

# **OPERATION MANUAL**

## **JU-Z2**

### **Junction Unit**

Please read this operation manual carefully for proper operation, and keep it for future reference.

**Hitachi Kokusai Electric Inc**

# Introduction

The JU-Z2 is a level converter to enable the remote control of multiple compatible colour cameras such as the HV-C20A, HV-D15, HV-D25, HV-D27 and HV-D37 from a single personal computer.

Since multiple cameras can be controlled by the computer, centralised control can be performed in studio, surveillance and other types of systems.

## Notes when using

- Do not connect or disconnect the cable while power is being supplied to the cameras and computer
- Do not disassemble the unit
- Camera control software is not provided. Contact your Hitachi Denshi sales office regarding control protocol.
- Control cables are not supplied with the unit. Plugs to enable control cables to be manufactured are available separately.

# Composition

## Standard composition

JU-Z2 Junction Unit	1
(with metric thread screw lock	
Inch thread screw lock	2
Operation manual	1

## Sold separately

Cable connector	H R10A-7P-4S
	HR10A-7P-4P

## Others

RS-232C cross cable	Please procure locally
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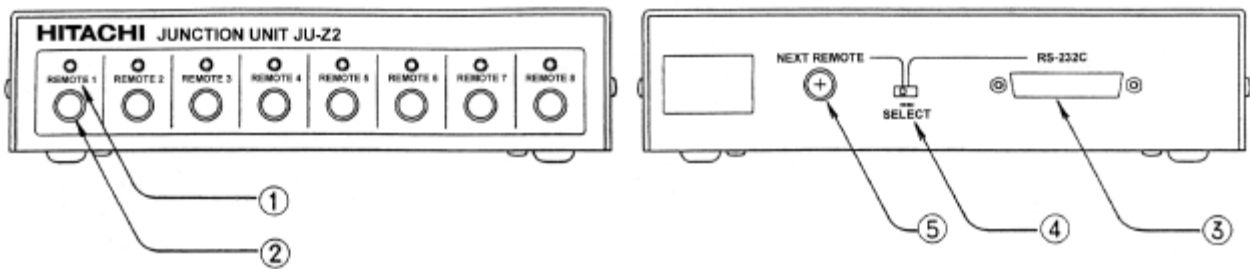
## Control software

Camera control software is not supplied with the JU-Z2.

Camera control software is available for most models.

Protocol technical data and command lists are available for most models to enable software to be compiled according to the computer being used. Contact your Hitachi Denshi sales office for information

# Item names and functions



## 1. Power LED

Lights when power is supplied via a camera connected to a remote connector.

## 2. Remote connectors 1 to 8

Connectors for connecting cameras.

## 3. RS-232C connector

Connector for connecting a personal computer

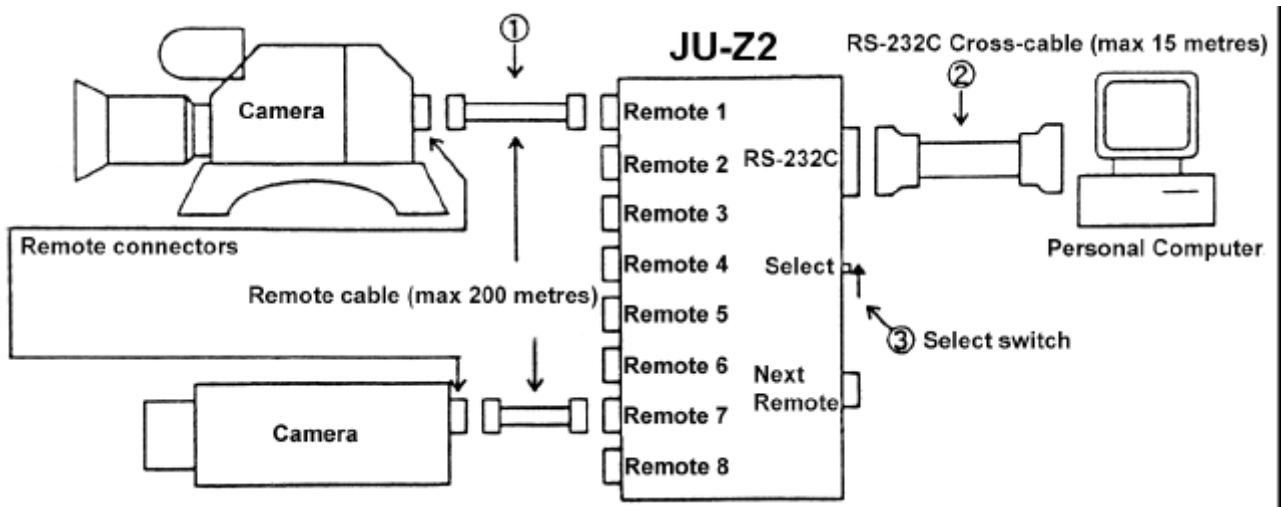
## 4. Select switch

Normally set to RS-232C. If 9 or more cameras are used see page 9.

## 5. Next remote connector

See page 9.

# System example and connections



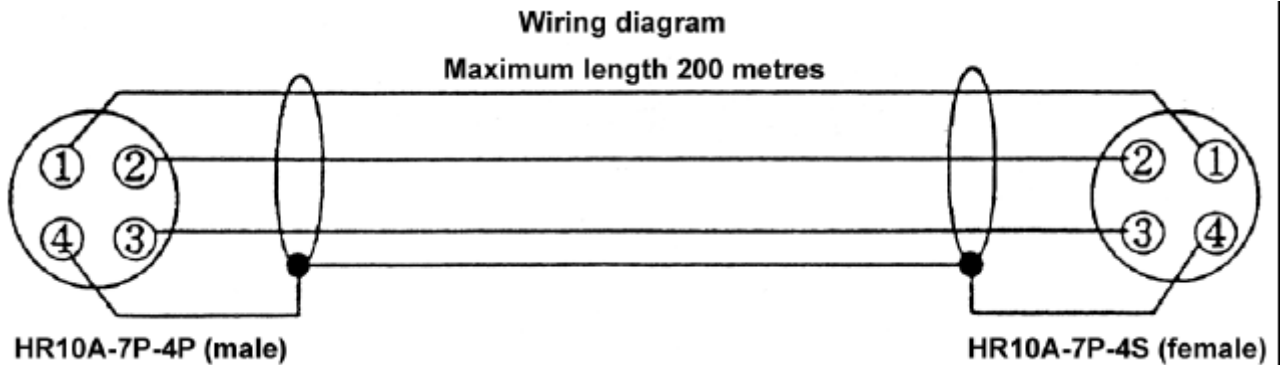
1. Use remote cable (1) to connect cameras to the respective remote (1 to 8) connectors. See note 1 on page 5.
2. Use RS-232C cross cable (2) to connect the personal computer to the RS-232C connector. See page 6.
3. Set the select switch (3) to RS-232C.

## Recommended:

Use the same ground for the cameras and the personal computer so that the cameras, JU-Z2 and the personal computer are grounded at the same potential.

If grounded at different potentials, serial data error can occur.

# Cable specification



## Note 1: Remote cable

The remote cable should be made using the wiring diagram above with plugs HR10A-7P-4S, HR10A-7P-4P and the cable specification below to a maximum of 200 metres.

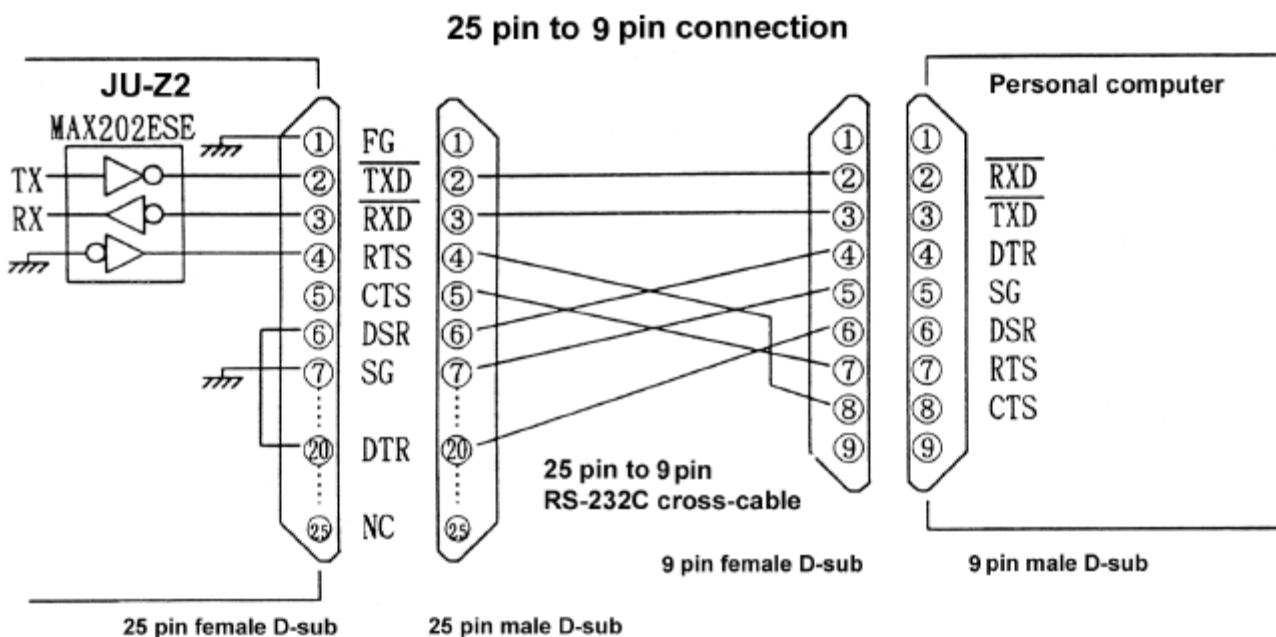
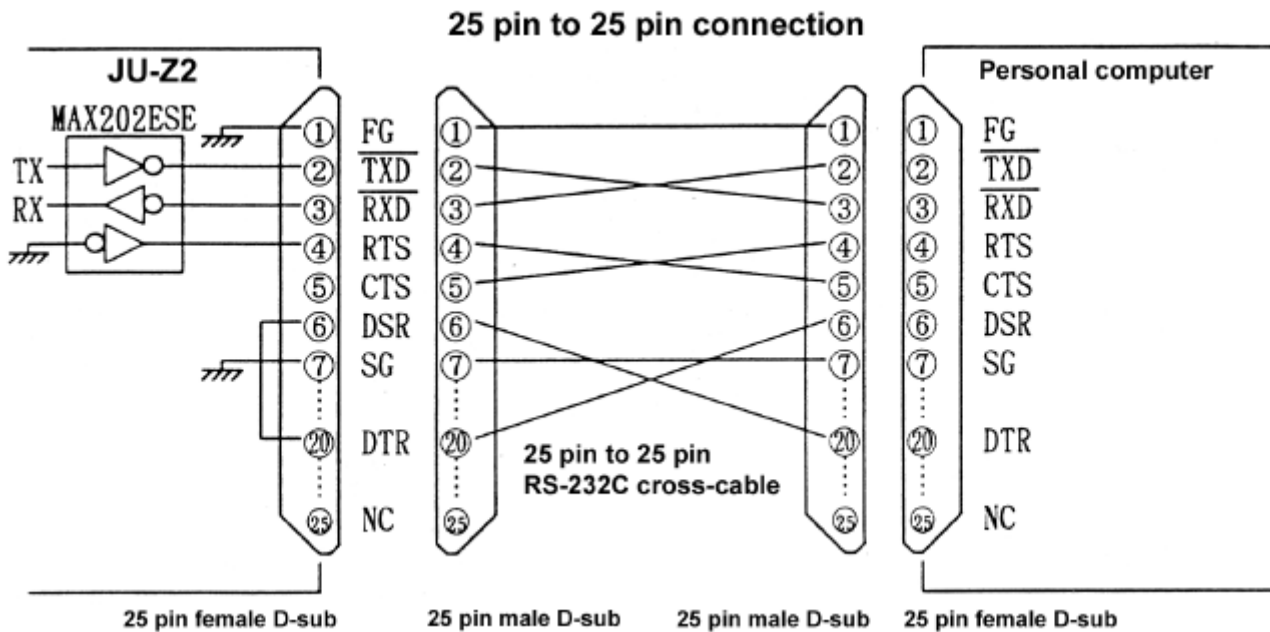
### Remote cable specification:

Type:	3 core shielded
Conductor cross sectional area:	0.5mm <sup>2</sup>
Conductor resistance:	Less than 39.9 ohms/km
Electrostatic capacitance:	Approx. 135 pF/m (between shields) Approx.: 80pF/m (between conductors)
Cable outer diameter:	Max. 4.5mm

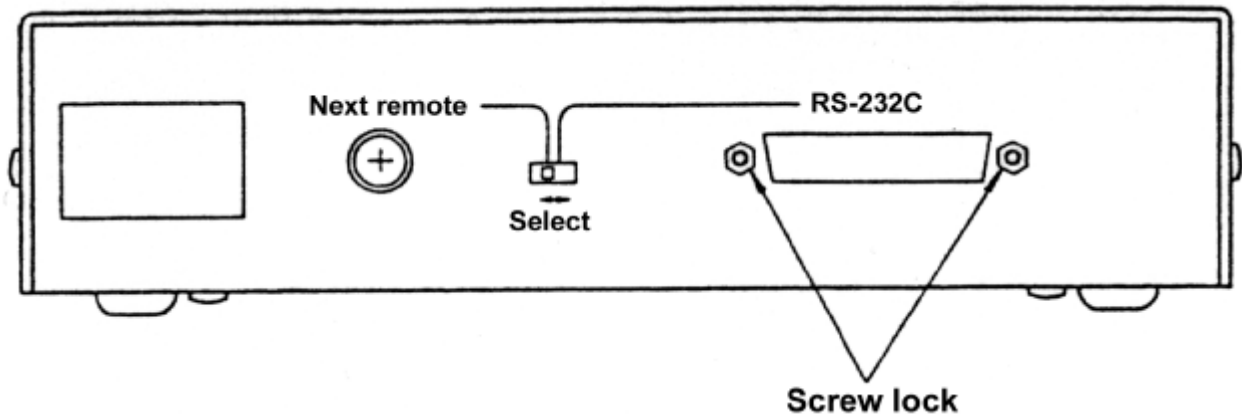
# RS-232C Cross-cable wiring

Use a cross-cable wired as shown below appropriate to the personal computer being used.

Maximum length is 15 metres.



# Installation and set up notes

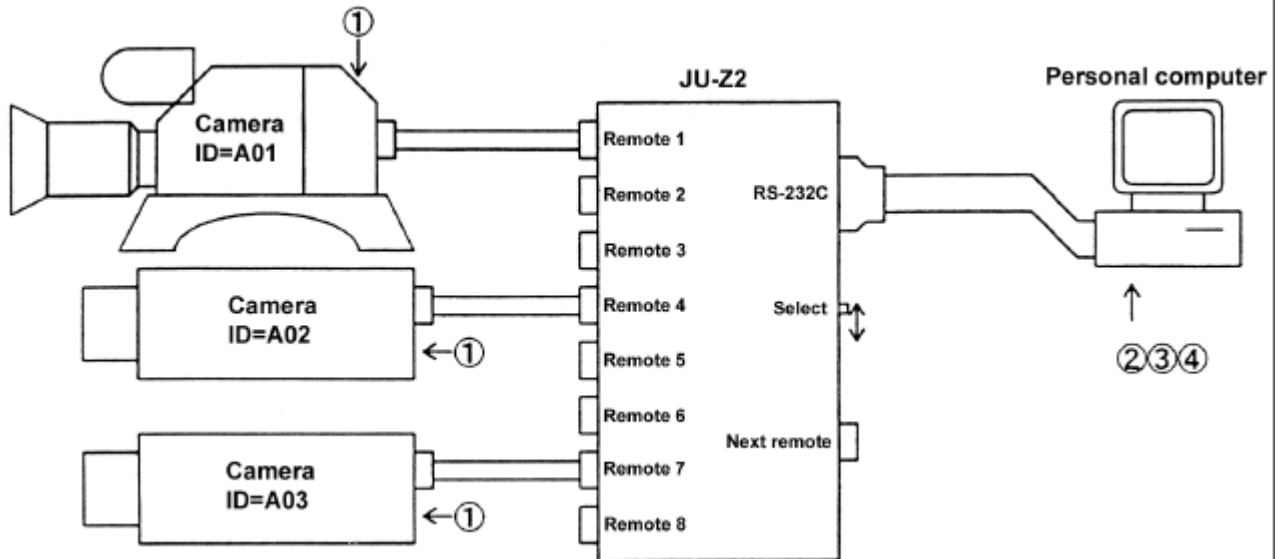


## RS-232C connector

The screw lock for the RS-232C connectors have metric threads. Replace these with the supplied inch size (RDG-LNA(4-40)-W2(01) if the RS-232C connecting cable has inch thread screws.



# Camera and PC settings



## 1. Set the camera ID

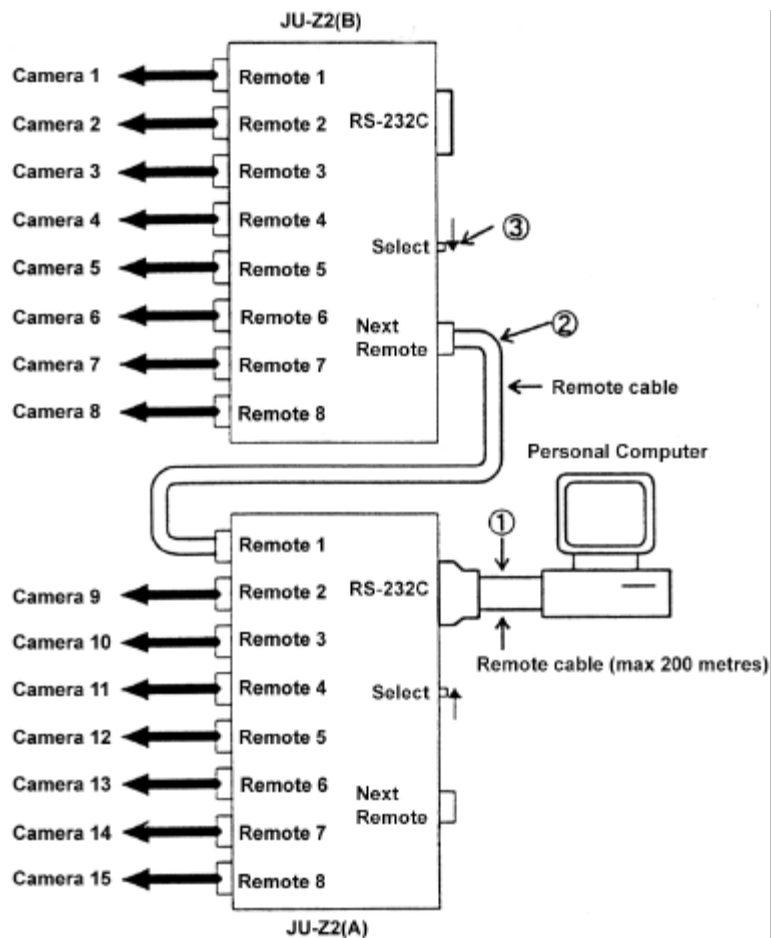
The ID is composed of 3 alphanumeric characters, (including spaces). The same ID cannot be used for more than one camera. (Refer to the camera operation manual for ID setting.)

2. The message format of a command sent from the computer to a camera is an extension message with the ID as a heading. Refer to the remote control protocol technical data.

3. Set the computer baud rate to 9,600 bps to match the camera.

4. Although the serial control protocol is common to all cameras, the command details may differ. Refer to the command list for each camera.

# Connecting 9 or more cameras



1. Connect the RS-232C connector of the JU-Z2(A) to the personal computer.

2. Connect the remote cable between Remote 1 of the JU-Z2(A) and the Next Remote of the JU-Z2(B).

3. Set the Select switches as follows.

JU-Z2(A) : RS-232C

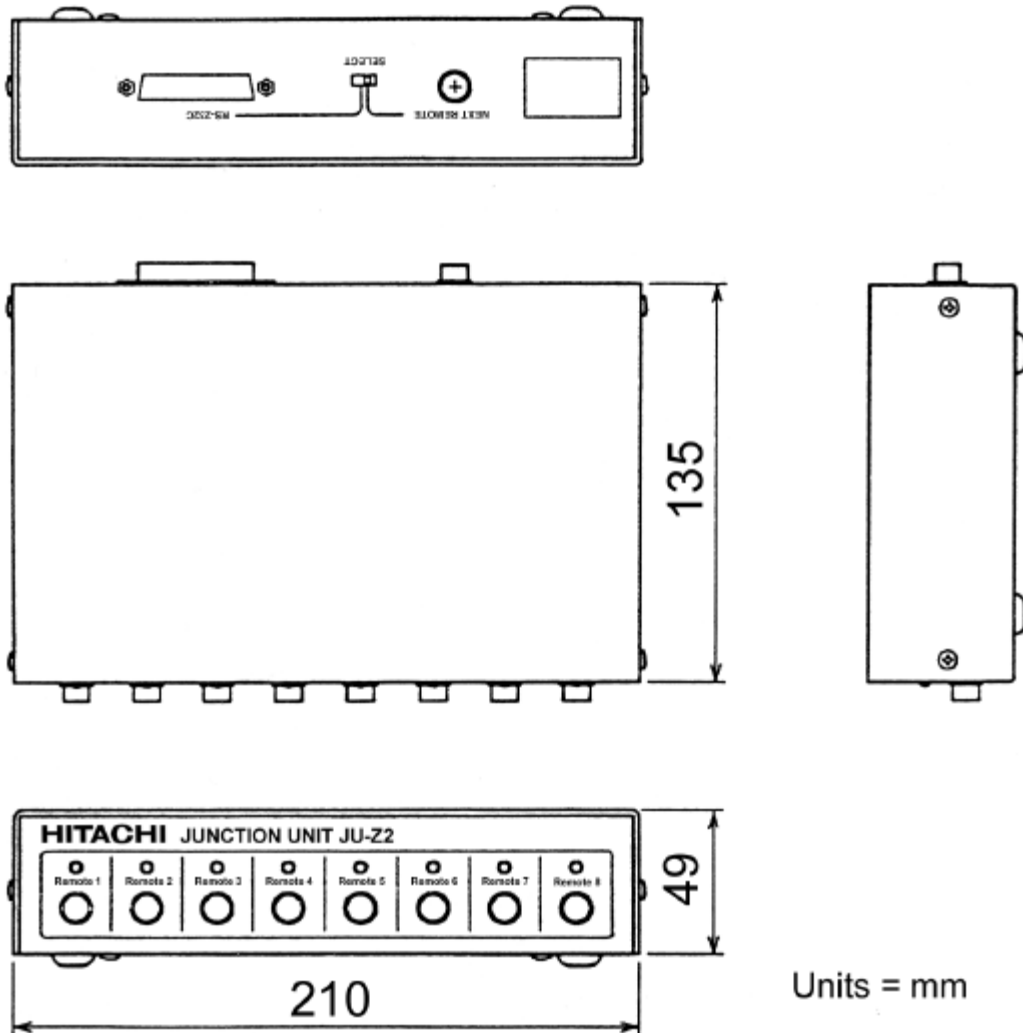
JU-Z2(B) : Next Remote

Note: Additional JU-Z2 junction boxes can be cascaded to control even more cameras.

# Specifications

1. Applicable cameras include:  
HV-C20A, HV-D15, HV-D25, HV-D27 and HV-D37
2. No of cameras controlled: 8
3. Communication system: Asynchronous system
4. Recommended baud rate: 9600 bps
5. Serial data level:  
Camera: 1.5 volts  
Computer: RS-232C level
6. Maximum cable length:  
Camera: 200 metres  
See specification
7. Power supply:  
D C 10 to 15 volts  
(supplied from camera)
8. Ambient temperature: 0 to +40C
9. Dimensions (mm): 49(H)x210(W)x135(D)
10. Mass: a pprox. 0.9kg

# Dimensions



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