

ENGLISH

IP-310 SET-UP MANUAL



CONTENTS

I . OUTLINE	1
II . CONTENTS OF THE ARTICLES PACKED TOGETHER	1
1. For those who have purchased the machine provided with IP-310 operation panel	1
2. For those who have purchased the single unit of IP-310 operation panel.....	1
III . INSTALLING IP-310 ON TABLE/STAN AND CONTROL BOX	2
1. Installing procedure of the operation panel and the installing base	2
2. Connecting the cord and turning ON the power.....	2
IV . EXPLANATION OF THE OPERATION PANEL	3
V . CONNECTING PROCEDURE OF OPERATION PANEL WITH EXTERNAL VEHICLE....	4
1. Media	4
2. RS-232C	6
3. Input of signal by means of the connector for external input	7
VI . RE-SETUP OF THE PROGRAM OF THE OPERATION PANEL.....	8
VII . RE-SETUP OF MAIN PROGRAM.....	11
1. When panel program matches with main program	11
2. When panel program does not match with main program and an error occurs	14
VIII . RE-SETUP OF SERVO PROGRAM	17
1. When main program matches with servo program	17
2. When panel program does not match with main program and an error occurs	20
IX . WHEN USING THE MEDIA OTHER THAN THAT PACKED TOGETHER WITH THE MACHINE	23

Operating power voltage of this product is DC+24V.

I . OUTLINE

Operation panel of IP-310 can realize various functions in combination with the control box.

II . CONTENTS OF THE ARTICLES PACKED TOGETHER

1. For those who have purchased the machine provided with IP-310 operation panel

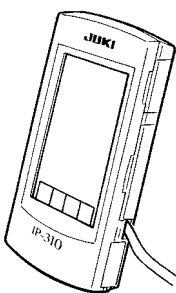
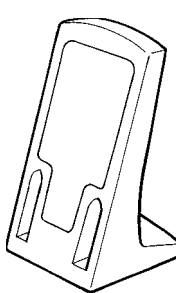
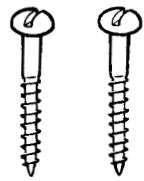
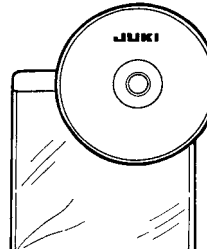
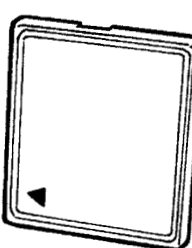
- | | | |
|--|--------|-------|
| ① IP-310 operation panel main unit | 1 set | } * 1 |
| ② Operation panel installing base..... | 1 set | |
| ③ Operation panel installing base setscrew | 2 pcs. | |
| ④ Set-up manual and CD-ROM (this CD-ROM) for instruction manual | 1 pc. | |
| ⑤ When using IP-310/IP-410 | 1 pc. | |

5 articles above and components related to control box are packed together.

2. For those who have purchased the single unit of IP-310 operation panel

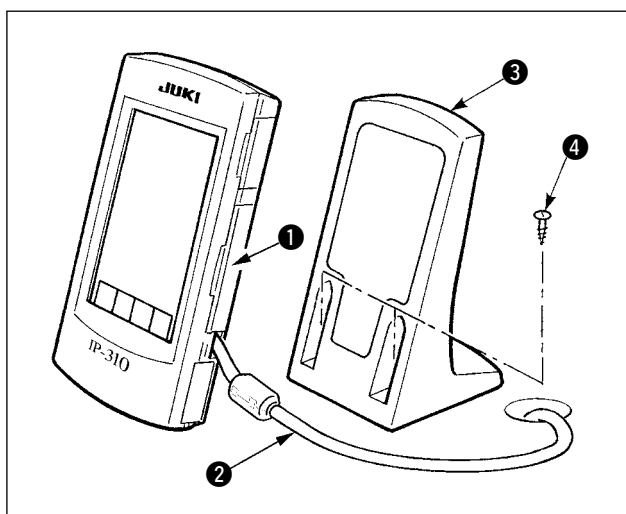
- | | | |
|--|--------|-------|
| ① IP-310 operation panel main unit | 1 set | } * 2 |
| ② Operation panel installing base..... | 1 set | |
| ③ Operation panel installing base setscrew | 2 pcs. | |
| ④ Set-up manual and CD-ROM (this CD-ROM) for instruction manual..... | 1 pc. | |
| ⑤ When using IP-310/IP-410 | 1 pc. | |
| ⑥ Media | 1 pc. | |

6 articles above are packed together.

IP-310 operation panel main unit	Operation panel installing base	Operation panel installing base setscrew	Set-up manual and CD-ROM (this CD-ROM) for instruction manual
☐ * 1, * 2 	☐ * 1, * 2 	☐ * 1, * 2 	☐ * 1, * 2 
When using IP-310/IP-410	Media		
☐ * 1, * 2 	☐ * 2 		

III. INSTALLING IP-310 ON TABLE/STAN AND CONTROL BOX

1. Installing procedure of the operation panel and the installing base



- 1) Open cover ① and remove cable ② once. Then connect it again to the panel on the top surface of the table after passing it through the hole in the table.
- 2) Fix operation panel installing plate ③ to an optional place on the table with two wood screws ④.



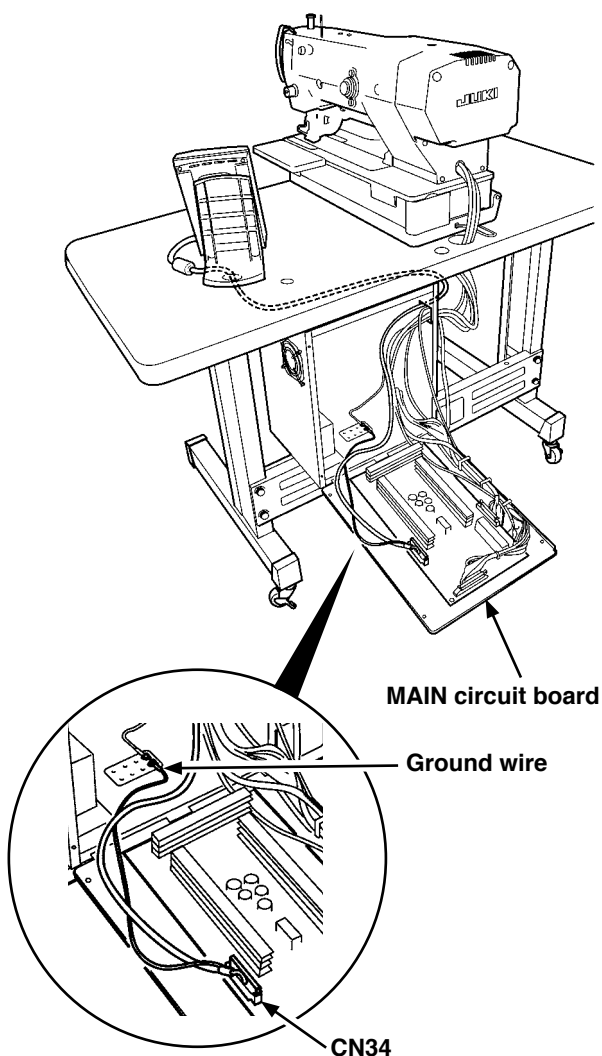
Install the panel at the position where X-move cover or head grip does not interfere with it since breakage of the panel will be caused.

2. Connecting the cord and turning ON the power



WARNING :

Turn OFF the power before starting the connecting work so as to prevent accidents caused by abrupt start of the sewing machine.



- 1) Pass the cord of the operation panel through the hole for wiring in the table and connect it with the control box under the table. For the table without the hole for wiring, wire the cord at the position where there is no trouble when the machine head is tilted or sewing is performed, and connect it with the control box. For the connection of the connector, connect it to CN34 of MAIN circuit board in the control box or built in the machine head. For the details, refer to the Instruction Manual for the sewing machine main unit. When the work above has been completed, turn ON the power.

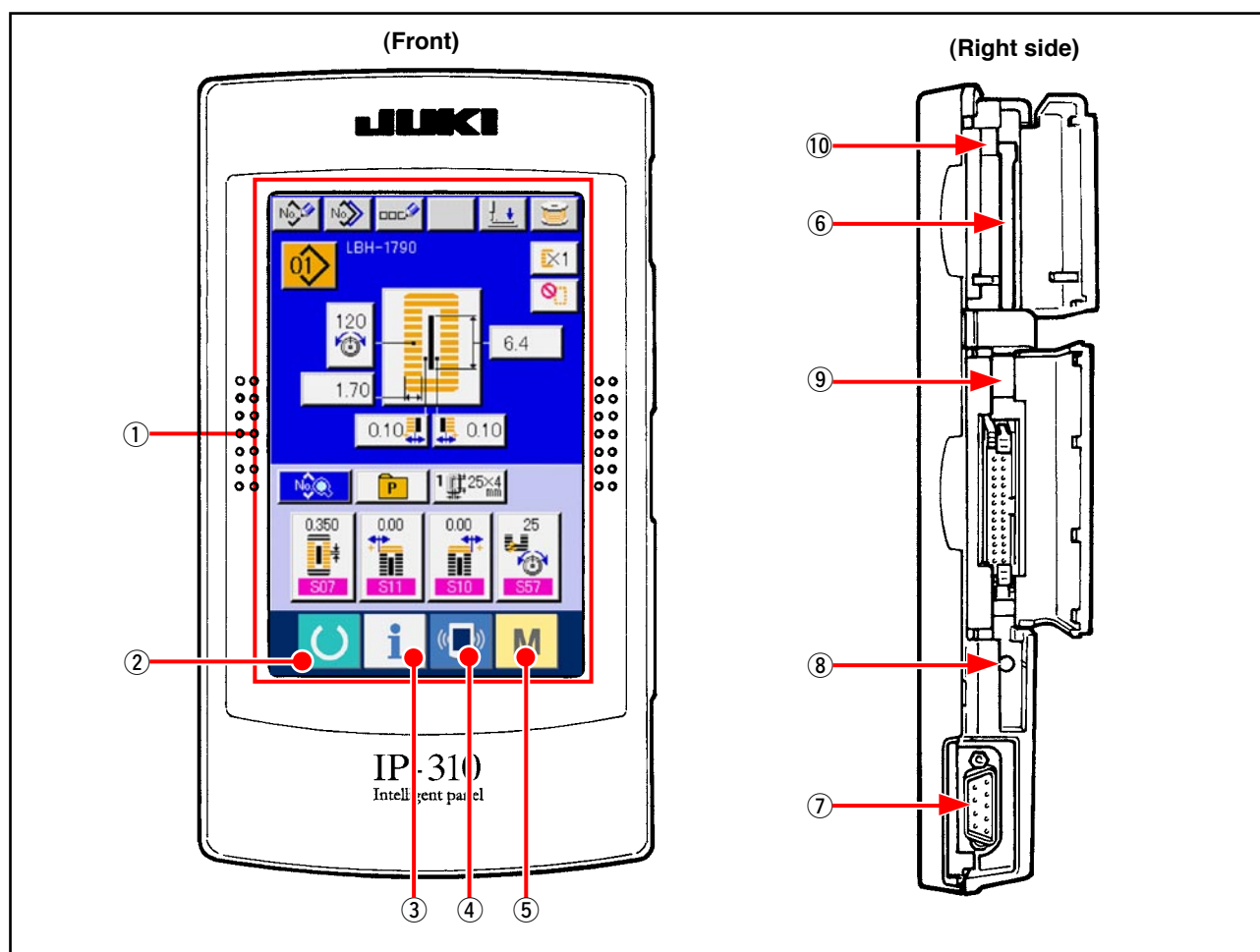


When connecting the cord, make sure that the power of the main unit is turned OFF. When connecting the cord in the state that the power is turned ON, trouble or breakage of the circuit will be caused.

IV. EXPLANATION OF THE OPERATION PANEL

Explanation of the respective parts of the operation panel is given below.

For the details of the respective parts, refer to "1. NAME OF EACH SECTION OF THE OPERATION PANEL" of the Instruction Manual.



① Touch panel • LCD display section

②  READY key

③  INFORMATION key

④  COMMUNICATION key

⑤  MODE key

→ Changeover of the data input screen and the sewing screen can be performed.

→ Changeover of the data input screen and the information screen can be performed.

→ Changeover of the data input screen and the communication screen can be performed.

→ Changeover of the data input screen and the mode changeover screen which performs various detail settings can be performed.

→ MEDIA slot (use it with lid closed.)

⑥ MEDIA slot

⑦ CONNECTOR for RS-232C communication

⑧ VARIABLE RESISTOR for adjusting contrast of colored LCD screen

→ Contrast of the screen can be adjusted. Adjust it as you like.

⑨ CONNECTOR for external input

⑩ MEDIA take-out lever

V. CONNECTING PROCEDURE OF OPERATION PANEL WITH EXTERNAL VEHICLE

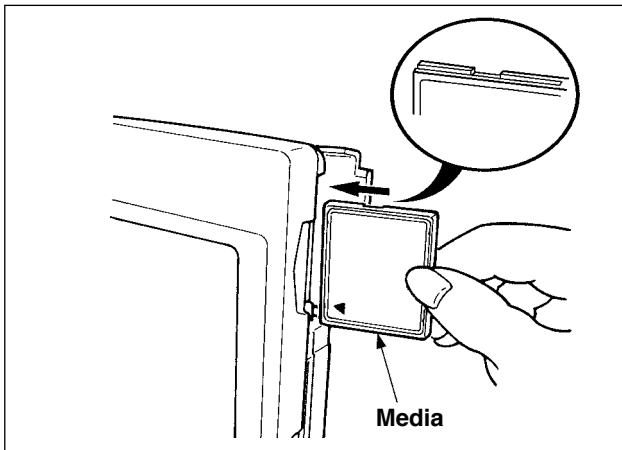
It is possible for this operation panel to perform communication or input of signal with the vehicles below other than the control box.

1. Media
2. RS-232C
3. Input of signal by means of the connector for external input

Connecting procedure is given below.

1. Media

(1) Inserting direction of the media

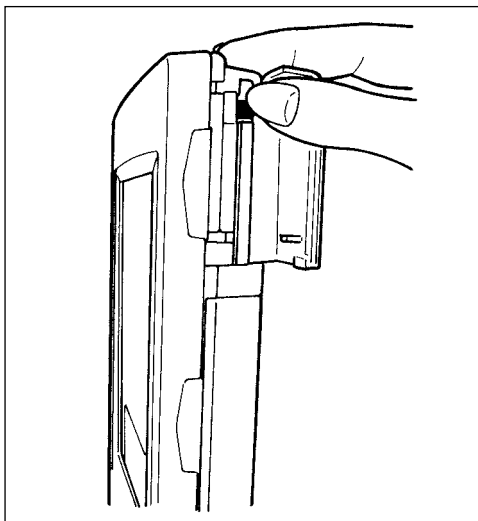


- ① Turn the label side of the CompactFlash (TM) to this side (place the notch of the edge to the rear.) and insert the part that has a small hole into the panel.
- ② After completion of setting of the media, close the cover. By closing the cover, it is possible to access. If the media and the cover come in contact with each other and the cover is not closed, check the following matters.
 - Check that the media is securely pressed until it goes no further.
 - Check that the inserting direction of the media is proper.



1. When the inserting direction is wrong, panel or media may be damaged.
2. Do not insert anything other than CompactFlash (TM).
3. IP-310 is adaptable to CompactFlash (TM) of 2GB or less.
4. IP-310 is adaptable to the format FAT16 of CompactFlash (TM). It is not adaptable to FAT32.
5. Be sure to use the CompactFlash (TM) formatted with IP-310. For formatting procedure of CompactFlash (TM), see "[V-1-\(3\) Performing formatting of the media](#)", p.5.

(2) Removing procedure of the media



- ① Hold the panel by hand, open the cover, and press the media removing lever. The media is eject.



When the lever is strongly pressed, the media may be broken by protruding and falling.

- ② When the media is drawn out as it is, removing is completed.

Cautions when using the CompactFlash (TM) :



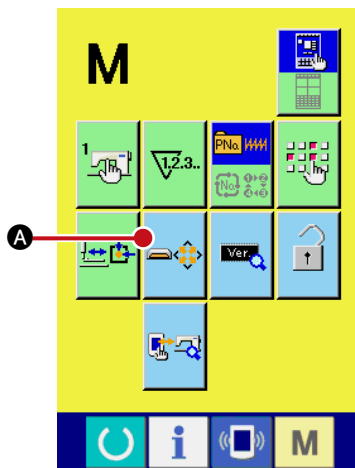
- Do not wet it or touch it with wet hands. Fire or electric shock may be caused.
- Do not bend it or apply strong force or shock to it.
- Never perform disassembling or remodeling of it.
- Do not make the contact part of it come in contact with the metal. Data may disappear.
- Avoid storing or using it at the places below.

Place of high temperature and humidity / Place of dew condensation /

Place of much waste and dust / Place where static electricity or electrical noise is apt to occur

(3) Performing formatting of the media

When re-formatting the media, be sure to perform it with IP-310. The media that is formatted with the personal computer cannot be read with IP-310.



① Display the media format screen.

When **M** switch is held pressed for three seconds, MEDIA

FORMAT button  **A** is displayed on the screen. When this button is pressed, the media format screen is displayed.



② Start formatting of the media.

Set the media you desire to format to the media slot, close the cover, press ENTER button  **B** and formatting starts.

Save necessary data in the media to the other media before formatting. When formatting is performed, the inside data are deleted.

2. RS-232C

Operation panel can give and take the data with the personal computer by using communication by means of RS-232C.

For the cable to be connected, connect the reverse type 9-pin (female) to the operation panel side. Signal names of the operation panel are as follows.

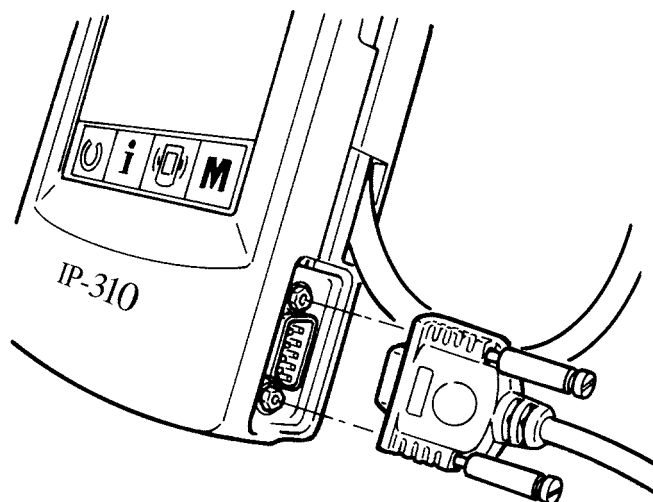
Pin No.	Signal name	Function	Signal direction
1	N.C.	Not connected	
2	RXD	Receive data	To panel
3	TXD	Transmit data	From panel
4	DTR	Data terminal ready	From panel
5	GND	Earth	
6	DSR	Data set ready	To panel
7	RTS	Request to send	From panel
8	CTS	Possible to send	To panel
9	N.C.	Not connected	



When the contact part becomes dirty, contact failure will be caused. Control so that the contact part is not touched by hand, or that dust, oil or other foreign material does not adhere to the contact part. Besides, be careful of handling the contact part since the internal element is broken by the static electricity or the like.

(1) Setting procedure

- 1) When the lower side cover located on the side of operation panel is opened, there is a 9-pin connector for RS-232C. Insert the cable there. When the screw for lock is attached to the connector, tighten the screw to prevent the screw from falling.

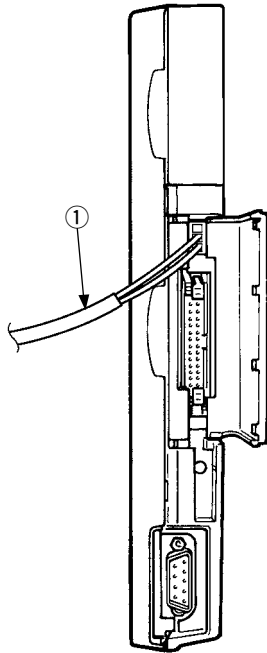


3. Input of signal by means of the connector for external input

It is possible to input the signal from the outside.

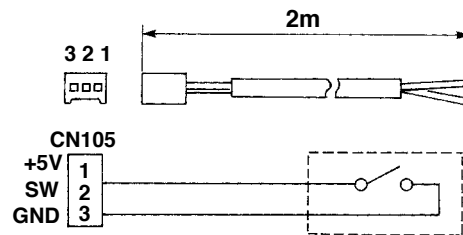
When the switch is connected, it is possible to use as the input of the production control information.

For the details, refer to "Observing the production control information" of the Instruction Manual.



Cable (separately-sold) as shown in the figure below can be connected.

① Relay cable A (asm.) (40008168)



Connector housing : KYOCERA ELCO CO. 60-8263-3038-15-000

Pin contact : KYOCERA ELCO CO. 60-8263-0513-00-808

Note) The switch main unit is not installed to the relay cable A (asm.).



When the contact part becomes dirty, contact failure will be caused. Control so that the contact part is not touched by hand, or that dust, oil or other foreign material does not adhere to the contact part. Besides, be careful of handling the contact part since the internal element is broken by the static electricity or the like.

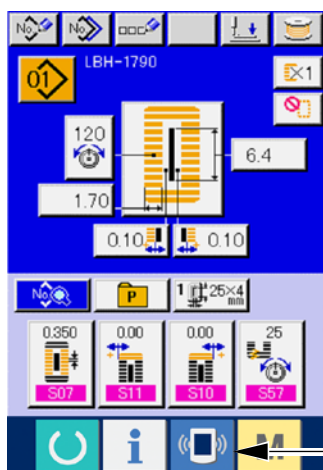
VI. RE-SETUP OF THE PROGRAM OF THE OPERATION PANEL

When the case is as below, it is necessary to perform re-setup of the program of the operation panel.

- When the operation panel is used as that for other model.
- When version-up of the program is performed.

The way of performing setup of the program from the media is shown below. Besides, it is regarded that the program to perform setup has already entered the Media.

- 1) First, turn ON the power. Normally, the sewing ready screen is displayed.
- 2) Insert the Media into the operation panel.
- 3) Perform operation by the procedure below.

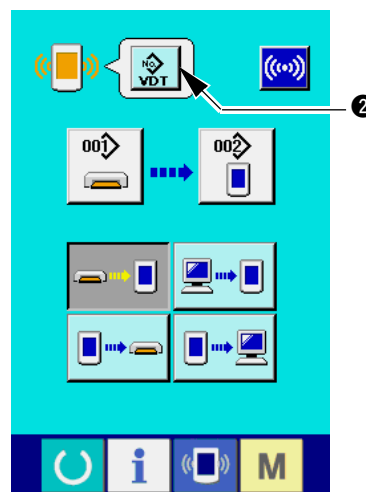


Data edit screen

- 1) Press key ①  for three seconds.

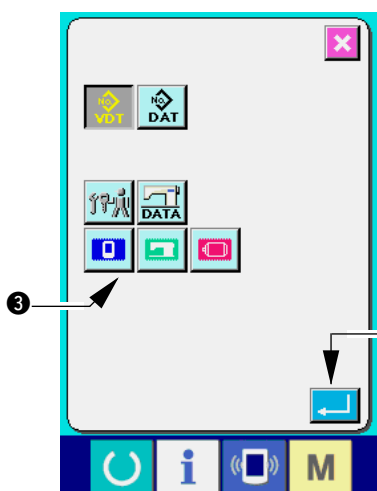
Communication screen 1

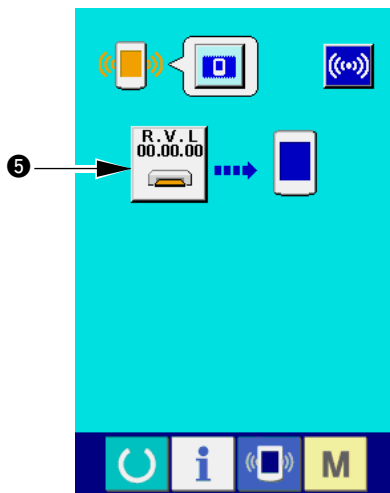
- 2) Press key ② .



Data selection screen

- 3) Press key ③ .
- 4) Press key ④ .





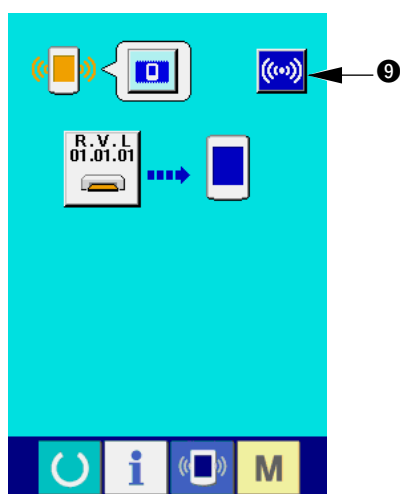
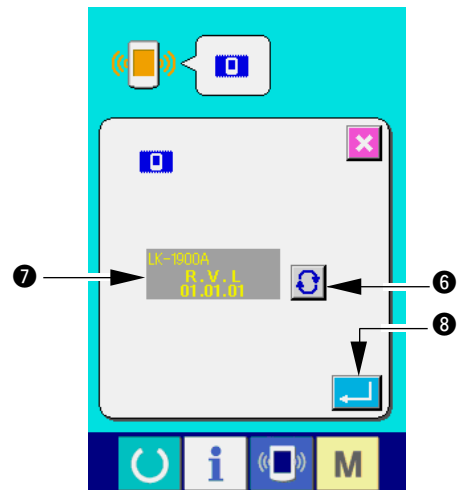
Communication screen 2

5) Press key **5** .

File selection screen

6) Press key **6**  and select the download program at display **7**.

7) Press key **8** .



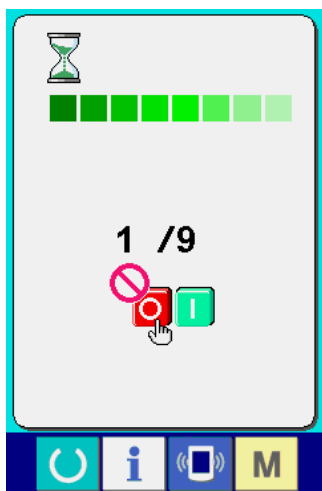
Communication screen 3

8) Press key **9** .

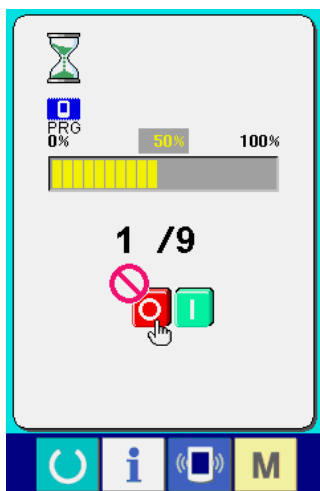
<-< Start of communication ->>



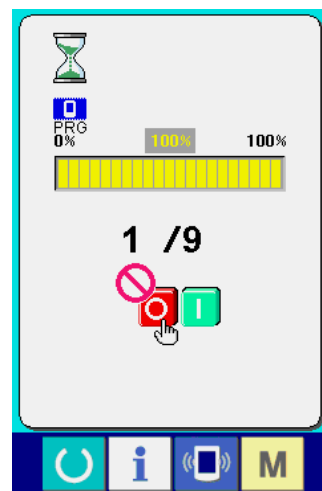
Screen during data deletion



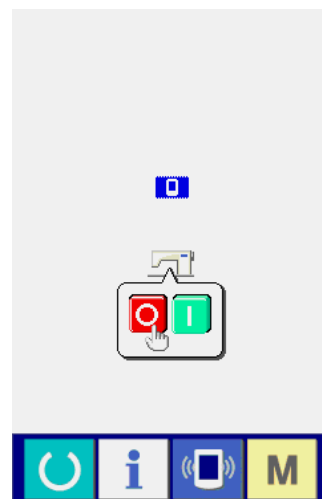
Screen 1 during data writing



Screen 2 during data writing

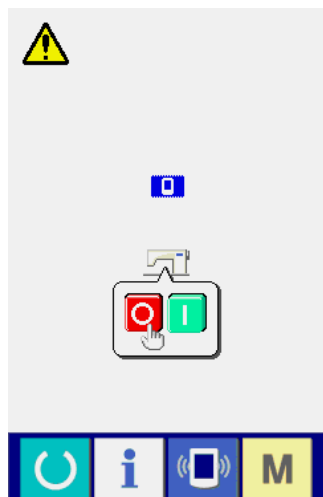


End screen



If the screen below is displayed, quickly turn OFF the power and perform the set-up again after checking [Checking items] below.

Data writing abnormal screen



The procedure above completes the replacing work of application software.

Checking items

- ① Media cover is opened during the data communication from the media.
- ② Data of the media is not correct. Or, there is no data file.
- ③ Contact of the media is dirty. Contact is defective.



Do not turn OFF the power and close/open the media cover during the work.
The main unit may be broken.

VII. RE-SETUP OF MAIN PROGRAM

When you have purchased the single unit of IP-310 operation panel, the media card is packed together. You can perform re-setup of the main program of MAIN circuit board on the control box side by using this media card.

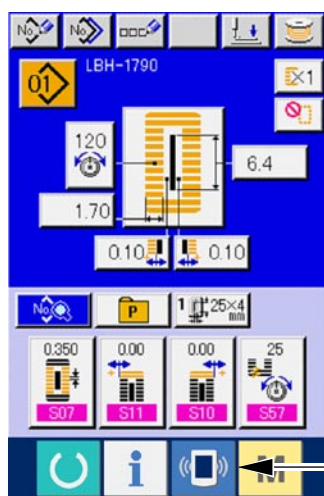
It is necessary that the main program and panel program have to match with each other.

If not, there is a possibility that trouble such as Error "E703 or E704" occurs. Be sure to perform setup by using the media card which is packed together.

1. When panel program matches with main program

Perform the work by the procedure below when performing version-up of the main program by using the media card.

- 1) First, turn ON the power.
- 2) Insert the media card into the operation panel.
- 3) Perform operation by the procedure displayed in the screen below.



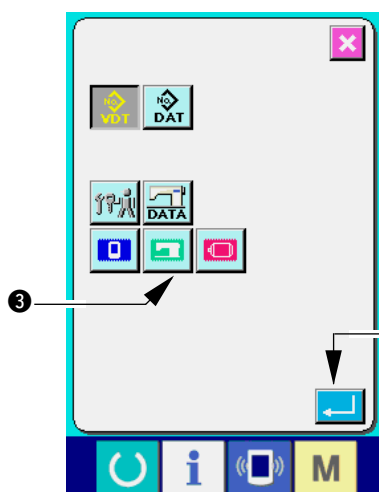
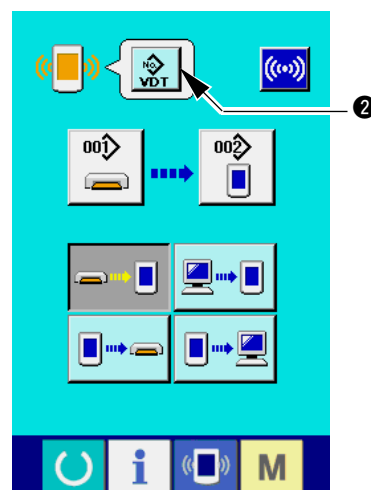
Data edit screen

- 1) Press key ①  for three seconds.



Communication screen 1

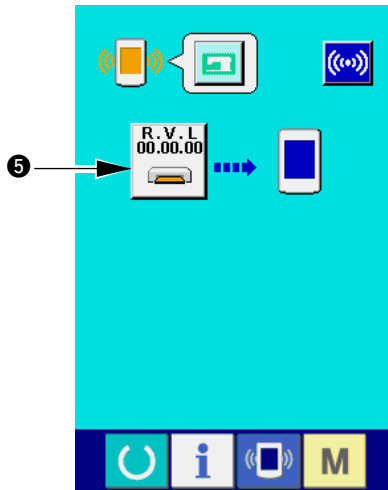
- 2) Press key ② .



Data selection screen

- 3) Press key ③ .
- 4) Press key ④ .





Communication screen 2

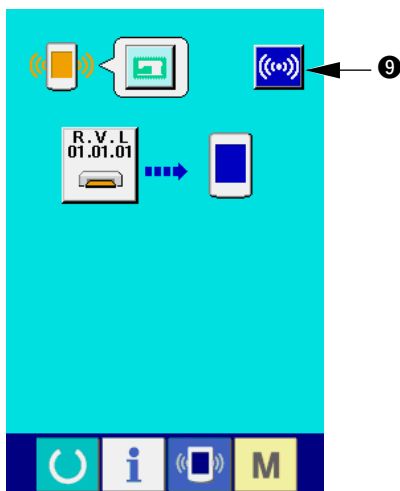
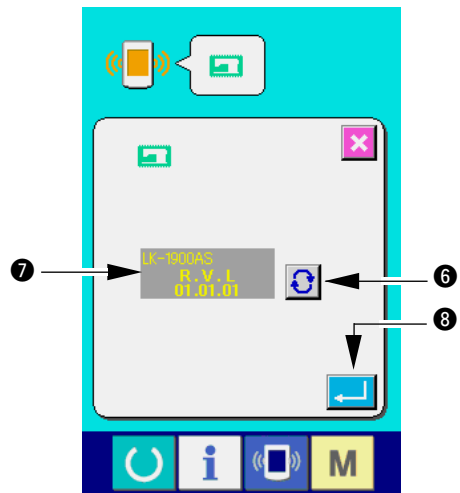
5) Press key ⑤ .



File selection screen

6) Press key ⑥  and select download program at display ⑦.

7) Press key ⑧ .



Communication screen 3

8) Press key ⑨ .

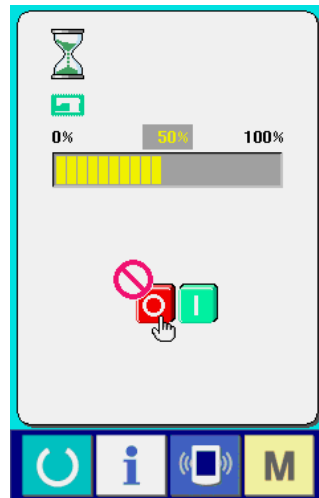


<-<- Start of communication ->>-

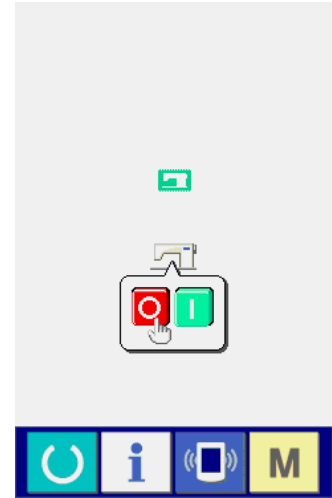




Screen during data writing



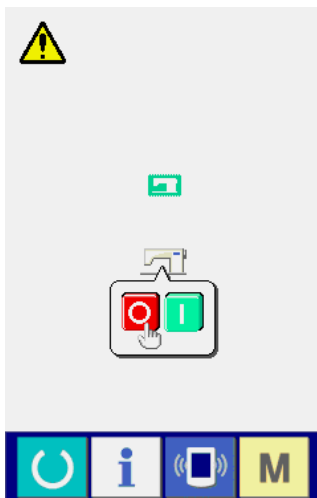
Screen of end of data writing



The procedure above completes the replacing work of application software.

If the screen below is displayed, quickly turn OFF the power and perform the set-up again after checking [Checking items] below.

Data writing abnormal screen



Checking items

- ① Media cover is opened during the data communication from the media.
- ② Data of the media is not correct. Or, there is no data file.
- ③ Contact of the media is dirty. Contact is defective.



Do not turn OFF the power and close/open the media cover during the work.
The main unit may be broken.

2. When panel program does not match with main program and an error occurs

Perform the work by the procedure below when replacing the main program in case trouble such as Error "E703", "E704", etc. occurs.

- 1) First, turn ON the power. Error screen (E703 or E704) is displayed after turning ON the power.
- 2) Insert the media card into the operation panel.
- 3) Perform operation by the procedure displayed in the screen below.

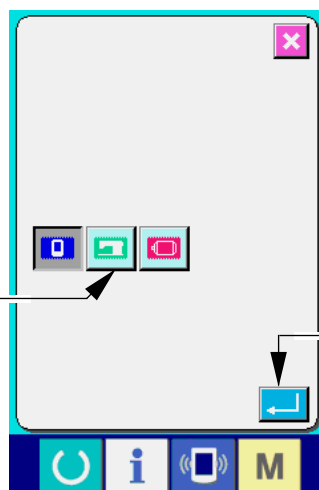
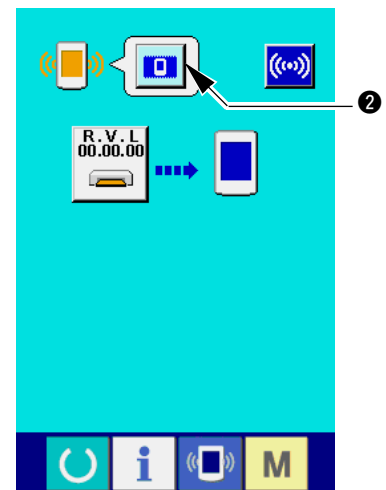


Error screen

- 1) Press key ① .

Communication screen 1

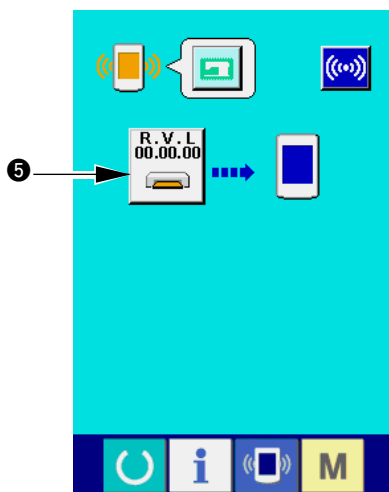
- 2) Press key ② .



Data selection screen

- 3) Press key ③ .

- 4) Press key ④ .



Communication screen 2

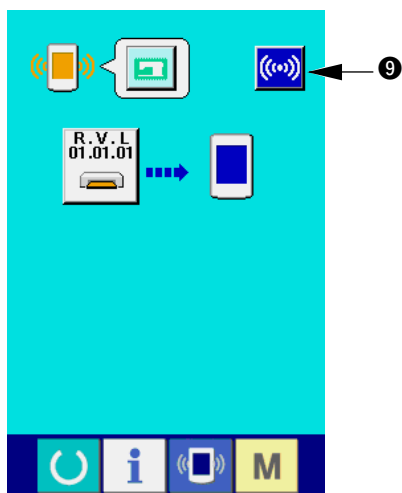
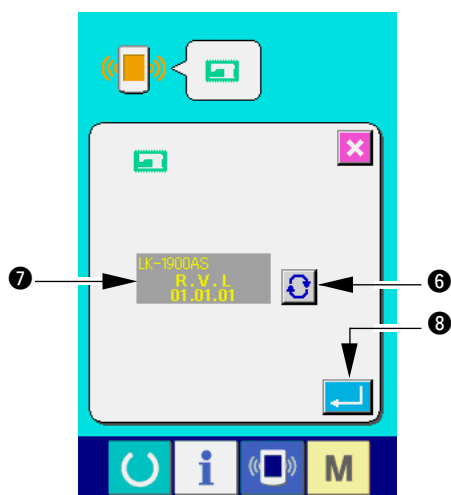
5) Press key ⑤ .



File selection screen

6) Press key ⑥  and select the download program at display ⑦.

7) Press key ⑧ .



Communication screen 3

8) Press key ⑨ .

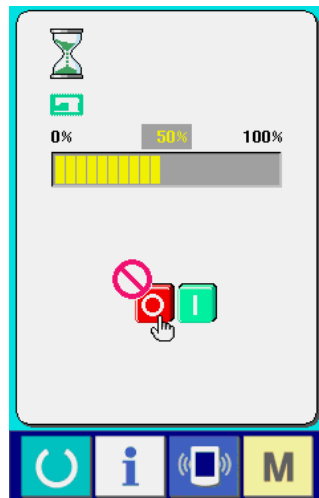


<-<- Start of communication ->->

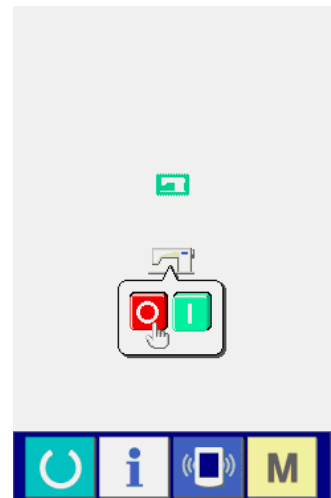




Screen during data writing



Screen of end of data writing

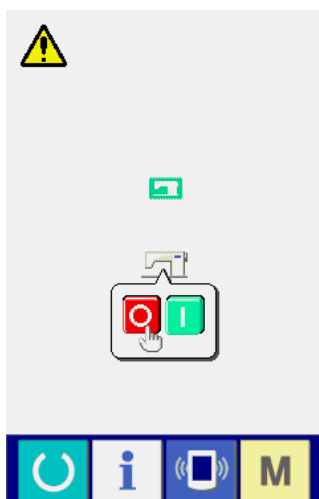


The procedure above completes the replacing work of application software.



If the screen below is displayed, quickly turn OFF the power and perform the set-up again after checking [Checking items] below.

Data writing abnormal screen



Checking items

- ① Media cover is opened during the data communication from the media.
- ② Data of the media is not correct. Or, there is no data file.
- ③ Contact of the media is dirty. Contact is defective.



**Do not turn OFF the power and close/open the media cover during the work.
The main unit may be broken.**

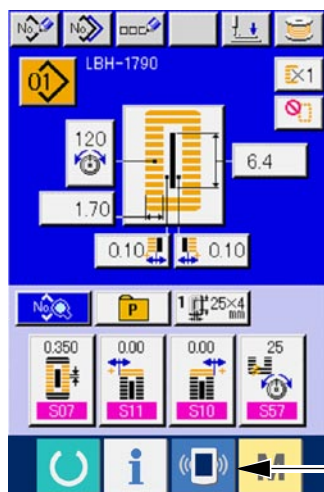
VIII. RE-SETUP OF SERVO PROGRAM

Perform the work by the procedure below when rewriting the servo program in the same way of "VII. RE-SETUP OF MAIN PROGRAM".

1. When main program matches with servo program

Perform the work by the procedure below when making the servo program version-up by using the media card.

- 1) First, turn ON the power. Normally, the sewing ready screen is displayed.
- 2) Insert the media card into the operation panel.
- 3) Perform operation by the procedure displayed in the screen below.

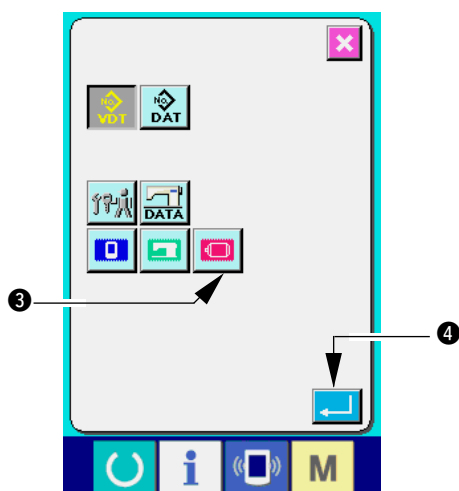
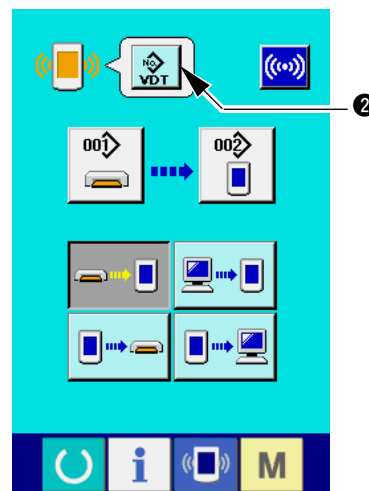


Data edit screen

- 1) Press key ①  for three seconds.

Communication screen 1

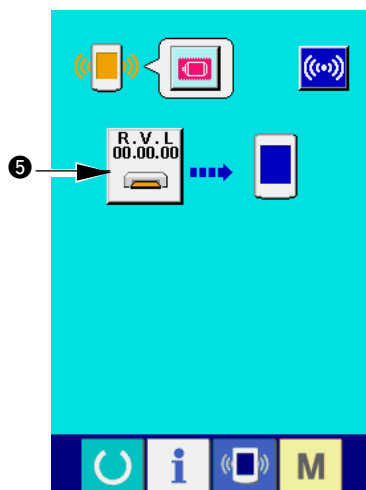
- 2) Press key ② .



Data selection screen

- 3) Press key ③ .
- 4) Press key ④ .





Communication screen 2

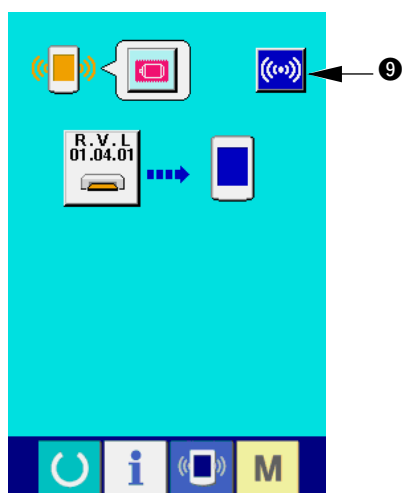
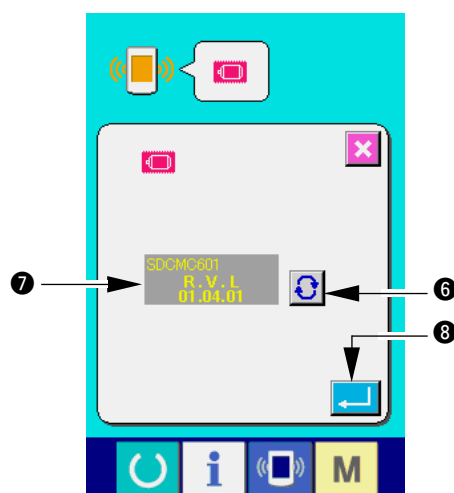
5) Press key **5** .



File selection screen

6) Press key **6**  and select the download program at display **7**.

7) Press key **8** .



Communication screen 3

8) Press key **9** .

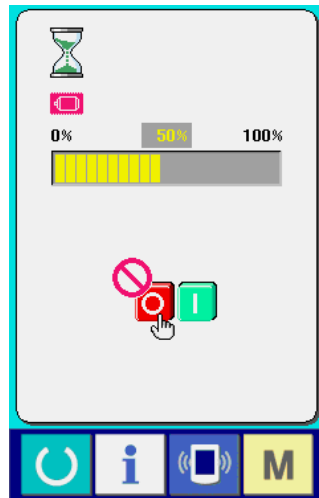


<-<- Start of communication ->>

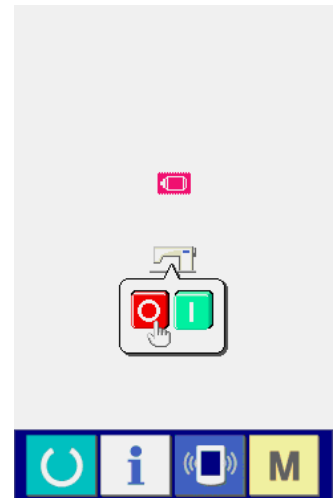




Screen during data writing



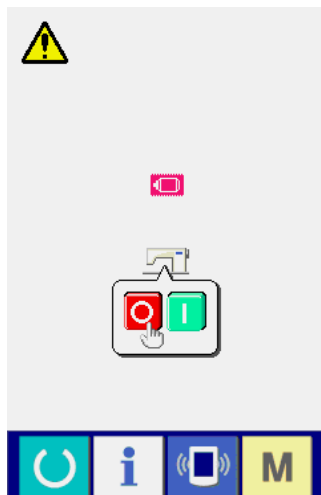
Screen of end of data writing



The procedure above completes the replacing work of application software.

If the screen below is displayed, quickly turn OFF the power and perform the set-up again after checking [Checking items] below.

Data writing abnormal screen



Checking items

- ① Media cover is opened during the data communication from the media.
- ② Data of the media is not correct. Or, there is no data file.
- ③ Contact of the media is dirty. Contact is defective.



**Do not turn OFF the power and close/open the media cover during the work.
The main unit may be broken.**

2. When panel program does not match with main program and an error occurs

Perform the work by the procedure below when replacing the main program in case trouble such as Error "E703", "E704", etc. occurs.

- 1) First, turn ON the power. Error screen (E703 or E704) is displayed after turning ON the power.
- 2) Insert the media card into the operation panel.
- 3) Perform operation by the procedure displayed in the screen below.

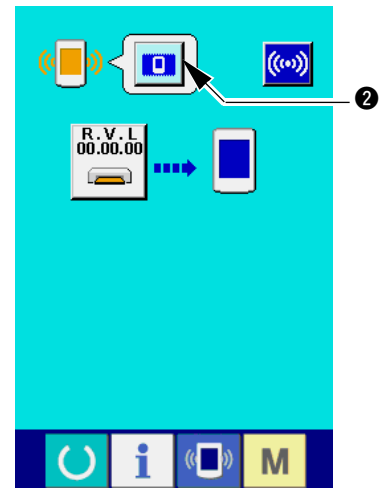


Error screen

- 1) Press key ① .

Communication screen 1

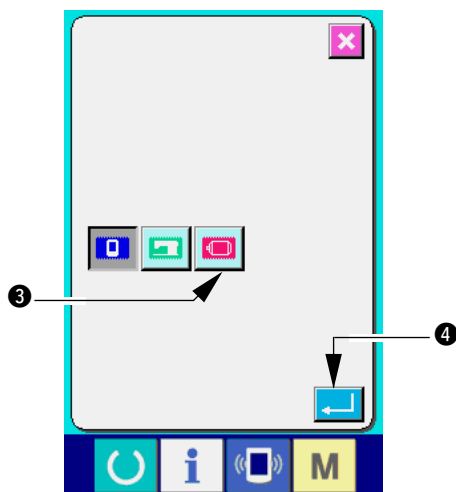
- 2) Press key ② .

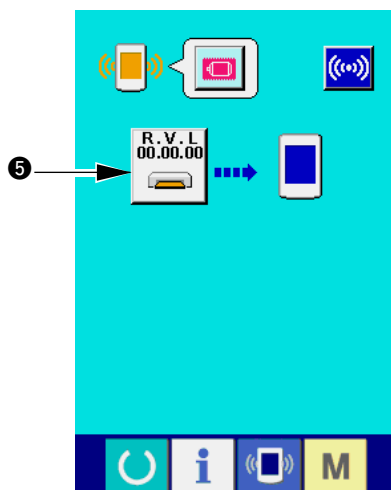


Data selection screen

- 3) Press key ③ .

- 4) Press key ④ .





Communication screen 2

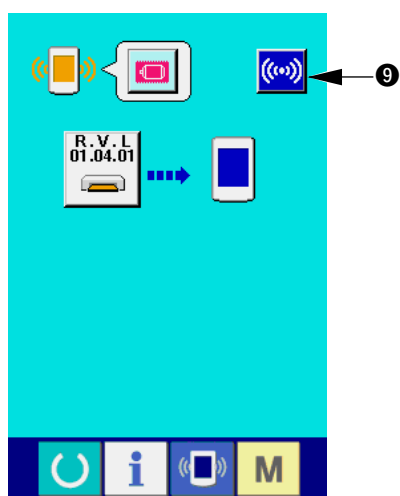
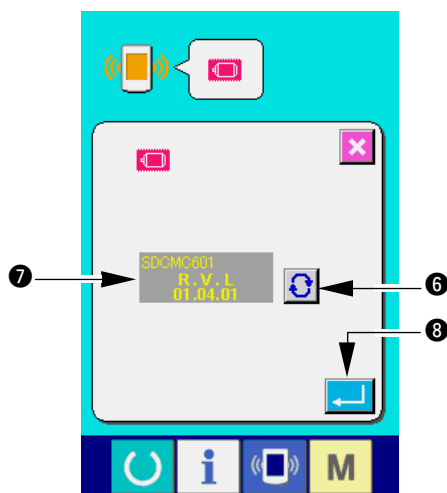
5) Press key ⑤ .



File selection screen

6) Press key ⑥  and select the download program at display ⑦.

7) Press key ⑧ .



Communication screen 3

8) Press key ⑨ .

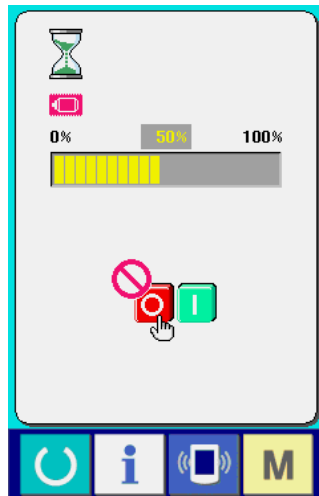


<-<- Start of communication ->>-

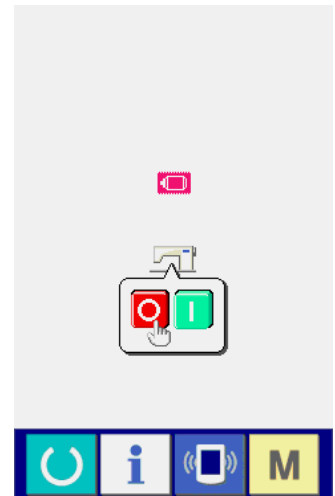




Screen during data writing



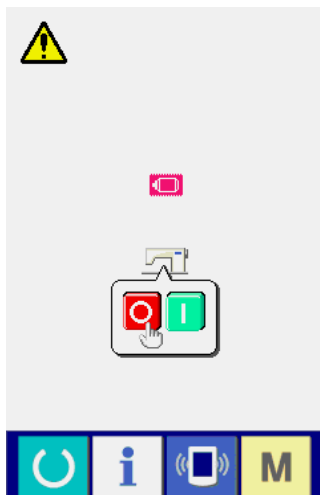
Screen of end of data writing



The procedure above completes the replacing work of application software.

If the screen below is displayed, quickly turn OFF the power and perform the set-up again after checking [Checking items] below.

Data writing abnormal screen



Checking items

- ① Media cover is opened during the data communication from the media.
- ② Data of the media is not correct. Or, there is no data file.
- ③ Contact of the media is dirty. Contact is defective.

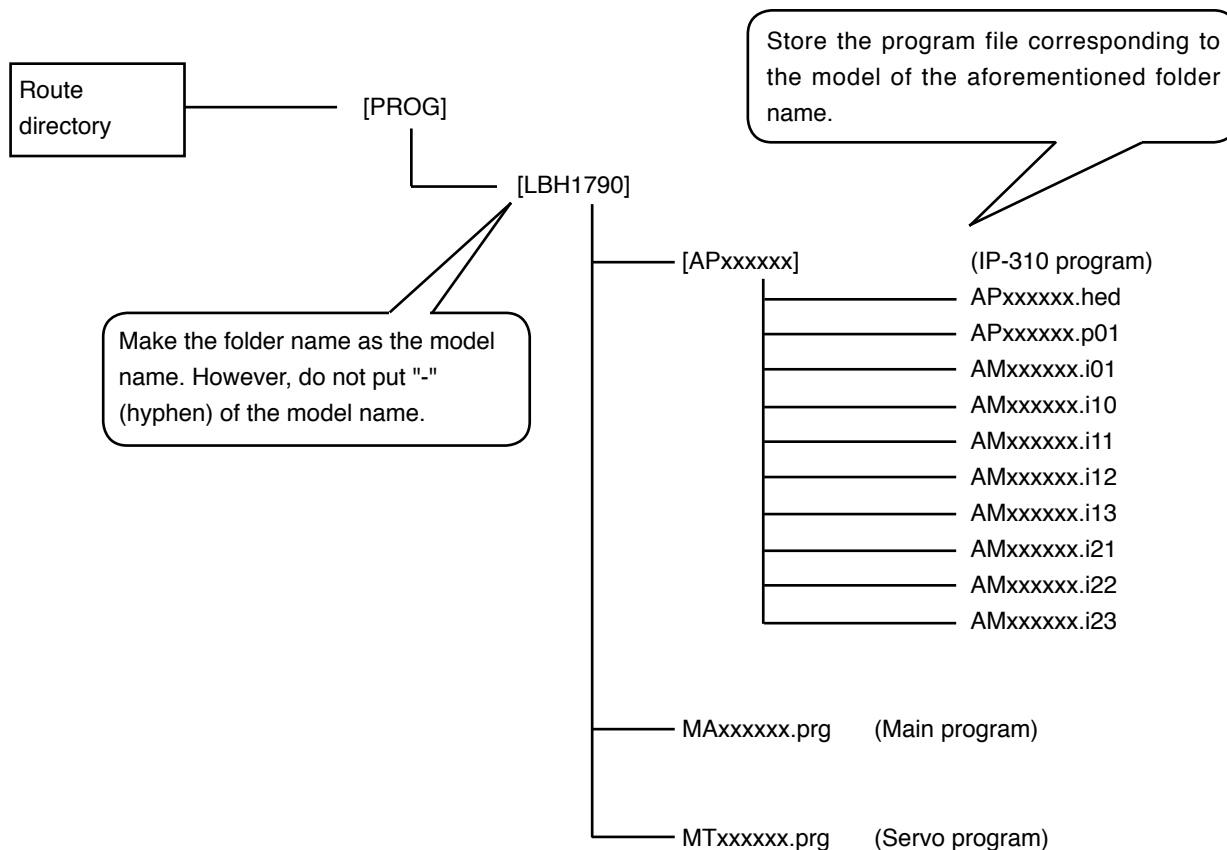


Do not turn OFF the power and close/open the media cover during the work.
The main unit may be broken.

IX. WHEN USING THE MEDIA OTHER THAN THAT PACKED TOGETHER WITH THE MACHINE

When copying the contents of the media card that is packed together with the machine, create the directory structure below with the PC (personal computer) after formatting the media card to be the copy destination with IP-310.

For the formatting procedure of the media card, see "**V-1-(3) Performing formatting of the media**", p.5.



[] = Folder
 xxxxxx = RVL code (6 digits)

"CompactFlash(TM)" is the registered trademark of SanDisk Corporation, U.S.A.