MEMO

● Operations **3.** and **5.** are not required if the "SYNC ON G" mode has already been set to ON.
● Make sure that the connections to and from the VIDEO INPUT and VIDEO OUTPUT terminals have been made correctly.


CAUTIONS

● Be sure to use an AA-P700 AC adapter (optional) as the power source for this unit.
● Make sure that the power supply to all equipment is turned off before making connections.
● When the camera (KY-F70B) is used with the "SYNC ON G" mode set to ON, do not input HV separate SYNC signals (HS. VS) to this unit. When both the HV separate SYNC and SYNC ON G are input, a distorted video may be displayed because the HV separate SYNC of this unit operates.

<Operations>

1. Check connections and set the DIP switch of the camera (KY-F70B) to SXGA mode.

2. Turn on the power source to this unit and that to all connected equipment except for the camera (KY-F70B).

3. Turn on the power source to the camera (KY-F70B) while holding down the camera's MODE/SET button.

4. Images from the VIDEO OUTPUT terminal are displayed on the SXGA-campatible monitor or the D-ILA projector.

5. Set the menu settings for the camera (KY-F70B). Set the "SYNC ON G" mode to ON.
● Make settings using the "SYNC ON G" setting option in the SYSTEM SETTING MENU of the camera (KY-F70B). (For details, refer to the INSTRUCTION MANUAL of the camera (KY-F70B)).

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3. OTHERS

3-1 Pin Configuration

❶ [DC 12V IN] Power Input Terminal
(Mini DIN 8-pin, female)
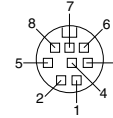
Pin No.	Signal Name
1	NC
2	GND
3	NC
4	NC
5	GND
6	12V IN
7	NC
8	12V IN

❷ [CAMERA CTL] Camera Control Terminal
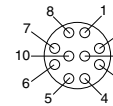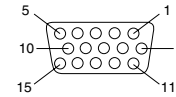

Pin No.	Signal Name
1	A.WHITE (Auto White Balance Control Output)
2	FREEZE (Freeze Control Output)
3	WEN (Write Enable Input)
4	FLASH (Flash Control Input)
5	SEND (SCSI Output Control Output)
6	RS-SDI (Serial Remote Camera Input)
7	RS-SDO (Serial Remote Camera Output)
8	GND
9	12 V Input
10	OPERATION (Remote Connection Control)

❸ [RS-232C] Serial Remote Terminal (D-Sub 9-pin, male)
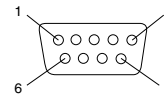
Pin No.	Signal Name
1	NC
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	NC

❺ [VIDEO OUTPUT] Terminal
(Mini D-Sub 15-pin female)

Pin No.	Signal Name
1	R OUT
2	G OUT
3	B OUT
4	NC
5	NC
6	R GND
7	G GND
8	B GND
9	NC
10-11	GND
12	NC
13	HS OUT
14	VS OUT
15	NC

❻ [VIDEO INPUT] Terminal
(Mini D-Sub 15-pin, female)
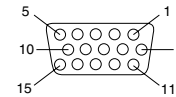
Pin No.	Signal Name
1	R IN
2	G IN
3	B IN
4	NC
5	NC
6	R GND
7	G GND
8	B GND
9	NC
10-11	GND
12	NC
13	HS IN
14	VS IN
15	NC

3-2 Troubleshooting

Symptom	Cause	Remedy
The camera image is not displayed on the monitor.	Is the camera (KY-F70/KY-70B) set to SXGA output mode?	Set the DIP switch on the camera (KY-F70/KY-F70B) to SXGA output mode.
	Have the menu settings of the camera (KY-F70B) been completed?	When using an extension cable to connect the unit to a camera (KY-F70B), make sure that the "SYNC ON G" mode is set to ON. (☞ page 8.)
	Is the monitor compliant with the compatibility conditions?	Use a monitor compliant with the compatibility conditions. (☞ page 11.)
Synchronization failure.	Is a 5 m or longer cable being used?	● Make sure that the "SYNC ON G" mode of the camera is ON. ● Do not input the HV separate SYNC. ● Use a cable that fits the RG-59/U (☞ page 8.)
Printer output is not possible.	Is the priority of the SCSI connection equipment set correctly?	Select the equipment to which the image is output using the PRIORITY setting option in the SYSTEM SETTING MENU of the camera (KY-F70/KY-F70B).
Images appearing in a D-ILA projector are irregular.	Do the clock frequencies of this unit and the D-ILA projector match?	Adjust the frequency of the D-ILA projector.
	Is the D-ILA projector being used compatible with this unit?	Use a D-ILA projector compliant with the compatibility conditions. (☞ page 11.)
	Is the CLAMP item that is shown on the D-ILA ON SCREEN menu set to [ST] when the WIDE mode is used?	Set to [ST].
The images displayed on the monitor (D-ILA projector) are displaced.	Is the display position of the monitor (D-ILA projector) adjusted correctly?	Adjust the display position and the display area on the monitor (D-ILA projector) correctly.

3-3 Specifications

\<Input Video Signal\>

Resolution	1360 pixels (H) x 1024 pixels (V)
Dot Clock Frequency	14.3 MHz
Horizontal Frequency	8.00 kHz
Vertical Frequency	7.49 Hz
Signal Level	0.7 V(p-p)
Impedance	75 Ω
Sync Signal	
H, V Separate	3.3 V(p-p), negative
SYNC ON G	0.3 V(p-p), negative
Aspect Ratio	Approx. 4 : 3
Cable Length	
H, V Separate Sync mode	5 m or less
SYNC ON G mode	30 m or less (RG-59/U cable)

\<Output Video Signal\>

Resolution (Standard mode)	1280 pixels (H) x 1024 pixels (V)
(Wide mode)	1360 pixels (H) x 1024 pixels (V)
Dot Clock Frequency	135 MHz
Horizontal Frequency	80.0 kHz
Vertical Frequency	75.0 Hz
Signal Level	0.7 V(p-p)
Impedance	75 Ω
Sync Signal	H, V separate 5.0 V(p-p), positive (Output OFF when sync signal is not input)
Synchronization	Internal sync only
Aspect Ratio	5 : 4 (Standard mode) Approx. 4 : 3 (Wide mode)
Cable Length	5 m or less

|	
Power Voltage	12 V DC
Power Consumption	Approx. 5 W
Mass	Approx. 1.8 kg
Operating Temperature	5˚C to 40˚C (humidity of 80% or less)
Storage Temperature	-20˚C to 60˚C
Accessories	DC cable (2 m) .... 1 Camera control cable (2.5 m) .... 1 INSTRUCTIONS 1
Optional Accessories	AC Power Adapter AA-P700U (AC 120 V) AA-P700EG (AC 230 V)

\<Compatible Monitor\>

Horizontal Sync Frequency	80 kHz
Vertical Sync Frequency	75 Hz
Sync Signal	H/V separate, TTL positive
Video Signal	R, G, B 0.7 V(p-p)

* Use a connection cable with a ferrite core noise filter.

\<Compatible JVC D-ILA Projectors\>

● DLA-G11/G15/G20
● DLA-M15/S15/C15
● DB-70C15/S15
● DLA-M4000L

■ **Dimensions (Unit: mm)**
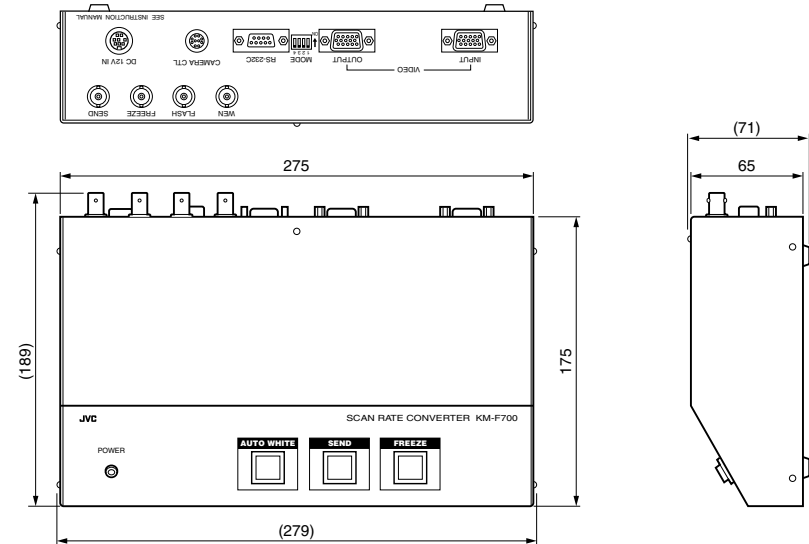
* The design and specifications are subject to change without notice.
* ZIP® is a registered trademark of the IOMEGA Corporation.