

Parameter setting support software for the IV series

Model name



Instruction Manual



Thank you for purchasing the IV-S30SP, which is parameter setting support software for the IV series.

Read this manual thoroughly to understand the features and operation of this software completely.

Keep this manual for future reference. We are confident that this manual will be helpful whenever you encounter a problem.

Store this user's manual in a safe place. We are confident that the manual will be helpful whenever you encounter a problem.

In addition to this manual, there are other IV-S30/C35M/S20 manuals as follows. Read them in conjunction with this manual.



Software version

This manual describes version 3.06 of the IV-S30SP system software. The details of the upgrade from version 2.20 are as follows.

Added functions in version 3.06 (compared with version 2.20)

Item	Additional function	Reference page
Applicable controller	Also applicable to IV-S31MX/S32MX/S33MX, IV-S30J, and IV-C35M.	Page 5-2 and others
Memory card	If IV-C35M is used, this application software can read, save, and delete data from a flash memory card.	Page 11-4

Note

- This manual is written with the utmost care. If you note something wrong or unclear, please contact the sales shop or service company.
- No part of this manual may be reproduced in any form without written permission from SHARP corporation.
- The contents of this manual are subject to change without prior notice.
- We are not liable for any damage, lost profits or charges made by third parties which may be caused by using this software.

Operating environment

This software runs on any computer, which is equipped with the following operating environment.

Item	Specification
Model	IBM PC/AT or compatible machines
CPU	Pentium 90 MHz minimum (recommend Pentium 133 MHz or better)
Operating system	Microsoft Windows Me, Microsoft Windows 2000 Microsoft Windows NT4.0, Microsoft Windows 95/98
Memory	32 M-bytes minimum (recommend 48 M-bytes or more)
Hard disk	30 M-bytes or more free space
Display	SVGA or more (Resolution: 800 x 600 pixels, 256 col- or or more) Recommended color monitor display: High color (16 bits) or better
CD-ROM drive	Needed to install this software
RS-232C port	One port or more
Mouse	A mouse or pointing device compatible with the Windows95/98/NT4.0 environment.
Printer	A printer compatible with the Me/2000/NT/98/95 environment.
USB port	One port recommended (only Windows Me/2000/98 supports the USB interface)

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Preface

Pref.

This software (IV-S30SP) is a parameter setting support software used to specify the parameters for the compact image sensor camera IV-S30/C35M/S20. It runs on Windows Me/2000/NT4.0/98/95 platforms, and allows users to specify data, and manage and analyze inspection results, using a personal computer.

[1] Features

- Its offline setting function allows you to specify and change object type conditions without halting a production line.
- Its automatic document creation function allows you to manage and save the parameter settings.
- Its measurement data collection function can transmit measurement results from the IV-S30/C35M/S20 to a personal computer.
- Its parameter data upload/download function enables you to send samples via e-mail for evaluation of sample measurements, and to copy data easily to other IV-S30/C35M/S20 controllers.
- Its image data output function can print a captured image using a personal computer.
- The IV-S30/C35M/S20 system software upgrade function allows you to upgrade the system functions and resolve problems easily.
- The menu customization function allows you to customize the operation screens (user menu editor).
- Use of the USB interface increases the data transfer speed dramatically (Windows Me/2000/98 only on the IV-S30/C35M).
- There are two versions of the IV-S30SP program: one for the IV-S30/C35M and the other for the IV-S20. The table below describes the differences.

Function	IV-S30/C35M	IV-S20
Parameter setting function	0	0
- Object type condition	0	0
- Global condition	0	Х
- Reference image	0	0
Load/save parameters	0	0
Load/save display image and message	0	0
Document creation function	0	0
Data collection function	0	0
User menu editor function	*1	Х
Command test function	0	0
Upgrade function	0	0
Print	0	0
Message color change	0	0
Zoom	0	Х
Change image brightness	0	0
Link to SMS Web page	0	Х
Memory card	*2	Х

• [Function comparison between the IV-S30/C35M and IV-S20 program versions]

* 1: The user menu editing function can be used when any IV-S31M/S32M/S33M is used as the controller.

* 2: The memory card can only be used when the IV-C35M is used as the controller.

Note

In this manual, the term "IV-S30/C35M" refers to the following controller models.

Model name		Controller
IV-S30/C35M	IV-S30	IV-S31M/S32M/S33M
		IV-S31MX/S32MX/S33MX
		IV-S30J
	IV-C35M	IV-C35M

Pref.

[2] Operating environment

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Mouse	A mouse or pointing device compatible with the Windows95/98/NT4.0 environment.
Printer	A printer compatible with the Me/2000/NT/98/95 environment.
USB port	One port recommended (only Windows Me/2000/98 supports the USB interface)

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· Pentium is a registered trademark of Intel Corporation, USA.

[3] System configuration

• System connections on the IV-S30(except IV-S30J)/C35M



*1: A USB cable and an RS-232C communication cable are accessories that come with this software package.

For details about the wiring, see section "Connection with personal computer" in the user's manual of each controller (Introduction and Hardware).

Pref.



*2 An RS-232C communication cable is an accessory that comes with this software. For details about the wiring, see section "Connection with personal computer" in the IV-S20 user's manual.

[4] Product components

One CD-ROM

One Instruction manual

One RS-232C communication cable (1.5 m)

[Connector --- 9-pin D-sub male (IV-S30/S20 side) + 9pin D-sub female (PC side)]

One USB cable (3 m)

[5] User file

Shown below are the user file types, which can be read and written using this software.

Classification	Extension
Project file (IV-S30/C35M parameters)	apm
Display image	bmp
Command test	tst
IV-S30/C35M/S20 system sofware	mot
Document/data correction	CSV
Object type setting condition	msr
Global condition	prm
Reference image	bmp

Setup

The installation process that places a program on a computer and makes it ready for use is referred to as the "Setup." This chapter describes the setup procedure.

This software runs on the Windows Me/2000/NT/98/95. The descriptions in this chapter use a Windows98 installation for the example.

Note: Before starting the installation, disable any virus check programs in your computer.

[1] Installation of the IV-S30SP

1. Start up the Windows98, and place the IV-S30SP CD-ROM on the CD-ROM drive.

Note: Do not put any labels on the CD-ROM.

2. Double-clicks the CD-ROM drive icon on the Windows desktop.

You will find folders for both the IV-S20 and IV-S30/C35M on the CD-ROM (see below).





Refers to the IV-S20 version in this manual

Refers to the IV-S30/C35M version in this manual

- When using the IV-S30/C35M

Open the [IV-S30] from [IVS30SP] folder on the CD-ROM. Then double-click on "setup.exe." ⇒ Go to step 3.

- When using the IV-S20 (English)

Open the [IV-S20]-[English] from [IVS30SP] folder on the CD-ROM. Then open the [ENGLISH] folder. Double-click on "setup.exe." \Rightarrow Go to step 4

3. Select the OS type that you have and specify Japanese or English.

Choose S	etup Language 🛛 🗙
æ	Select the language for this installation from the choices below.
	English OK Cancel

The descriptions below explain the use of the software on the IV-S30/C35M.

(When the upgrade software for the IV-S20 is installed, the term "IV-S30SP" in the messages will change to "IV-S20SP.")

4. The setup program will startup and prepare the setup wizard.



After the setup preparation is complete, the dialog box shown on the right will appear.





5. Click the "Next" button. The following dialog box will appear.			
Choose Destination Location			
	Setup will install IVS3OSP in the following folder To install to this folder, click Next. To install to a different folder, click Browse and select another folder. You can choose not to install IVS3OSP by clicking Cancel to exit Setup.		

Destination Folder

C:¥Program Files¥sms¥IVS3OSP

< <u>B</u>ack

6. When you do not need to change the folder (directory) where you want to install the program, simply click the "<u>N</u>ext" button to continue the installation.

Next >

To change directory, click on the "Browse..." button. The "Choose Folder" dialog box will appear. Select the drive and directory, and click on the "OK" button. Then click on the "<u>N</u>ext" button to continue.

Choose Folder	×
Please choose the instal Path: <mark>D:*Program Files*sms*IVS</mark> Directories:	lation folder. 305P
C:¥ Trogram Files Sms TrosOsp SPTemp	OK Cance I Browse
Dri <u>v</u> es: 🗐 c: windows98 💽	

×

B<u>r</u>owse..

Cancel

Set

7. By clicking on the "Next" button, the "Select Program Folder" dialog box will appear.

Select Program Folder		×
Select Program Poder	Setup will add program icons to the Program Folder listed below. You may type a new folder name, or select one from the existing Folders list. Click Next to continue. Program Folders: Sms Existing Folders: Accessories SMS	
	< <u>B</u> ack <u>N</u> ext > Cancel	

8. When you do not want to change the program folder, simply click on the "Next" button to continue the installation.

To change the folder, enter a new folder name, or select a folder from the existing folder list. Then click on the "Next" button to continue installing the program.



After the setup is complete, the following dialog box will appear.



9. Click on the "Finish" button to return to the initial setup screen.

Setup-3

Set

10. To start this program, bring up the start menu in Windows98, and then select "Programs" - "Sms" - and "IVS30SP" in that order.



The program will start and the following screen will appear.

INSIGP	Soroon f	ar the IV 620 (See page Set	(n 1)
le Edit View /VS30.communication Icols Window Help	- Screen n	or the rv-320 (See page Sell	ip-i.)
00× 1 1 1 4 A + 6 CM I C CM 2	4% IVS20SP		_ 🗆 🗙
lobal conditions Reference image	Eile Edit IV data settings Object to	ype COND ⊻ersion up <u>W</u> indow <u>H</u> elp	
aporter i preproces notateo Rockarea Pattern Rockarea Pattern			
haracter [Binary inage M0 inager		- SELECT CAMER	
construction of the second sec	Display image	• 1 C 2 X: 352 Y: 275	
ordinates166., 296 99/09/20 10:24			
	1		

11. To quit this program, select the "Eile" - "Exit" item from the menu bar.



- Screen for the IV-S20 (See page Setup-1.)



 \Rightarrow The confirmation dialog box will appear.

IV-S30SP		
Quit	.2	
Yes	No	

 \cdot Click on the "Yes" button to stop this program.

• You can also stop the program by clicking on the "x" button in the upper right of	corner of the window.
	Click here
Mir/s305P	
<u>File</u> <u>E</u> dit ⊻jew IVS30 communication <u>T</u> ools <u>Wi</u> ndow <u>H</u> elp	
⇒ The confirmation dialog box will appear. Click on the "Yes" button.	

[2] Setting the Windows environment

1. From the scroll bar menu, select "Settings" and then "Control Panel ."



2. Open the "Display Properties" menu and click on the "Settings" Tab. Then, set the number of colors in the "<u>C</u>olor palette" and the font size in "<u>F</u>ont size."

Display Properties	? ×
Background Screen Saver Appearance Settings	
Color palette Desktop area	re
Tot size	
Small Fonts	-
Normal size (96 dpi)	
Show settings icon on task bar <u>A</u> dvanced Properties	;
OK Cancel	ply
Please select "Small Fonts."	
— Please select "256 Color."	

[3] Installation of a USB driver (version for the IV-S30/C35M)

- 1. Turn ON the power to the controller (IV-S33MX etc., except IV-S30J).
- 2. After turning ON the power, connect the personal computer to the controller using the USB cable. The [Add New Hardware Wizard] dialog box will appear, and it will display an "Unknown Device" message.

Add New Hardware Wizard				
Add New Hardware Wiz	This wizard searches for new drivers for: Unknown Device A device driver is a software program that makes a hardware device work.			
	< Back. [Next >] Cancel			

3. Click on the [Next] button. The display will change to the screen for selecting a search method. Select "Search for the best driver for the device. [Recommended]," and click on the [Next] button.

Add New Hardware Wiz	ard
	 What do you want Windows to do? Search for the best driver for your device. (Recommended). Display a list of all the drivers in a specific location, so you can select the driver you want.
	< <u>B</u> ack Next > Cancel

4. A USB device driver is stored on the IV-S30SP CD-ROM. If the CD-ROM drive in your personal computer is labeled E, enter "E:\driver" for the search location. Then click on the [Next] button.

Add New Hardware Wizard				
	Windows will search for new drivers in its driver database on your hard drive, and in any of the following selected locations. Click Next to start the search.			
	< <u>B</u> ack Next > Cancel			

5. "ivs30usb Device" will appear. Click on the [Complete] button to finish the setting.

6. To make sure that the setting is completed correctly, select [System] from [Control Panel] and examine the device tree in the Device Manager. If the "Ivs30usb Device" icon is displayed as shown in the figure below, installation of the device driver is complete.

System Properties ? 🗙
General Device Manager Hardware Profiles Performance
 View devices by type View devices by connection Computer CD-ROM Vs30usb Vs4000 Vs40000 Vs40000
Properties Refresh Remove Print
OK Cancel

Version for the IV-S30/C35M

Chapter 1: Menu Organization

After starting this software (for the IV-S30/C35M), the screen shown below will appear. The menu organization on the menu bar is also shown below.

The following menus (1) to (7) correspond to the items on the next page.



(1) <u>F</u>	ile			
				(Description)
	— <u>N</u> ew	Ctrl + N		- Create a new file.
-	— <u>O</u> pen	Ctrl+O ····		Open an existing image file. (*.bmp/*.msr/*.prm)
	— <u>S</u> ave disp	olay image	Ctrl+S	Save only the currently displayed image.
	— Open pro	ject (W)		Open a project file, such as the controller parameters.
	— Save pro	ject (V)		Save a project file, such as the controller parameters.
	— Save As	project (E) -		Save a project file, such as the controller parameters using a new file name.
-	— Close pro	oject (K)		Close a project file, such as the controller parameters.
	— Propertie	s (I)		- Display the current project and model names (IV-S33MX etc.).
	— Page set	<u>up</u>		Specify the pages to print.
	— <u>P</u> rint	Ctrl+P ····		Print
	— E <u>x</u> it			Quit the IV-S30SP.

(2) <u>E</u>dit

	(Description)
— Cu <u>t</u>	Ctrl + X Copy the image displayed on the IV-S30SP to the clipboard and delete it after it is pasted elsewhere.
— <u>С</u> ору	Ctrl + C Copy the image displayed on the IV-S30SP to the clipboard.
— <u>P</u> aste	Ctrl + V Paste the IV-S30SP image currently being held on the clipboard.
— <u>A</u> dd	Add an object type to the object type conditions.
— <u>D</u> elete	Delete the image currently displayed on the IV-S30SP.

(3) View (display)

(3) <u>v</u> iew (display)		5M
			/C3(
	bars	(Description)	30
— Standard		Select whether or not to display the standard tool bar.	S-S
	Display image	Select whether or not to display the tool bar used for displaying an image.	1
— <u>S</u> tatu	us Bar (S)	Select whether or not to display the status bar.	
— Disp	lay image monitor	Select whether or not to display the image window for monitoring.	
— <u>P</u> ara	meter List	Select whether or not to display the parameter list box.	
— Zoor	n <u>In</u>	Zoom in closer to an image.	
— Zoor	m <u>O</u> ut	Zoom back away from an image.	
— Zoor	n Magnification Rate	Select an image size: 25, 50, 75, or 100% of normal.	
	L 100%, 75%, 50%, 2	5%	
— Displ	lay image <u>B</u> rightness Leve	elChange the image brightness between standard and one-half of norma	ıl.
	Standard, 1/2		
Mes	sage <u>C</u> olor (C)	Change the message display color to the specified color.	
	Black, Blue, Green,	Cyan, Red, Magenta, Yellow, White	
(4) <u>1</u> VS30	communication		
— IVS3	0 data <u>t</u> ransfer	(Description)	
	— <u>W</u> rite	Send a set of parameters or an image from the PC to the controller.	
	<u>R</u> ead	Read a set of parameters or an image from the controller.	
	— <u>V</u> erify	Verify that the parameters or image in the PC is the same as that in the controller.	
	Initialize	Initialize the parameters or images in the controller.	
	Self Test	Have the controller check its own parameters and image conditions.	
— ⊻ers	ion grade	Upgrade the system software in the controller.	

____ Option _____ Specify the communication, IV data transfer, and upgrade conditions.

(5) <u>T</u>ools ∣

		(Description)
	— Command <u>T</u> est	- Test the communication between the controller and a personal computer.
	<u>Data collection</u>	- Send the measurement execution data from the controller to a personal computer and total the data.
	Create document	- Create a document using the current IV parameter details.
	— User <u>m</u> enu editor (IV-S31M/S32M/S33M)	- Create or modify IV menus and messages.
	<u>M</u> emory card ····································	- Reads, saves, and deletes data from a flash memory card.
((6) <u>W</u> indow	

(Description)
— Cascade display \cdots Overlap the open windows.
— Tile Vertically \cdots Display the open windows in a vertical layout.
\Box Tile <u>H</u> orizontally Display the open windows in a horizontal layout.

(7) <u>H</u>elp

(Description)
— <u>C</u> ontents \cdots Display the table of contents for the Help files.
- Contents and Index Display the help menu search topic screen.
— SMS \underline{W} eb pageLook at the SMS web site.
— About IV-S30SP Display the version information for the IV-S30SP program.

Chapter 2: Optional Settings

When you communicate between the personal computer and the IV-S30/C35M, you must specify the communication conditions for IV-S30/C35M data transfers, and software upgrades.

- For details about setting the specific controller model, see page 5-2.

2-1 Specify the communication conditions

Click on the "Option" in the "IVS30 communication" menu.

IVS30 communication	Τ¢
IVS30 data <u>T</u> ransfer	•
<u>V</u> ersion grade	
<u>O</u> ption	

rightarrow The "Option" dialog box will appear.

Serial communication

Select "Serial" for the "COMM method" and specify the other communication conditions.

Note: Make sure to specify the same communication conditions as previously specified in the [COMM. SET]

item on the IV-S30/C35M's [SYSTEM COND] menu.

🙆 Option	X	3
Communication conditions	IV-S30 transfer conditions Softw	1
Communication speed (
Data length T C 8	Parity © Even © Odd © None	
Stop C 1 C 2	Port ● 1 ● 2 ● 3	
Station number	COMM method C Serial C USB	Click hor
	Default	
	OK Cancel Apply	i

USB communication

Select "USB" for the "COMM method" and specify the other communication conditions.



USB data transfer

- Only: Only transfer data to the IV-S30/C35M that have been specified in the "Station" assignments.
- All: Transfer data to all of the IV-S30/C35M controllers that are connected to the USB cables.

2-2 Transfer conditions

Select "IV-S30/C35M transfer conditions" from the "Option" dialog box and specify the other transfer conditions in the window.

👸 Option			×				
Communication con	ditions [IV-33	0 transfer cond	itions Softw				
Parameter ✓ Object type c ✓ Global condi ✓ Reference in Title & Chara ✓ Wizard samp	onditions tions nage icter ole	Binary ir Patte Char Binar	Binary image Pattern Character Binary image				
Color/gray imag Capture all Capture Capture Camera1 Camera2	e images C Pre-process Camera1 Camera2	Capture partial Rotated Camera1 Camera2	image Work area Camera1 Camera2				
Check all Default							
OK Cancel Apply							

(When the IV-C35M is specified as the controller model to use)

[Parameter] = All parameters specified in the IV-S30/C35M

Object type conditions: The conditions specified for each object type (measurement conditions, etc.)

Global conditions:	The shared conditions which are set and applied to all object types (system con-
	altions, etc.)
Reference image:	Any reference image registered in the IV-S30/C35M
Title & Character:	Transfers all the titles and character strings used with the IV-S30/C35M (Since it
	takes a long time to transfer the data, we recommend that you should not read it
	out if you did not changes the titles or character strings.)

Wizard sample (except for the IV-S31M/S32M/S33M)

: Samples that were registered using the set wizard function.

[Gray scale image] = 256 intensity levels (When the IV-C35M is used, this item will read: [Color/ gray image].)

Capture: Store the image displayed on the MAIN OPS MENU.

Pre-process: An image processed by making shading corrections and binary image masking.

Rotated: Change the base angle on a captured image.

Work area: The portion of an image used for making measurements.

* Select either "Capture all images" or "Capture partial image."

[Binary image]

Pattern: Displays a frame around the search area of the image to be measured on the MAIN OPS MENU.

Character: Characters displayed on the IV-S30/C35M screen.

Binary image: An image that has been captured and processed by binary conversion.

[NG images] = Images captured by the IV-S30/C35M that fail some measurement criteria.

2-3 Upgrade conditions

Select "Software upgrade conditions" in the "Option" dialog box and specify the other upgrade conditions in the window.

Option	×
IV-S30 transfer conditions Software upgrade conditions	
Opgrade version type ONo initialization O All initialization	
 Program used to send data – © Boot © System 	
Select a file Default	
OK Cancel <u>A</u> r	oply

[Upgrade version type]

No initialization: Do not initialize the IV-S30/C35M. All initialization: Initialize the IV-S30/C35M.

[Program used to send data]

Boot: IV-S30/C35M boot program System: IV-S30/C35M system program

Chapter 3: Parameter settings

Set object type conditions (Measurement conditions, Evaluation conditions, Numerical conditions, and output conditions).

- You can set and change the conditions offline. (You can set and change conditions without stopping the production line while it is operating.)
- For details about setting the specific controller model, see page 5-2.

Adding a new object type

1. Click the [Object type conditions] tag on the parameter list. Then click the right mouse button on the [New object type]. Next, click on [Add]. (You may double click the left mouse button instead of clicking the right mouse button.)



 \Rightarrow The [Add] dialog box will appear.

Add	×
Set additional object type number.	OK
Object type 🛛 🕂	Cancel

- 2. Select an object type number to add and click on the [OK] button.
 - \Rightarrow Then new object number will be added.



Setting the measurement conditions: When measurement 0 and camera 1 (position deviation measurement) is selected.

1. Double click on [Measure 0 Camera 1 Conditions].



➡ The "Measure 0 Camera 1 Conditions" dialog box will open. Click on the "Measure position deviation" item.

Ronn			
Measure 0 Camera 1 Conditions			
Select measure • No • Measure position deviation	Compare Images • No		
	Change gray level	C Times 00.0	Click here
	🔿 Gamma +	🔿 Gamma -	
	C Change linear	C Emphasis middle	
	Space filter Num	n. of Times 1 + (0-5)	

- 2. Click on "Measure position deviation" and then click on the [Close] button.
 - ⇒ "Measure position deviation" will be added to the [Measure 0 Camera 1 Conditions] menu.
- 3. Double click on the "Measure conditions" item on the "Measure position deviation" menu.
 → See the next page.



⇒ The "Measure position deviation" setting screen will appear.



3-1 Setting the measurement conditions

Select the "Measure position deviation" tab and double-click on the "Measure conditions" item on the parameter list. The measurement condition screen will appear.

Operation details: When setting up the positional deviation measurement (2-point search) Click on the "V" button to display the registration condition items on the "Measure position deviation" setting screen(previous page). Then click on the "2P search" item.

					_	
Measure position deviation						
Measure conditons Detect precision Register No. Detect angle	€ Stand	lard No 1P sea 2P sea 1P edg 2P edg 1P sea	• High arch arch ge ge arch+1P ed	Ige		Click here

⇒ The measurement condition screen for the "2P search" will appear.

K IVS30SP		_ 문 ×
<u>File Edit View IVS30 communication Tools 1</u>	<u>W</u> indow <u>H</u> elp	
D 😅 🖬 🎒 👗 🖻 🛍 🍳 😗		
100% 💌 🛅 🛑 🦺 🖌 🔹 🖸 Cameral 🔿	Camera2 Object type O	
Reference image Capture Pre-process	🗞 Display image 🛛 🕅	Aeasure position deviation
Rotated Work area Pattern Dharatter Binary image NG images Object type00 Global conditions Object type00 Slobal conditions Object type00 Slobal conditions Sleat camera - Sleat camera Image preprocess - Measure position deviation Sline conditions - Sline conditions Beasure olditions - Distance and angle conditions - Distance and angle conditions - Dutput conditions - Distance and angle conditions - Dutput conditions - Final numeric calculation conditions - Final numeric calculation conditions - Final output conditions - Slister type0 Measure 0 type New object type	Ref. Image(model 0) New Ref. Image(model 0) Reg. View New Ref. Image(model 0)	Measure conditons Detect precision Register No. Detect angle No Gray search(Model 0) Measure Ref. image Detect coordinate Ref. image Ref. image Contract pixels Contract pixels Cont
Goordinates/04 , 400		00/08/22 13:03

For details about the settings, see the "IV-S30/C35M user's manual."

3-2 Setting the evaluation conditions

Select the "Object type condition" tab and double-click on the "Evaluation conditions" item on the parameter list. The evaluation condition screen will appear.

Operation details: When setting up the positional deviation measurement (2-point search) Double-click on the "Evaluation conditions" menu on the parameter list.



 \Rightarrow The evaluation condition screen for a 2-point search will appear.

Evaluation conditions	
Registration number 🔟 🛨	-The registration number
Model 0	setting.
Lower limit] [Upper limit] [Output] [Serial output] X coordinate 0.0 - 511.0 No No Y coordinate 0.0 - 479.0 No No No X deviation -511.0 - 511.0 No No No No Y deviation -479.0 - 479.0 No No No No Degree of match -10000 - 10000 No No No No	— MODEL 0 items to set.
Angle -180.0 - 180.0 - No - N	Angular deviation
X coordinate 0.0 🛨 - 511.0 🛨 No 🔽 🔂 🚽	
Y coordinate 0.0 🛨 - 479.0 🛨 No 💌 🗇 🚽 No 💌	
X deviation -511.0 🛨 - 511.0 🛨 No 💌 🗇 🚽 No 💌	MODEL 1 items to set
Y deviation -479.0 🛨 - 479.0 🛨 No 💌 🗇 🚽 No 💌	MODEL Thems to set.
Degree of match -10000 🚔 - 10000 🚔 No 💌 👘 No 💌	
Close	

For details about the settings, see the "IV-S30/C35M user's manual, Function and Operation."

3-3 Setting the numerical calculation conditions

Select the "Object type conditions" tab and double-click on the "Numeric calculation conditions" item on the parameter list. The numerical calculation screen will appear.



⇒ The "Numeric calculation conditions" screen for measuring positional deviation will appear.

legister Calculation result N 🔟 🚊	ONO OY	es	ate	
ormula-				
Calculation target			- Operator	- Function
C Registration number	0 *		+ -	SUM
C Calculation result	N O 💌		* /	AVG
C Constant	0.0	Input		Registration
			Delete	
valuation Lower limit	Upper limit	- Output	Seria	l output
-9999999 9999	9999999	9999 🛖 📃 No 🔽 🖉	0 🗧 N	o 🔽 🛛 Close

- Enter a calculation result number and click on "Yes" in the "Register" item. Then, you can specify each setting individually (type, formula, evaluation, and output). (See the next page.)

Click on each of the individual setting sections (1) to (5) below, on the numerical calculation setting table. The details for each setting will appear.

① Object type setting details

Туре	
[X] coordinate	•
[X] coordinate	
[M] coordinate	
[X] deviation	_
[y] deviation	
[M] degree of match	1
(B) angle	Г
[NC] numeric calculation	
[C] constant	

(2) Setting details for formula 1-1 (When the type is the X ad Y coordinates, x and y deviations, degree of match M, or angle B)

- Calculation target		
 Registration number 	0 ÷	Model 0 🕂
C Calculation result	N O ×	
C Constant	0.0	Input

- When angle B is selected, the model item is not displayed.
- (2) Setting details for formula 1-2 (When the type is a numerical calculation NC)

÷ . 0000 ÷

Input

Calculation target				
Numeric processing	ABS	•	NOT	
🔿 Maximum, minimum	MAX	~	N O ×	- N <u>0 *</u>
				Input

2 Setting details for formula 1-3 (When the type is a constant C)

0

③ Setting details for formula 2

Γ^0	perato	r
	+	-
	*	1

(4) Setting details for upper & lower limits

Calculation target Constant



(5) Setting details for output

Output	Serial output-
	No 💌

For details about these settings, see the section describing the numerical calculation in the "IV-S30/C35M user's manual (Function and Operation)."

Register Calculation result N 0	C No • Yes	Type X coordinate	
- Formula			
00X0 + 01X1 +			
Calculation target		Operator	
Registration number	1 🕂 Mo	del 1 🛨 🛛 + 🛛 -	SUM
Calculation result	N 0	* /	AVG
C Constant	0.0		Registration
		<u>D</u> elete	

Described below is the process used to set the calculation result N0 for the setting example shown on the previous page.

(1) Setting the object type
1. Enter "0" for the calculation result number and click on "Yes" in the "Register" dialog box.
Register
Calculation result N 🚺 🛨 🔿 No 💿 Yes
2. Click on "[X] coordinate."
ГТуре-
[X] coordinate ▼
M coordinate
(x) deviation
[M] degree of match
[NC] ungeric calculation
(2) Setting the formula
1. Enter "0" for the registration number and model number, and click on the "Input" button.
Calculation target
Registration number Image: Comparison of the second sec
O Calculation result N 0
O Constant 0.0 ☐ Input
The act time data is for the formula will appear
Formula
× · · · · · · · · · · · · · · · · · · ·
2. Click on the "+" button.
\Rightarrow The "+" symbol will be shown on the cell to the right of "00X0."
Formula
3 Repeat steps 1 and 2 to enter more formula steps



2. Click on "No."

C



Click here
3-4 Setting the output conditions

Select the "object type conditions" tab and double-click on the "Output conditions" item on the parameter list. The output conditions screen will appear.

Operation details: When setting up the positional deviation measurement Double-click on the "Output conditions" menu on the parameter list.

Reference image	e Capture	Pre-process	
Rotated	Work area	Pattern	
Character	Binary image	NG images	
Object type con	ditions Glob	al conditions	
📮 Object typeO()		
- Operation	menu conditio	ns	
Select ca	mera		
- Image pre	-process		
🖃 Measure O	Camera 1		
Measur	e O Camera 1 C	onditions	
🖻 Measur	e position dev	iation	
Po:	sition correct		
Mea	asure conditons	;	
Eva	aluation condit	tions	
Dis	stance and angl		
Nur	meric calculati	on conditions	Double aliak bor
Ou	tput conditions		
⊕ Measure O	Camera 2		

⇒ The "Output conditions" screen for measuring positional deviation will appear.

Output conditions				
Register Page 0 + C No 6	• Yes			
0 1 2 Input0	3 4	5 6	7	Output
Input signal Registration number 0 🔹 (* [X] coordinate Model 0 (* [X] deviation Model 0 (* [X] deviation Model 0 (* [M] degree of match Model 0		utput signal		o 🛨
C [B] angle C Numeric calculation N 0 C Auxiliary relay C 0				<u>D</u> elete <u>C</u> lose
Input signal items to set	Logical symbol items to set	Outpu items	t signal to set	

- Select the page number, and click on the "Yes" item. Then you can specify each setting individually. For details about these setting, see the "IV-S30/C35M user's manual, Function and Operation: PC Function."

[Example of settings]

	0	1	2	3	4	5	6	7	Output
Input0	00M0	C001							C000
Logic	\dashv \vdash	-1/F-							\bigcirc
Input1	00X0								
Logic	-1		4						

Described below is the process used to create the example above.

1. Enter "0" for the page number, and click on "Yes" in the "Register" item.

Register-				
Page	0 ÷	O No	• Yes	
L				Click here

2. Click on column 0 on the "INPUT 0" line.

	0	1	2	3	4	5	6	7	Output
Input0									
Logic									
Innut1				ĺ	ĺ	1			
		_	Click						

3. Click on "Degree of match M" as the parameter you want to change.



4. Click on the [-| |-] item in the "LOGICAL SYMBOL." area.

 \Rightarrow The selected input signal and logical symbol will be shown.

	0	1	2	3	4	5	6	7	Output
Input0	00M0								
Logic	\neg								
									1

(Reference)

• Enter the registration number and the model number (0 or 1) by clicking inside the box or on the ▲/▼ arrows (see above ★).

- 5. To create the input section, click on the desired cell, logical symbol, and objective parameter repeatedly, the same as in steps 1 to 4 above. (The cursor will automatically move to the right of the specified column.)
- 6. Click the output column on the "INPUT0" line.1.

Click here

	0	1	2	3	4	5	6	7	Output
Input0	00M0								
Logic	\dashv \vdash	_1/F_							
Input1	00X0								
Logic	\neg								

7. Specify the output number for the output signal, and the click on the "Input" (enter) button.



 \Rightarrow The output signal and the auxiliary relay C000 will be shown in the table.

	0	1	2	3	4	5	6	7	Output
Input0	00M0	C001							C000
Logic	\neg	-1/F-							\bigcirc
Input1	00X0								
Logic	\neg		4						

(Reference)

- Set the auxiliary relay number (0 to 127) by entering a number of by clicking on the ▲/▼ arrows (*1) on the auxiliary relay box, or click inside of the relay number window (*2) to highlight, then enter the number directly.

3-5 Setting the distance and angle conditions

Select the "Object type conditions" tag and double-click on the "Distance and angle conditions" item on the parameter list. The distance and angle conditions screen will appear.

Operation details: When setting the positional deviation measurement

1. Double-click on the "Distance and angle conditions" menu on the parameter list.



⇒ The "Distance and angle conditions" screen for measuring positional deviation will appear.

Auxiliary Distance Angle
Auxiliary number
0 ÷ No
Condition 1 C Registration number 0 - Model 0
Condition 2 C Registration number 0 - Model 0
Condition 3 C Registration number 0 - Model 0
Evaluation Auxiliary 1 evaluation 0.0 = 511.0 = Auxiliary 2 evaluation 0.0 = 479.0 =
Output No External output Y O T Auxiliary relay C O T
<u>C</u> lose

2. Specify the auxiliary conditions in the "Distance and angle conditions" dialog box.

Distance and angle conditions	
Auxiliary Distance Angle	
Auxiliary number	
0 ÷ No	·]
- Canditi	
C Reg Circle center	
C Auxi Gravity	
Straight line passing over two points	
Conditi Intersection of two straight lines	

3. Specify the other conditions.



Chapter 4: Reading/Writing Parameters and Images

You can save the parameter settings and images (display images, messages, patterns) stored in an IV-S30/C35M controller using a personal computer. Parameter settings can also be downloaded into an IV-S30/C35M.

- For details about setting the specific controller model, see page 5-2.

4-1 Read

Reads the parameter settings and images stored in the IV-S30/C35M to a personal computer.

1. Select the "Read" item using the following menu sequence.

"IVS30 communication" \rightarrow "IVS30 data transfer" \rightarrow "Read"



 \Rightarrow The dialog box for the "<u>R</u>ead" session will appear.

👸 Read-	_ 🗆 ×
IVS30 data transfer : Read	Start
Press the 'START' button to start the data transfer.To specify the data transfer conditions, press the 'OPTION' button	Cancel
Caution:To send the parameters, select the MAIN OPS MENU screen on the IV-S30.	<u>O</u> ption

2. Click on the "Start" button to start the data transfer.

 If you want to specify or modify the transfer or communication conditions, click on the <u>"Option"</u> button. (To send the parameters and gray scale images, select the MAIN OPS MENU screen on the IV-S30/C35M.)

3. After the transfer is complete, the "Data transfer complete" message box will appear.

Data transfer				
Data transfer com	plete			
OK				

4-2 Write

Write the parameter settings and images stored into a personal computer to the IV-S30/C35M.

1. Select the "Write" item using the following menu sequence.



 \Rightarrow The dialog box for the "<u>W</u>rite" session will appear.

🙆 Write-	
IVS30 data transfer : Write	Start
Press the 'START' button to start the data transfer.To specify the data transfer conditions, press the 'OPTION' button	Cancel
Caution:To send the parameters, select the MAIN OPS MENU screen on the IV-S30.	<u>O</u> ption

- 2. Click on the "Start" button to start the data transfer.
 - If you want to specify or modify the transfer or communication conditions, click on the "Option" button.
 - ⇒ [Chapter 2: Optional settings]
- 3. After the transfer is complete, the "Data transfer complete" message box will appear.



4-3 Verify

Verify that the parameter settings and images are the same in the personal computer and the IV-S30/C35M.

1. Select the " \underline{V} erify" item using the following menu sequence.



 \Rightarrow The dialog box for the "<u>V</u>erify" session will appear.

👸 Verify-	
IVS30 data transfer : Verify	Start
Press the 'START' button to start the data transfer.To specify the data transfer conditions, press the 'OPTION' button	Cancel
Caution:To send the parameters, select the MAIN OPS MENU screen on the IV-S30.	<u>O</u> ption

- 2. Click on the "Start" button to start the data transfer.
 - If you want to specify or modify the transfer or communication conditions, click on the "Option" button.
 - ⇒ [Chapter 2: Optional settings]
- 3. After the transfer is complete, the "Data transfer complete" message box will appear.

Data transfer	
Data transfer complete	
ОК	

4-4 Initialization

Initialize all parameters in the IV-S30/C35M.

- 1. Select the "Initialize" item using the following menu sequence.
 - "IVS30 communication" \rightarrow "IVS30 data transfer" \rightarrow "Initialize" MIVS30SP <u>F</u>ile <u>E</u>dit <u>View</u> IVS30 communication <u>T</u>ools <u>W</u>indow <u>H</u>elp IVS30 data <u>T</u>ransfer <u>W</u>rite 🗅 🧀 🔲 9 Read t type Version grade 100% 💌 <u>V</u>erify Option Global condition Initialize Capture Pre-process Rotated ٨ŝ Self test Work area Pattern White <u>b</u>alance Click here Character | Binary image | NG images Read about IVS30 Object type conditions
 - \Rightarrow The dialog box for the "Initialize" will appear.

👸 Initialize-	_ 🗆 🗵
IVS30 data transfer : Initialize	Start
Press the 'START' button to start the data transfer.To specify the data transfer conditions, press the 'OPTION' button	Cancel
Caution: To send the parameters, select the MAIN OPS MENU screen on the IV-S30.	<u>O</u> ption

2. Click on the "Start" button to start the data transfer.

- If you want to specify or modify the transfer or communication conditions, click on the "Option" button. ⇒ [Chapter 2: Optional settings]

3. After the transfer is complete, the "Data transfer complete" message box will appear.



4-5 Self diagnosis

Start the self-diagnosis function in the IV-S30/C35M.

- 1. Select the "Self test" item using the following menu sequence.
 - "IVS30 communication" \rightarrow "IVS30 data transfer" \rightarrow "Self test"



 \Rightarrow The dialog box for the "Self test" will appear.

🖓 Self test-	
IVS30 data transfer : Self test	Start
Press the 'START' button to start the data transfer.To specify the data transfer conditions, press the 'OPTION' button	Cancel
Caution:To send the parameters, select the MAIN OPS MENU screen on the IV-S30.	<u>O</u> ption

2. Click on the "Start" button to start the self-diagnosis.

- If you want to specify or modify the transfer or communication conditions, click on the "Option" button. ⇒ [Chapter 2: Optional settings]

3. After the transfer is complete, the "Data transfer complete" message box will appear.

Data transfer	
Data transfer complete	
OK)	

Chapter 5: File operations

Save the IV-S30/C35M's parameter settings and images in a file or load the same type of stored data back into the IV-S30SP.

The "File" menu shown below is used by all the parts of this program.



New

Start a new file from the IV-S30SP parameter. All of the parameters will be set to their default values. - Select the "New" item from the "File" menu.

Open

You can open the types of files listed below.

File extensions	Details				
*.bmp	Bit map file of the display and reference images				
*.msr	Object type setting conditions				
*.prm	Global conditions				

- Select the "Open" item from the "File" menu.

 \Rightarrow The "Open" dialog box will appear.

Save the currently displayed image

Save the image that is currently open on the IV-S30SP.

- Select the "Save display image" item from the "File" menu.
 - \Rightarrow The "Save display image" dialog box will appear.

Open project

Open a project file (*.apm).

- Select the "Open project" item from the "File" menu.

Save project

Save all of the files currently open, which have any of the extensions described in the "Open" file section. The files, including all of the data, are seved in a project file (*.apm).

- Select the "Save project" item from the "File" menu.

Save As project

Save all of the files currently open, which have any of the extensions described in the "Open" file section. The files, including all of the data, are saved in a new project file (*.apm). The data is stored under the new name.

- Select the "Save As project" item from the "File" menu.

Close project

Close the project files (*.apm).

- Select the "Close project" item from the "File" menu.

Property

Select the controller type you are using and enter a project name.

1. Click on the [Properties] item on the [File] menu.



2. The [Properties] dialog box will appear.



*1: When the IV-S31M/S32M software version is V1.**.

*2: When the IV-S31M/S32M software version is V2.**.

- When the controller type is changed, the software will automatically change the project's parameters.

Note: A project file is a file used to manage all of the various types of parameters in the IV-S30/C35M.

Chapter 6: Document Creation

You can automatically create a spreadsheet (table of the current parameters) using Excel or other standard applications, so that you can easily manage and store parameter sets as documents.

6-1 Document creation (Project file)

This section describes the procedures for creating a document that contains the parameters in a personal computer file.

(1) Setting/operating the IV-S30/C35M
Bring up the MAIN OPS MENU screen on the IV-S30/C35M.
(2) Communication potting
Set the parameters for communicating with the IV-S30/C35M
See "Chapter 2: Optional settings "
(3) Loading the parameters
1. Click the " <u>C</u> reate document" item on the " <u>T</u> ools" menu.
MIVS30SP
<u>File Edit View IVS30 communication Tools Window H</u> elp
D 🚔 🖬 🎒 🐰 🖻 🛍 🔍 ? Command Test
100% V I I A V Came Create document
Global conditions [Reference image] Memory card
Capture Pre-process Rotated
Work area Pattern
Character Binary image NG images
r The "Create document" dialog box will appear
Strip Image: Create document File IVS30 data Transfer Operate document Help
Object type condition
Object type to create Conditions necessary
Type 04 Type 05 Type 06 Type 06 Type 07 Image pre-process
Type 08 Type 09 Type 10 Type 11 Measure conditions
Type 16 Type 17 Type 18 Type 19 Distance and angle conditions
Type 24 Type 25 Type 28 Type 27 Output conditions
Type 28 Type 29 Type 30 Type 31 Title
Type 38 Type 37 Type 38 Type 39 Final output conditions
Type 44 Type 45 Type 48 Type 47 System conditions
Type 48 Type 49 Type 50 Type 51
Туре 58 🔲 Туре 57 🔲 Туре 58 💭 Туре 59
Global conditions Check all
Communication conditions
Power on setting
I ADJ. Image gray ☐ Gain/offset
Lock information Camera set

Continued on the following page

Fror	n the previous page	
,		
(4	4) Create a document from a project file.	
	Click on the "Open project file" item in	the " <u>F</u> ile" menu.

Se Cr	eate document					
<u>F</u> ile	IVS30 data <u>T</u> rans	sfer 🤉	<u>D</u> reate doo	ument	<u>H</u> elp	
Ope	en project file 🚽	 				
<u>C</u> lo	se project file	le ——				Click bere
E <u>×</u> i	t	ype O	ί 🔲 Τγρ	e 02 👖	Type 0	Olick here
	lype 04	Type O	5 🗖 Typ	re 06 🚺	Type 0	

 \Rightarrow The dialog box for "<u>Open project file</u>" will appear.

(5) Select a file

Select the project file that you want to create a document from in the "<u>C</u>reate document" dialog box (project file extension: *.apm).

(6) Document creation details

Check the boxes next to all of the conditions you want to use in creating the document. Then, click on the "Create document" menu.

😽 Create document		
<u>F</u> ile IVS30 data <u>T</u> ransfer <u>C</u> reate document	<u>H</u> elp	
Object type condition Object type to create ✓ Type 00 Type 01 Type 02 Туре 04 Type 05 Type 08 Type 09 Type 10 Type 12 Type 13 Type 14 Type 12 Type 17 Type 18 Type 20 Type 21 Type 22 Type 23 Type 30 Type 32 Type 33 Type 34 Type 34 Type 38 Type 36 Type 44 Type 45 Type 44 Type 44	 Type 03 Type 07 Type 11 Type 15 Type 19 Type 23 Type 31 Type 31 Type 35 Type 43 Type 43 Type 51 Type 55 Type 59 Type 63 	Conditions necessary Operation menu conditions Image pre-process Measure conditions Evaluation conditions Distance and angle conditions Numeric CALC COND Output conditions Title Final Numeric CALC COND Final output conditions Input/output conditions System conditions
Global conditions Input/output conditions Communication conditions Computer link conditions Power on setting ADJ. Image gray Gain/offset Lock information Camera set		Check all Default

⇒ The dialog box for saving the file will appear. Enter the new document file name (document creation file extension: *.csv).

6-2 Document creation (IV-S30/C35M parameter loading)

This section describes the procedures for creating a document from the parameters already in the IV-S30/C35M.

(1) Select a file in which to save the parameter settings							
Click on "Read parameters" on the "IV-S30 data Transfer" menu.							
🗺 Create document							
<u>File</u> IVS30 data <u>Transfer</u> <u>O</u> reate document <u>H</u> elp							
COb Communication setting							
0 <u>R</u> ead parameters							
Type 00 Type 01 Type 02 Type 01							
r The "Read parameters" dialog box will appear							
-> The <u>Read parameters</u> dialog box will appear.							
(2) Start data transmission							
Click on the "Start" button to start the data transmission.							
😽 Read-							
Read narameters							
Press the 'START' button to start the data transfer. Cancel							
Set Comm * Click be	ro						

* If you want to specify or change the communication settings, select the "<u>C</u>ommunication setting" item in the "IVS30 data <u>T</u>ransfer" menu, or click on the "Set Comm" button in the "<u>R</u>ead parameters" dialog box.

[Example of document creation]

Shown below is an example file document (with ".csv" extension) that contains conditions for each object type and can be opened using Excel.

<<< Object type number 00 >>>		
TITLE	SAMPLE	
Main		
MEAS.0, CAMERA 1	POSITIONAL	DEVIATION MEASUREMENT
MEAS.0, CAMERA 2	NO	
MEAS.1	NO	
MEAS.2	NO	
MEAS.3	NO	
HALT MEAS ON NG	NO	
POS. ADJ.CAMERA 1	NO CALIBRAT	ΓΙΟΝ
POS. ADJ.CAMERA 2	NO CALIBRAT	ΓΙΟΝ
Positional deviation measuremen	t (Camera 1)	-
[MEAS. PROG. COND]		
* Registration number		0
Mode	2 point search	
<first point=""></first>		
MEAS WINDOW	RECTANGLE	
REF IMAGE upper left X COORD		68
REF IMAGE upper left Y COORD		232
REF IMAGE lower right X COORD		139
REF IMAGE lower right Y COORD		295
SEARCH AREA upper left COORD		60
SEARCH AREA upper left COORD		224
SEARCH AREA lower right COORD		147
SEARCH AREA lower right COORD		303
DTECT COORD	CNTR	
DTECT COORD (X)		104
DTECT COORD (Y)		264
CONTR. PIXEL		3
<second point=""></second>		
MEAS WINDOW	RECTANGLE	
REF IMAGE upper left X COORD		356
REF IMAGE upper left Y COORD		232
REF IMAGE lower right X COORD		427
REF IMAGE lower right Y COORD		295
SEARCH AREA upper left COORD		348
SEARCH AREA upper left COORD		224
SEARCH AREA lower right COORD		435
SEARCH AREA lower right COORD		303
DTECT COORD	CNTR	
DTECT COORD (X)		392
DTECT COORD (Y)		264
CONTR. PIXEL		3
DETECT ACCURACY	STANDARD	

Chapter 7: Data Collection (Measurement result/NG image)

You can transmit the measurement result/NG image result data from the IV-S30/C35M to a personal computer via communication cable (general purpose serial I/F), and automatically create a result sheet.

The data collection function is used to manage or save measurement data, and collect data settings such as the evaluation conditions.

- For details about setting the specific controller model, see page 5-2.

This chapter explains the procedures for data collection.



Continued on the following page

From the previous page

- 3. Set the "SERIAL OUTPUT" or "OUT I/F (PARAL.)" item on the [I/O CONDITIONS] menu. The settings will depend on the type of controller you are using.
 - When using the IV-S31MX/S32MX/S33MX, IV-S30J, or IV-C35M Select "No."

I/O CONDITION SO	CREEN COND SAVE	
①MEAS INP I/F	PARALLEL + SERIAL + USB	
2 OUT I/F(PARAL.)	NO	PC-LINK
3 MANL TYPE CHNG	NO	SERIAL
④PARALLEL INP X6	EXT-INP	
5 PARALLEL INP X7	EXT-INP	
6 STROBE	NO	
7 'READY' ON	CAPTURE COMPLETE	
L		\sim

When using the IV-S31M/S32M/S33M

The settings will depend on the type of controller (software version) you are using. On the "MAIN OPS MENU," move the cursor to [SYS-CND] and press the SET key.

- On the [SYSTEM COND] menu, move the cursor to "①I/O CONDITIONS" and press



*2: When the IV-S31M/S32M (software version V1.15 or before) is used.
Select "SERIAL."

4. Return the IV-S30/C35M screen to the "MAIN OPS MENU."

Continued on the following page

From the previous page	
(2) Starting the data collection screen	
Click on the "Data collection" item in the "Tools" menu.	
MIVS30SP	
File Edit View IVS30 communication Tools Window Help	
Command Lest	
100% 🔽 🛅 🌓 A 👻 💿 CAM Create document 👌	
Global conditions Reference image User menu editor	
Capture Pre-process Rotated	
Work area Pattern Click	chere
The "Data collection" dialog box will appear	
(3) Communication settings	
Specify the communication settings by selecting the "Communication se	tting" item in the "Setting" menu
on the IV-S30SP program and communication setting of the IV-S30/C3	5M.
Data collection	ommunication setting
Eile Setting	2.4 C 4.8 C 9.6 C 19.2 C 38.4 C 57.6 C 115.2
Sampling setting Number	ata length Parity 7 C 8 C Even C Odd C None
Measurement Measurement_name	Port Port 1 © 1 © 2 © 3
Measure 0 Camera 2	tation No COMM method
Measure 1	Default OK Cancel Apply
¥	
(4) Sampling setting	
1. Click on the [Sampling setting] item on the [Setting] menu.	
<u>File</u> <u>Setting</u> <u>H</u> elp	h
Sampling setting Mber of data Click	nere
Measure Measurement name	
Measure 0 Camera 1 🔽	
Measure 0 Camera 2 🔽	
\Rightarrow The [Sampling setting] dialog box will appear.	
2. Set the sampling data, number of samples, and data processing require	red in the screen below, accord-
ing to your use and application.	
🗯 Sampling setting	X
Counting at every	OK
C 5000 Sorting by	Cancel
C Liplimited	
The number of samples and data processing "NG	image data" can be selected
settings affect the "measurement result data" whe	n "USB" is selected for the
obtained from the sampling data. com	munication method (see above)

↓ Continued on the following page

From the previous page

[Sampling data]

- Measurement result data: Collect the results from the data measured.
- NG image data: Collect NG images.
 - (In order to collect NG images, select "YES" for NG image registration on the "OB-JECT TYPE SYS." menu on the controller (except IV-S31M/S31MX.))

[Number of sampling]

Enter the number of samplings and method here.

- 1000: Collect up to 1000 sets of data
- 5000: Collect up to 5000 sets of data
- Unlimited: Save data on a hard disk (the sampling speed will be slower).

[Data processing]

Set the data processing method for the data samples.

- Count the number of samples in each set of measurement data: Total the number of data samples in each set of measurement data, and output the total and number of samples.
- Sort in measurement order: Output the measurement results in same order that the samples were taken.

(5) Setting the data collection conditions

1. Click on the "Setup" button.



⇒ Load the IV-S30/C35M parameters and display the data collection conditions that can be specified.

2. Select the items for data collection.

	Num	ber of data	Receive error
	Measurement Measurement name	Real Time	chart
Measure 0 Camera 1	Measure position deviation	Measure item	Setup
Measure 0 Camera 2	Measure position deviation	Measure item	Start
Measure 1	Check degree of match	Measure item	
Measure 2	Measure binary area	Measure item	Cancel
Measure 3	Inspection leads	Measure item	Create a data i
Measure 4	Measure points	Measure item	-

Continued on the following page

V IV-S30/C35M

From the previous page	
Click on the "Start" button.	
Receive error	
he chart	
Setup	
Start	
Cancel	Click here
Create a data list	
Ехіт	
Solution Signature Solution S	a
(7) Create a summary table of the measurem	ent data, collect NG image data
Receive error	Receive error
he chart	he chart
Setup	Setup
Start	Start
Cancel	Cancel
Create a data list	Create a data list
Exit	Exit
1. Click on the "Cancel" button.	2
➡ The data collection will stop.	

- 2. Click on the "Create a data list" button.
 - When the [Open] dialog box appears, select the directory position and assign a file name in which to save the data.
 - The data summary file will be created automatically.
 - The file extension used for the measurement data is "csv" and NG image data is saved as "bmp" files.

Note

- If processing speed of a personal computer is slower than the data transmission speed of the IV-S30/C35M, some parts of the data may be lost.

- Displaying the real time chart will reduce the IV-S30SP program's processing speed.



Chapter 8: User Menu Editor

This function lets you create and modify the MAIN OPS MENU screen and all of the other user menus on the IV-S31M/S32M/S33M. You can also change the text and titles displayed on those screens.

- For details about setting the specific controller model, see page 5-2.

8-1 How to start the editor

1. Click on the "User menu editor" item on the "Tools" menu.



 \Rightarrow The user menu editing screen will appear.

🔀 User menu editor	
<u>F</u> ile <u>E</u> dit <u>W</u> indow <u>H</u> elp	
D 😅 🖬 🖼 🖽 👗 🖻 🛍 🛤	
Title Character strings	

8-2 Read

Read in the menu you want to edit, or select the MAIN OPS MENU screen, from the IV-S33M etc.

1. Click on the "Data Transfer" item in the "File" menu.



 \Rightarrow The "Data transfer" screen will appear.

🔀 Data transfer	×
Data transfer condition © Read © Write © Initialize user menu Cancel	Items to transfer Title character MAIN OPS MENU screen
Set the data transfer conditions and select the transfer object. Then, press the data transfer start button.	

2. Select "Read" in the "Data transfer condition" area and check the boxes next to the items you want to read in the "Items to transfer" area. Click on the "Start" button to read the data from the IV-S33M etc.

8-3 Write

Write new or modified menus, or the MAIN OPS MENU screen, back into the IV-S33M etc.

1. Click on the "Data Transfer" item from the "File" menu (see "8-2 Read").



2. Select "Write" in the "Data transfer condition" area. In the "Items to transfer" area, check all of the boxes next to the items you want to send back to the IV-S30. Click on the "Start" button to write the data back into the IV-S33M etc.

8-4 Initialize the user menus

- 1. Click on the "Data Transfer" item in the "File" menu (see "8-2 Read").
 - \Rightarrow The "Data transfer" screen will appear.

🔀 Data transfer	×
Data transfer condition C Read C Write C Initialize user menu Cancel	
Set the data transfer conditions and select the transfer object. Then, press the data transfer start button.	

2. Select "Initialize user menu" in the "Data transfer condition" area. Click on the "Start" button to initialize the user menus in the IV-S33M etc.

8-5 Editing Titles

The word "title" refers to the "MEAS SHAPE (MDL0)" text shown inside the rectangle, in the example below.

MEAS SHAPE (MDL0) RECTANGLE X-LINE Y-LINE

1. Change the title.

Click on the "Title" tab to display the title list. Double-click on the title you want to change.



⇒ The "Modify character strings" dialog box will appear.

Modify character strings	×
Enter character string to change	OK
MEAS SHAPE (MDLO)	Cancel

2. Change or delete the characters directly in the dialog box, and then click on the "OK" button. The title will be changed.

To search for a title you want to change

1. Select the "Find" item from the "Edit" menu. (You can also select the "Find" item from the pop up menu, by clicking the right mouse button when the cursor is over any title.)



 \Rightarrow The "Find Title list" dialog box will appear.

💹 Find:Title list	×
Character string to	
	Execute

2. Enter the phrase you want to find. Then click on the "Execute" button to start the search.

8-6 Editing character strings

"Character strings" refers to the words which come after the title, such as "RECTANGLE," "VER-LINE," and "HORI-LINE" shown inside the rectangles in the example below.

MEAS SHAPE (MDL0) RECTANGLE X-LINE Y-LINE

1. To change a character string.

Click on the "Character string" tab to display the character string list. Double-click on the text you want to change.

User menu editor File Edit Window Help		
	à 🛍 🖊	
Title Character strings		
Character strings	Regis.	
2 IMAGES	2028	
2.4	1605	
2P-EDGE	1E18	
2P-SCH	1018	
2PT-H-ANGL	2434	
2PT-V-ANGL	2435	
2-W	161D	
3	1220	
1.360		
[MEAS O CAM1 COND]		
[MEAS 0 CAM2 COND]		
[MEASUREMENT1]		
[MEASUREMENT2]		

⇒ For details about changing, deleting, and searching for text, see section, "8-5 Editing Titles."

8-7 Menu editing

"Character strings" refers to any part of the complete line of text in the example below.

MEAS SHAPE (MDL0) RECTANGLE X-LINE Y-LINE

To change the title or any of the text which comes after it in the menu

1. Select the menu item in the menu list. The title and character string will be displayed in the menu details list.



2. Double-click on the title or character string in the menu details list that you want to change. The "Modify character strings" dialog box will appear.

- DTECT CRD (MDL1) - CONTR.PIXL(MDL1)	
B-Edge detection condi B-NUMERIC CALC[EVALUATION	tions N COND] 🛛 💌
Menu details	Register .
Menu details MEAS SHAPE(MDLO)	Register . 🔺 1D1
Menu details MEAS SHAPE(MDLO) RECTANGLE	Register . ▲ 1D1 2201
Menu details MEAS SHAPE(MDLO) RECTANGLE X-LINE	Register . ▲ 1D1 2201 1C25

For details about changing, deleting, and searching for text, see section, "8-5 Editing Titles."

8-8 Create a user menu

1. Click on the "Create user menu" item in the "File" menu.



 \Rightarrow The table for creating a user menu will appear.



2. Select the menu that you want to assign as a user menu from the menu list. To add the item, drag and drop it onto the menu table.

💋 User menu editor		_ 🗆 ×
<u>F</u> ile <u>E</u> dit <u>W</u> indow <u>H</u> elp		
D 😅 🖬 🖼 🖽 💼 🛍 🛤		
Title Character strings	Table 0	
Title Regis Refer. [ADJ.IMG GRAY] 201 201 [GINARY IMG MASK] 284 [ADJ] [GINARY IMG MASK] 286 [GINA. [COD TRIGER COND] 84 [CCC] [COMPARE NOS] 288 [COMP. [COMPUTER LINK] 288 [COMP. [CISTOM HARDIN] 42 [COMP.	REFING (NDLO) NEW EXISTOOO(0000'000) REFING ARE(NDLO) MOVE UP.L(000,000) LO.R(000,000) REG DISP	
	SEARCH ARE(MDLO) MOVE UP.L(000,000) LO.R(000,000)	
[HEAS 0 CAM1 COND]		
- OFGUTR, PIXL MARCO - MEAS SHARE MARCLD - MEFN SHARE MARCLD - REFING ARE MARCLD - SEARCH ARE MARCLD - OTEGT CR0 (MARCLD) - OTEGT CR0 (MARCLD)		
Bedge detection conditions B.NMERIC CALC[EVALUATION COND] B.POSITION CORRECT] MFAS N CAMP COND] Menu details Report Are Cond 0 104		
UP L 1810 (1200 ▼		

8-9 Create a new MAIN OPS MENU screen

1. Click on the "Create MAIN OPS MENU menu" item from the "File" menu.



⇒ The table for creating a MAIN OPS MENU screen will appear.

🔀 User menu editor	
<u>F</u> ile <u>E</u> dit <u>W</u> indow <u>H</u> elp	
D 🛩 🖬 🖼 🖽 🛝 🛍 🛍 🖊	
Title Character strings	MAIN OPS MENU screen
Title Refer MEAS SELECTION BC MEAS SELECTION BC MEAS SELECTION BC MEAS SHAPE IFS Binar MEAS SHAPE IFS Binar MEAS SHAPE (MDLD) IDT Gray MEAS SHAPE (MDLD) IDT Gray MEAS SHAPE (MDLD) IDT Gray MEASURE O. SUB SE ITYPE MEASUREMENT 1 SO ITYPE ITYPE MEASUREMENT 1 SO ITYPE C O0000es 1999-01-01 00:00 5 C C1 C C C C O10000es 1 2 C C C C1=00 0000es 1 3 ATAN 000 (B) 3 ATAN 000 (B) 0 3 ATAN 000 (B) 0 4 Display measurement results 8 6 0K 1 <	
Menu details Register A OfHN GRAY LEVEL 77 NO YES 1603 YES 1200	

- 2. To add a new user menu, select the "Create user menu" item from the "File" menu. The table for creating a new menu will appear.
 - You can create up to two screens for the IV-S31M, and eight screens for the IV-S32M/S33M.

	_
<u>F</u> ile <u>E</u> dit <u>Window</u> <u>H</u> elp	
Title Character strings	
Title Regis Refer 🔺	
	1
MEAS STAFE IFS DINAR	
MEAS SHAPE (MDLO) 1D1 Gray	
MEAS SHAPE (MUL1) 107 Gray	
MEASURE O CAMI 50 TYPE	
MEASURE 0 CAM2 5C TYPE	
MEASUREMENT 1 5D ITYPE	
[MEAS O CAMI COND]	
HEAS SELECTION	
····REFING ARE (MDLO)	
- SEARCH ARC(MLU)	
MEAS SHAPE(MDL1)	
- KEP (MG ARE (MDL))	
Bitdge detection conditions	
Menu details Register	
NN 1436	
VES 1603	

3. Select the area that you want to assign to the MAIN OPS MENU screen from the area list. To add the item, drag it to the MAIN OPS MENU table. You can change the display position once it is in the table.

🔀 User menu editor		_ 🗆 ×
<u>F</u> ile <u>E</u> dit <u>W</u> indow <u>H</u> elp		
🗅 🛩 🖬 🖼 🖽 🛤		
Title Character strings	MAIN OPS MENU screen	
Title Regis Refer.		
MEAS SELECTION OC LINEAS. MEAS SHAPE 1F3 Binar.	(TYPE00) 38.4 V1.00	
MEAS SHAPE IFE Binar. MEAS SHAPE (MDLO) 1D1 Gray	OK C1=00.00	
MEAS SHAPE (MDL1) 1D7 Gray . MEAS-BIN-AREA B 30B	0000ms 1999-01-01 00:00	
MEASURE 0 CAM1 5B [TYPE. MEASURE 0 CAM2 5C [TYPE.	MEASURE O CAM1	
MEASUREMENT 1 5D TYPE		
	Display measurement results for each measurement program	
0000ms 1999-01-01 00:00 5		
C1 2 (TYPE00) 0	• • • • • • • • • • • • • • • • • • •	
38.4 V1.00 3 ATAN 0(0)0 7	· · · · · · · · · · · · · · · · · · ·	
C1=00.00C2=00.00 4 Display measurement results 8		
MEASURE 0 CAM1 6		
lok l	· · · · · · · · · · · · · · · · · · ·	
	· · · · · · · · · · · · · · · · · · ·	
	· · · · · · · · · · · · · · · · · · ·	
Menu details Register		
	<u>. </u>	

8-10 File operation

Create a new file

All the data on the menu editor will be initialized. - Select the "New" item from the "File" menu.

🔀 User menu editor					
<u>F</u> ile	<u>File E</u> dit <u>W</u> indow <u>H</u> elp				
<u>N</u> ev	٧				#
Ope	2n				
<u> </u>	se				
<u>S</u> av	e				
Save <u>A</u> s					
Create MAIN OPS MENU menu					
Create <u>u</u> ser menu					
<u>Communication</u> setting					
Data <u>T</u> ransfer					
Exit					

Open a file

Open a saved file.

- Select the "Open" item in the "File" menu.



File extensions	Details
*. str	Title and character string data
*. ume	User menu data
*. urm	MAIN OPS MENU data
*. fnt	User font data

Chapter 9: Command Test

The command test function is used to communicate to the IV-S30/C35M through the serial or USB interface and confirm that communication has been established when the personal computer is started.

This chapter describes the command test procedures.

(1) Setting/operating of IV-S30/C35M



Continued on the following page

From the previous page

¥

(4) Setting the conditions for the command test

In the "Command test" dialog box, set the conditions for the command test (set the time out, checksum, and number of repeats).

Command test	
<u>F</u> ile <u>H</u> elp	
Send data	Checksum Timeout setting 10 ÷ Checksum Checksum Checksum
Receive data	C Manual C Fixed (@@)
Send	

Setting details		Description
Setting the time out (O: 10 sec.)		Specify the communication time-out time, in units of seconds.
Automatic C		Calculates the checksum automatically, and attaches it to the transfer command.
Checksum	Manual	Enter a checksum together with the command. (The IV-S30SP will not attach the checksum when transmitting.)
	Fixed (@@)	A checksum is not executed, and @@ will be transmitted.
Number of repeats (O: 1 time)		Send the command that was entered in the send data box the same number of times as specified in the "number of repeats" box.

- The "O" indicates the default setting.

(5) Transmitting serial command

Enter the data to send in the "Command test" dialog box, and press the "Send" button.

⇔	The data will be transmitted to the IV-S30/C35M	. The resp	onse data	will be d	isplayed i	n the r	eceive
	data area.						

	Command test File <u>H</u> elp		Checksum
Enter the data to send	Send data :0054 :0056	Checksum CB Timeout setting 10 CB Checksum Checksum Checksum	values
Display the data re- — ceived	Receive data :0054000089 :005600108C	C Manual C Fixed (@@) ► ► ► ► ► ► ► ► ► ► ► ► ►	
Click	here		

Continued on the following page

From the previous page

¥		
(6)	Saving files	
	S Commons	1.4-

100 Co	mman	a test
<u>F</u> ile	<u>H</u> elp	
<u>O</u> pen Save		ta
E <u>x</u> i	 t	

- Saving the data received to a file

- 1. Click on the "Open" item in the "File" menu.
 - \Rightarrow The "<u>Open</u>" dialog box will appear.
 - When you want to create a new file (with the ".tst" extension) to save the data received, specify the folder name, enter the file name, and click on the "Open" button.
 - If you want to save it to an existing file, select the file and click on the "Open" button.
- 2. Click on the "Save" item in the "File" menu.

Chapter 10: Upgrade Version

To upgrade the IV-S30/C35M system version (improved functions) you simply download the new version from a personal computer.

- The IV-S30/C35M software consists of the "system program," used to set up and execute image processing operations, and a "boot program" to load the other programs.

In some cases, both programs need to be upgraded. (Refer to our sales department for the latest version of the system software.)

Described below are the procedures for upgrading the program version.



Continued on the following page

From the previous page

	(4) File selection
	Click on the "Version up
	C IVS30SP
	<u>F</u> ile <u>E</u> dit <u>V</u> iew <u>I</u> VS30 co
	🗅 🗭 🔲 🎒 IVS30
	100% 🔽 🔂 🔂 Version
	Global condition Option
	Capture Pre-process
	Work area
	Object type condi
	- Select the (SXXYY)
	Open
	Look jn: 🔄 Ivs30sp
	SPT emp
	File <u>n</u> ame:
22	Files of type: Object (*.mot)
Ğ	Open as <u>r</u> ead-only
(5) Transmission	(5) Transmission
5	The "Version upgrade" s
2	Version up-¥¥WINDOWS
10	Press the data
	(Start)

grade" item on the "IVS30 communication" menu. <mark>mmunication <u>T</u>ools <u>W</u>indow <u>H</u>elp</mark> lata <u>T</u>ransfer 🕨 grade Object type O C Camera2 Click here 👸 Display image Rotated Pattern NG images tions ox will appear. Y.mot) file and click on the "Open" button. ? × - 🖻 🛃 🏢 Open Click here • Cancel creen will appear. f Desktop ¥MO T ¥syste... 💶 🗖 🗙 transfer start button Cancel Option button. Specify the communication and upgrade conditions. (See pages 2-1, 2-2, and 2-4.) Click on the "Start" button to start the data transmission. (To stop the transmission, click on the "Cancel" button.) - When the [\equiv ON RECEIVE] message appears on the IV-S30/C35M monitor and the [\equiv] flashes, the transmission has been successful. - It takes approximately 20 seconds to transmit the complete file through the USB interface. (Note: When an RS-232C interface is used, it will take approximately 10 minutes with a Pentium 266 MHz personal computer.) - When the $[\equiv ON RECEIVE]$ display disappears, the new system program has been successfully written to the flash memory. (6) Starting the new version of the system Move the up and down keys to select "7 POWER ON RESET" on the IV-S30/C35M upgrade version menu (displayed on the monitor) and press the [SET] key. [IV-S3*** VERSION UP MENU] (1) IVS3*** SYSTEM RECEIVE (USB) RUN (2) IVS3*** SYSTEM RECEIVE (RS232C) RUN (When an IV-S3*** is used) **③BOOT RECEIVE (USB)** RUN (4) BOOT RECEIVE (RS232C) RUN **(5)**RS232C BAUDRATE 115.K bps 19.2K bps 6 ALL INITIALIZE RUN **7**POWER ON RESET RUN

⇒ The power to the IV-S30/C35M will be reset and the new version of the system program will start.
Chapter 11: Additional Descriptions

This chapter describes other functions such as Printing, Changing the Message Display Color, Changing the Image Brightness, Accessing the SMS Web page and Memory card (IV-C35M).

[1] Print

Images displayed on the IV-S30SP monitor can be printed.

(Printing procedure)

1. Click on the "Print" item in the "File" menu.



[2] Changing the message display color

You can select oen of 8 colors for the display image color. If the image and the message are same colors, use different message color to allow you to see the message.

- The colors you can chose from are black, blue, green, cyan, red, magenta, yellow, and white.

(Operation procedures)

1. Move the cursor to "Message color" on the "View" menu.



2. Select a color.

Select the desired color. (Default: black)

 \Rightarrow The message color will be changed.

[3] Zoom

You can change the display magnification of the image by changing the zoom setting.

(Zoom setting)

1. Select the "Zoom magnification rate" item in the "View" menu.



2. Select a rate.

Click on the level of magnification you want. (Default: 100%) \Rightarrow The zoom setting will be changed.

[4] Changing the image brightness

You can set the displayed image brightness to "Standard" or "1/2."

(Operation procedures)

1. Move the cursor to the "Display image <u>B</u>right level" item on the "<u>V</u>iew" menu.



2. Select a brightness.

- Click on "Standard" or "1/2." (Default: Standard)

 \Rightarrow The displayed image will be changed to the selected brightness.

[5] SMS Web page

If your personal computer is ready to connect to the Internet, the default Web browser will be started and automatically connect you to the Sharp Manufacturing Systems Corporation Web site. (The URL address is listed on the back cover of this manual.)

(Connecting to the Sharp web site)

1. Select the "SMS Web page" item in the "Help" menu.



[6] Memory card (IV-C35M)

When the IV-C35M is used, you can read, save, or delete data from a flash memory card (max. 192 MB) using the IV-S30SP.

(Operation procedures)

1.Select the "Memory card" on the "Tools" popup menu.



2. Select any operation, such as "Read", on the "Memory card" popup menu.

Operation	Details
Read	Read the IV-C35M parameters and NG images that were stored on the flash memory card.
Save	Copy and paste the IV-C35M parameters and NG images that were stored in a PC onto the flash memory card.
Save as name	Create a file with a new name for the IV-C35M parameters and NG images that were stored on the flash memory card, and save it on the flash memory card.
Delete	Delete the IV-C35M parameters and NG images that were stored on the flash memory card.

 \Rightarrow A dialog box will open for the selected operation.

3. Specify file type (parameter or NG image) and select the drive, directory, and file on the flash memory card. Then click on the [OK] button.

 \rightleftharpoons The specified operation will be executed.

Memory ca	ard - Read				×
File kind	All Parameter	-	Dir		
File name	SAMPLE1		(in 🔁		
Comment	SAMPLE				
Unit type	C35M				
SAMPLE1	.DAT		Drive C: OK	Ca	• ancel

(When reading data)



Chapter 1: Menu Organization

After starting this software (for the IV-S20), the screen shown below will appear. The menu organization on the menu bar is also shown below.

Production Depetition Depetition Date Window Help
 (1) (2) (3) (4) (5) (6) (7)

 This screen will be displayed when this software (for the IV-S20) is started.

 Production Depetition D

The following menus (1) to (7) correspond to the items from the next page.

(1	1) <u>F</u> ile	
	(C	Description)
	<u>New</u> Ctrl + N C	Create a new file.
	<u> </u>	Open an existing image file. (*.bmp)
	— <u>S</u> ave	
	Image only S	Save the display images only.
	<u>M</u> essages only S	Save messages only.
	Image + Message S	Save both the images and messages.
	— <u>R</u> ead image	
	— Display image (Camera <u>1</u>) F	Read the display image (camera 1) from the IV-S20.
	— Display image (Camera <u>2</u>) F	Read the display image (camera 2) from the IV-S20.
	Message ····· F	Read messages from the IV-S20.
	<u> </u>	
	— Display image (Camera <u>1</u>) V	Nrite the display image to the IV-S20.
	Display image (Camera <u>2</u>) V	Write the display image to the IV-S20.
	— Set <u>C</u> ommunication Set <u>C</u> ommunication	Set the communication conditions of the IV-S20SP.
	Command Test S	Send any serial command to the IV-S20.
	<u>Print</u> Ctrl+P ····· F	Print
	- Select printer type Select printer type	Set up a printer.
Į	Exit Ctrl+Q	Quit the IV-S20SP.

(2) <u>E</u>dit

(Description)
<u>— Delete display image</u> Delete the images displayed on the IV-S20SP.
— DISP image <u>b</u> right level
<u>N</u> ormal Set the display image brightness to normal.
Half Decrease the display images brightness to half level.
— <u>C</u> opy display image
Image only Copy the images only to the clipboard.
— <u>M</u> essages only Copy messages only to the clipboard.
Image + Message Copy both the image and messages to the clipboard.
<u>M</u> essage color
Black, Blue, Green, Cyan, Red, Magenta, Yellow, and White Change the message display color to the specified color.

(3) IV data settings

	(Description)		
— Select a <u>f</u> ile	Select an IV-S20 setting data file to treat.		
— <u>L</u> oad			
⊢ File 🖒 IV	Load the setting parameters from the file to the IV-S20.		
— File ➪ Set screen	Load the setting parameters from the file to the set screen.		
Set screen ⇔ IV	Load the setting parameters from the set screen to the IV-S20.		
— <u>S</u> ave			
⊢ IV ➪ File	Save the setting parameters from the IV-S20 to the file.		
— Set screen ⇔ File ······	Save the setting parameters from the set screen to the file.		
└── IV II> Set screen	Save the setting parameters from the IV-S20 to the set screen.		
— <u>V</u> erify			
	Verify the file with the IV-S20 setting parameters.		
— File ⇐⇒ Set screen	Verify the file with the set screen setting parameters.		
└── IV <⊐⊏> Set screen	Verify the IV-S20 data and the set screen setting parameters.		
— <u>I</u> nitialize			
<u> </u>	Initialize the IV-S20.		
Set screen	Initialize the set screen.		
Self diagnosis IVS20	Self diagnose the IV-S20.		
Creates a document	Automatically create the setting data document.		
Data collection	Save the measurement result data from the IV-S20.		

(4) <u>O</u> bject type COND	
	(Description)
— Object type NO. (0 - 15)	Set and change object type number.
Title registration	Set a title to each object.
— MEAS.0 Camera 1 — MEAS-POSITION-DEVIATE	Set and change each condition of positional deviation measurement (Camera 1).
- POS.ADJ. Camera 1	Set and change position adjust condition.
— MEAS.0 Camera 2	
	Set and change each condition of positional deviation measurement (Camera 2).
— POS.ADJ. Camera 2	
— Measurement 1	
CHECK-DEG-OF-MATCH	Set and change various conditions of degree of match inspection.
DIST/ANGLE (GRAY/EDGE)	Set and change various conditions of distance and angle measurement (gray and edge).
— DIST/ANGLE (C-GRAV)	Set and change various conditions of distance and angle measurement (Gravity center).
	Set and change various conditions of lead inspection.
— MEASR-BIN-AREA ······	Set and change various conditions of area measurement by binary conversion.
COUNT-BIN-OBJ ······	Set and change various conditions of counting quantities by binary conversion.
LABEL-BIN-OBJ	Set and change various conditions of label measurement by binary conversion.
MEASURE POINTS	Set and change various conditions of point measurement.
— Measurement 2	
(Same as Measurement 1)	
— Measurement 3	
(Same as Measurement 1)	
- FINAL NUMERIC CALC	Set and change various conditions of final calculation result.
- FINAL OUTPUT COND	Set and change various conditions of final output condition.
SYSTEM-IN/OUT	Set and change various conditions of system-In/Out for
HALT MEAS ON NG	Each object style.
— NO	Continues measurements even if a NG evaluation occurs.
└── YES	Halt all measurement if a NG evaluation occurs.

(5) <u>V</u>ersion up

		(Description)
	— Select a <u>f</u> ile	Select a file to meet version of the IV-S20.
	 Transfer data <u>Without INIT</u> Transfer data and INIT <u>M</u>EAS COND Transfer data and INIT <u>A</u>II data 	After data transmission, upgrades the version without initialization. After data transmission, upgrades the version with ini- tializing measuring conditions. After data transmission, upgrades the version with ini- tializing all.
((6) <u>W</u> indow	
		(Description)
	— Monitor display image	Change between display or not display the display image.
	— <u>Option</u>	
	— All object type list display	Display conditions of all object types on the setting screen.
	Object type display	Display conditions of one object type on the setting screen.
	— <u>T</u> ool bar	Change between display or not display the tool bar.
	— <u>S</u> tatus bar	Change between display or not display the status bar.
	— <u>C</u> ascade display	Overlap the open windows.
	— Tile \underline{V} ertically	Display the open windows in a vertical layout.
	— Tile <u>H</u> orizontally	Display the open windows in a horizontal layout.

(7) <u>H</u>elp

	(Description)
— <u>S</u> earch topic	Display the help menu search topic screen.
— About program information	Display the version information for the IV-S20SP program.

Chapter 2: Set Communication

When you communicate between the PC and the IV-S20, you must specify the "Set communication."

Communication menu items

Display items for communication between the PC and the IV-S20.

	AC IVS20SP			
	<u>File E</u> dit <u>I</u> V data settings <u>O</u> bj	ect type COND	⊻ersion up _ <u>W</u> indow	<u>H</u> elp
		_		
	File	IV da	ata settings	Version up
Read	Display image (Camera 1)	Load	File ⊏> IV	Transfer data Without INIT
Image	Display image (Camera 2)		Set screen ⊏> IV	Transfer data and INIT MEAS
	Message	Save	IV 🖒 File	
Write	Display image (Camera 1)		IV 🖒 Set screen	I ransfer data and INIT All data
image	Display image (Camera 2)	Verify	File <⊐=> IV	
			IV <⊐=> Set screen	
		Initialize	IV-S20	
		Self diagr	nosis IVS20	
		Data colle	ection	

Operation of the communication settings

1. Click "Set Communication" on the "File" menu.



⇒ The "Set communication" dialog box will appear.

2. Select the port number, and then click the "SET" button.

	K Set communication 📃 🗖 🗙
	Communication speed(Kbps) C 9.6 C 19.2 C 38.4 C 57.6 C 115.2
	Number of bits • 7 C 8
	Parity © Even C Odd C None
	C 1 C 2
Select the commu nication port	Port# © 1 C 2 C 3
Click	BET CANCEL Default

Setting items	Default setting
Communication speed	115.2 kbps
Number of bits	7
Parity	Even
Stop bits	2
Port	1

- Set the personal computer's communication port.

Setting items other than the "Port" can be operated with the default setting (set at delivery).

Chapter 3: Setting Object Type Conditions

Set object type conditions (Measurement conditions, Evaluation conditions, Numerical conditions, and output conditions) by clicking each item from the "Object type COND" menu.

- You can set and change the conditions offline. (You can set and change without stopping the line while the production line while it is operating.)
- For details about the setting details, see the "IV-S20 user's manual."



Click the item. Each setting screen will appear.

- Operation details: When setting up the positional deviation measurement
 - Click the "MEAS. 0 Camera 1" or "MEAS .0 Camera 2" from the "Object type COND" menu, then select the "MEAS-POSITION-DEVIATE."



⇒ The positional deviation measurement setting screen will appear.

代 IVS20SP - [TYPE00:ME.	AS 0 CAM 1:MEAS-I	POSITION-DEVIATE]			
Ķ Eile Edit IV data settings	Object type COND	⊻ersion up <u>W</u> indow]	<u>H</u> elp		_ 8 ×
Ele Edit IV data setting:	Subject type COND	SELECT CAMER	X 443 Y 15	EVALUATION NUMERIC CONDITION CALCCON - MEASUREMENT CONDITI REGIST D :: (0-7) SELECT MODE	OUTPUT D. CONDITIONS DNS C NO C YES
DETECT D	ETECT TORD.1			10/15/98	4:10 PM

3-1 Setting the measurement conditions

Click each measuring program from the "Object type COND" menu. The "MEASUREMENT CONDI-TIONS" screen will appear.

- Operation details: When setting up the positional deviation measurement (1-point search + 1-point edge)
 - 1. Click the "YES" button on the "REG." on the position deviation measurement setting screen (previous
 - Screen.)
 - \Rightarrow The setting screen for the "1P-SCH" (1-point search) will appear.
 - 2. Click the "▼" of the "MODE", then select the "1P-SCH + 1P-EDGE."



⇒ The "MEASUREMENT CONDITIONS" screen for the "1P-SCH + 1P-EDGE" will appear.



For details about the settings, see the "IV-S20 user's manual."

3-2 Setting the evaluation conditions

Click the "EVALUATION CONDITION" from each measuring program setting screen. The "EVALUA-TION CONDITION" screen will appear.

Operation details: When setting up the positional deviation measurement (1 point search + 1 point edge) Click the "EVALUATION CONDITION" in the positional deviation measurement setting screen (previous screen.)

		Click
Y: 109	EVALUATION NUMERIC OUTPUT CONDITION CALC.COND CONDITIONS MEASUREMENT CONDITIONS REGIST 0 ÷ (0-7) C NO • YES NO. SELECT 1P=SCH=1P=EDGE MODE	

⇒ The "EVALUATION CONDITION" screen for the "1P-SCH + 1P-EDGE" will appear.

EVALUATION CONDITION	
REGIST 0 ÷ (0-7)	——— The registration number setting items.
MODEL 0 [LOW-LMT] (UP-LMT] (OUTPUT] × COORE 000.0 ÷511.0 ÷ N ▼ 0 ÷ Y COORE 000.0 ÷479.0 ÷ N ▼ 0 ÷ × DEVIAT -511.0 ÷511.0 ÷ N ▼ 0 ÷ Y DEVIAT -479.0 ÷479.0 ÷ N ▼ 0 ÷	— MODEL 0 setting items.
AGL [LOW-LMT] [UP-LMT] [OUTPUT] DEV -180.0 ↓180.0 ↓ N ▼ 0 ↓	Angular deviation setting items.
MODEL 1 [LOW-LMT] [UP-LMT] [OUTPUT] X COORD 000.0 ÷511.0 ÷ N • 0 ÷ Y COORD 000.0 ÷479.0 ÷ N • 0 ÷ X DEVIAT511.0 ÷511.0 ÷ N • 0 ÷ Y DEVIAT479.0 ÷479.0 ÷ N • 0 ÷	— MODEL 1 setting items.

For details about the settings, see the "IV-S20 user's manual."

3-3 Setting the numerical calculation conditions

Click the "NUMERIC CALC. COND" from each measuring program setting screen. The "NUMERIC CALC. COND" screen will appear.

Operation details: When setting up the positional deviation measurement

Click the "NUMERIC CALC. COND" on the position deviation measurement setting screen (page 3-2).



⇒ The "NUMERIC CALC. COND" screen for positional deviation measurement will appear.

KIVS20SP - [TYPE00:MEAS 0 CAM 1:MEAS-POSITION-DEVIATE <numeric calc="" cond="">]</numeric>		
NG File Edit [V data settings _Dbject type COND _Version up _Window _Help	<u>_8×</u>	
TYPE		
NO COORD[X] COORD[Y] DEVIAT[x] DEVIAT[y] MATCH[M]		
AGL DEV[B] NUMERIC CALC[NC] CONSTANT[C]		Display each
		cotting dotail
		setting detail.
		—l
NOT		The setting table
N02		far averagical
N03		for numerical
N04		calculation (N00
N05		to N15)
N06		101113.)
NUC		
N10		
N11		
N12		
	F	
10/15/98	1:43 PM	

- Click each setting section (object type, upper&lower limit, output, and formula) for numerical calculation. The each setting detail will appear. (See the next page.)

Click on each of the individual setting sections 1 to 5 below, on the numerical calculation setting table. The details of each setting will appear.



For details about these setting details, see the "IV-S20 user's manual: Chapter 9: Numerical Calculations." [Example of settings]

	TYPE	LOW-LMT	UP-LMT	OUT	FRMLA			
N00	[C]				00002.0			
 N01	M	00000000.0	00000410.0	YO	0X0	*	N0	
N02								
N03		6	1 1 2				1 4	

The setting process of the calculation result N01 is described on the next page.

Described below is the process used to set the calculation result N01 for the setting example shown on the previous page.



3-6

S IV-S20

From th	he previ	ous pa	age											
	Cotting t		or 9 lower lin	nita										
(3) 3	1 Click	the "I		wer limit) or "	'I IP-I	MT" (up	ner li	imit) cel	l on th	ne "N	01"	line		
		TYPE	LOW-LMT	UP-LMT	OUT	FRMLA								
	N00	[C]				00002.0								
	N01	М				0X0	*	NO						
	NUZ				k hore									
	_~ _					-	.,							
		ne sett	ing detail for t	the upper lim f the upper liv	it or lo mit ito	ower lim	it will	appear	•					
	2. Dout													
		100000	0.0 북 - 100	99999999999999999999999999999999999999	-9999 [+0.1	Ŧ							
					· .									
				Dou	uble-c	lick here	Э							
	⊂> TI	he disc	olav will be hid	ahliahted.										
	3. Type	in the	number "410	", then press	the "	Enter" k	ey.							
	⊂> TI	he num	nber "000004	10.0" will be i	indica	ited.								
		TYPE	LOW-LMT	UP-LMT	OUT	FRMLA								
	N00	[C]				30002.0								
	N01	M	00000000.0	00000410.0		0X0	*	NO						
	1402	I			Indic	ated								
	(Ref	erence	e)											
	You	can als	so set the upp	er & lower lir	nits b	y clickin	ig on	the nun	nber d	of dig	its a	nd 🔺	/ V bu	ittons.
		_1		T/ 0000000 0 +00	000000	0)								
		0	<u>, 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 </u>		/ <mark>+0.1</mark>	.3)		(1	Clic	k the	V if	tem to	o selec	t the
					+0.1 +1			>	num	ber c	of dig	gits.		
			/		+10+100									
					+1000	0								
				(2) Click t	he 🔺	/▼ item	of th	e upper	& lov	ver lir	mit.			
	Sot the (1											
(4) 3	bei ine (Juipui.												
	1 Click	the "C	UTPUT" cell	on the "N01"	line									

2. Click "Y."

Click /

 \rightleftharpoons A "Y0" will be displayed on the "OUT" cell of the "N01" line.

	TYPE	LOW-LMT	UP-LMT	OUT	FRMLA			
N00	[C]				00002.0			
N01	M	00000000.0	00000410.0	YO,	0X0	*	N0	
N02								
NOO					\setminus			

Displayed

3-4 Setting the output condition

Click the "OUTPUT CONDITIONS" from each measuring program setting screen. The "OUTPUT CON-DITIONS" screen will appear.

Operation details: When setting up the positional deviation measurement

Click the "OUTPUT CONDITIONS" on the position deviation measurement setting screen (page 3-2).



⇒ The "OUTPUT CONDITIONS" screen for positional deviation measurement will appear.



Display of page 4

											/
PAGE () ()	1	2	3	4	5	6	7	OUT		4
INPUT	PAGE 4	0	1	2	3	4	5	6	7	OUT	•
LOGIC	INPUT 0										
INPUT	LOGIC										
LOGIC	INPUT 1										
	LOGIC										
	INPUT 2										
PAGE	LOGIC										_ _
INPUT	UNDITS										
LOGIC											
INDUT	1										

Click this range on the screen above. The page 4 will be displayed.

For details about these settings, see the "IV-S20 user's manual: Chapter 10: PC Function."

[Example of settings]

PAGE 0	0	1	2	3	4	5	6	7	OUT
INPUT 0	OMO	C001							C000
LOGIC	⊣⊢	-v-							\prec
INPUT 1	0X0								
LOGIC	\neg \vdash		-						

Described below is the process used to create the example above.

1. Click the column 0 on the "INPUT 0" line (PAGE 0).

PAGE 0	0	1	2	3	4	5	6	7	OUT
INPUT 0									
LOGIC									

Click here

2. Click on the [-| |-] item in the "LOGICAL SYMBOL" area.



` Click

3. Click on the [MATCH M] item in the "INPUT SIGNAL" area.

	INPUT SIGNAL	
	REGISTNO. 0 + (0-7)	+ (For reference of the below)
	MATCH M 0 + (0-1)	
Click	COORD X 0 + (0-1)	

 \Rightarrow The selected input signal and logical symbol will be shown.

PAGE 0	0	1	2	3	4	5	6	7	OUT
INPUT 0	OMO								
LOGIC	$\neg \vdash$								

(Reference)

- Enter the registration number (0 to 7) and the object type number (0 or 1) by clicking the ▲/▼ arrows (see above ★).

- 4. To create the input section, click on the desired cell, logical symbol, and input signal repeatedly, the same as in steps 1 to 3 above.
- 5. Click the column output on the "INPUT 0" line.

PAGE 0	0	1	2	3	4	5	6	7	OUT	
INPUT 0	OMO	C001								
LOGIC	⊣⊢	-v–								
INPUT 1	0X0									Click here
LOGIC	$\dashv \vdash$		-							

6. Click on the [AUXILIARY C] in the "OUTPUT SIGNAL" area.



 \Rightarrow The output signal and the auxiliary relay C000 will be shown in the table.

PAGE 0	0	1	2	3	4	5	6	7	OUT
INPUT 0	OMO	C001							C000
LOGIC	$\dashv \vdash$	-1/-							\prec
INPUT 1	0X0								
LOGIC	⊣⊢		-						

(Reference)

- Set the auxiliary relay number (0 to 127) by clicking the ▲/▼ item (*1) of auxiliary relay C, or directly enter a number after double-clicking inside the relay number window (*2) to highlight the window.

S IV-S20

3-5 Operation example (positional deviation measurement)

This section describes the operation example for positional deviation measurement (2 points search) as a use example of setting Object type conditions.



Continued on the following page

From the previous page

- Setting screen of positional deviation measurement

Display image					
		SELECT CAM	ER X: 237 Y: 11	EVALUATI	ON NUMERIC OUTPUT
				MEASURE REGIST NO. SELECT	MENT CONDITIONS REG. (0-7)
				MODE	
DETECT	DETECT				
000,000	000112.1				
				1	10/16/98 10:26 AM
				<u>_</u>) item	
	File Edit IV data a	ottings Object	AM T:MEAS-PUSH	ION-DEV	
	<u>File</u> <u>E</u> dit <u>I</u> V data s <u>N</u> ew	ettings <u>O</u> bjec Ctrl+N	AM T:MEAS-PUST of type COND Versio	n up <u>W</u> ind	
	File Edit IV data s <u>N</u> ew Open image Save	ettings <u>O</u> bjec Ctrl+N Ctrl+O	AM TEMEAS-PUSIT	NUP <u>W</u> ind	
	Eile Edit [V data s New Open image Save Read image	ettings Objec Ctrl+N Ctrl+O	AM TEMEAS-PUSIT at type COND Versio Display image(Can	FION-DEVI n up Winc SELECT CA ⊙ 1 nera 1)	
	File Edit [V data s <u>N</u> ew <u>O</u> pen image <u>S</u> ave <u>Read image</u> <u>W</u> rite image	ettings Objec Ctrl+N Ctrl+O	AM TEMEAS-POSIT at type COND Versio Display image(Can Display image(Can Display image(Can	TON-DEV n up Wind SELECT CA ⊙ 1 nera <u>1)</u> nera <u>2</u>)	Click
	Edit [V data s New Open image Save Save Read image Write image Set Communication Command Test	ctrl+N Ctrl+O	AM TEMEAS-PUST t type COND Versio Display image(Can Display image(Can <u>M</u> essage	TON-DEV n up Winc SELECT CA © 1 nera <u>1</u> nera <u>2</u>)	Click
	Edit [V data s New Open image Save Save Mead image Write image Write image Set Communication Command Lest Print	ctrl+P	AM TEMEAS-PUST t type COND Versio Display image(Can Display image(Can <u>M</u> essage	n up Wind SELECT CA ⊙ 1 nera <u>1)</u> nera <u>2</u>)	Click
	Eile Edit [V data s New Open image Save Read image Write image Write image Set Communication Command Iest Print Select printer type	ctrl+N Ctrl+N Ctrl+O • • • • • •	AM TEMEAS-PUST t type COND Versio Display image(Can Display image(Can <u>M</u> essage	TON-DEV n up Winc SELECT CA ⊙ 1 nera 1) nera 2)	Click
	Edit [V data s New Open image Save Save Read image Write image Set Communication Command I est Print Select printer type Exit Print	ctrl+N Ctrl+O Ctrl+O Ctrl+O Ctrl+Q	AM TEMEAS-PUST t type COND Versio Display image(Can Display image(Can <u>M</u> essage	rion-DEV n up Winc SELECT CA (€ 1 nera <u>1)</u> nera <u>2</u>)	Click
The "Rea	Edit [V data s New Open image Save Save Read image Write image Set Communication Command Iest Print Select printer type Exit Sale	ctrl+N Ctrl+O Ctrl+O Ctrl+O Ctrl+P ctrl+P ctrl+Q	AM TEMEAS-POST t type COND Versio Display image(Can Display image(Can <u>M</u> essage	(ION-DEV) n up Wind SELECT CA ⊙ 1 nera 1) nera 2)	Click
⇒ The "Rea	File Edit [V data s New Open image Save Bead image Write image Set Communication Command Lest Print Select printer type Exit Ad display image Second display image	ctrl+N Ctrl+N Ctrl+O Ctrl+P ctrl+P ctrl+Q ge (CAM 1	AM TEMEAS-POST It type COND Versio Display image(Can Display image(Can <u>M</u> essage	rill appea	Click
r⇒ The "Rea	File Edit [V data s New Open image Save Read image Write image Set Communicatin Command Lest Print Select printer type Exit ad display image Read the display in	cettingsbjec Ctrl+N Ctrl+O Ctrl+O Ctrl+P e Ctrl+Q ge (CAM 1 nage(CAM1) image from the	AM TEMEAS-POST at type COND Versio Display image(Can Display image(Can Message I)" dialog box w IV-S20, Start?	rill appea	Click
C The "Rea	Edit [V data s New Open image Save Bead image Write image Set Communication Command Iest Print Select printer type Exit Ad display image Read display image Read the displayed image Read the displayed image	ctrl+N Ctrl+O Ctrl+O Ctrl+P ctrl+Q Ctrl+Q ge (CAM 1 nage(CAM1) image from the	AM TEMEAS-POST t type COND Versio Display image(Can Display image(Can Message I)" dialog box w IV-S20. Start? anal	riup Wind SELECT CA ⊙ 1 nera 1) nera 2)	Click
⊂> The "Rea	Edit [V data s New Open image Save Read image Write image Set Communication Command Iest Print Select printer type Exit Ad display image Read display image Read display image Image Mark Read display image Image OK Image	ctrl+N Ctrl+O Ctrl+O Ctrl+O Ctrl+P ctrl+P ctrl+Q ge (CAM 1 mage(CAM1) image from the	AM TEMEAS-POST at type COND Versio Display image(Can Display image(Can Message 1)" dialog box w IV-S20. Start? ancel	rION-DEV n up Wind SELECT CA ⊙ 1 nera <u>1</u>) nera <u>2</u>)	Click
click the "OI	Edit [V data s New Open image Save Bead image Write image Set Communication Command Iest Print Select printer type Exit Ad display image Read display image Read the display image OK	ctrl+N Ctrl+N Ctrl+O Ctrl+O Ctrl+P ctrl+P ctrl+Q ge (CAM 1 mage(CAM1) image from the	AM TEMEAS-POST at type COND Versio Display image(Can Display image(Can Message I)" dialog box w IV-S20. Start? ancel	rill appea	Click
Click the "OI ⇒ The displ	Edit [V data s New Open image Save Bead image Write image Set Communication Command Iest Print Select printer type Exit Ad display image Read display image Read the displayed i OK K" button. lay image will	ctrl+N Ctrl+N Ctrl+O Ctrl+O Ctrl+P ctrl+Q ge (CAM 1 mage(CAM1) image from the Ctrl+Q	AM TEMEAS-POST t type COND Versio Display image(Can Display image(Can Message I)" dialog box w IV-S20. Start? ancel . (See the next	rion-DEV n up Winc SELECT CA ⊙ 1 nera 1) nera 2) vill appea	Click

Continued on the following page

S IV-S20

From the previous page

VIVS20SP - [TYPE00:MEAS 0 CA	M 1:MEAS-POSITION-DEVIATE]	
··s, riie Lait IV data settings Ubject I	Whe сомо Telb	
Display image	SELECT CAMER C 1 SELECT CAMER X 471 Y: 8 EVALUATION CONDITION MEASUREM REGIST J NOD SELECT MODE	NUMERIC OUTPUT CALC.COND CONDITIONS HENT CONDITIONS REG. 0 ÷(0-7)
DETECT DETECT COORD.0	ARP	
	1	0/20/98 2:39 PM
Specify a register nu A register num	Imber (0 to 7) using the ▲/▼ buttons, th EVALUATION NUMERIC OUTPUT CONDITION CALCCOND CONDITI MEASUREMENT CONDITIONS	nen click "YES" in the "REG."
specification	REGIST D + (0-7) C NO C SELECT MODE	Click
\Rightarrow The measuremer	nt conditions for the mode (1 point searc	h) will appear.
	EVALUATION NUMERIC OUTPUT CONDITION CALC.COND CONDITIONS MEASUREMENT CONDITIONS REG. REG. REGIST 0 ÷(0-7) C NO NO. SELECT MODE IP-SCH ▼	DNS

⊙ STANDARD ⊂ HIGH

Continued on the following page



Continued on the following page

frame for the model 0

IV-S20

3

frame for the model 0

frame for the model 1

frame for the model 1



⇒ The "IV data settings" dialog box will appear.

2. Click the "START" item on the "IV data settings" dialog box.

Self <u>d</u>iagnosis IVS20 <u>C</u>reates a document <u>D</u>ata collection

 \Rightarrow The set measurement conditions will be loaded in the IV-S20.

After the loading is complete, the "Load all parameters completed (Set screen \rightarrow IV)" will appear.

Chapter 4: Document Creation

You can automatically create a spreadsheet (table of the current parameters) using Excel or other standard applications, so that you can easily manage and store parameter sets as documents.

4-1 Document creation (IV-S20 parameter)

This section describes the procedures for creating a document that contains parameters.



Continued on the following page

IV-S20



- ⇒ The program will create the document automatically. After the creation is complete, the "Creates a document" dialog box will appear.
 - Click the "OK" button on the box. (See page 4-4 for the example of the document creation.)

4-2 Document creation (file data)

This section describes the procedures for creating a document from the parameters already in a personal computer file.

(1) Select a file in which to save the parameter settings Click on "Select a file" on the "IV data settings" menu. 🖔 IVS20SP Edit IV data settings Object type COND <u>F</u>ile Select a file nizi Load • Display • <u>S</u>ave Click <u>V</u>erify Þ Initialize • Self diagnosis IVS20 Creates a document Data collection \Rightarrow The "Open" dialog box will appear. - Select a file (with ".apm" extension) to create a document, then click the "Open" item. (2) Reading the setting parameters 1. Click the "Load" \rightarrow "File -> Set screen" items from the "IV data settings" menu. K IVS20SP-C:\Program Files\SMS\IVS20SP\123.apm File Edit IV data settings Object type COND Version up Win Select a file File->IV Load ₽ Εſ Display i Save File->Set screen <u>V</u>erify Þ Set screen->IV Click Initialize Self diagnosis IVS20

⇒ The "IV data settings" dialog box will appear.

<u>Creates a document</u> <u>Data collection</u>

2. Click the "START" button.

	Kµ IV data settings	_ 🗆 🗵
	Load all parameters(File->Set screen)
Click	Press the ST/	ART button
	START	STOP

 \Rightarrow The file data is loaded on the set screen.

For the following document creation processes after this, see the "4-1 Document creation (IV-S20 parameter)."

(See page 4-2 (4) to (6).)

[Example of document creation]

Shown below is an example which a document file (with ".csv" extension) that contains the conditions for each object type and can be opened using Excel.

<<< Object type number 00 >>>		
TITLE	SAMPLE	
Main		
MEAS.0, CAMERA 1	POSITIONAL	DEVIATION MEASUREMENT
MEAS.0, CAMERA 2	NO	
MEAS.1	NO	
MEAS.2	NO	
MEAS.3	NO	
HALT MEAS ON NG	NO	
POS. ADJ.CAMERA 1	NO CALIBRA	ΓΙΟΝ
POS. ADJ.CAMERA 2	NO CALIBRA	TION
Positional deviation measurement	t (Camera 1)	
[MEAS. PROG. COND]		
* Registration number		0
Mode	2 point search	
<first point=""></first>		
MEAS WINDOW	RECTANGLE	
REF IMAGE upper left X COORD		68
REF IMAGE upper left Y COORD		232
REF IMAGE lower right X COORD		139
REF IMAGE lower right Y COORD		295
SEARCH AREA upper left COORD		60
SEARCH AREA upper left COORD		224
SEARCH AREA lower right COORD		147
SEARCH AREA lower right COORD		303
DTECT COORD	CNTR	
DTECT COORD (X)		104
DTECT COORD (Y)		264
CONTR. PIXEL		3
<second point=""></second>		
MEAS WINDOW	RECTANGLE	
REF IMAGE upper left X COORD		356
REF IMAGE upper left Y COORD		232
REF IMAGE lower right X COORD		427
REF IMAGE lower right Y COORD		295
SEARCH AREA upper left COORD		348
SEARCH AREA upper left COORD		224
SEARCH AREA lower right COORD		435
SEARCH AREA lower right COORD		303
DTECT COORD	CNTR	
DTECT COORD (X)		392
DTECT COORD (Y)		264
CONTR. PIXEL		3
DETECT ACCURACY	STANDARD	

Chapter 5: Data Collection

You can transmit the measurement result data from the IV-S20 to a personal computer via a communication (general purpose serial I/F), and automatically create a result sheet.

The data collection function is used to manage or save measurement data, and collect data settings such as the evaluation conditions.

This chapter explains the operation procedures for the data collection.



Continued on the following page

 (4) File selection Select the "Open" item from the "Eile" menu on the "Data collection" dialog box. (5) Circk	From the previous page
<pre>(*) Fieldetter '0 per' item from the 'Fiel' menu on the 'Data collection' dialog box. Fieldetter '0 per' item from the 'Fiel' menu on the 'Data collection' dialog box. Fieldetter '0 per' item from the 'Fiel' menu on the 'Data collection' dialog box. Fieldetter '0 per' item from the 'Fiel' menu on the 'Data collection' dialog box. Fieldetter '0 per' item from the 'Fiel' menu on the 'Data collection' dialog box. Fieldetter '0 per' item from the 'Fiel' menu on the 'Data collection' dialog box. Fieldetter '0 per' item from the 'Fiel' menu on the 'Data collection' dialog box. Fieldetter '0 per' item from the 'Fiel' menu on the 'Data collection' dialog box. Fieldetter '0 per' item from the 'Fiel' menu on the 'Data collected data, specify the folder name, and click the 'Open' button. Fi on the 'Setup' button. (5) Setting the data collection conditions 1. Click on the 'Setup' button. Fieldetter Collected data to an existing file, select the file and click the 'Open' button. Click</pre>	
<pre>detect the Open term from the The Weind of the Data Collecture data weine</pre>	(4) File Selection Select the "Open" item from the "File" menu on the "Data collection" dialog box
Click is the intermediate of the intermediate intermediate is a data left intermediate intermedi	Select the Open item from the File ment on the Data collection dialog box.
<text><list-item><list-item> 4² The "Open" dialog box will appear. 4² The you want to create a new file (with ".osv" extension) to save the collected data, specify the folder name, enter the file name, and click the "Open" button. 5 Setting the data collection conditions 1. Click on the "Setup" button. 4. Click on the "Setup" button. 4. Click on the "Setup" button. 4. The setting conditions for the IV-S20 Will be loaded. 5. Setor the items for data collection: 4. Setor the items for data collection: 5. Setor the items for data collection: 6. Setor the items for the IV-S20 will be loaded. 6. Setor the items for data collection: 7. Setor the items for data collection:<td>Click Exit e data Number of data received Checksum 5000 0 10000 0 30000 0 Unlimited (file saving rocess) 0 VES</td></list-item></list-item></text>	Click Exit e data Number of data received Checksum 5000 0 10000 0 30000 0 Unlimited (file saving rocess) 0 VES
 When you want to create a new file (with ".csv" extension) to save the collected data, specify the folder name, enter the file name, and click the "Open" button. If you save the collected data to an existing file, select the file and click the "Open" button. (5) Setting the data collection conditions 1. Click on the "Setup" button. (6) Setting the data collection CAVProgram File/SMSVV5205Phabe.csv (7) The setting conditions for the IV-S20 will be loaded. 2. Select the items for data collection. 	
(5) Setting the data collection conditions 1. Click on the "Setup" button. Image: Click of the setting conduction CAProgram Files/SMSVVS205Phabe.csv Image: Click of the setting conditions for the IV-S20 will be loaded. 2. She setting conditions for the IV-S20 will be loaded. 3. Select the items for data collection Image: Click of the setting conditions for the IV-S20 will be loaded. 3. Select the items for data collection Image: Click of the setting conditions for the IV-S20 will be loaded. 3. Select the items for data collection. Image: Click of the setting conditions for the IV-S20 will be loaded. 3. Select the items for data collection. Image: Click of the setting conditions for the IV-S20 will be loaded. 3. Select the items for data collection. Image: Click of the setting conditions for the IV-S20 will be loaded. 3. Select the items for data collection. Image: Click of the setting conditions for the IV-S20 will be loaded. 4. Select the items for data collection. Image: Click of the setting conditions for the IV-S20 will be loaded. 5. Setup Image: Click of the setting of the setti	 When you want to create a new file (with ".csv" extension) to save the collected data, specify the folde name, enter the file name, and click the "Open" button. If you save the collected data to an existing file, select the file and click the "Open" button.
(a) Setting the data collection conditions 1. Click on the "Setup" button. Image: Click but to the setting conditions for the IV-S20 will be loaded. 2. Select the items for data collection. Image: Click but to the setting conditions for the IV-S20 Stylebc.csv Image: Click but to the setting conditions for the IV-S20 Stylebc.csv Image: Click but to the setting conditions for the IV-S20 Stylebc.csv Image: Click but to the setting conditions for the IV-S20 Stylebc.csv Image: Click but to the setting conditions for the IV-S20 Stylebc.csv Image: Click but to the setting conditions for the IV-S20 Stylebc.csv Image: Click but to the setting conditions for the setting but to the setting conditions for the setting conditions for the setting but to the setting conditions for the setting conditing conditing cond	(C) Softing the data callection conditions
Click Response data Click START Cancel Creates a data list Response data Start Cancel Creates a data list Concel Creates a data lis	1 Click on the "Setup" button
Ele Response data Number of data Click START Cancel Creates a data list Measurement number Measurement number TYPE *> The setting conditions for the IV-S20 will be loaded. 2. Select the items for data collection. *> Data collection-CVProgram Files/SMSM/S20SP/abc.csv Fer Response data *> Setup *> The setting conditions for the IV-S20 will be loaded. 2. Select the items for data collection. *> The setting conditions for the IV-S20 SP/abc.csv Fer Response data *> Measurement number *> TYPE *> Setup *> Measurement number *> Measurement NetASPOSITION-DEVATE *> Measurement NetASPOSITION-DEVATE <td>W_Data collection-C:\Program Files\SMS\IVS20SP\abc.csv</td>	W_Data collection-C:\Program Files\SMS\IVS20SP\abc.csv
Click START Cancel Creates a data list here Setup Measurement number TYPE * The setting conditions for the IV-S20 will be loaded. 2. Select the items for data collection. * Data collection: CAProgram Files/SMS/VV920SP/abc.csv Ferre Response data Cliention: CAProgram Files/SMS/VV920SP/abc.csv Ferre Response data Start Cancel Creates a data list Start Cancel Creates a data list Start Cancel Creates a data list WEASR-BIN-AREA BLOCKO REGIST Concess Setup Measurement Manber Measurement MEASR-DIMARCH Measurement Measurement Measurement Measurement Measurement Measurement Measurement Measurement StartChine Concess Measurement Measurement Measurement Measurement Measurement Measurement Measurement Measurement Measurement Measurement Measurement Measurement	File Response data Nimber of data
Click START Cancel Creates a data list here Setup Measurement number TYPE	received
here Setup Measurement number TYPE	Click START Cancel Creates a data list
Weasurement number TYPE	here
TYPE Type Type Type Type Type Type Type Typ	Measurement number
The setting conditions for the IV-S20 will be loaded. 3. Select the items for data collection. 3. Start cancel creates a data list 3. Start cancel creates cancer	ТҮРЕ
2. Select the items for data collection. CAPPage Page Page Page Page Page Page Page	➡ The setting conditions for the IV-S20 will be loaded.
File Response data Number of data received Checksum START Cancel Creates a data list Maximum amout of data received Checksum Start Concel Creates a data list Checksum © 5000 © 10000 © 30000 © N0 Start Cancel Creates a data list Maximum amout of data received © N0 Setup Checksum © 10000 © 30000 © YES Measurement number Measurement MEAS-POSITION-DEVIATE Measurement MEAS.0 MEAS-POSITION-DEVIATE Measurement Measurement Measurement 1 MEASR-BIN-AREA Measurement Window area Measurement 2 CHECK-DEG-OF-MATCH Measurement Measurement Measurement 3 DISTIANCI E(GRAYEDGE) Measurement Measurement	2. Select the items for data collection.
Response data Number of data received Checksum START Cancel Creates a data list Creates a data list Setup MEASR-BIN-AREA:BLOCKO MEAS.0 MEAS-POSITION-DEVIATE Camera 1 MEASPOSITION-DEVIATE MEASR-0 MEASR-POSITION-DEVIATE Camera 1 MEASR-POSITION-DEVIATE Measurement 1 MEASR-BIN-AREA Measurement 2 CHECK-DEG-OF-MATCH Measurement 3 DISTIANCI E/GRAVEDGE	
START Cancel Creates a data list Setup MEASR-BIN-AREA:BLOCK0 Measurement number MEASPOSITION-DEVIATE TYPE [00] MEAS-POSITION-DEVIATE MEAS.0 MEAS-POSITION-DEVIATE Camera 1 MEAS-POSITION-DEVIATE Measurement 1 MEAS-POSITION-DEVIATE Measurement 2 CHECK-DEG-OF-MATCH Measurement 3 DISTIANOLE/GRAVIEDGE	Response data Number of data Maximum amout of data received Checksom - received © 5000 © 10000 © 30000 © N0
START Canter Creates a data list Setup MEASR-BIN-AREA:BLOCKO Measurement number REGIST 0 TYPE [00] MEAS-POSITION-DEVIATE Measurement Camera 1 MEAS-POSITION-DEVIATE Measurement MEAS 0 MEAS-POSITION-DEVIATE Measurement MEASR-0 MEASR-POSITION-DEVIATE Measurement Measurement 1 MEASR-BIN-AREA Measurement Measurement 2 CHECK-DEG-OF-MATCH Measurement Measurement 3 DISTIANOLEF/GRAVEDGE Measurement	C Unlimited (file saving C YES
Setup MEASR-BIN-AREA BLOCKU Measurement number REGIST TYPE [00] MEAS.0 MEAS.0 MEAS-POSITION-DEVIATE Camera 1 MEAS-POSITION-DEVIATE MEAS.0 MEAS-POSITION-DEVIATE Camera 2 Measurement Measurement 1 MEASR-BIN-AREA Measurement 2 CHECK-DEG-OF-MATCH Measurement 3 DISTIANGLE/GRAVIEDGED	
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MEAS. U MEAS-POSITION-DEVIATE C Measurement Camera 1 MEAS. 0 MEAS-POSITION-DEVIATE C Measurement Camera 2 Measurement 1 Measurement 2 Measurement 3 DISTIANCI E/GRAVIEDGES C Measurement	
Camera 2 Measurement 1 MEASR-BIN-AREA © Measurement Measurement 2 CHECK-DEG-OF-MATCH © Measurement Measurement 3 DIST(ANGLE/GRAV(EDGE) © Measurement	MLAS.0 MEAS-POSITION-DEVIATE C Measurement Camera 1 MEAS.0 MEAS-POSITION-DEVIATE C Measurement
Measurement 2 CHECK-DEG-OF-MATCH C Measurement Measurement 3 DISTIANGLE/GRAVIEDGE) C Measurement	Camera 2 Measurement 1 MEASR-BIN-AREA © Measurement
	Measurement 2 CHECK-DEG-OF-MATCH C Measurement Measurement 3 DIST/ANGLE(GRAY/EDGE) C Measurement

Continued on the following page

G IV-S20

From the previous page		
¥		
(6) Execute a data colle	ction	
Click on the "START	" button.	
	K Data collection-C:\Program Files\ File	SMS\IVS20SP\abc.csv
	Response data	Number of data
Click	START Cancel	Creates a data list
nere	Setup	
	Measurement number	
S The data collection	on from the IV-S20 will start.	
(7) Creation of a data co	ollection table	
N. Data	a collection-C:\Program Files\SM	S\IVS20SP\abc.csv
Eile		
Re	sponse data	Number of data received
:11	00000000000000000000000000116230A	\$50096A000 16
	START Cancel	Creates a data list
		/ ②

- 1. Click on the "Cancel" button.
 - \Rightarrow The data collection will stop.
- 2. Click on the "Create a data list" button.
 - ⇒ The total file of the data collected will be created automatically. After the creation ends normally, the "Total data creation is complete" message will appear.

(Note)

- If processing speed of a personal computer is slower than the data transmission speed of the IV-S20, some parts of the data may be lost.





Chapter 6: Reading/Writing Parameters and Images

Setting parameters and images (display images/messages) can be stored in a personal computer. Uploading and downloading of the setting parameters is also available.

- This function can be used to evaluate samples locally by transmitting setting parameters saved in a file via Email or other means of communication.

It can be also used to create copies of settings by reading or writing the setting parameters.

■ Loading/saving/verifying setting parameters

By selecting the "Load," "Save" or "Verify" item from the "IV data settings" menu, the operations below is available.

Setting parameters	Operation items	Section on this chapter for reference
	File -> IV	
<u>L</u> oad	File -> Set screen	6-3
	Set screen -> IV	
	IV -> File	
<u>S</u> ave	Set screen -> File	6-1
	IV -> Set screen	
	File <-> IV	
<u>V</u> erify	File <-> Set screen	6-2
	IV <-> Set screen	

Read/write image

By selecting the "Read image" or "Write image" item from the "File" menu, the operations below is available.

Image	Operation items	Reference section on this chapter
	Display image (Camera 1)	
<u>R</u> ead image	Display image (Camera 2)	6-4 [1]
	Message	
	Display image (Camera 1)	
Write image	Display image (Camera 2)	6-4 [2]
	Message	

6-1 Saving setting parameters

Select the "Save" item from the "IV data settings" menu. The operation item below will appear.



Save	Operation details
IV -> File	Save the setting parameters of the IV-S20 to the file of the personal computer.
Set screen -> File	Save the setting parameters of the set screen to the file of the personal computer.
IV -> Set screen	Save the setting parameters of the IV-S20 to the set screen of the personal computer.

Below describes the operation procedures to save (IV -> File) the IV-S20 setting parameters to the file in the personal computer.

(1) Setting/operating of IV-S20
↓ Let the IV-S20 to show the MAIN OPS MENU screen.
(2) Communication settings
Set the protocols to communicate with the IV-S20.
See "Chapter 2: Set Communication."
(3) File selection
Click the "Select a file" item from the "IV data settings" menu.
₩ IVS20SP
Eile Edit <u>IV data settings</u> <u>D</u> bject type COND
Display i Save
Initialize ► Self diagnosis IVS20
Creates a document
Data collection
⇒ The "Open" dialog box will appear.
- When you want to create new file (with ".apm" extension) for saving setting parameters, specify the
folder name, enter the file name, and click the "Open" button.
If you want to save it to an existing file, select the file and click the "Open" button.
(4) Saving all parameters
1. Click the "Save" \rightarrow "IV -> File" items from the "IV data settings" menu.
₩, IVS20SP-C:\Program Files\SMS\IVS20SP\abc.apm
<u>File Edit IV data settings</u> <u>Object type COND</u> <u>Version up</u> <u>Win</u>
Display i Save IV->File
Verify ► Set screen->File
Initialize
Self diagnosis IVS20
Creates a document

 \Rightarrow The "<u>IV</u> data settings" dialog box will appear.

2. Click the "START" button.

	👫 IV data settings	
	Save all paramete	rs(IV->File)
Click	Press the STAR	T button
	START	STOP

- All setting data in the IV-S20 will be saved to the specified file (enter the file name above.) When the saving is complete, the "IV data settings" dialog box will appear.
- 3. Click the "OK" button.

IV-S20

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6-2 Verifying setting parameters

Select the "Verify" item from the "IV data settings" menu. The operation item below will appear.



<u>V</u> erify	Operation details		
File <-> IV	Verify the personal computer s file (setting parameters) with the IV-S20 setting parameters.		
File <-> Set screen	Verify the personal computer s file (setting parameters) with the set screen setting parameters.		
IV <-> Set screen	Verify the IV-S20 setting data and the personal computer set screen setting parameters.		

Below describes the operation procedures to verify (File <-> IV) the PC file with the IV-S20 setting parameters.

(1) Setting/operating of IV-S20

- ↓ Let the IV-S20 to show the MAIN OPS MENU screen.
- (2) Communication settings

Set the protocols to communicate with the IV-S20.

See "Chapter 2: Set Communication."

3) File selection

- Same as the procedures section 6-1. \Rightarrow See page 6-2.
- (4) Saving all parameters
 - 1. Click the "Verify" \rightarrow "File <-> IV" items from the "IV data settings" menu.



⇒ The "IV data settings" dialog box will appear.

2. Click the "START" button on the "IV data settings" dialog box.

All setting data in the IV-S20 and the personal computer specified file will be verified. When the verifying is complete, the "IV data settings" dialog box will appear. Click the "OK" button.

6-3 Loading setting parameters

Select the "Load" item from the "IV data settings" menu. The operation item below will appear.



Loading	Loading Operation details		
File -> IV	Load the setting parameters from the personal computer's file to the IV-S20.		
File -> Set screen	Load the setting parameters from the personal computer's file to the personal computer set screen.		
Set screen -> IV	Load the setting parameters from the personal computer set screen to the IV-S20.		

Below describes the operation procedures to load (File <-> IV) the setting parameters from the personal computer's file to the IV-S20.

(1) Setting/operating of IV-S20

Let the IV-S20 to show the MAIN OPS MENU screen.

(2) Communication settings

Set the protocols to communicate with the IV-S20.

- ↓ ⇒ See "Chapter 2: Set Communication."
- (3) File selection Same as the procedures section 6-1. r See page 6-2.

(4) Loading all parameters

1. Click the "Load" \rightarrow "File -> IV" items from the "IV data settings" menu.



 \Rightarrow The "IV data settings" dialog box will appear.

- 2. Click the "START" button on the "IV data settings" dialog box.
 - ➡ The personal computer's specified file (setting parameters) will be loaded to the IV-S20. When the loading is complete, the "IV data settings" dialog box will appear. Click the "OK" button.

6-4 Reading/writing images

[1] Reading images (display images and messages)

Select the "Read image" item from the "File" menu. The operation item below will appear.

K IVS20SP		
<u>File</u> <u>E</u> dit <u>I</u> V data sett	ings <u>O</u> bje	ect type COND <u>V</u> ersion up <u>W</u> ind
<u>N</u> ew Open image <u>S</u> ave	Ctrl+N Ctrl+O	SELEC
<u>Read image</u> Write image Set <u>C</u> ommunication Command <u>T</u> est	Þ	Display image(Camera <u>1</u>) Display image(Camera <u>2</u>) <u>M</u> essage
<u>P</u> rint Select printer type	Ctrl+P	
E <u>x</u> it	Ctrl+Q	

<u>R</u> ead image	Operation details
Display image (Camera 1)	Read the display images (camera 1) of the IV-S20 to the personal computer set screen.
Display image (Camera 2)	Read the display images (camera 2) of the IV-S20 to the personal computer set screen.
Message	Read the display messages of the IV-S20 to the personal computer set screen.

Below describes the operation procedures to read display images (camera 1) of the IV-S20 to the PC set screen and save it to the personal computer's file.

- (1) Setting/operating of IV-S20
- Let the IV-S20 to show the MAIN OPS MENU screen.
- (2) Communication settings

Set the protocols to communicate with the IV-S20.

⇒ See "Chapter 2: Set Communication."

(3) Loading display images

1. Click the "Read image" \rightarrow "Display images (Camera 1)" items from the "File" menu.





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- 2. Click the "OK" button on the "Read display image (CAM1)" dialog box.
 - ⇒ The camera image of the IV-S20 will be transmitted and displayed on the personal computer's image display area.



(4) Saving the image as an image file (.bmp format)

Click the "Save" \rightarrow "Image only" items from the "Eile" menu.



- \Rightarrow The "Save as" dialog box will appear.
 - When you want to create new file (with ".bmp" extension) for saving an image file, specify the folder, enter the file name, and click the "Save" button.

If you want to save it to an existing file, select the file and click the "Save" button.

 \Rightarrow The image file will be stored in the specified file.

[2] Writing images (load images)

On the "RUN MENU SETTINGS" menu of the IV-S20, select "NO" in the "CAPTURE AN IMAGE." You can measure using the loaded images from the personal computer.

- Transmit the image files over a communication cable to evaluate samples and inspect troubles on remote.
- You can process images using the PHOTOSHOP or PAINT SHOP PRO application, and load it to the IV-S20 as a gray scale, 8 bit BMP file.

Select the "Write image" item from the "File" menu. The operation item below will appear.



Write image	Operation details
Display image(Camera <u>1</u>)	Write the displayed image on the PC to the IV-S20 (camera 1).
Display image(Camera 2)	Write the displayed image on the PC to the IV-S20 (camera 2).

Below describes the operation procedures to write displayed images on the PC screen to the IV-S20 (camera 1.)

(1) Setting/operating of IV-S20



Continued on the following page



 \rightleftharpoons The "Write display image (CAM1)" dialog box will appear.

- 2. Click the "OK" button on the "Write display image (CAM1)" dialog box.
 - \Rightarrow The image displayed on the PC will be written to the IV-S20 (camera 1).

Chapter 7: Command Test

The command test function is used to communicate to the IV-S20 through the serial interface and confirm that communication has been established when the personal computer is starting started.

This chapter describes the command test procedures.

(1) Setting/operating of IV-S20





From	the	nrevious	nade
110111	uic	previous	paye

num	ber of repeats	s).	• • • •		
	K Command test				
	<u>F</u> ile Data <u>C</u> lear	Command test COND			
	Send data	Set the Lime-out tin Checksum	ie. ▶ 70s ▶ 30s Checksum		
		Number of <u>R</u> epeats	► 60s		
	, Receive data	9			
		Data tra	ansfer 10s		
	Setting	details	Description		
	Catting the	10 sec. ()	Wait 10 seconds for a response.		
	time out	30 sec.	Wait 30 seconds for a response.		
		60 sec.	Wait 60 seconds for a response.		
		Automatic ()	A checksum is automatically created when data is transmitted.		
	Checksum	Manual	directly before transmitting.		
		Fixed (@@)	A checksum is not executed, and @@ will be transmitted.		
		1 time 🔿	The data transmission terminates with one time even a communication error occurs.		
	Number of	2 times	The data transmitted until twice when a communication error occurs.		
repeats	3 times	The data will be transmitted until three times when a communication error occurs.			
		Others	The number of repeats can be set over four times.		
	-	The "O" indic	cates the default setting.		
Trans	smitting serial	commands			
Ente	r the data to	send in the "C	ommand test" dialog box, and press the [Enter] key or click the "Data		
trans	fer" button.				
⊂> TI	he data will b	e transmitted	to the IV-S20. The response data will be displayed in the receive data		
ar	rea.	W. Command test			
		File Data Clear Com	mand test COND		
		Send data	Checksum		
Ente	er the data		C12 Checksun		
to send Receive data		, Receive data	values		
Disp	Display the				
	data received				
data			Data transfer 10s		
data		_			
data Clic	ck here				
data Clic Refe	ck here	he "Data Clea	r" menu to delete the displays of the sending data, the receiving data		
data Clic Refe	ck here	he "Data <u>C</u> lea	r" menu to delete the displays of the sending data, the receiving data		
data Clic Refe	ck here rence: Click t and the	he "Data <u>C</u> lea e checksum va	r" menu to delete the displays of the sending data, the receiving data alues.		
data Clic Refe	ck here rence: Click t and the	he "Data <u>C</u> lea e checksum va	r" menu to delete the displays of the sending data, the receiving data alues. Command test File Data Clear Command test COND		

From the previous page

(6) Saving/loading files

K Command test		
<u>F</u> ile	Data <u>C</u> lear	Command test COND
	Select a <u>f</u> ile	
Load		
<u>S</u> ave		
E <u>x</u> it		

- Saving the data received to a file

- 1. Click on the "Select a file" item in the "File" menu.
 - \Rightarrow The "Open" dialog box will appear.
 - When you want to create a new file (with ".tst" extension) to save the data received, specify the folder name, enter the file name, and click on the "Open" button.
 - If you want to save it to an existing file, select the file and click on the "Open" button.
- 2. Click on the "Save" item in the "File" menu.

- Loading the receiving file from a file

- 1. Click the "Select a file" item from the "File" menu.
 - \rightleftharpoons The "Open" dialog box will appear.
 - Select the loading folder or file (with ".tst" extension) name.
- 2. Click the "Load" item from the "File" menu.

2 IV-S2C

Chapter 8: Upgrade Version

To upgrade the IV-S20 system version (improved functions) you simply download the new version from a personal computer.

- The IV-S20 software consists of the "system program," used to set up and execute image processing operations, and a "boot program" to load the other programs. In some cases, both programs need to be upgraded. (Refer to our sales department for the latest version of the system software.)

Described below are the procedures for upgrading the program version.



Continued on the following page

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From the previous page	
(4) File selection	
Click on the "Select a <u>f</u> ile" item on the "	' <u>V</u> ersion up" menu.
# IVS20SP	
File Edit IV data settings Object type CON	ND <u>V</u> ersion up <u>W</u> indow <u>H</u> elp
	Select a file
Dianlau imaga	Transfer data Without INIT
Display intage	Transfer data and INIT <u>M</u> EAS COND Transfer data and INIT All data
- Select the SVXXX mot file and click	k on the "Open" hutton
	k on the Open Button.
(5) Transmission	
Click the "Transfer data Without INIT" it	tem from the "Version up" menu.
/ ₩ IVS20SP	
<u>File</u> <u>E</u> dit <u>I</u> V data settings <u>O</u> bject type CO	IND <u>Version up</u> <u>W</u> indow <u>H</u> elp
	Select a <u>fi</u> le
Display image	Transfer data Without INIT
	Transfer data and INIT <u>M</u> EAS COND
- When the [≡ ON RECEIVE] mes	ssage appears on the IV-S20 monitor and the [\equiv] flashes, th
transmission has been successful.	
- It takes approximately five minuets	to transmit the file from a Pentium 266 MHz personal compute
- When the [≡ ON RECEIVE] displ	lay disappears, the new system program has been successful
written to the hash memory.	
♦ (6) Starting the g new version of the system	m
Move the up and down keys to select "	") "⑥ POWER ON RESET" on the IV-S20 upgrade version men
(displayed on the monitor) and press th	ne [SET] key.
[IVS20 VERS	SION UP MENU]
	RECEIVE RUN
(3)BOOT REC (4)BOOT TRA	ANSEER RUN
SALL INITIAL	LIZE RUN
	N RESET RUN
\Rightarrow The power to the IV-S20 will be rese	et and the new version of the system program will start.

Chapter 9: Additional Descriptions

This chapter describes additional description; copy to the clipboard, changing the message display color, and changing the image brightness.

[1] Copy to the clipboard

The displayed images can be copied to the Windows95/98 clipboard.

- To paste a display image into an Excel or Word file, click "Paste" on the "Edit" menu of Excel or Word. The image will appear at the cursor in the active document.

(Word and Excel are registered trademarks of Microsoft Corporation.)

(Operation procedures)

1. Move the cursor to "Copy display image" on the "Edit" menu.



2. Select the object to copy.

Click "Image only," "Message only," or "Image + Message."

 \Rightarrow The object will be copied to the Windows95/98 clipboard.

[2] Changing the message display color

You can select one of 8 colors for the display image color. If the image and the message are same colors, use a different message color to allow you to see the message.

- The colors you can chose from are black, blue, green, cyan, red, magenta, yellow, and white.
- If you display images and messages, set the image brightness to "Half," and select a white message display color. Then, you can easily view the screen.
- If you are only going to display messages, change message display color to black, so that you can paste the messages to a clipboard or into other documents.

(Operation procedures)

1. Move the cursor to "Message color" on the "Edit" menu.



2. Select a color.

Select the desired color. (Default: black)

 \Rightarrow The message color will be changed.



[3] Changing the image brightness

You can set the displayed image brightness to "Normal" or "Half."

- When you display "Image + Message," select the image brightness to "Half." (Message color is "white.")

(Operation procedures)

1. Move the cursor to the "DISP image <u>bright level</u>" item on the "<u>E</u>dit" menu.



- 2. Select a brightness.
 - Click on "Normal" or "Half." (Default: Normal)

 \Rightarrow The displayed image will be changed to the selected brightness.

Error code

If an error occurs and an error code appears while operating the IV-S30SP, use the error code list below for details about the error.

Error code	Possible cause
7	Not enough memory to perform the save operation.
9	The parameter entered is outside the effective range.
13	The data is not in the status to be able to use.
52	The filename cannot be found.
53	Cannot find the required file.
55	The selected file is already open.
61	There is not enough disc space.
62	There is no more data in the file.
70	Unable to write the data.
71	The disk is not ready.
75	Invalid path name.
380	Incorrect parameter value.
481	Faulty picture.
485	Unacceptable picture format.
8002	Invalid port number.
8005	The port is already opened.

For information about error codes not listed above, see "Cause and Treatment of a termination code (when an error occurs)" in the user's manual for the IV-S31MX/S32MX/S33MX, or IV-S20).