# RT50 Frame Shop ASM Line Production instruction system Screen Specifications

31 Aug. 2010

# IC ENGINEERING CORPORATION

Approval	check	Making
		Morita

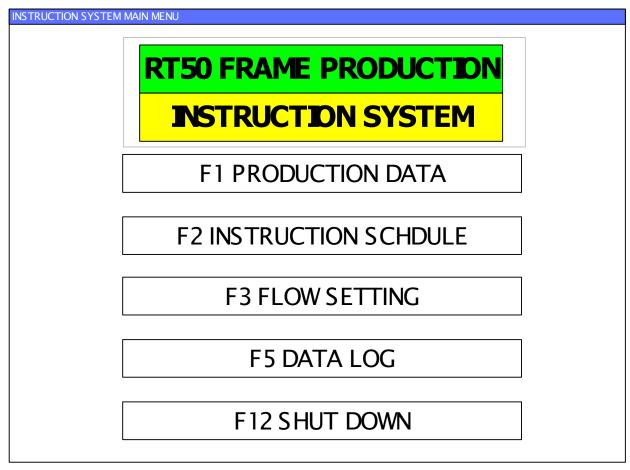
# Recode of Revisions

Version	Date of Revision	Details	Administrator	Approved
1	07/Sep./2010	02/Sep./2010 Review by screen review meeting with IMCT	Morita	

The main menu

Click each of the buttons to move to individual screens.

Screen size is set to 1024 x 768.



<Figure  $1 \cdot 1 \cdot 1 >$ 

① F1 PRODUCTION DATA

Displays and allows editing of production data.

② F2 INSTRUCTION SCHDULE

Displays and allows editing of model instruction schedule.

③ F3 FLOW SETTING

The flow of the production order of the module line is decided.

4 F5 DATA LOG

Displays log data.

Allows operator to view operation log and data communication log.

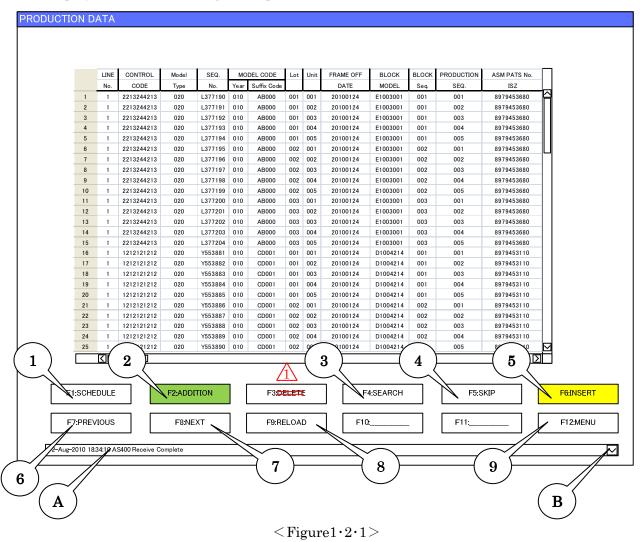
5 F12 SHUT DOWN

Shuts down the program.

Can also be used to shut down power to the computer terminal.

# 1.1 F1: PRODUCTION DATA

Displays and allows editing of the production data schedule.



All the scheduled auto instruction data is displayed.

Data is displayed in order of Production Date + SEQ No..

It is possible to display all data contained. Use the horizontal scroll bar to navigate around the screen.

- · Line. No.
- · Comntrol Code
- · Model type
- · Seq. No.
- · Model Code : Year + Suffix Code
- Lot No.
- · Unit No.

- · Frame Off Date
- Block Model
- · Block Seq.
- · Production Seq.
- · ASM Parts No. ISZ
- · Spare

Note: PRODUCTION TIME data is stored in the database.

# A: Message display window

Displays latest error message.

## B: Error message history display

Click the combo box to display a log of the last 30 error messages.

Contains a combination of information from the data communication log and log data from the host computer (AS400).

The message display function is the same for all screens.



<Figure  $1 \cdot 2 \cdot 2 >$ 

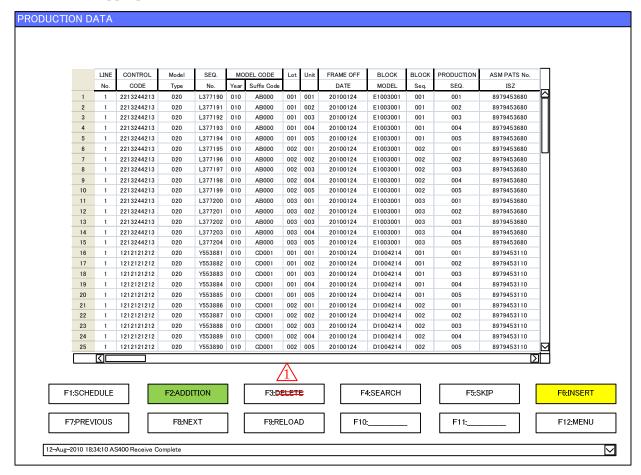
#### ☐ F1 SCHEDULE

The scheduled production instruction data is displayed.

## □ F2 ADDITION

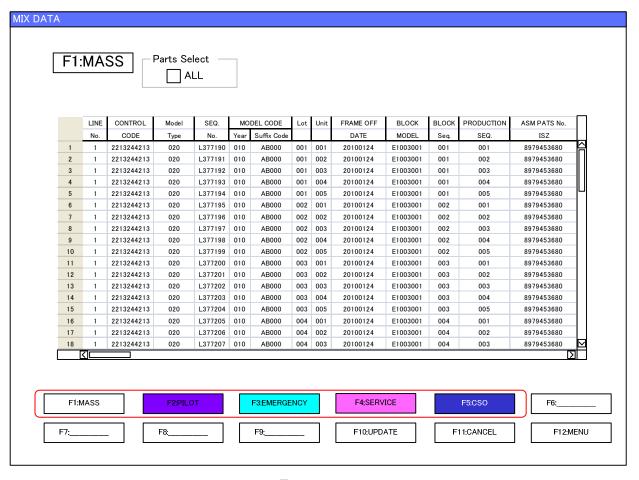
Used to add schedules.

Select the appropriate line with the cursor and click the [F2: ADDITION] button.



<Figure  $1 \cdot 2 \cdot 3 >$ 

Clicking [F2: ADDITION] will bring up the data editing screen shown in <Figure 1.2.4>.



<Figure  $1 \cdot 2 \cdot 4 >$ 

One of the production instruction data that has divided into 5 pieces is selected.

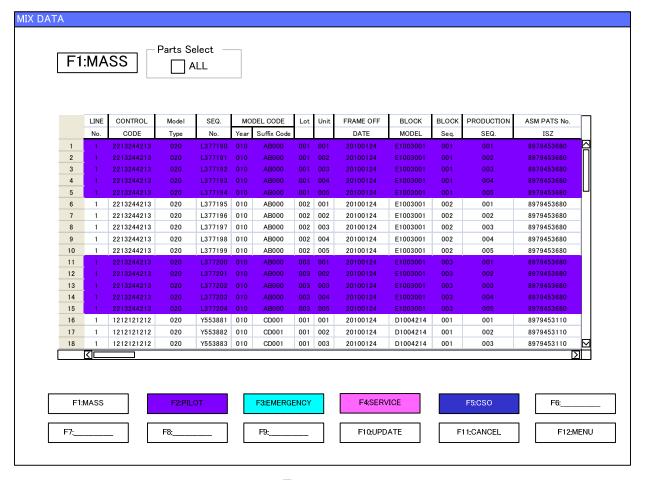
• F1: MASS

• F2: PILOT

• F3: EMERGENCY

• F4 : SERVICE

• F5 : CSO 1



<Figure  $1 \cdot 2 \cdot 5 >$ 

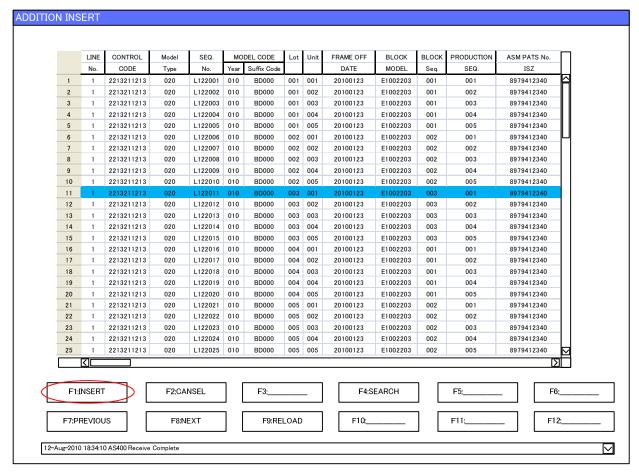
Next, the data produced with the selected production instruction data is selected.

"ALL" is clicked when producing by the order of the received production instruction data.



Clicking the [UPDATE] button will display the data list shown in < Figure 1 · 2 · 6 > .

Use the cursor to select where you want to insert the data and click the [F1: INSERT] button to insert the data in that position.

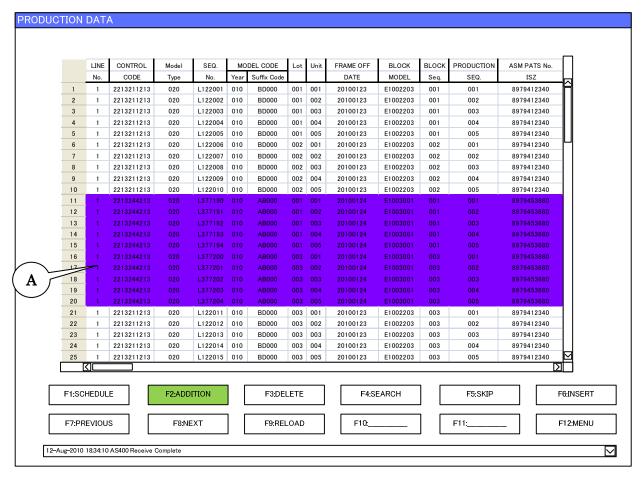


< Figure  $1 \cdot 2 \cdot 6 >$ 

Once you have completed the INSERT process, the screen will return to the PRODUCTION DATA screen shown in < Figure  $1 \cdot 2 \cdot 1 >$ .

Data added using the ADDITION feature will be displayed in the PRODUCTION DATA screen in a different color.

<Figure1・2・7>において背景色が変更になっている部分が ADDTION 操作によって追加された部分になります。



<Figure  $1 \cdot 2 \cdot 7 >$ 

A: The color shown will depend on whether you selected ALL, CAB or PUBX in the ADDITION screen.

•	F1: MASS	
•	F2: PILOT	
•	F3: EMERGENCY	
•	F4: SERVICE	
	F5: CSO	

Caution: You cannot use the INSERT feature to insert data into an area with existing instructions.

#### □ F4 SEARCH

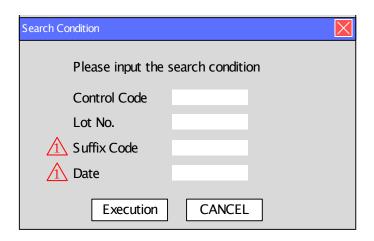
Used to search for specific data. (Enter the search conditions and click the Execution button) <Figure  $1\cdot 2\cdot 8>$ 

The search key will be the MODEL CODE and the search results will be displayed in the data list shown in <Figure1 $\cdot$ 2 $\cdot$ 1>. Use the cursor to navigate around the search results.

Hold down the [EXECUTION] button to execute the search.

A warning message will be displayed if no data matches the search conditions.

Hold down the [CANCEL] button to return to the screen shown in  $\leq$  Figure  $1 \cdot 2 \cdot 1 \geq$ .



<Figure  $1 \cdot 2 \cdot 8 >$ 

If there is more than one, place your cursor on the first one.

#### F5 SKIP

Used to skip the production schedule.

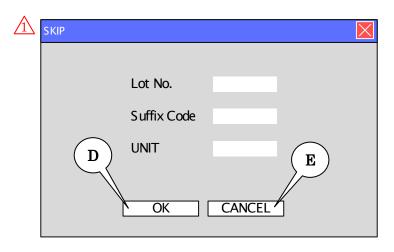
It is used to suspend production and extract items from the schedule.

Select items from the PRODUCTION DATA screen using the cursor and click the [F5: SKIP] button.

You can choose to skip items by lot or select a specific line from the list.

When choosing items by lot, the block you have selected will be displayed.

# It is possible to skip by the lot unit, the unit of Suffix Code, and the unit of UNIT.



<Figure  $1 \cdot 2 \cdot 9 >$ 

# $\triangle$ When D is pushed, the confirmation screen < Figure 1·2·11> of data is displayed.

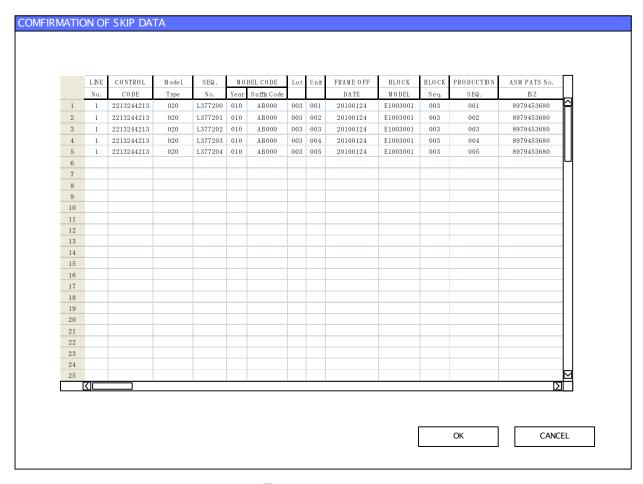
Once this process is complete, the data you have selected to be skipped will be moved to the holding area and will be deleted from the PRODUCTION DATA list.

Only data for which work has not yet begun can be extracted.

It is necessary to check all lines, and if instructions have been issued to even one line it will not be possible to execute a SKIP.

All changes will be immediately reflected in the production schedule.

 $\uparrow \uparrow$  It returns to < Figure 1·2·1> when E is pushed.

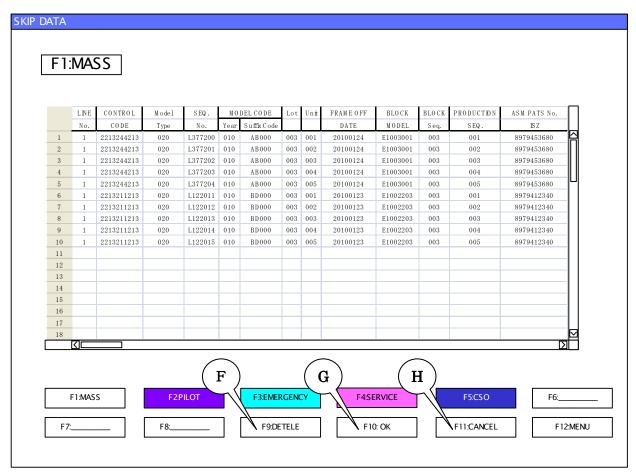


<Figure  $1 \cdot 2 \cdot 11 >$ 

## □ F6 INSERT

Used to insert a schedule from currently suspended list of schedules into the Production Data list.

As in the SKIP process, operators must check all lines to confirm that no work is in progress before inserting a schedule into the list.



<Figure  $1 \cdot 2 \cdot 12 >$ 

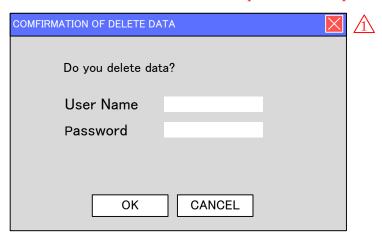
### F: DELETE

Used to delete a schedule from the SKIP holding area.

If a Lot No. /Part has been selected, the entire Lot will be deleted.

⚠When "F:DELETE" is pushed, the confirmation screen < Figure 1·2·12> is displayed.

After "User Name" and "Password" are input and OK is pushed, data is deleted.



<図 1・2・12>

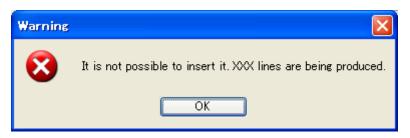
#### G: OK

Used to return data from the SKIP holding area back to the PRODUCTION DATA LIST shown in <Figure 1·2·1>. All data selected using the cursor will be returned to the list. If a Lot No. has been selected, the entire Lot will be returned to the list.

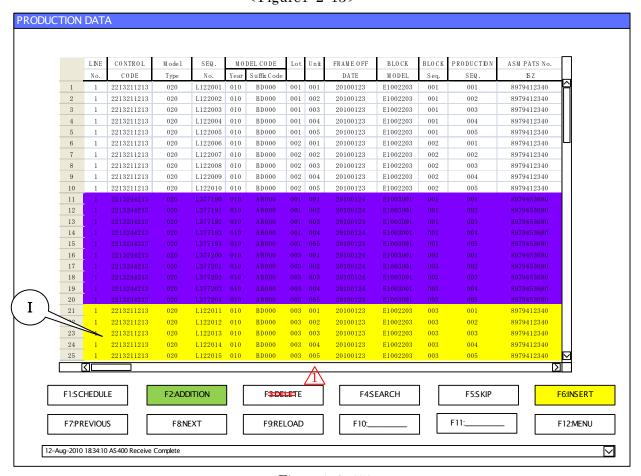
#### H: CANCEL

Used to cancel the request and return to the PRODUCTION DATA list shown in  $\leq$  Figure  $1 \cdot 2 \cdot 1 \geq$ .

As in the SKIP process, data may be inserted by selecting Lot No. Part or Selected Parts. Once this process is complete, the data you have selected will be deleted from the holding area. A warning message will be displayed when work is in progress. Changes will be immediately reflected on the shared SKIP/INSERT screen.



< Figure 1 · 2 · 13 >



<Figure1 $\cdot$ 2 $\cdot$ 15>

I: Schedules inserted from the holding area using the INSERT feature will be displayed in yellow.

Caution: When executing SKIP after ADDITION etc, it will be color coded in accordance with the last executed process.

## □ F7 PREVIOUS

Used to display previous production data. (will scroll one page back to display the previous page)

## □ F8 NEXT

Used to display the next page of production data. (will scroll one page forward to display the next page)

## □ F9 RELOAD

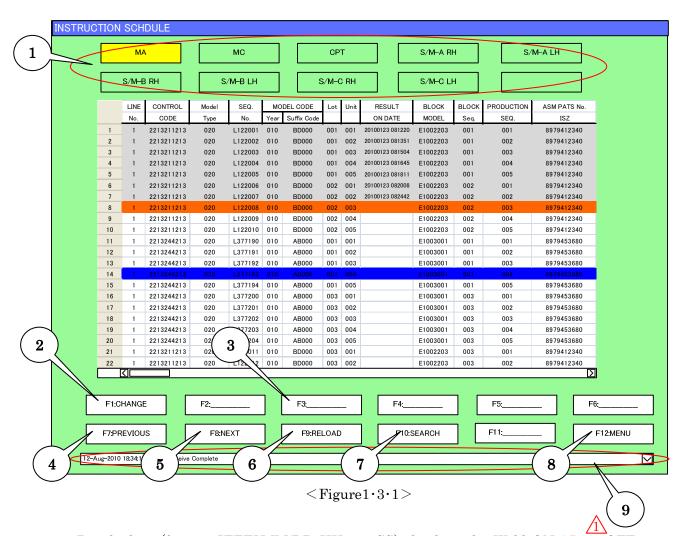
Used to rewrite data. (update to the latest data)

## □ F12 MENU

It returns to the main menu screen.

#### 1.2 F2: INSTRUCTION SCHDULE

The schedule of the production instruction is displayed, and edited by the unit of the module line.



Result data (format: YYYY/MM/DD HH:mm:SS) displays the Weld ON / Line OFF time (registration).

Display directed data + ON / OFF Time.

# Data is color coded as follows

Data (line) next in the schedule for production is colored in orange

The current position of the cursor is colored in blue

Data for which instructions have already been issued in colored in grey

The cursor can be moved by using the arrow keys.

The screen will display all the data in the database. The initial display will present data next in the schedule for production towards the center of the screen.

☐ Module line selection

Used to select individual lines. The selected line will be displayed in yellow.

#### F1 CHANGE

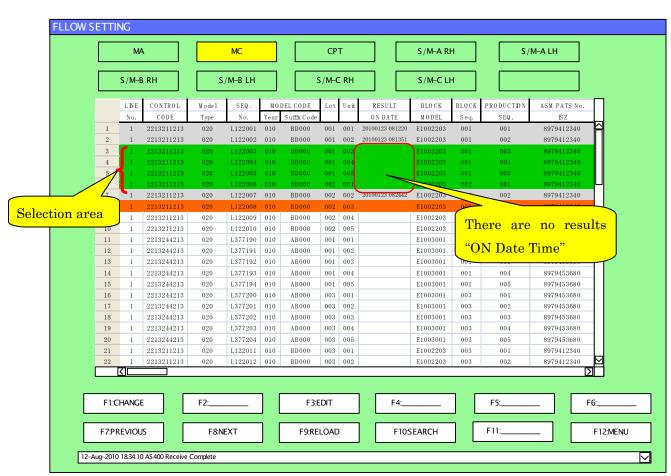
Select a row and click the F1 button to move the pointer to that position.

(The current position of the cursor will be displayed in orange.)

When the pointer is moved down, rows between its initial and final position will be displayed in grey.

#### $\Box$ F3 EDIT

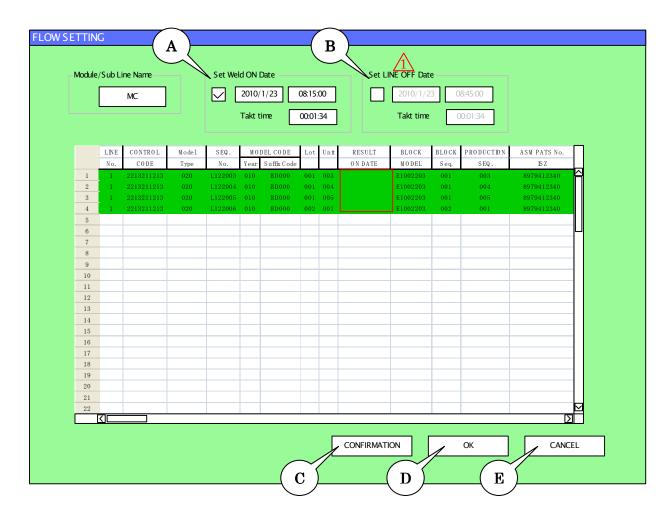
"EDIT" makes data to transmit results data to AS400 forcibly when the production results that production instructions system is "NO USE" are not recorded.



<Figure  $1 \cdot 3 \cdot 2 >$ 

1)The range to put the turning on results data is selected.

2)F3:EDIT is pushed. <Figure1·3·3> is displayed.



< Figure 1 · 3 · 3 >

A Set Weld ON Date

Set the start time of Weld ON.

B Set LINE OFF Date (Only CPT Line)

Set the start time of LINE OFF.

C CONFIRMATION

Confirm RESULT ON / OFF DATE.

D OK

RESULT ON/ OFF DATE is decided.

	LINE	CONTROL	Model	SEQ.	МО	MODEL CODE		Unit	RESULT	BLOCK	BLOCK	PRODUCTION	ASM PATS No.
	No.	CODE	Туре	No.	Year	Suffix Code			ON DATE	MODEL	Seq.	SEQ.	ISZ
- 1	1	2213211213	020	L122003	010	BD000	001	003	20100123 081500	E1002203	001	003	8979412340
2	1	2213211213	020	L122004	010	BD000	001	004	20100123 081634	E1002203	001	004	8979412340
3	1	2213211213	020	L122005	010	BD000	001	005	20100123 081808	E1002203	001	005	8979412340
4	1	2213211213	020	L122006	010	BD000	002	001	20100123 081942	E1002203	002	001	8979412340

<Figure  $1 \cdot 3 \cdot 4 >$ 

E CANCEL

Use the CANCEL button to return to the INSTRUCTION SCHEDULE.

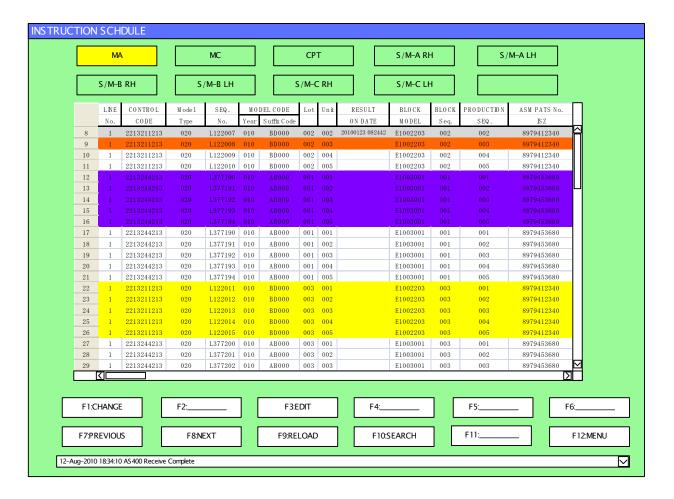
	F7 PREVIOUS								
	Used to display previous production data. (will scroll one page back to display the								
	previous page)								
	F8 NEXT								
	Used to display the next page of production data. (will scroll one page forward to								
	display the next page)								
	F9 RELOAD								
	Used to rewrite data. (update to the latest data)								
	F10 SEARCH								
	Used to search for specific data. (Enter the search conditions and click the								
	Execution button)								
	A search dialogue box identical to that shown in <figure <math="">1 \cdot 3 \cdot 9&gt; will open.</figure>								
	F12 MENU								
	Used to return to the main menu.								
	Error message display window:								
	Displays a log of the last 30 error messages.								
	Previous screen button								
	Used to move to the previous screen. (moves to the screen displaying the remaining								
	line data)								
	Displays line data from the top left.								
	Next screen button								
	Used to move to the next screen. (moves to the screen displaying the remaining line								
	data)								
Di	splays line data from the top left.								

# **Color Coding**

Color coding on the PRODUCTION DATA screen

- · ADDTION
- · INSERT

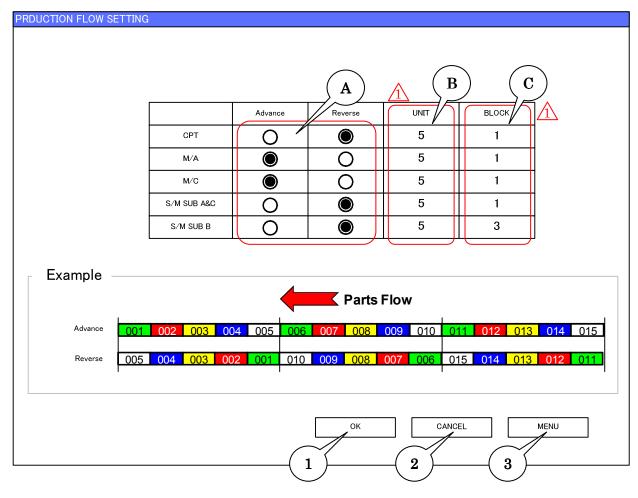
Data that has been through the above processes will be appear color coded on the PRODUCTION DATA screen.



<Figure  $1 \cdot 3 \cdot 5 >$ 

# 1.3 F3:FLOW SETTING

The flow of the production order of each module line is decided.



<Figure  $1 \cdot 4 \cdot 1 >$ 

- A Selection sereclt "Advance" or "Reverse"
- ⚠ B UNIT

  It produces by "How many quantity" and quantity is input.
- ⚠ C BLOCK

  It produces by "How many Unit" and quantity of Unit is input.
  - □ OK
    Used to OK button to fixe.
  - $\hfill \Box$  CANCEL Used to CANCEL button to interrupt processing.
  - ☐ MENU

    Use the MENU button to return to the main menu.

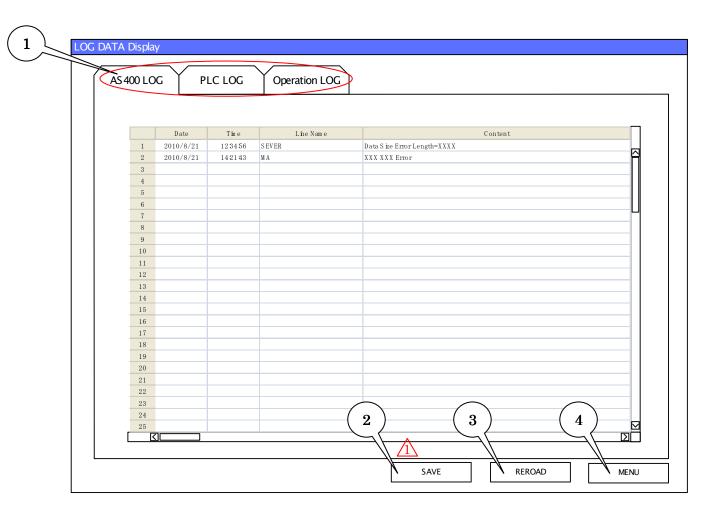
## 1.4 F5: DATA LOG

Used to display log data.

It is possible to display the following logs.

- · AS400 LOG
- · PLC LOG
- Operation LOG

Log data is stored in the database for 30 days. (can be changed using INI files) The first log to be displayed is the AS400 LOG.



<Figure  $1 \cdot 5 \cdot 1 >$ 

- ☐ Switching between log displaysUse the tabs to switch between the log displays.
- ⚠ □ SAVE

Use the SAVE button to save log data.

- □ RELOAD (update)
  - Use the RELOAD button to obtain and display the latest log data.
- $\Box$  CANCEL

Use the CANCEL button to return to the main menu.

The data communication log allows you to view data sent from the host computer (AS400) and data sent to the PLC.

Data will be stored for a period of two weeks (default).

These settings can be changed using the INI files.

The AS400 data log will contain

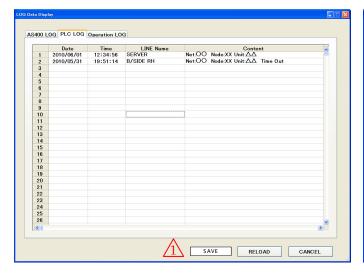
- · Date/time data was sent
- · Name of the sent file
- · Path (name of the path to the original data)
- OK/NG information
- · Number of files sent

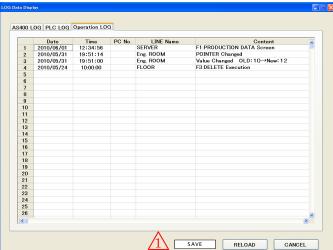
When you delete data from the log, the original data will also be deleted.

Caution: The AS400 data communication log will also record normally received data.

Figure 7.6.2 shows the PLC data communication LOG screen

Figure 7.6.3 shows the operation LOG screen





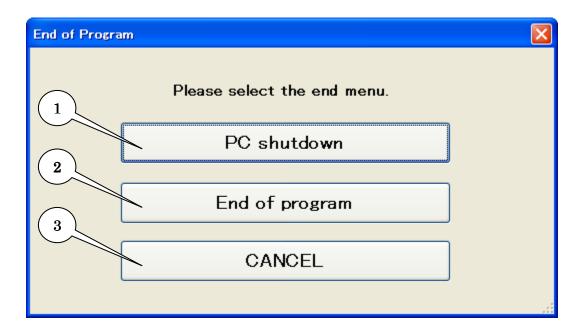
<Figure  $1 \cdot 5 \cdot 2 >$ 

<Figure  $1 \cdot 5 \cdot 3 >$ 

# F12: SHUT DOWN

Used to shut down the program.

It is also possible to select to shut down the OS.



<Figure  $1 \cdot 6 \cdot 1 >$ 

# □ PC shutdown

Used to shut down the program and turn off power to the computer terminal.

# ☐ End of program

Used to shut down the program.

## □ <u>CANCEL</u>

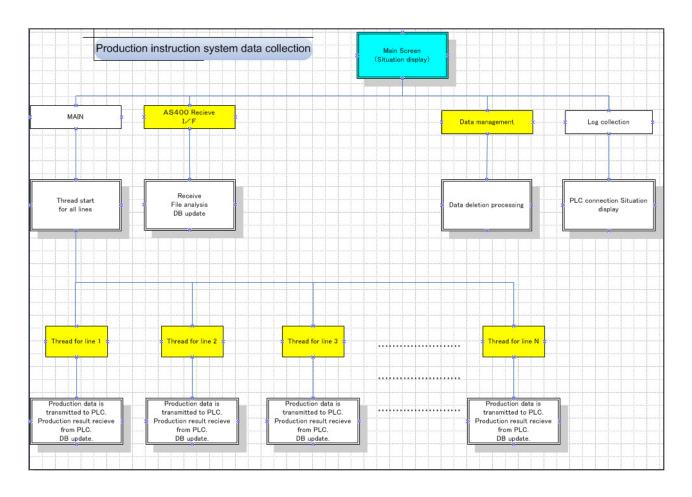
Used to return to the main menu.

# 2. Data Collection

The data collection program configuration is shown below.

# 2.1 Configuration

Divided primarily into the display screen and the data collection process.



< Figure 2 · 1 · 1 >

Blue: Screen Yellow: Thread

# 2.2 PLC Data Communication Area Map

Please refer to separate material.

# 2.3 Database Configuration

Data sent from the host computer (AS400) will be stored in the database.

Please refer to separate material for detailed information on the database.

# 2.4 Error Processing

A designated number of retries will be established for data delivery/receipt errors.

The number of retries can be changed using the INI files.

# 2.5 AS400 Data Receipt

Data will be stored in the database following receipt using HULFT software.

Received files will not be deleted and will be stored for a designated period.

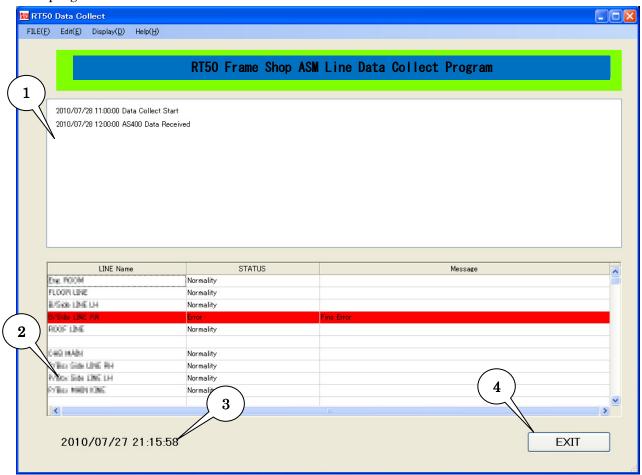
If the Lot No. + Unit + MODEL CODE are the same overwrite the data and rearrange the order of the data by Production Day + SEQ. No.

(Data will be displayed as Order by)

# 2.6 Data Collection Main Screen

The data collection screen is shown below.

This program is run on the server.



< Figure 2 · 6 · 1 >

#### □ <u>Display Area</u>

This area enables operators to check data that has been received from AS400 in real time. The maximum number of data that can be displayed in this area can be set in the INI files. (Default 200 lines of data)

## □ ASM LINE Connection Status

Enables operators to check the connection status of each line.

#### □ <u>Date/Time Display</u>

Shows the current date and time.

#### □ EXIT Button

Used to shut down the data collection program.