

Let's Connect an Operator Interface to a Barcode Reader!

Practical Guide for Sample Program of the Barcode Reader Connection

This text introduces an example of a system that imports barcode data captured by a barcode reader into an operator interface, displaying imported data on the operator interface, and determining OK/NG judgments.

Please open the O/I data "BCR2_BASIC_EN" and "BCR_ADVANCE_EN" stored in this Demo version CD with the associated application software. Then, check the details of each program and settings of this sample program while referring to the descriptions in this text. Display and entry area of barcode number STORED/ COMPARE DATA Display and entry area of barcode number STORED/ COMPARE DATA

Note that the data of O/I stored on this Trial Version CD is a sample and that proper operation is not guaranteed by IDEC IZUMI.

Note: Direct connection of a barcode reader to an operator interface is supported by O/I Screen Creation Software "WindO/I-NV2" Ver. 2.7 and later.

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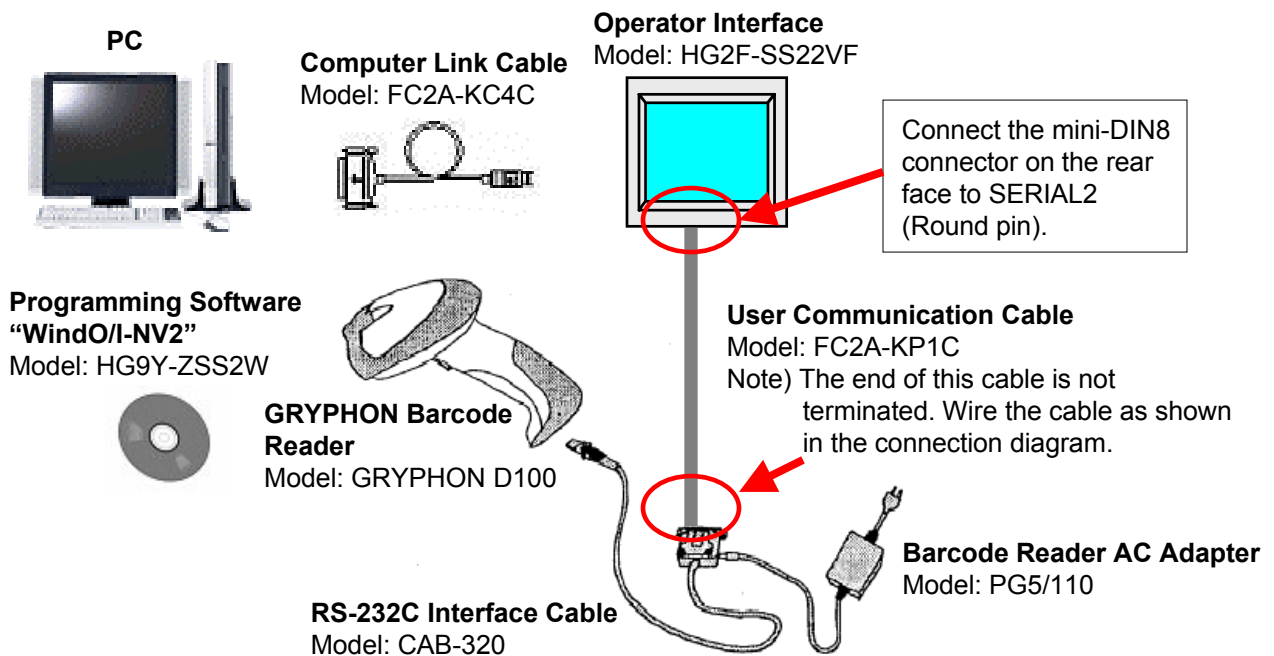
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1. System Configurations

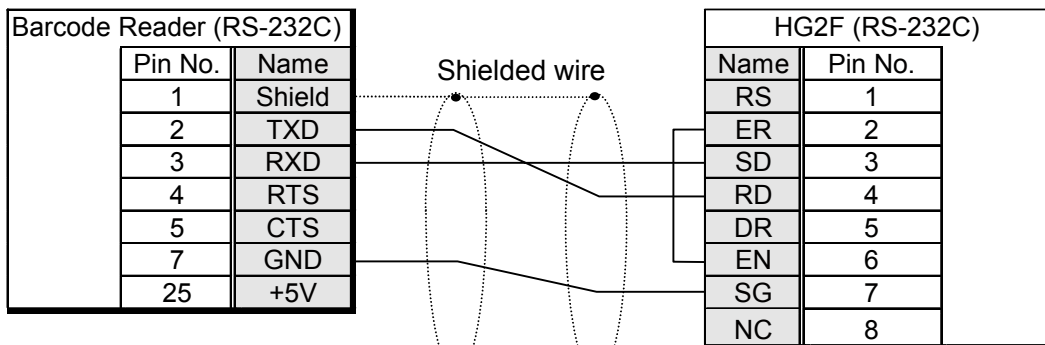
1-1 Required hardware and application software

Part Name	Model	Description
Operator Interface	HG2F-SS22VF	5.7" STN Color LCD Type
Programming Software	HG9Y-ZSS2W	HG Series Programming Software (WindO/I-NV2 Ver. 2.7)
Computer Link Cable	FC2A-KC4C	Computer Link Cable 1C, RS232C Cable (3m/9.84ft. long)
User Communication Cable	FC2A-KP1C	User Communication Cable 1C (2.4m/7.87ft. long)
Barcode Reader	GRYPHON D100	Datalogic's CCD Scanner for 1-D Codes
	CAB-320	Datalogic's RS 232C Interface Cable
	PG5/110V	Datalogic's AC Adapter

1-2 System configuration



* When connecting a barcode reader to the HG2F, connect the User Communication cable as shown below. (Pins No. 2 and No. 6 are open when using the HG3F/4F.)



D-sub 25-Pin connector socket type

Mini DIN 8-pin connector socket type (HG2F/3F/4F)

2. Operating Procedures

This application software operates as follows: Register one type of 13-digit barcode data to the operator interface, an “OK” is displayed on the screen when the data scanned with the barcode reader matches the Stored Data. Otherwise, “NG” is displayed.

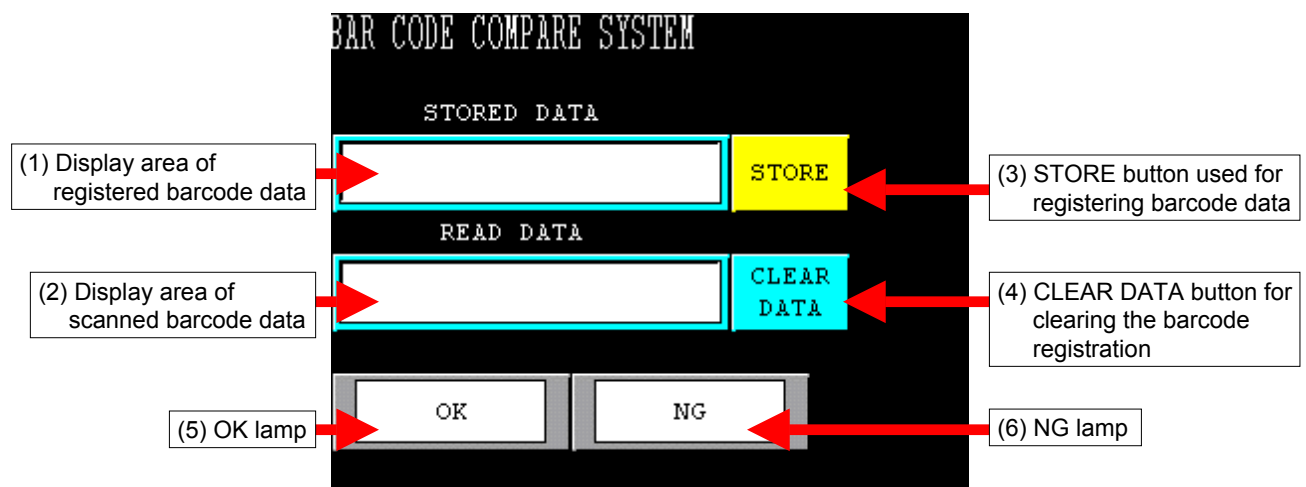
The following are the details of the operating procedure.

2-1 Program screen

-Base Screen 1: Program Screen-

When the power is turned on, the following Program screen is displayed on the HG2F display.

Before activating the HG2F, make sure to connect the HG2F unit to the barcode reader by referring to the illustration in “1-2 System configurations”.



- | | |
|---|---|
| (1) Display area of registered barcode data | Displays the registered barcode data. |
| (2) Display area of scanned barcode data | Displays the scanned barcode data. |
| (3) STORE button used for registering barcode data .. | Pressing the STORE button allows you to register the scanned barcode data to the display area of registered barcode data. |
| (4) CLEAR DATA button for clearing the barcode registration | Pressing the CLEAR DATA button allows you to clear the data of the barcode that has been registered for verification. |
| (5) OK lamp | The OK lamp illuminates when the registered barcode data matches the scanned barcode data. |
| (6) NG lamp | The NG lamp illuminates when the registered barcode data does not match the scanned barcode data. |

2. Operating Procedures

2-2 Reading barcode data

Press the button of the barcode reader connected to the operator interface to scan a 13-digit barcode. On the HG2F screen, the scanned barcode data is displayed in the READ DATA area. The "NG" lamp illuminates because STORED DATA has not been registered.



2-3 Registering scanned barcode data

Next, register the scanned barcode data as STORED DATA. Pressing the STORE button will transfer the barcode data displayed in the READ DATA area. At the same time, the "OK" lamp illuminates because the READ DATA matches the STORED DATA.



2. Operating Procedures

2-4 Displaying “OK” or “NG” when reading barcodes

The “OK” lamp illuminates when the READ DATA matches the STORED DATA. The “NG” lamp illuminates when the READ DATA does not match the STORED DATA.



2-5 Clearing the registered barcode data

Pressing the CLEAR DATA button will clear the barcode data registered as the STORED DATA.



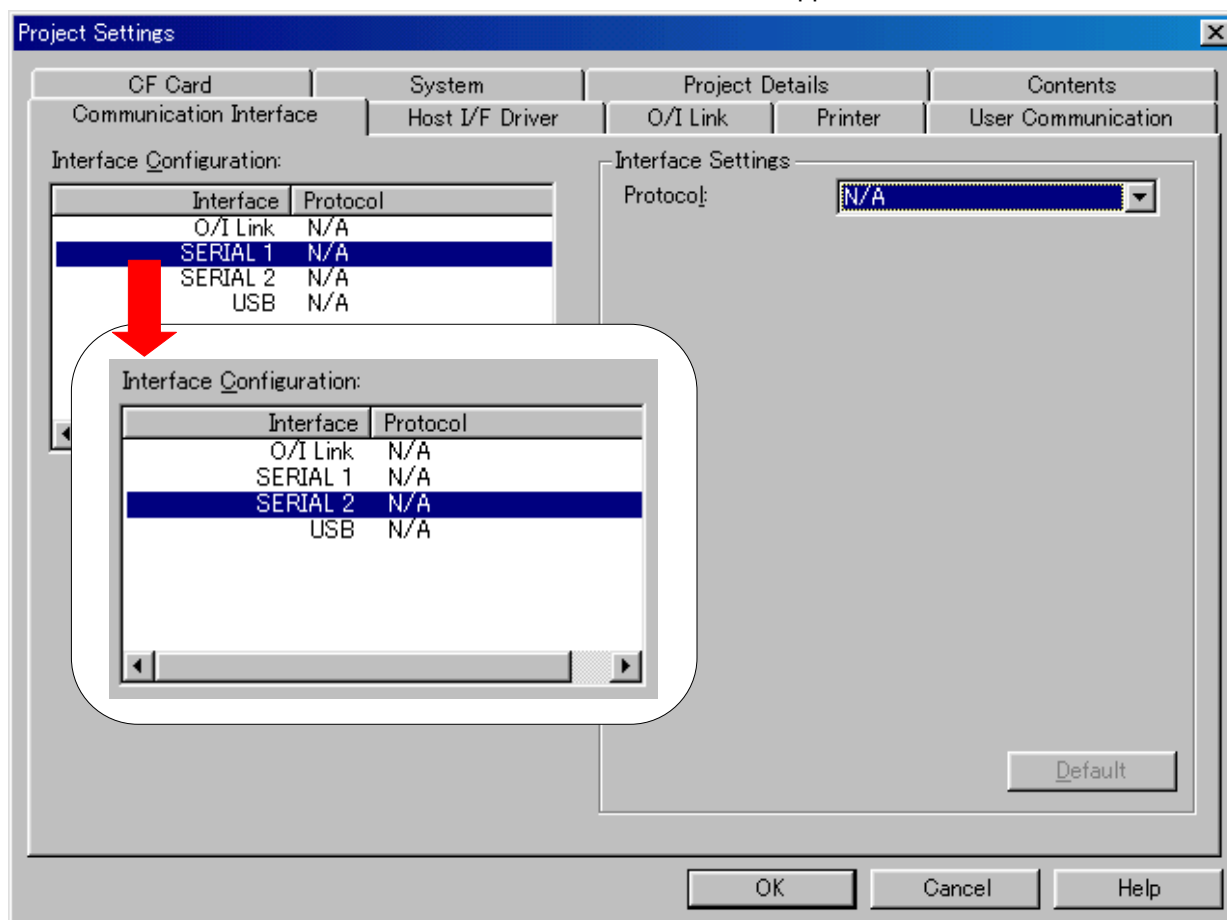
3. User Communication Settings

The [User Communication] function enables direct communications between the HG series operator interface and a barcode reader via an RS-232C cable. This application introduces the settings of an HG2F program, configured by WindO/I-NV2, for reading barcode data with a barcode reader GRYPHON D100 (Izumi Datalogic Co.).

3-1 Setting the Communication Interface settings

Select “Project Settings” from the “Setup” menu on the menu bar, and then select the “Communication Interface” tab.

When the following dialog box is displayed, select “SERIAL 2” in the “Interface configuration” field, because a barcode reader is to be connected to “SERIAL2” in this application.



[Supplementary note 1]

O/I Link..... An interface for the O/I link. The O/I unit should be attached to this interface.

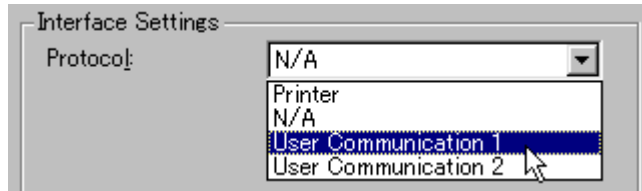
SERIAL 1... An interface for communicating mainly to host devices (PLC, PC, etc.).
(D-sub 25-pin connector)

SERIAL 2... An interface used mainly for downloading project data from a PC or for connecting a serial printer. (D-sub 25-pin connector)

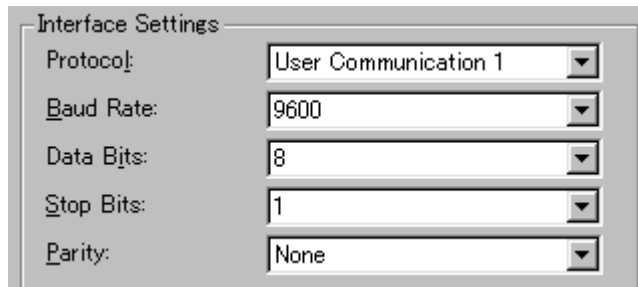
USB.....An interface that can be used with HG2F units with USB. Cannot be used for user communications.

3. User Communication Settings

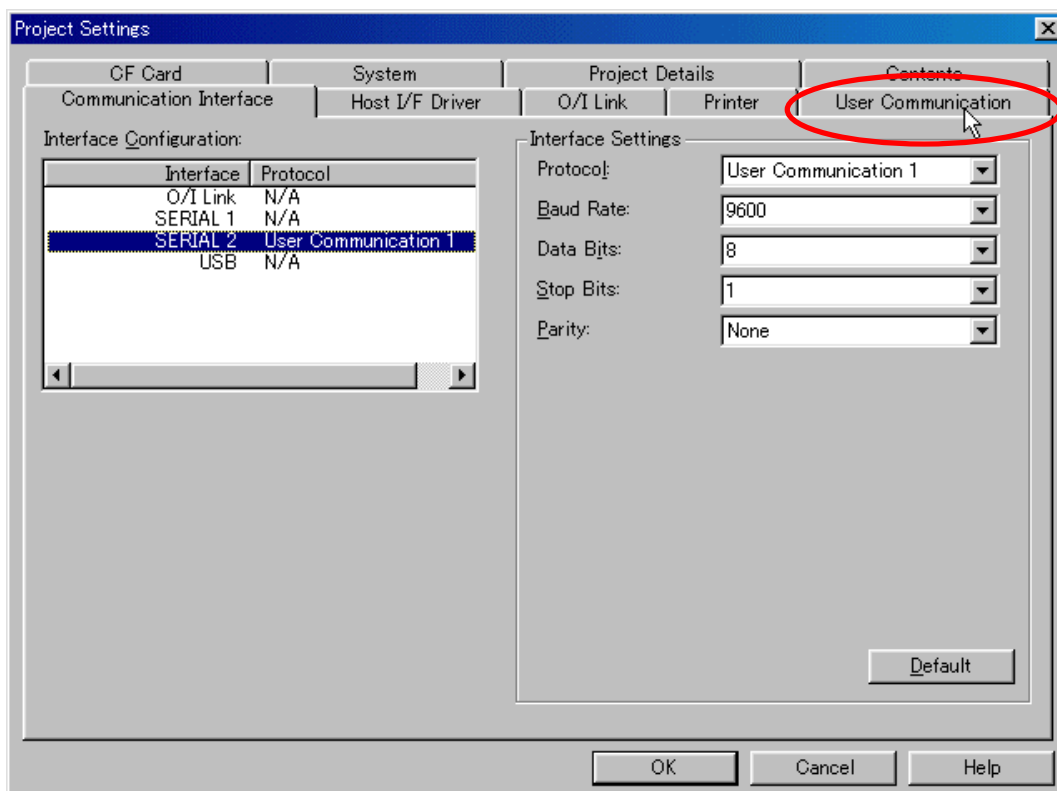
Select the protocol to be used with the interface you have selected in the previous step. Select “User Communication 1” for the Protocol options in the “Interface settings” field, because the User Communication function is used for connection to the barcode reader.



Selecting “User Communication 1” allows you to configure the detailed settings of the interface. The barcode reader used in this example can be connected to the default values of WindO/I-NV2. Check that the Baud Rate, Data Bits, Stop Bits, and Parity parameters are set as shown below.



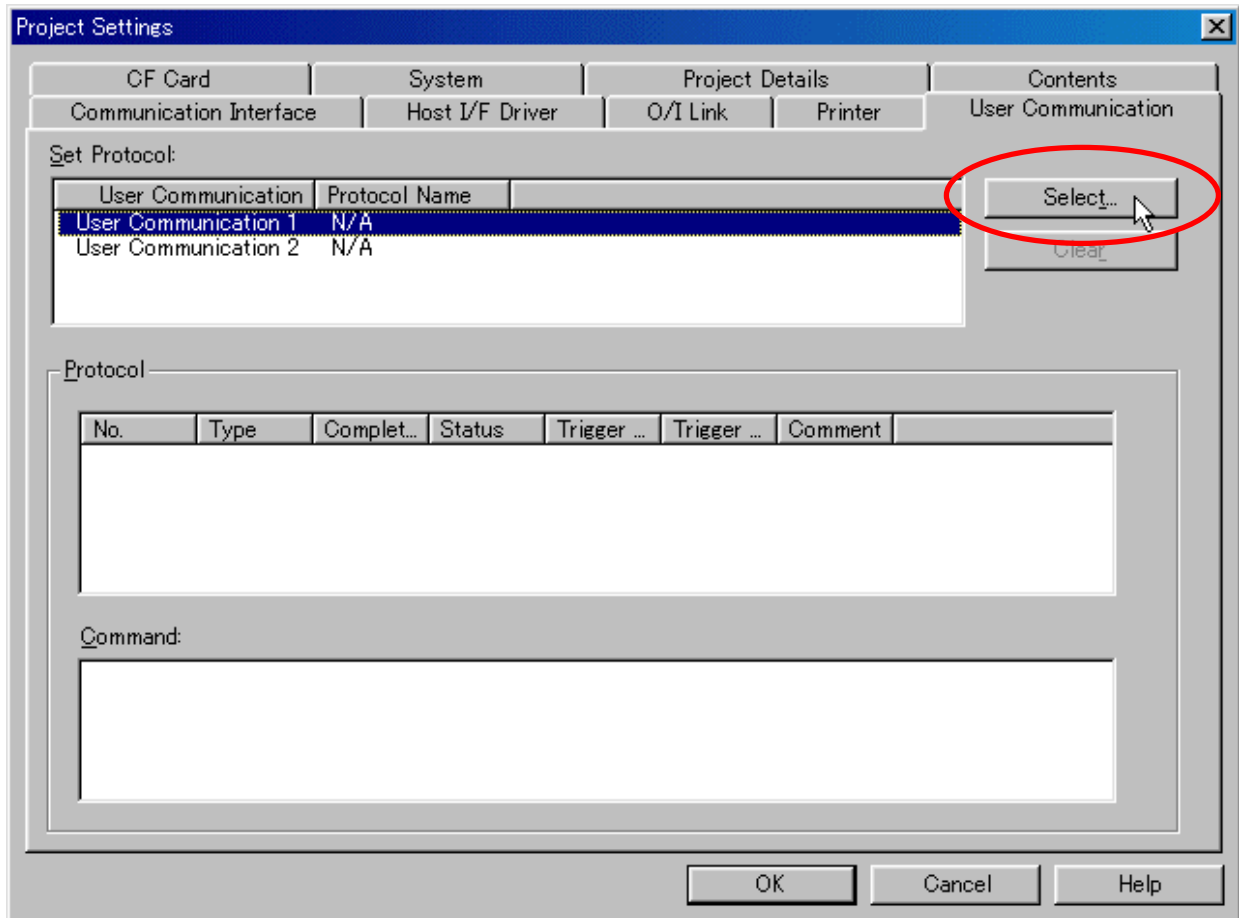
When the settings are complete, the following screen is displayed. Click the “User Communication” tab.



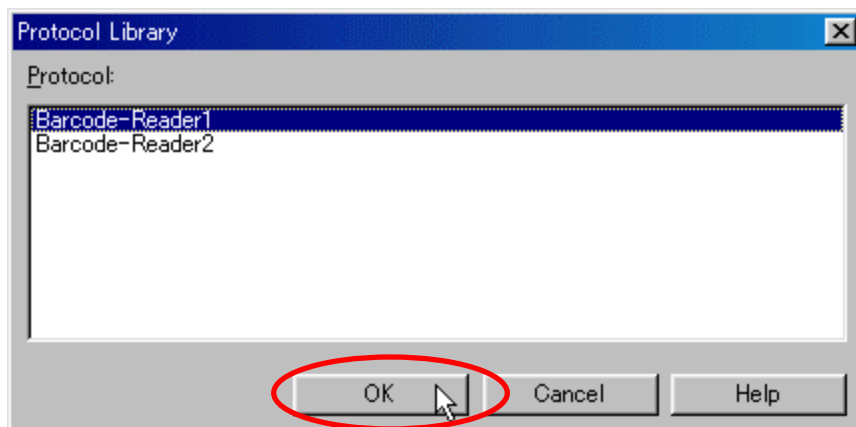
3. User Communication Settings

3-2 Setting the User Communication settings

Select "User Communication 1" and then click the [Select] button.



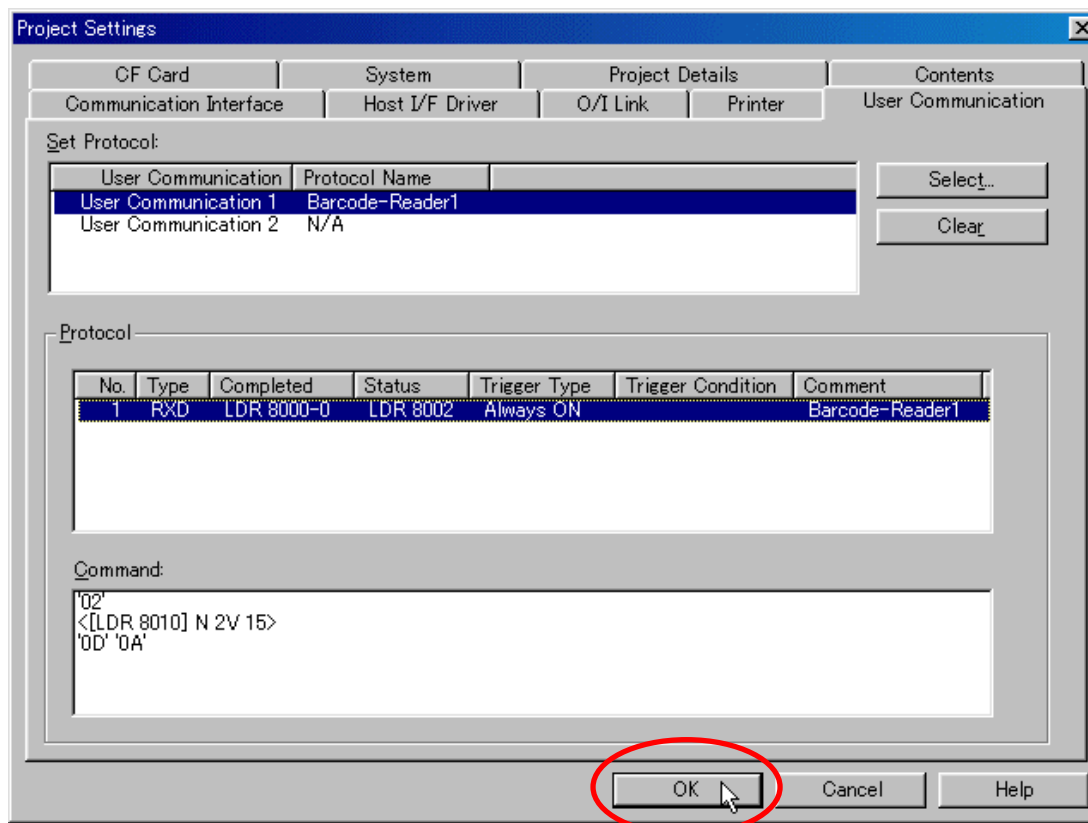
When the "Protocol Library" dialog box appears, select "Barcode-Reader 1" in the Protocol field, and then click the [OK] button.



3. User Communication Settings

Check that "Barcode-Reader 1" is entered in the "Protocol Name" column for the User Communication in the "Set Protocol" field. Selecting "No. 1" in the "Protocol" field in the dialog box will display the details of the command in the "Command" window on the bottom.

After checking the settings, click the [OK] button. The settings for reading the barcode data with the operator interface are now complete.



3-3 Protocol of barcode reader

The following are communication formats of a barcode reader that can be read with the HG series. Make sure to set up the barcode reader settings properly.

STX [Barcode data (ASCII, variable between 1 and 30 digits)] CR LF
 (02h) (0Ah) (0Dh)

Example: When the READ DATA of the barcode reader is 13 digits "1234567890123":

STX	1	2	3	4	5	6	7	8	9	0	1	2	3	CR	LF
02h	31h	32h	33h	34h	35h	36h	37h	38h	39h	30h	31h	32h	33h	0Ah	0Dh

Example: When the READ DATA of the barcode reader is 8 digits "12345678":

STX	1	2	3	4	5	6	7	8	CR	LF
02h	31h	32h	33h	34h	35h	36h	37h	38h	0Ah	0Dh

3. User Communication Settings

3-4 Device used with the barcode reader protocol

The data scanned by the barcode reader and the reception status are stored in the following devices. Data reception is performed constantly.

Barcode-Reader1

Device	Description
LDR 8000-0	Reception completion bit (Turns on when data reception is complete. <Automatically turned off.>)
LDR 8002	Reception status (Bit 0 to 14: reception data error under ON status; Bit 15: Timeout under ON status <1 second>)
LDR 8003	Number of received bytes
LDR 8010	Received data 1, Received data 2
LDR 8011	Received data 3, Received data 4
LDR 8012	Received data 5, Received data 6
LDR 8024	Received data 29, Received data 30

Barcode-Reader2

Device	Description
LDR 8050-0	Reception completion bit (Turns on when data reception is complete. <Automatically turned off.>)
LDR 8052	Reception status (Bit 0 to 14: reception data error under ON status; Bit 15: Timeout under ON status <1 second>)
LDR 8053	Number of received bytes
LDR 8060	Received data 1, Received data 2
LDR 8061	Received data 3, Received data 4
LDR 8062	Received data 5, Received data 6
LDR 8064	Received data 29, Received data 30

* The received data is stored in LDR in ASCII data format by filling from the higher byte.

* When data with odd-numbered digits is received, the data is stored in the higher byte and "0x00" is stored in the lower byte.

[Supplementary note 2]

2 bytes of the barcode data loaded with the communications is stored in each register in ASCII data format.

Example: When 8-digit barcode data "12345678" is loaded, the data is stored as shown below.

Storage location	LDR8010	LDR8011	LDR8012	LDR8013	LDR8014	to	LDR8024
Data	"3132h"	"3334h"	"3536h"	"3738h"	"0000h"	"0000h"	"0000h"

Example: When 13-digit barcode data "1234567890123" is loaded, the data is stored as shown below.

Storage location	LDR8010	LDR8011	LDR8012	LDR8013	LDR8014	LDR8015	LDR8016	LDR8017	to	LDR8024
Data	"3132h"	"3334h"	"3536h"	"3738h"	"3930h"	"3132h"	"3300h"	"0000h"	"0000h"	"0000h"

In this case, "0x00" is stored in the lower byte because the received data is with odd-numbered digits (13 digits).

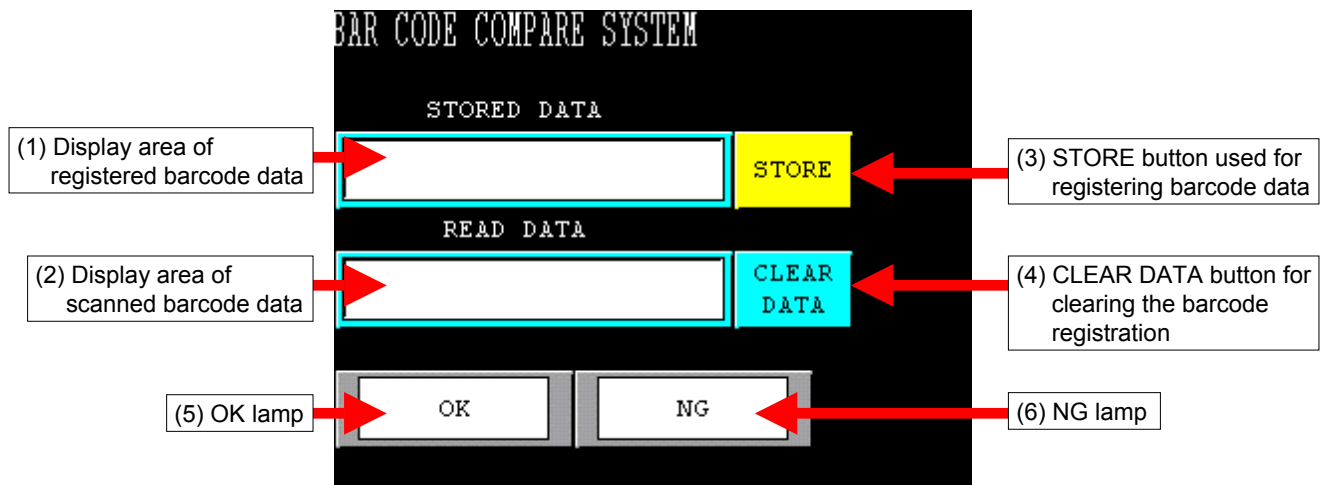
[Note] The devices marked with red dots: ●●●●

The HG series operator interface is capable of reading barcode data of up to 30 digits. When barcode data of less than 30 digits is read, "0000h" is written to all of the remaining devices.

For example, when 8-digit barcode data is read after reading an 13-digit barcode data, the 9th to 13th digits of the previous data are overwritten by "0000h". As a result, the Message Display displays the barcode data of 8 digits only.

4. Description of the Program

4-1 Device allocations of the program screen



(1) Display area of registered barcode data	Message Display: Displays (LKR100 to LKR109).
(2) Display area of scanned barcode data	Message Display: Displays (LDR8010 to LDR8019).
(3) STORE button used for registering barcode data	Word Button: Transfers the data (LDR8010 to LDR8019) to (LKR100 to LKR109).
(4) CLEAR DATA button for clearing the barcode registration	Word Button: Transfers the data "0" to each of (LKR100 to LKR109).
(5) OK lamp	Pilot Lamp: Illuminates when (LDR100= 127) is true.
(6) NG lamp	Pilot Lamp: Illuminates when (LDR100= 127) is NOT true.

4. Description of the Program

4-2 Displaying barcode data

“Message Display” is a screen that is available with the operator interface is used for displaying the barcode data. A Message Display is capable of displaying text data (ASCII or Shift-JIS code) in the operator interface and PLC or other devices.

On the Program screen in this example, READ DATA and STORED DATA can be displayed. The following section describes the setting procedure using WindO/I-NV2.

(1) Select the “Message Display” icon from the toolbar.

(2) Enter “\@” to display a variable message.

(3) Select “Ch1”.

No.	Device	Words
Ch1	LDR 8010	7
Ch2	Unregistered	1
Ch3	Unregistered	1
Ch4	Unregistered	1
Ch5	Unregistered	1

(4) Designate the Reference Device setting to “LDR 8010”.

(5) To display 13-digit data in this sample, designate “7”. (2-digit data is stored in 1 word.)

(6) When the settings of step (1) through (4) are complete, click the [Set] button. The specified display appears in the “Ch1” column of the Variable field.

(7) Click the [OK] button.

Set up the STORED DATA display using a similar procedure.

Reference Device: “LKR 100”
Words: “7”

* The descriptions for the “View” and “Format” settings are omitted in this text. For these descriptions, refer to the section “Parts” in Chapter 5 “Draw and Parts Objects” in the Instruction Manual.

4. Description of the Program

4-3 Creating the STORE button for the barcode data

A “Word Button” is available with the operator interface is used for creating the STORE button for the barcode data. In this example, use the Move function of the Word Button to copy the value of the READ DATA to STORED DATA.

Storage location	LDR8010	LDR8011	LDR8012	LDR8013	LDR8014	LDR8015	LDR8016
Data	"3132h"	"3334h"	"3536h"	"3738h"	"3930h"	"3132h"	"3300h"

↓
Transfers 7-word data.

Storage location	LKR 100	LKR 101	LKR 102	LKR 103	LKR 104	LKR 105	LKR 106

- (1) Select the Word Button from the toolbar. When the Properties of Word Button dialog box is displayed, click the [Advanced>] button to start the setting.

(2) To use the “Move” function in this sample, set the “Action Mode” to “Move”.

(3) Designate the source device from which the data is transferred. Specify “LDR 8010” here.

(4) To transfer 7 words, set “7” in the Transfer field.

(5) Assign the destination device to where the data is to be transferred. Specify “LKR 100” here.

(6) Click the [OK] button to complete the settings.

* The descriptions for the “View” and “Format” settings are omitted in this text. For these descriptions, refer to the section “Parts” in Chapter 5 “Draw and Parts Objects” in the Instruction Manual.

4. Description of the Program

4-4 Creating the CLEAR DATA button for the barcode data

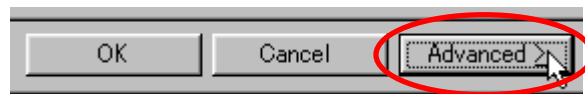
A “Word Button” is available with the operator interface and is used for creating the CLEAR DATA button for the barcode data. In this example, use the Set function of the Word Button to copy “0” to STORED DATA.

Storage location	LDR8010	LDR8011	LDR8012	LDR8013	LDR8014	LDR8015	LDR8016
Data	0	0	0	0	0	0	0

↓ Transfers 7-word data.

Storage location	LKR 100	LKR 101	LKR 102	LKR 103	LKR 104	LKR 105	LKR 106

- (1) Select the Word Button from the toolbar. When the Properties of Word Button dialog box is displayed, click the [Advanced>] button to start the setting.



Properties of Word Button

General | View | Registration Text | Trigger Condition of Button | Options | Comment

Part Name: Clear Data

Action Mode: Set (2) To use the “Set” function in this example, set the “Action Mode” to “Set”.

Data Type: Bin16(+)

Source 1: [Empty] Stored Data

Source Data

Value Device

0 (3) Designate the Value of the Source Data. Specify “0” here.

Use Reference Device

Transfer: 7 (4) Designate the destination device to where the data is to be transferred. Specify “LKR 100” here.

Destination Device

LKR 100 (4) Designate the destination device to where the data is to be transferred. Specify “LKR 100” here.

Use Reference Device

Write: 7 (5) To transfer 7 words, set “7” in the Transfer field.

View Switching Method

Button Device No Image

OK (6) Click the [OK] button to complete the settings. Cancel < Basic Help Preview

* The descriptions for the “View” and “Format” settings are omitted in this text. For these descriptions, refer to the section “Parts” in Chapter 5 “Draw and Parts Objects” in the Instruction Manual.

4. Description of the Program

4-5 Judging the match or mismatch of barcode data

The comparison between the READ DATA and STORED DATA is performed using the following procedures.

- (1) The READ DATA (LDR8010 to 8016) is compared to the STORED DATA (LDR100 to 106) successively word by word. When the data matches, the corresponding LDR100-0 to LDR100-6 is turned on. (Refer to the tables below.)

Storage location	LDR8010	LDR8011	LDR8012	LDR8013	LDR8014	LDR8015	LDR8016
	Compare	Compare	Compare	Compare	Compare	Compare	Compare

Storage location	LKR 100	LKR 101	LKR 102	LKR 103	LKR 104	LKR 105	LKR 106
------------------	---------	---------	---------	---------	---------	---------	---------

When data matches

Comparison result	LDR100-0	LDR100-1	LDR100-2	LDR100-3	LDR100-4	LDR100-5	LDR100-6
Value of LDR100	1	2	4	8	16	32	64

- (2) When the READ DATA matches the STORED DATA completely, all of the LDR100-0 to LDR100-6 are turned on, and then the value of LDR100 is added.
Therefore, the system judges the data as being “matched” when the value of LDR100 is “127”, and as “mismatched” when the value of LDR100 is other than “127”.

Comparison result	LDR100-0	LDR100-1	LDR100-2	LDR100-3	LDR100-4	LDR100-5	LDR100-6
Value of LDR100	1	2	4	8	16	32	64

[OK] case...When all data items match, the LDR always becomes “127”.

$$\text{LDR100} = 1 + 2 + 4 + 8 + 16 + 32 + 64 = 127$$

Comparison result	LDR100-0	LDR100-1	LDR100-2	LDR100-3	LDR100-4	LDR100-5	LDR100-6
Value of LDR100	1	0	4	8	16	32	64

[NG] case...When the 4th digit does not match, LDR100 will not be “127”.

$$\text{LDR100} = 1 + 0 + 4 + 8 + 16 + 32 + 64 = 125$$

4-6 Barcode comparison settings

The READ DATA (LDR8010) is compared to the STORED DATA (LKR100). Using a part “Bit Write Command” for the comparison.

- (1) Click the “Bit Write Command” from the toolbar to open the dialog box.



4. Description of the Program

(2) When the “Bit Write Command” dialog box is displayed, configure the Trigger Condition settings first.

(3) Select “While satisfying the condition” in the Trigger Type field.

(4) Click the [...] button on the right of the Condition field to open the “Trigger Condition Settings” dialog box and configure the settings as shown below so that the bit write command is executed when “LKR100” matches “LDR8010”. After configuring the settings, click the [OK] button. The specified mathematical formula is stored in the Condition field.

(5) Select the “General” tab and select the Destination Device. Set the parameter to “LDR100-0” here.

(6) Click the [OK] button to complete the settings.

(7) Compare each of LDR8011 to LDR8016 with each of LKR101 to LKR106 using the above procedure, and specify the respective comparison results as LDR100-1 to 6.

4. Description of the Program

4-7 Judging the barcode data matching

When the READ DATA matches the STORED DATA completely, LDR100-0 to LDR100-6 are turned on and the value of LDR100 becomes “127”. Configure the setting so that the [OK] lamp is turned on under this condition.

(1) Click the “Pilot Lamp” icon from the toolbar to open the dialog box.

(2) When the “Properties of Pilot Lamp” dialog box is displayed, configure the Trigger Condition settings first.

(3) Select “While satisfying the condition” in the Trigger Type field.

(4) Designate “127==LDR100” to the Condition field. As described on the previous page, click the [...] button on the right of the Condition field to open the “Trigger Condition Settings” dialog box and configure the settings as shown below.

(5) Set up the [NG] lamp using a similar procedure. Make sure that the Condition in the Trigger Condition of the [NG] lamp is “127!=LDR 100”. (!= indicates “mismatch”).

* The descriptions for the “View” and “Format” settings are omitted in this text. For these descriptions, refer to the section “Parts” in Chapter 5 “Draw and Parts Objects” in the Instruction Manual.

5. Advanced Program for Barcode Comparison

This application program compares the scanned barcode with 50 types of pre-registered barcodes, (up to 20 digits, alphanumeric characters can be used), and then displays “OK” when the data matches or “NG” when the data does not match. After configuring the barcode protocol using User Communications, import the Advanced Barcode Comparison Application Program to your screen with the “Import Screens (*)” function. The screen can be used easily for barcode comparison without creating software for registering barcodes and for comparison operation.

The following section describes the details of the operating procedures.

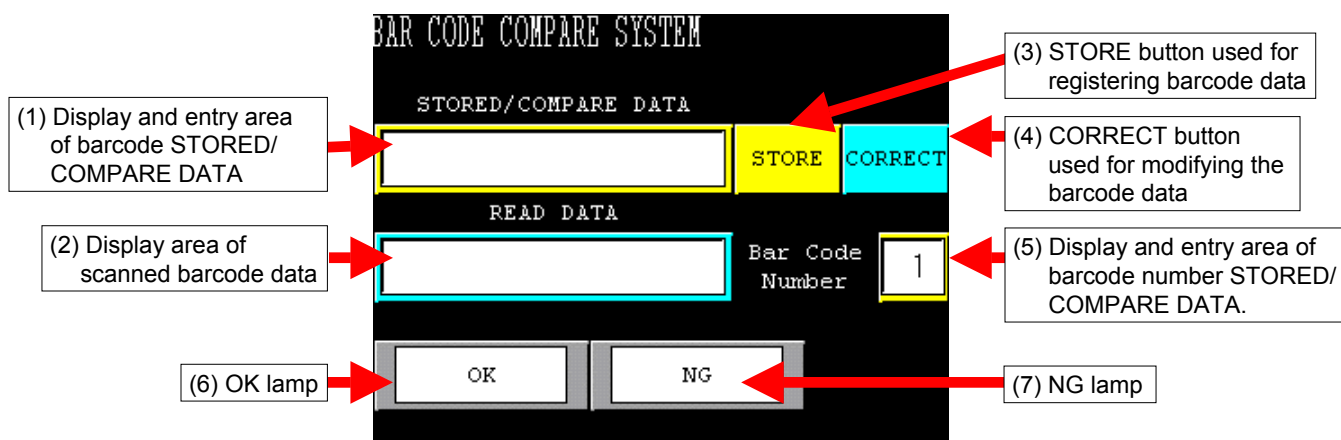
* Procedure for using the Import Screens function: Refer to the section “Importing Screens” in Chapter 4 Screen Management of the WindO/I-NV2 Online Manual (Select “Help” from the menu bar).

5-1 Program screens

-Base Screen 1: Program Screen-

When the power is turned on, the following Program screen is displayed on the HG2F display.

Before activating the HG2F, make sure to connect the HG2F unit to the barcode reader by referring to the illustration in “1-2 System configurations”.

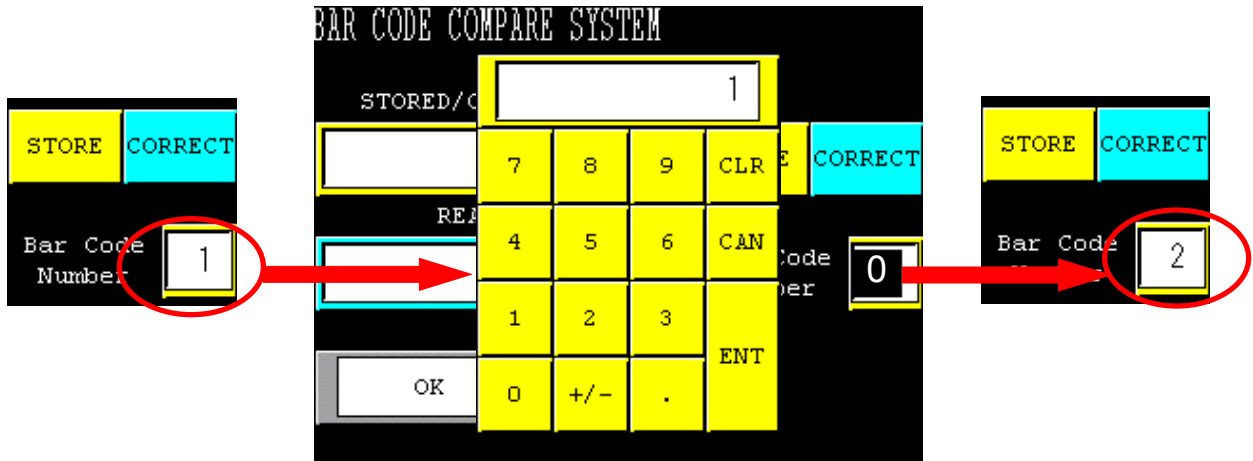


- (1) Display and entry area of barcode STORED/ COMPARE DATA
... The registered barcode data can be displayed here. Pressing the display will display the character keys, allowing you to modify the registered barcode data.
- (2) Display area of scanned barcode data
... Displays the scanned barcode data.
- (3) STORE button used for registering barcode data
... Pressing the STORE button allows you to register the scanned barcode data to the display area of the scanned barcode data.
- (4) CORRECT button used for modifying the barcode data
... Pressing the CORRECT button allows you to modify the data in the display area of the verification barcode and then register the data again.
- (5) Display and entry area of barcode number STORED/ COMPARE DATA
... The barcode number to be registered and verified is displayed in this area. Pressing the numeral will display a numeric keypad, allowing you to enter the barcode number to be registered or verified.
- (6) OK lamp
... The OK lamp illuminates when the stored barcode data matches the scanned barcode data.
- (6) NG lamp
... The NG lamp illuminates when the stored barcode data does not match the scanned barcode data.

5. Advanced Program for Barcode Comparison

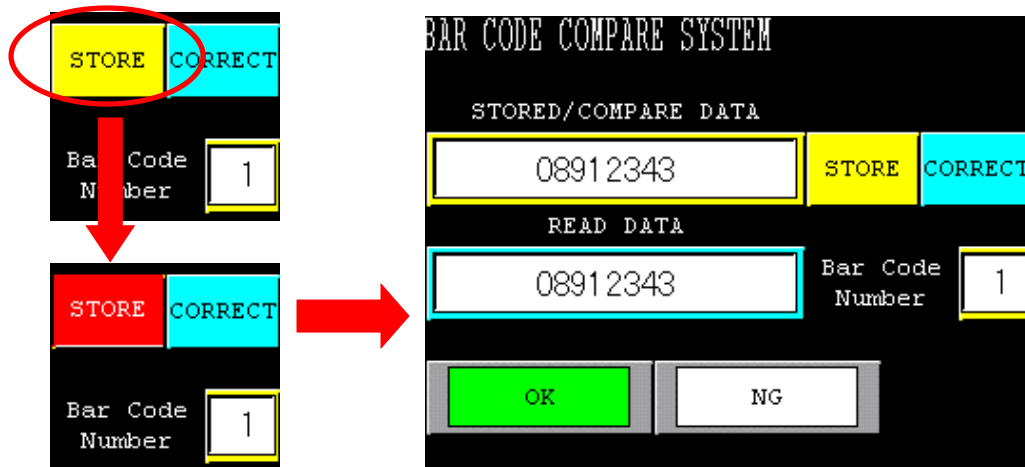
5-2 Entering the barcode number for registration and verification

Before registering a barcode, enter the "Bar Code Number" you want to register. Press the display area of the Bar Code Number on the screen. When a numeric keypad is displayed, enter the number with which you want to register (verify) the barcode data.



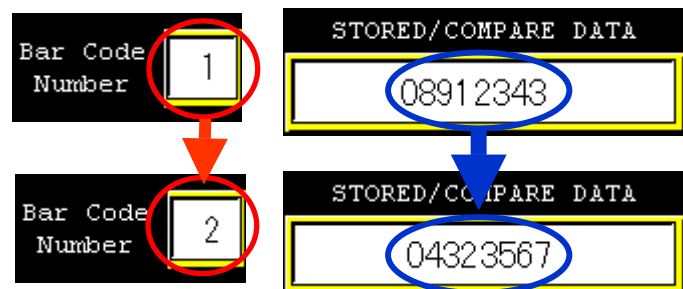
5-3 Registering the scanned barcode data

When actually scanning a barcode, press the [STORE] button on the screen. While the button is inverted to red, press the button on the barcode reader to scan the barcode. When the scan is complete, the scanned barcode data is displayed, the display of the [STORE] button returns to its original state, and the [OK] lamp illuminates.



5-4 Calling the barcode for registration and verification

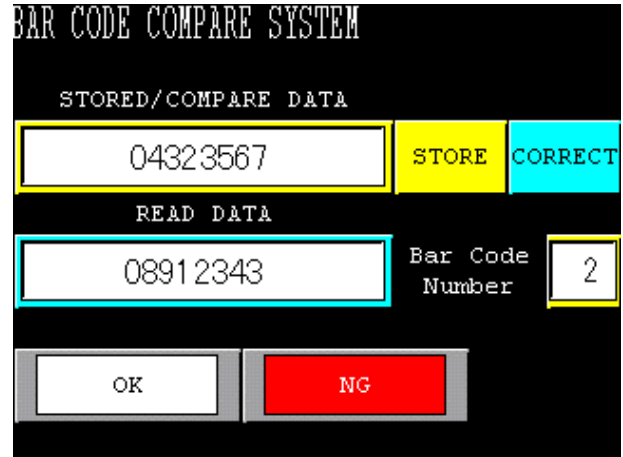
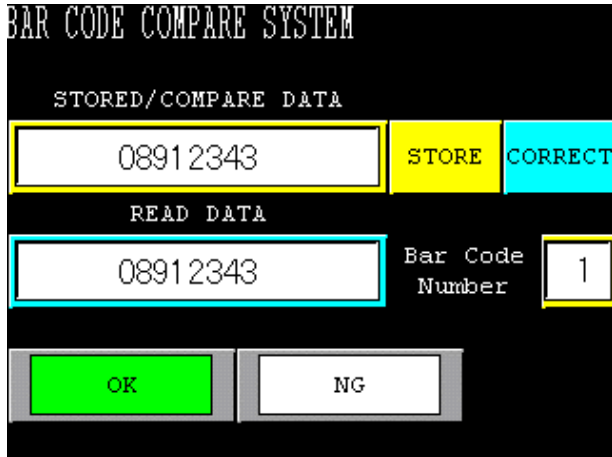
After registering barcode data, use the numeric keypad described in step 5-2 for calling the registered barcode data. Change the number with the numeric keypad to call up corresponding registered barcode data as the barcode used for verification.



5. Advanced Program for Barcode Comparison

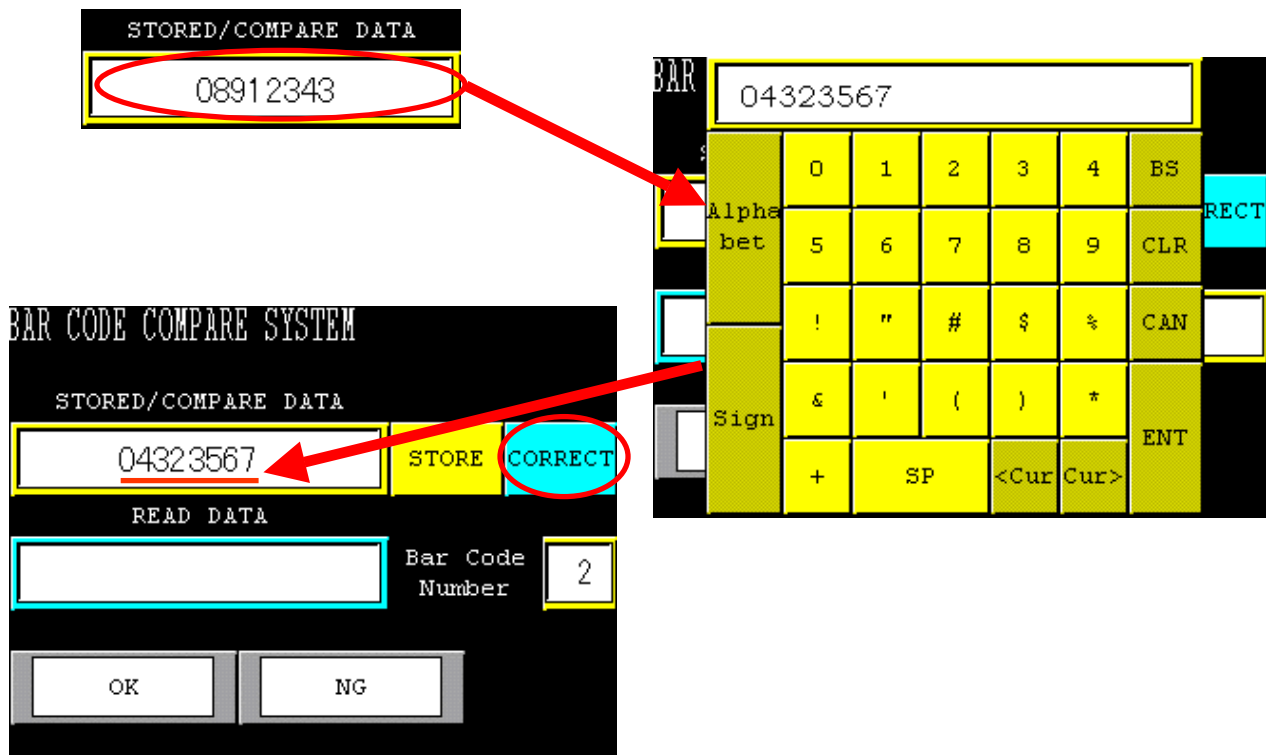
5-5 Displaying “OK” or “NG” upon reading barcodes

The [OK] lamp illuminates when the READ DATA matches the barcode data designated for verification. When the data does not match, the [NG] lamp illuminates.



5-6 Modifying the barcode data for verification

Pressing the display area of STORED/COMPARE Data will display character keys. The registered barcode data can be modified using the character keys. Pressing the [CORRECT] button after modifying the data will register the barcode data again to the registration area of the “Bar Code Number” display.



5. Advanced Program for Barcode Comparison

5-7 Device setting in the example program

In this example program, various data items are allocated to the following devices.

The “LM”, “LDR”, and “LKR” in the table below are the internal devices of the operator interface.

(LM: Internal relay of operator interface, LDR: Register of operator interface, LKR: Keep register of operator interface)

Device	Description
LM 2000	Turns on when a barcode is scanned. The on status is retained until the next scan of a barcode.
LM 2001	Turns on when the scanned barcode matches the called barcode for verification. The on status is retained until the next scan of a barcode.
LM 2002	Turns on when the scanned barcode does not match the called barcode for verification. The on status is retained until the next scan of a barcode.
LM 2010	When memorizing a barcode, scan a barcode after turning on this internal relay of the operator interface to register the barcode data to the area specified with the Bar Code Number.
LM 2011	Turning on this relay after modifying a registered barcode using the character keys will register the barcode data again.
LDR 8000-0	Turns on when the readout of the data from the barcode reader is complete.
LDR 8002	The communication status with the barcode reader is stored in this register.
LDR 8003	The number of bytes of the data received by the barcode reader is stored in this register.
LDR 8010	The data of the barcode loaded via communications is stored in ASCII data with the format of 2 bytes in 1 register. When the barcode data to be verified is 8 digits “12345678”, the data is stored as follows. LDR8010 LDR8011 LDR8012 LDR8013 LDR8014 LDR8024 "3132h" "3334h" "3536h" "3738h" "0000h" to "0000h"
LDR 8024	Up to 15 words can be scanned. Barcode data of up to 30 digits can be scanned.
LDR 7900	The data of a barcode to be verified is stored in ASCII data with the format of 2 bytes in 1 register. When the barcode data to be verified is 8 digits “12345678”, the data is stored as follows. LDR 7900 LDR 7901 LDR 7902 LDR 7903 "3132h" "3334h" "3536h" "3738h"
LDR 7909	Up to 10 words can be memorized. Barcode data of up to 20 digits can be memorized.
LKR 500	Stores the data of the barcode to be registered. Refer to the list on the next page for the registration No. and barcode data to be registered...
LKR 999	
LKR 1000	Stores the No. of the barcode to be registered or verified. 50 numbers from No. 0 to 49 can be specified.

5. Advanced Program for Barcode Comparison

5-8 Storage location of the registration number and barcode data

The following comparative table lists the storage locations of the barcode number and data in the operator interface when registering and verifying the data.

LKR is the storage location of data for data-retention within the operator interface, and it can retain data for approximately one month when the internal battery of the operator interface is on a full charge.

No	Device		No	Device		No	Device	
0	LKR500	to LKR509	20	LKR700	to LKR709	40	LKR900	to LKR909
1	LKR510	to LKR519	21	LKR710	to LKR719	41	LKR910	to LKR919
2	LKR520	to LKR529	22	LKR720	to LKR729	42	LKR920	to LKR929
3	LKR530	to LKR539	23	LKR730	to LKR739	43	LKR930	to LKR939
4	LKR540	to LKR549	24	LKR740	to LKR749	44	LKR940	to LKR949
5	LKR550	to LKR559	25	LKR750	to LKR759	45	LKR950	to LKR959
6	LKR560	to LKR569	26	LKR760	to LKR769	46	LKR960	to LKR969
7	LKR570	to LKR579	27	LKR770	to LKR779	47	LKR970	to LKR979
8	LKR580	to LKR589	28	LKR780	to LKR789	48	LKR980	to LKR989
9	LKR590	to LKR599	29	LKR790	to LKR799	49	LKR990	to LKR999
10	LKR600	to LKR609	30	LKR800	to LKR809			
11	LKR610	to LKR619	31	LKR810	to LKR819			
12	LKR620	to LKR629	32	LKR820	to LKR829			
13	LKR630	to LKR639	33	LKR830	to LKR839			
14	LKR640	to LKR649	34	LKR840	to LKR849			
15	LKR650	to LKR659	35	LKR850	to LKR859			
16	LKR660	to LKR669	36	LKR860	to LKR869			
17	LKR670	to LKR679	37	LKR870	to LKR879			
18	LKR680	to LKR689	38	LKR880	to LKR889			
19	LKR690	to LKR699	39	LKR890	to LKR899			

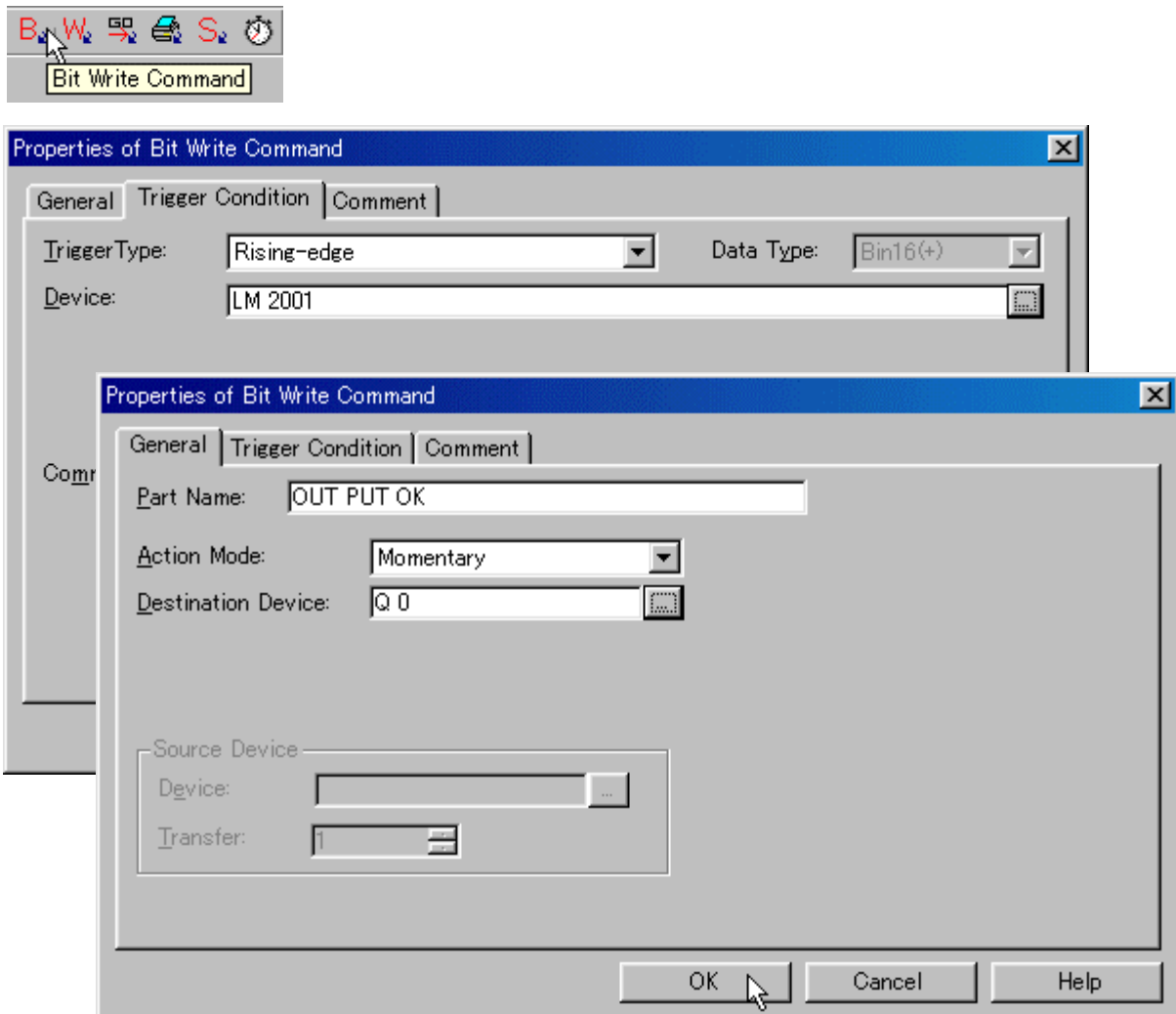
5. Advanced Program for Barcode Comparison

5-9 Using the results of barcode detections

This section describes how to develop the Advanced Barcode Comparison Application Program to actual comparative outputs of your PLC. (Make sure that the barcode reader and HG series are connected as described in “1 System Configurations”.)

- (1) Configure the User Communication settings up to the condition described in “3. User Communication settings” (page 7 to 10).
- (2) When HG is connected to a PLC, import “Screen 1” of this Advanced Barcode Comparison Application Program to the project being created on the HG unit.
- (3) Add the following programs in order to develop to the output devices of the PLC.

Example: Develop to the PLC output with “Bit Write Command” when the result is “OK”.
ON/OFF status of “LM2001” → Turns ON “Q0”.



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