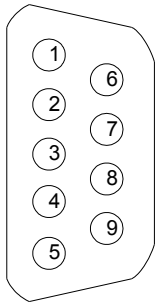


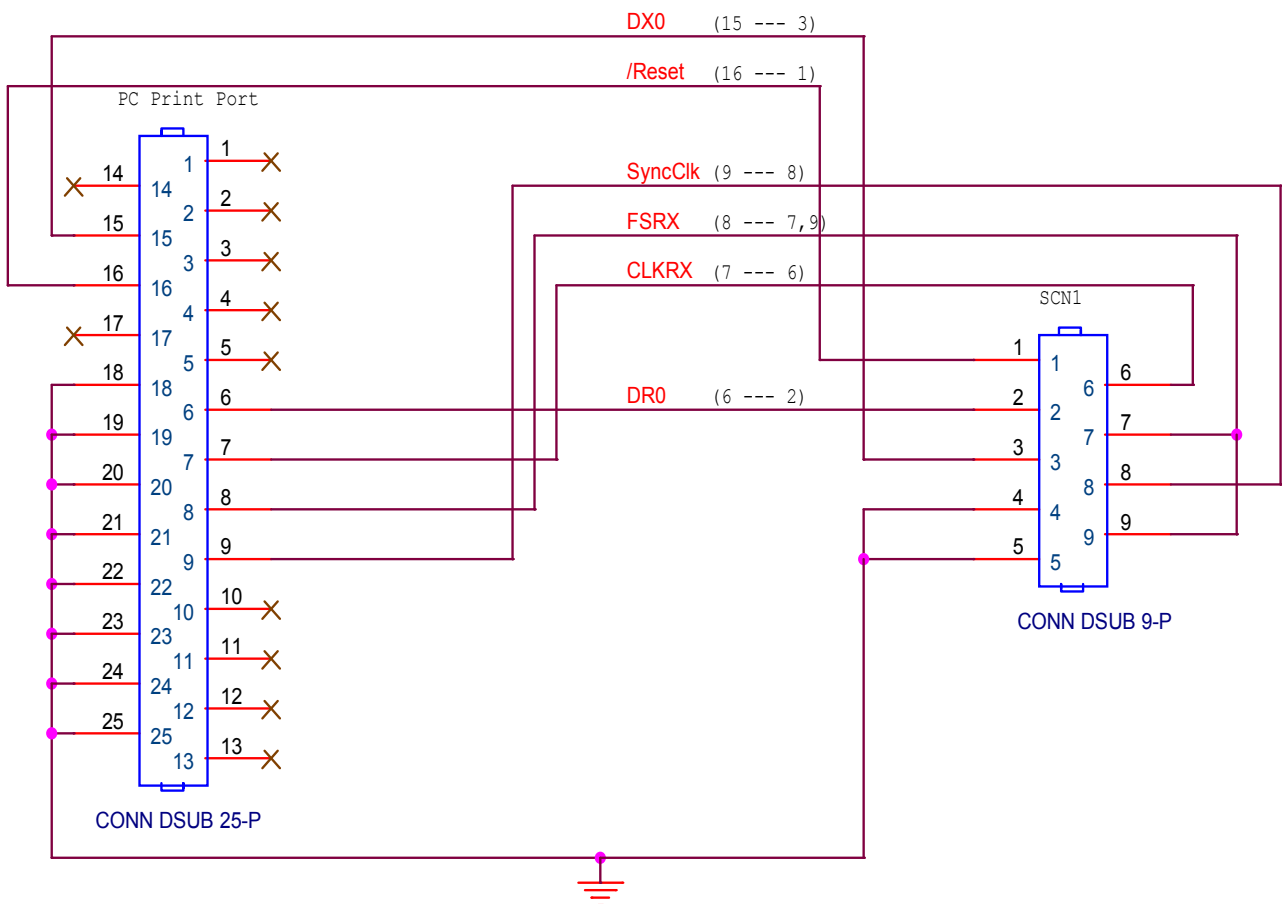
1) BOOT Port: ①

- The Opposite Connector: HDEB-9P (male)/ HIROSE

(P: Power, I: Input, O: Output)

Pin Layout	P. No.	I/O	Signal	Details
	1	I	/RESET	reserved
	2	I	DR	reserved
	3	O	DX	reserved
	4	I	BootSel	reserved
	5	P/O	GND	
	6	I	Clock	reserved
	7	I	FRX	reserved
	8	I	Sync.	reserved
	9	O	FSX	reserved

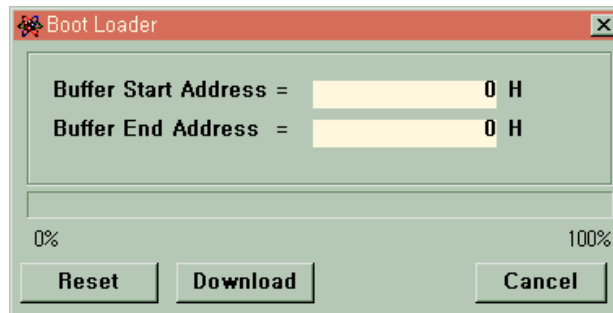
- Note) 1) The above port is used for the maintenance and repair of the product. Hence, be careful that incorrect wiring may cause the malfunction or operation failure of the product.  
 2) Inserting the boot cable into a wrong port (RS422, MPG) may damage the port. (Be careful.)  
 3) If the above port is used to maintain and repair the product, **the servo power must be turned off**, and the other surrounding noise generators must be blocked before connection.  
 4) Connect to the PC print port. Be sure to turn off power when connecting or disconnecting the connector.



**(1) OS Upgrade Method (The MMI Version of Win98/ME is different from that of WinXP. Check “Information”->”MCS Information”->MMI in our homepage and download it.)**

**Note)** The 25-pin print port should be embedded in the PC.(Print function pin + additional pin used)  
(PRINT PORT SETTING -> Select the print mode as **ECP PRINT** Mode, ADDRESS **378**, and **Interrupt 07** in the PC setup.)

- 1) Check the current H/W version of the controller in the “Help” menu in **MSW-MCS MMI**.
- 2) Use **MSW-MCS MMI** for OS upgrade.  
Execute MSW-MCS MMI. If “OS File” and “OS” items are not seen in the left of the menu, re-execute MSW-MCS MMI after modifying Research=0 to Research=1 for storage out of the contents of the C:\Program Files\MSW-MCS\InitInformation.INI file after closing MSW-MCS MMI.
- 3) Turn on the power of the controller after connecting the **25P print port, controller boot port, 232 port of PC and RS232 port of the controller** after turning off the power of the controller.  
(Turn off the servo to minimize the noise effect during OS download.)
- 4) Call the BIN file (OS file) after selecting “OS File” -> “Open Bin File” in the MSW-MCS MMI menu. (Check the file size, the date check, and the buffer end address.)
- 4) Press the “Reset”-> “Download” button in the “Boot Loader” window after selecting “OS” -> “DOWNLOAD” in the menu.



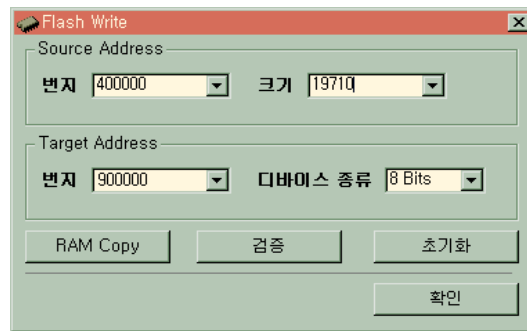
**Note)** If completed normally, **RDY LED** of the controller blinks once initially, and the controller is operated.

If not completed normally, it is not on-line. Check the **boot cable, PC print port, setup, or controller boot port**.

- 6) Close the “Boot Loader” window after the download is normally completed. **Be sure to check the online operation after pressing “On-Line”**.  
The following work is **possible and effective only if it is online**. (Be sure to check it.)

**Note)** If it is not online, check the **Note) item of the above no. 5, serial cable, and the serial setup, boot cable, and print setup of the PC**.

- 7) Select the “OS”->”**Programming**” menu after surely checking whether it is online.
- 8) Click the “**Ram Copy**” button a little later after clicking the “Initialization” button in the “Flash Write” window (after the “**Initialization**” button is activated again).



- 9) Click the “Verification” button after “Ram Copy” is completed to close the window after checking the accord of the OS inspection.
- 10) Remove the boot cable after surely turning off power. (If the boot cable is installed or removed when power is on, the relevant ports of the controller and PC may be damaged.)
- 11) Check the current H/W version of the controller in the “**Help**” menu of MSW-MCS MMI after power supply. Compare it with the previous H/W version to check whether it is changed.