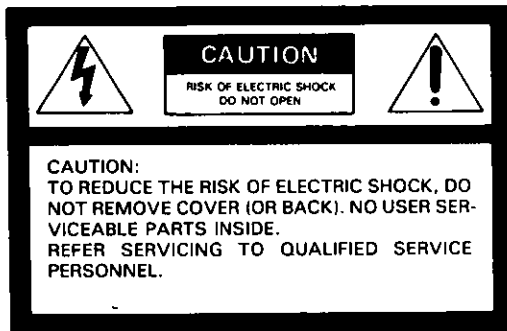# Operating Instructions

Panasonic®

Before attempting to connect or operate this product,
please read these instructions completely.

CONTENTS

PREFACE

The Computer Interface Adaptor WJ-PC10 is designed for use with Panasonic System 300 to expand the system capability. The system data used in the System 300 can be transmitted over the telephone line using this unit. The distance between the camera site and control site can be extended in the present System 300.

FEATURES

- The automated system operation, such as sensor system, card access system or some other control systems, can be achieved incorporated with the computer.(PC-mode)
- The distance between the camera site and control site can be extended in the present System 300.(Extension-mode)

PRECAUTIONS

- Do not attempt to disassemble the unit. In order to prevent electrical shock, do not remove screw or covers. There are no user-serviceable parts inside. Do refer all servicing to qualified service personnel.
- Do not abuse the unit. Avoid striking, shaking, etc. It could be damaged by improper handling or storage. Do handle the unit with care.
- Do not use strong or abrasive detergents when cleaning the unit. Do use a dry cloth to clean the unit when dirty. In case the dirty is hard to remove, use mild detergent and wipe gently.
- Do not expose the unit to water or moisture and do not operate in wet area. Do take immediate action if ever the unit does become wet. Turn the power off and refer servicing to qualified service personnel. Moisture can damage the unit and also create the danger of electrical shock.
- Do not use the unit in an extreme environment where high temperature or high humidity exist. Use the unit under conditions where temperatures are within 14°F - 122°F (−10°C - +50°C), and humidity is below 95%.

- The input power source must be 12V DC. Connect to a class 2 power supply only.

  Caution:

  > To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for 12VDC Input Terminal.

  Important:

  > All necessary procedures with regard to install this unit should be made by qualified service personnel or system installer who is experienced in Panasonic System 300 installation.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS
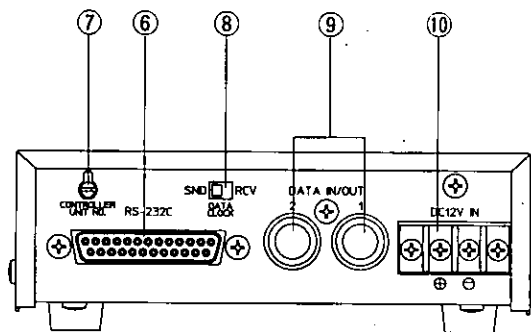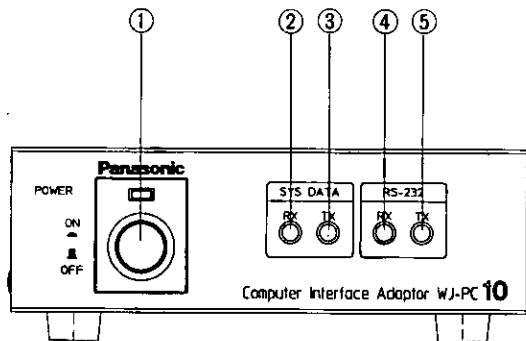
1. **Power ON/OFF Button (POWER ON/OFF)**
   Note:
   > The DC power is supplied all the time from external DC power supply unit even if this power button is turned off.. Disconnect the DC power when this unit is not in use for a long period.

2. **System Data Receiving Indicator (SYS DATA RX)**
   This indicator blinks irregularly for both PC-mode and Extension-mode while this unit receives the system data.
   Note:
   > When the system data error occurs, this LED blinks in 0.5 sec. interval. See page 18 for details.

3. **System Data Transmitting Indicator (SYS DATA TX)**

This indicator blinks irregularly for both PC-mode and Extension-mode while this unit sends the system data out.

Note:

When the system data error occurs, this LED blinks in 0.5 sec. interval. See page 18 for details.

4. **RS-232C Receiving Indicator (RS-232 RX)**

This indicator blinks irregularly for both PC-mode and Extension-mode while this unit receives RS-232C signal from another unit such as Modem or computer.

Note:

When the system data error occurs, this LED blinks in 0.5 sec. interval. See page 18 for details.

5. **RS-232C Transmitting Indicator (RS-232 TX)**

This indicator blinks irregularly for both PC-mode and Extension-mode while this unit transmits RS-232C signal to another unit such as Modem or computer.

Note:

When the system data error occurs, this LED blinks in 0.5 sec. interval or the error is indicated on the monitor TV. See page 18 for details.

6. **RS-232C Connector (RS-232C)**

Connect this connector with Modem unit, computer and so on.

Pin configuration

1. GND (Frame ground)
2. SD (TXD)
3. RD (RXD)
4. RS (RTS)
5. CS (CTS)
6. DR (DSR)
7. SG (Signal ground)
20. ER (DTR)

Other pins are not used.

7. **Controller Number Selection Switch (CONTROLLER UNIT NO.)**

This switch is used to identify the Controller Unit Number in the system. Up to five(5) WV-CU300/WJ-PC10 can be installed in the system.

7-1. PC-mode
1. The numbers other than 1-5 on this switch are not used.
2. Do not duplicate numbers with other WV-CU300/WJ-PC10.

7-2. Extension-mode
1. Set this switch to number 0 for every WJ-PC10.

8. Data Clock Switch (DATA CLOCK SND/RCV)

When the data clock is supplied to this Data Input/Output Connector(9), turn this switch to the RCV position. And when the data clock is sent out from this connector, turn this switch to the SND position.

Note:

When the system is separated in some sites connecting with the modem units and so on, the SND-RCV connection should be made in each site. In each site, only one unit should be set as the SND unit and the other units should be set as the RCV unit.

9. Data Input/Output Connector (DATA IN/OUT 1/2)

These connectors send out or accept the system data to/from other system components in System 300. Also the data clock signal is either sent out or received through these connectors.

10. 12VDC Input Terminals (DC 12V IN)

Supply 12VDC power to this terminals.
Caution:

Use class 2 power supply only.

CABLE CONNECTION

1. **RS-232C cable**

   Use RS-232C standard cable (straight connection) of up to 49ft (15m) to connect between WJ-PC10 and other unit such as Modem, computer and so on. When the cable is to be made locally, refer to the Pin configuration of RS-232C Connector on page 4.

2. **System data bus connection**

2-1. Cable connection

   The two BNC connectors for DATA IN/OUT on the WJ-MP404, WJ-SQ508 and WV-CU300 are internally connected and are identical. The System data bus connection is looped through all units with the first and last units being automatically terminated with 75 ohms and all other units being Hi-Z loop through.

2-2. Data Clock Switch selection

   Set the Data Clock Switch on the first unit connected to the System data bus to the "SND" so that this unit is the Data Clock supplier. Set the Data Clock Switch on all other units to the "RCV" position.

Data are transmitted and received to and from each unit connected to the System data bus, in addition to the Data Clock, through the single coaxial cable.
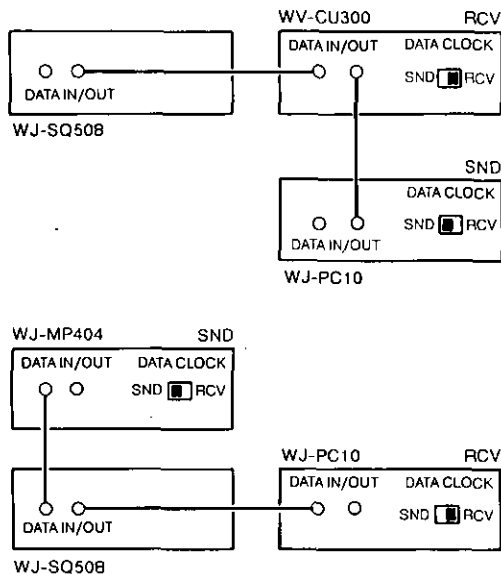
SETTING UP OF THE UNIT

Remove four screws fixing the top cover and remove top
cover. There are switches and connectors on the board
as shown below. Set up unit to meet your system.

Remove 4 screws.

<Rear Panel Side>

CLOSS CN11

CN10 STR

SW3

SW4

<Front Panel Side>
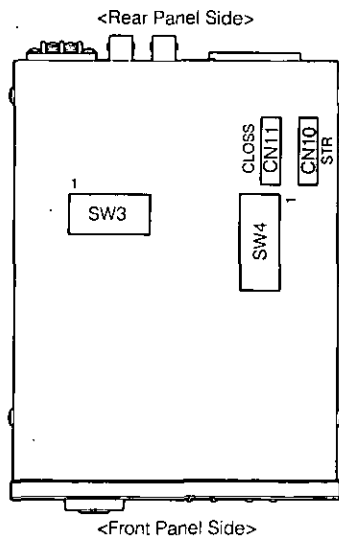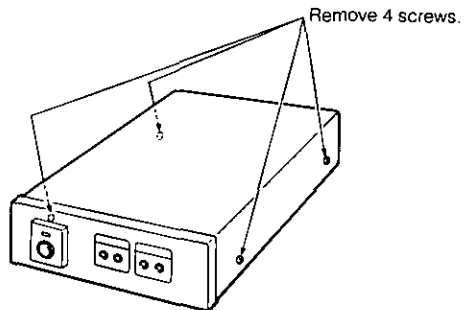
1. SW3 : Selection of the baud rate of RS-232C signal.
   Turn on one of 6 switches.

No.1	1200 bps
No.2	2400 bps
No.3	4800 bps
No.4	9600 bps (Factory set up)
No.5	19200 bps
No.6	38400 bps

2. SW4 : Selection of the function.
   The factory preset switch position is OFF for all switches.
   Select ON or OFF position according to your system.
   2-1. Operation mode : PC-mode

SW No.	Function	Switch position	
No.1	Parity bit	ON:None	OFF:Yes
No.2	Parity mode	ON:EVEN	OFF:ODD
No.3	Stop bit	ON:2bit	OFF:1 bit
No.4	Data bit	ON:8bit	OFF:7bit
No.5	Alarm selection	ON:stop	OFF:release
No.6	Main/Sub selection	Should be OFF position	
No.7	DTE/DCE selection	ON:DTE	OFF:DCE
No.8	Operation mode	Should be OFF position	

Note:

> When the Alarm switch (No.5) is turned on, the alarm signal to the RS-232C line can be stopped. However, the alarm signal can be confirmed by operating computer via WJ-PC10.

2-2. Operation mode : Extension-mode

SW No.	Function	Switch position	
No.1	Parity bit	Should be OFF position	
No.2	Parity mode	Should be OFF position	
No.3	Stop bit	Should be OFF position	
No.4	Data bit	Should be OFF position	
No.5	Xon/Xoff control	Should be OFF position	
No.6	Main/Sub selection	ON:Sub	OFF:Main
No.7	DTE/DCE selection	ON:DTE	OFF:DCE
No.8	Operation mode	Should be ON position	

Note on Extension-mode:The Modem units should be set as follows.

Parity	-	None
Stop bit	-	1 bit
Data bit	-	8 bits
Xon/Xoff	-	Not used

3. Main/Sub selection on SW4 (No.6) in the Extension-mode.
   The WJ-PC10 located in the control site should be set to Main (OFF) position and the WJ-PC10 located in the camera site should be set to the Sub (ON) position as shown.
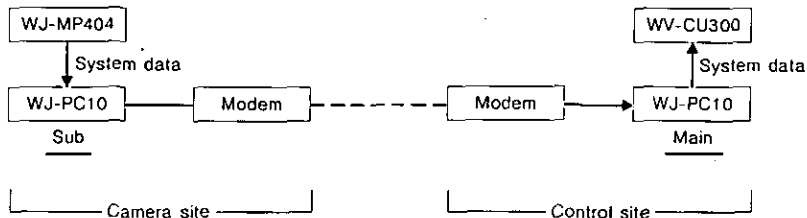
4. CN10/CN11 : Selection of RS-232C cable
   The Straight RS-232C Cable should be used with WJ-PC10.
   1. When WJ-PC10 is used as a DCE mode, connect the cable on the board to the CN10 (STR).
   2. When WJ-PC10 is used as a DTE mode, connect the cable on the board to the CN11 (CROSS).

GENERAL CONDITION FOR INSTALLATION OF WJ-PC10

1. In the Extension-mode a pair of WJ-PC10 which are designated for the Main and Sub is allowed to install in one system data bus.
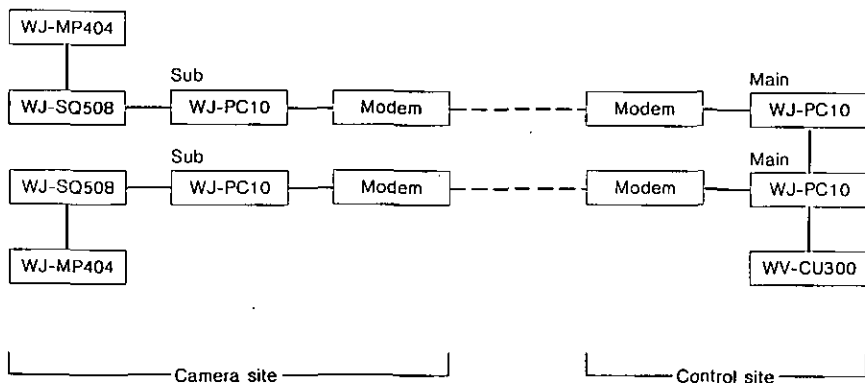
However, another pair of WJ-PC10 can not be installed in the same system data bus as shown.
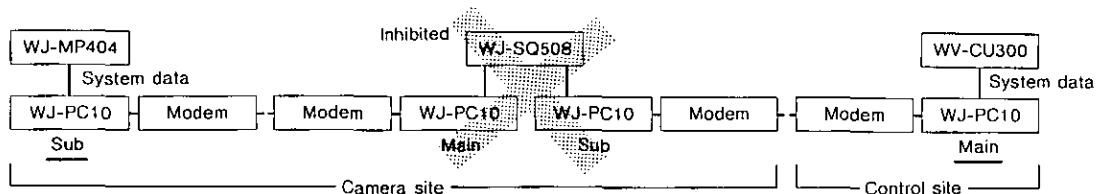
2. In the Extension-mode, the WJ-PC10 which are designated for either Main's or Sub's are allowed to connect in different site at one site only.

However, both Main's and Sub's can not be connected at the same time on both sites.

```
          ┌──────────┐
          │ WJ-MP404 │
          └────┬─────┘
               │        Sub                                            Main
          ┌────┴─────┐  ┌─────────┐  ┌───────┐           ┌───────┐  ┌─────────┐
          │ WJ-SQ508 ├──┤ WJ-PC10 ├──┤ Modem ├ ─ ─ ─ ─ ─┤ Modem ├──┤ WJ-PC10 │
          └──────────┘  └─────────┘  └───────┘           └───────┘  └─────────┘
                         Sub                                            Main
          ┌──────────┐  ┌─────────┐  ┌───────┐           ┌───────┐  ┌─────────┐
          │ WJ-SQ508 ├──┤ WJ-PC10 ├──┤ Modem ├ ─ ─ ─ ─ ─┤ Modem ├──┤ WJ-PC10 │
          └────┬─────┘  └─────────┘  └───────┘           └───────┘  └────┬────┘
               │                                                         │
          ┌────┴─────┐                                             ┌─────┴─────┐
          │ WJ-MP404 │                                             │ WV-CU300  │
          └──────────┘                                             └───────────┘

          └──────── Camera site ────────┘         └───── Control site ─────┘
```
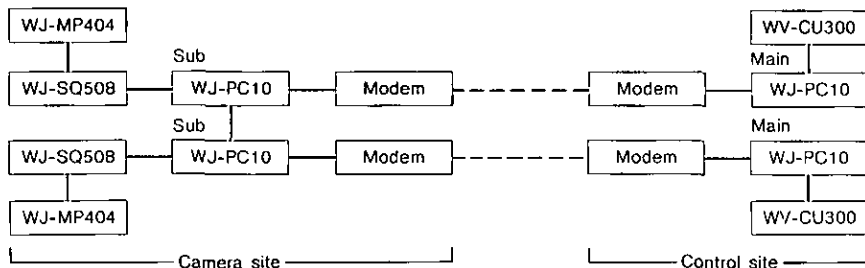
3. In the Extension-mode, the possible number of WV-CU300 will be fixed according to the baud rate of RS-232C.

Baud rate	Number of WV-CU300
1200 bps	None
2400 bps	1pc.
4800 bps	Less than 2pcs.
9600 bps	Less than 4pcs.
19200 bps	Less than 5pcs.
38400 bps	Less than 5pcs.

4. The maximum time delay between the Main WJ-PC10 and Sub WJ-PC10 should be less than 0.1sec. If the time delay is more than 0.1sec, the WJ-SQ508 on the Sub WJ-PC10 will not operate correctly.

Time delay less than 0.1 sec
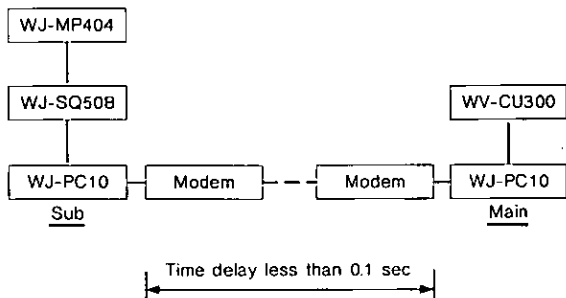
SYSTEM APPLICATION

Important:
1. Refer to the Operating Instructions of the System 300 products for the connection and setting up of the system.
2. When the Modem is connected with the telephone line, the Modem should be set to the "exclusive line mode" due to WJ-PC10 does not have dialing function.
3. The recommended baud rate of the RS-232C signal is more than 9600 bps if quick response is required such as the pan/tilt or focus/zoom of the lens operation.
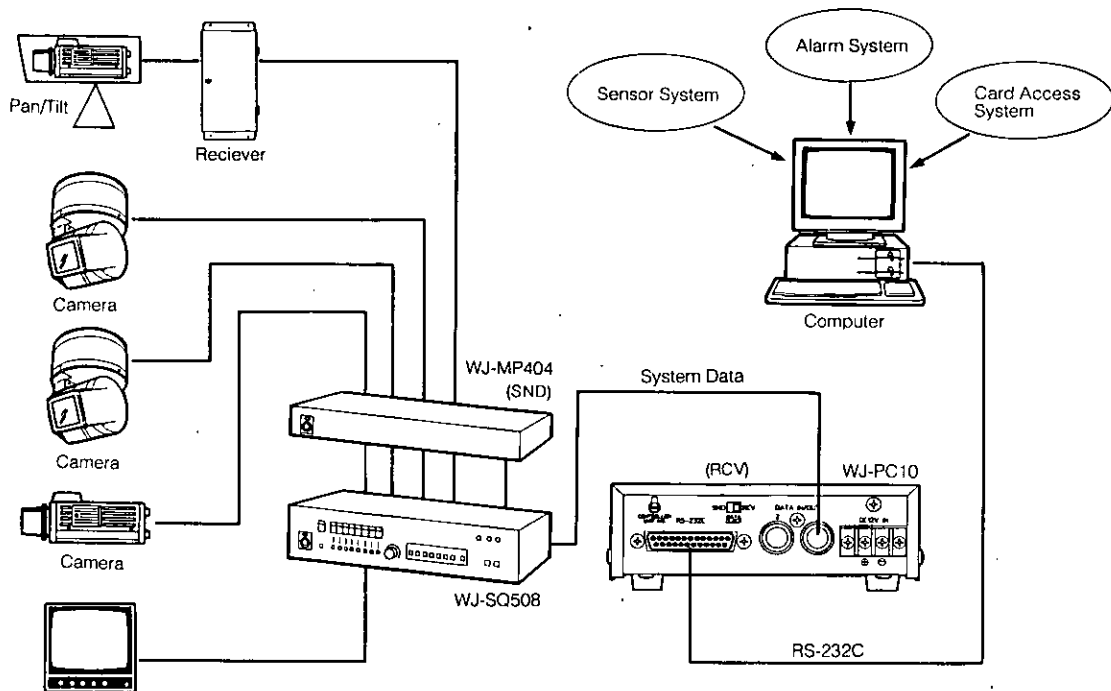
1. PC-mode system
   In this application, the System 300 can be remotely controlled or operated by the computer through WJ-PC10. The another system may connect with the computer.

   Important:
   The communication software should be necessary to operate your system. Please contact with your dealer or system installer.

PC MODE SYSTEM

Pan/Tilt

Reciever

Camera

Camera

Camera

WJ-MP404
(SND)

System Data

(RCV)

WJ-PC10

WJ-SQ508

RS-232C

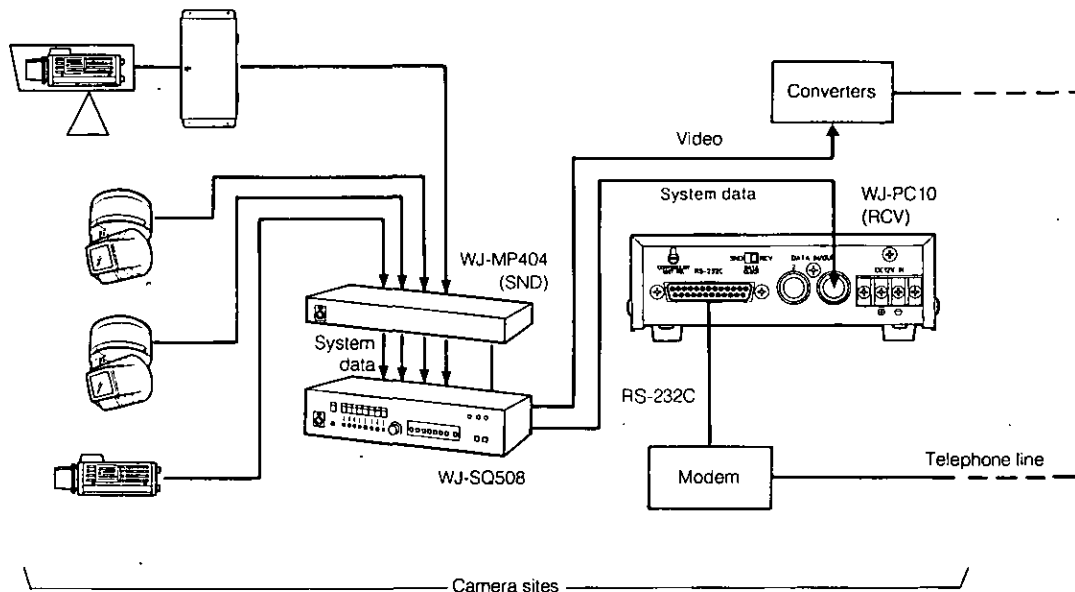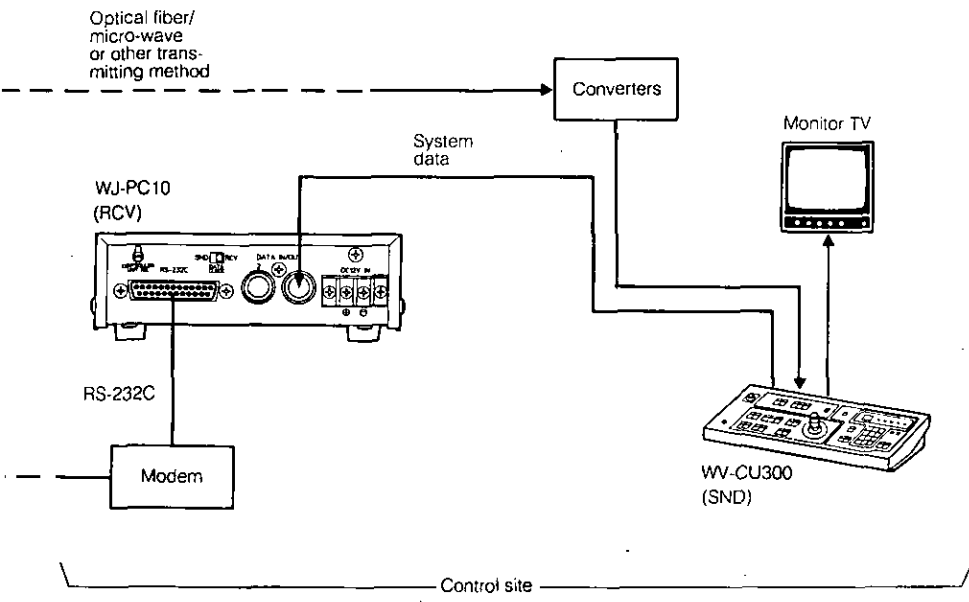Sensor System

Alarm System

Card Access
System

Computer

2. Extension-mode 1 system

In this application, the camera sites and the control site are connected with one video transmitting line. This application is recommended when every camera site is located closely.

Note:

The setting up of the Data Clock Switch (SND/RCV) should be made for the camera site and control site individually.
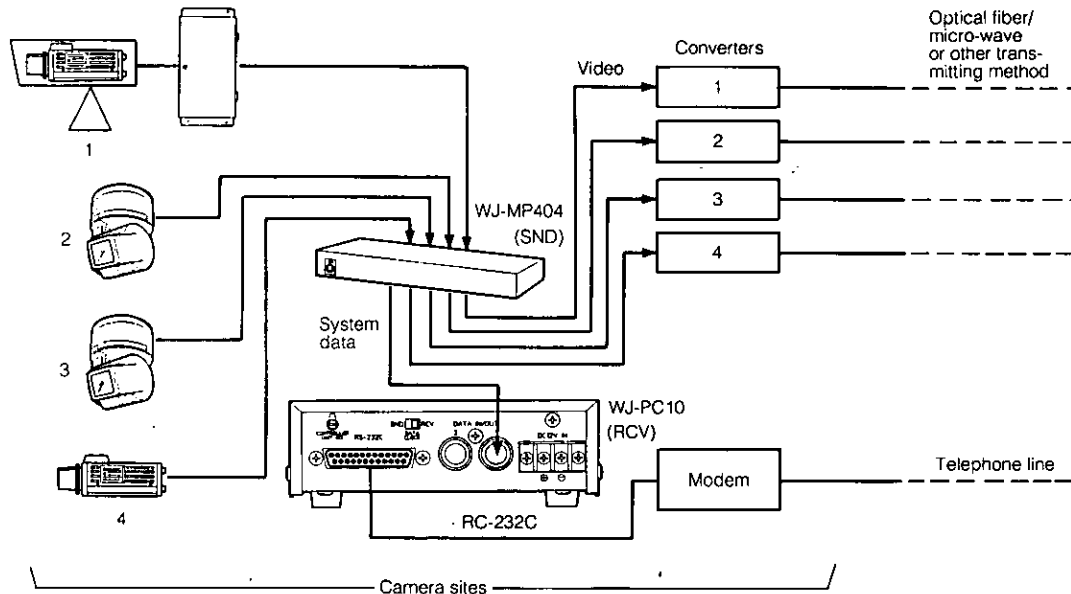

Camera sites

Optical fiber/
micro-wave
or other trans-
mitting method

Converters

Monitor TV

System
data

WJ-PC10
(RCV)

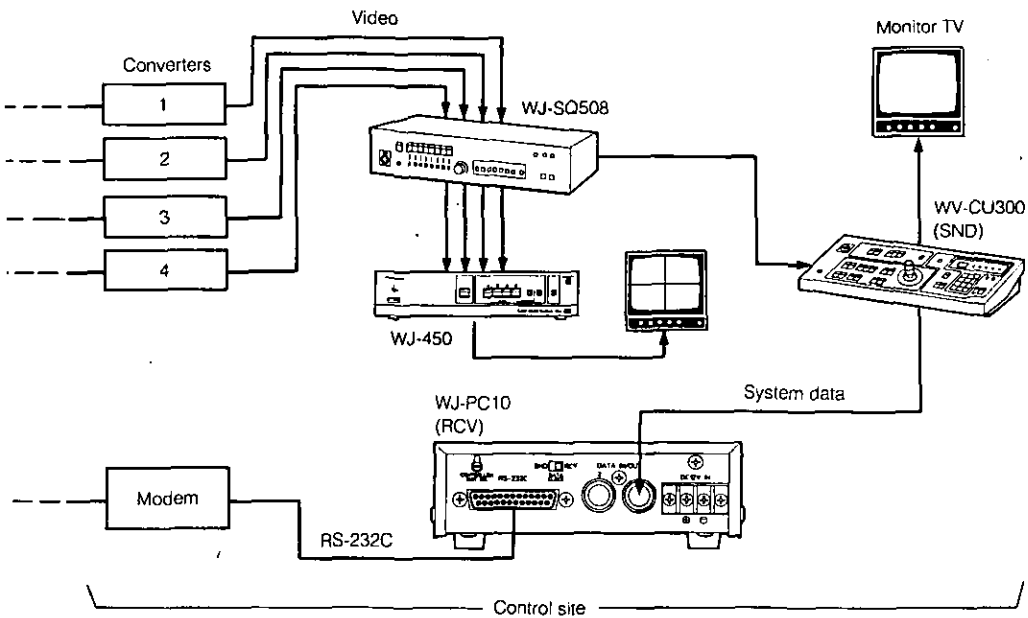RS-232C

Modem

WV-CU300
(SND)

Control site

3. Extension-mode 2 system

In this application, the camera sites and control site are connected with some video transmitting lines. This application is recommended when the 4 video signals are reuired simultaneously using WJ-450 and so on.

Note:

The setting up of the Data Clock Switch (SND/RCV) should be made for the camera sites and control site individually.

Video

Converters

1

2

3

4

WJ-SQ508

Monitor TV

WV-CU300
(SND)

WJ-450

WJ-PC10
(RCV)

System data

Modem

RS-232C

Control site

SYSTEM ERROR TABLE

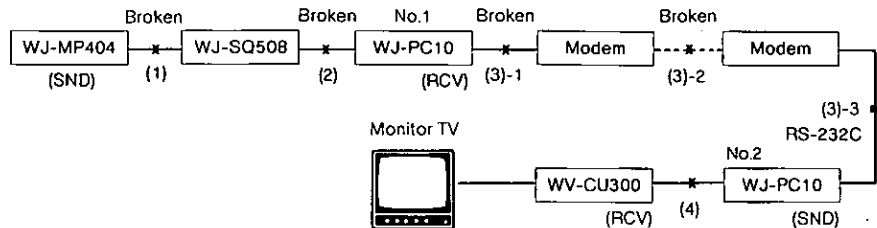| LED indication	Cause	Trouble points
SYS DATA RX	No data sync	• Data Clock Switch on all units are set to RCV position. • Broken system data line with "RCV" WJ-PC10.
	Duplicated data sync	• Duplicated "SND" position of WJ-PC10 with other units.
SYS DATA TX	Wrong Controller Unit No.	• Controller Unit No. is set either 0, 6, 7, 8 or 9 in PC-mode.
		• Controller Unit No. is set other than 0 in Extension-mode.
	Duplicated Controller Unit No.	• Controller Unit No. duplicated with WJ-PC10 in PC-mode.
RS-232 RX	75Ω termination error	• Broken or non-termination of system data line with "SND" WJ-PC10.
RS-232 TX	WJ-MP404 site error in PC-mode	• Duplicated "SND" position of WJ-PC10 with WJ-MP404. • Duplicated "Unit No." of system components. • Broken or non-termination of system data line.

1. PC-mode
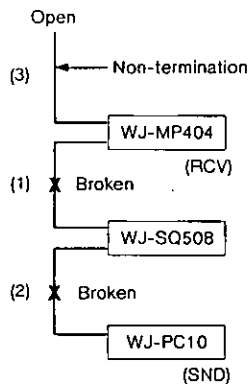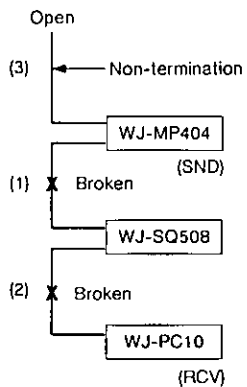
Trouble point	Error indication LED on WJ-PC10
(1) Broken	SYS DATA RX
(2) Broken	SYS DATA RX
(3) Non-termination	RS-232 TX

Trouble point	Error indication LED on WJ-PC10
(1) Broken	RS-232 RX
(2) Broken	RS-232 RX
(3) Non-termination	RS-232 RX

2. Example in Extension-mode

Trouble points	Error indication		
	No.1 WJ-PC10	No.2 WJ-PC10	Monitor TV
(1) Broken	SYS DATA RX	—	—
(2) Broken	SYS DATA RX	—	—
(3)-1 Broken (3)-2 Broken (3)-3 Broken	No error indication available. LED on RS-232 RX does not light when no receiving data.		—
(4) Broken	—	RS-232 RX	CU ERROR: A1

● Refer to operating instructions of WV-CU300 for CU ERROR: A1.

SPECIFICATIONS

Power source: 12V DC, 0.18A
Input/output: Data In/Out; 1Vp-p/75ohms ×2 (BNC)
                                       RS-232C; 25pin D-sub
Controls: Controller Number Selection Switch
                                       Data Clock Switch
Ambient operating temperature: 14°F - 122°F (−10°C - +50°C)
Ambient operating humidity: Les than 95%
Dimensions: 5-7/16"(W) × 1-3/4"(H) × 7-5/16"(D)
                                       [138(W) × 44(H) × 185(D)mm]
Weight: 1.8 lbs (0.8 kg)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

Broadcast & Television Systems Company