MOTOMAN XRC
USERS'S MANUAL
FDDWIN32 version 4.00

Upon receipt of the product and prior to initial operation, read these instructions thoroughly, and retain for future reference.

MOTOMAN ROBOTICS EUROPE
A subsidiary of YASKAWA Electric Corporation

MANUAL NO. MRS55000

Reference list

Basic Operator's Manual
Windows User's Manual

This manual only show how to use FDDWIN32 together with robot controller type: MOTOMAN XRC.
To connect to MRC or ERC controllers, see separate document

Revision

991125
First release of this manual

FDD for Windows (32-bit)

Valid for FDD for Windows, version 4.00 (Motoman part No. 441108-99).

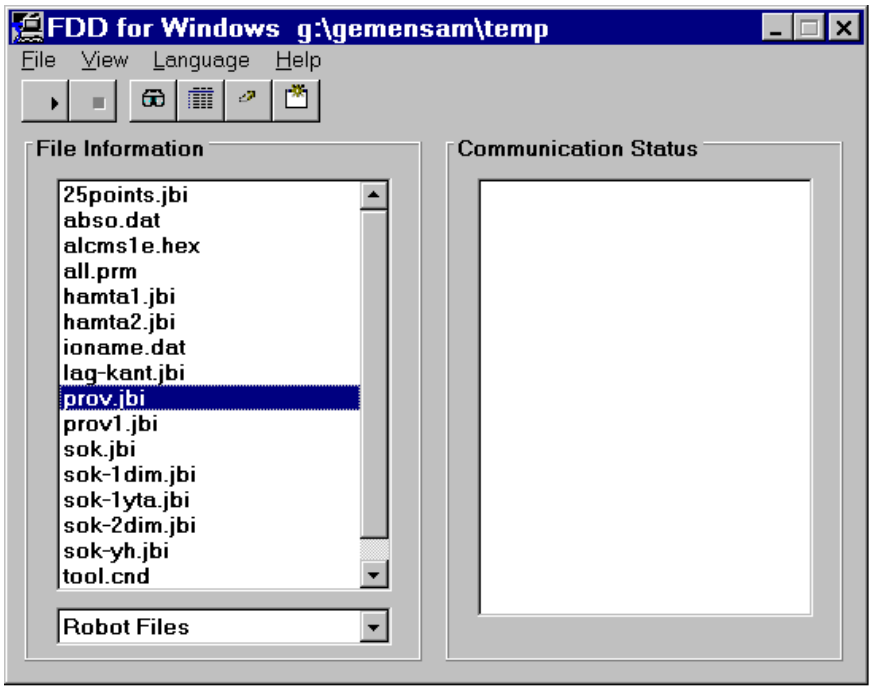


Fig.1
Main screen

1. General

FDD is a 32-bit PC-software.

The purpose with FDD is....

✔ One way communication from up to four MOTOMAN robots to one PC.

✔ Connection to ERC, MRC and XRC robot controllers.

✔ Replaces disk drives type FC1 / FC2.

✔ Expanded storage area for robot jobs in the PC.

✔ Editing the robot job is not possible by this program.

✔ This is a multi language version of FDD which gives you the facility to switch between 11 languages and even create new language files.

For more basic information about installation and handling of the software, icons, menu bars, etc. refer to the operator's manual for Windows 95/98 or Windows NT.

✔ This manual shall always be available to operator.

✔ This User's Manual comprises information about

✔ Installation / Setup / Handling / operation for XRC robot controller

✔ Text written in **BOLD** letters means command, icon or button.

✔ Text written in *ITALIC* means text shown on display.

1.1 Copyright

The diskettes for FDD-program may not be copied or imparted to a third party nor be used for an unauthorized purpose. Copies may be done only for own backup.

This manual may not be copied or imparted to a third party nor be used for an unauthorized purpose.

1.2 FDD-kit

■ *FDD-kit comprises*

✔ Diskettes (for FDD and NT drivers) or CD-ROM

✔ One hardware key

✔ One manual

✔ One registration card

■ *FDD-Kit does not comprise*

✔ Cables Motoman part No 347359-xx (xx =length code)

✔ Adaptors

■ *Further you may have need for*

✔ Programming manual for your robot controller.

✔ Operator's manual for Windows 95/98 or Windows NT.

1.3 Hardware and software demands

✔ One PC type 486 or better, 16 Mb RAM, 2 Mb disk space.

✔ 3,5"-diskette station, 1,44 Mb.

✔ Colour monitor (not necessary).

✔ Windows 95/98 or Windows NT.

✔ **If three or four** robots are to be connected, the computer must be equipped with an extra board including two extra Com-ports.

✔ MOTOMAN XRC robot controller.

✔ RS232 adaptor, 9-pole to 25-pole.

✔ Protective hood, if the PC is installed in the workshop.

2. Software installation

Note
This chapter shows a general installation phase of any software. In this example the software FDDWIN is installed. Select the right software by choosing the appropriate software name.

2.1 Installation

There are three ways to start installation of this software, all will give the same result. The most common way is described below.

a) Put the first diskette named #1 in the disk-drive.

b) Click on the **Start** button on the menu-bar.

c) Choose **Run** from the menu.

d) Browse to drive **A:**

e) Choose the file named **SETUP.EXE**

f) Click **OK**.

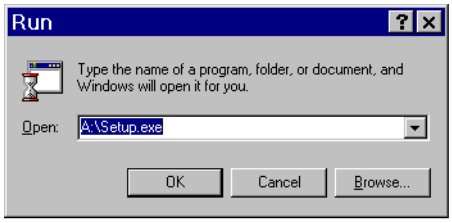


Fig.1 Choose installation file

g) Choose **OK** and the installation guide will start.

h) You can quit the installation att any time by clicking the **Cancel**-button and then confirm by **Yes**-button.

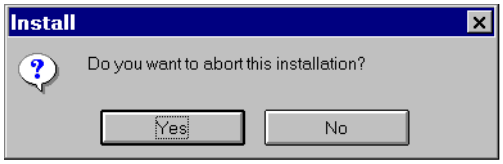


Fig.2 You can cancel installation at any time

i) Mark the language you want to use during installation. ***Note!*** This will not influence the language you use in FDDWIN32 later.

j) Click on the **OK**-button.

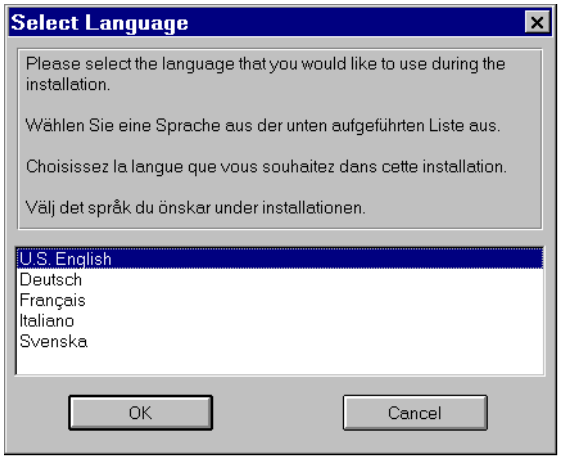


Fig.3 Language selection during installation

k) Pass this information screen by clicking the **Next**-button.

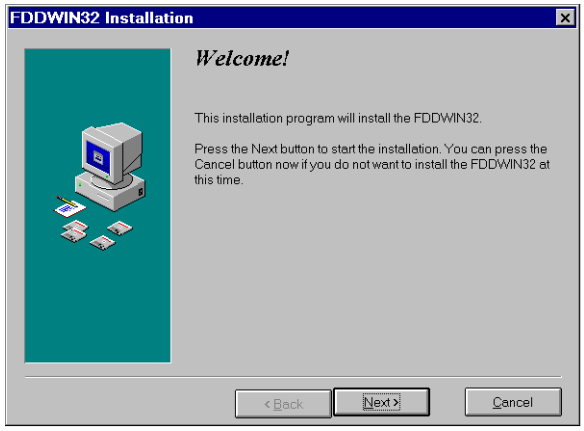


Fig.4 Information screen

l) Read through the license agreement and accept by clicking on the Next-button.

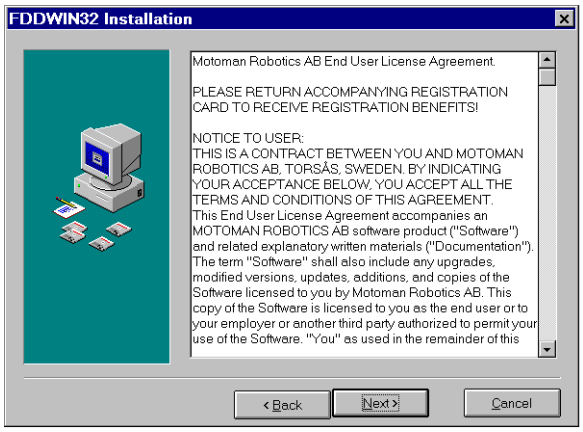


Fig.5 License agreement. Accept by clicking Next.

m) Set directory for FDDWIN32. It's advisable to install the software in the directory which is set as default by the installation guide.

n) Accept by clicking **Next**-button.

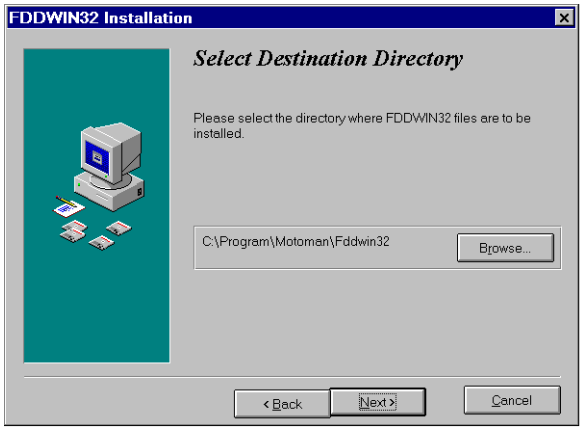


Fig.6 Choose directory

o) Accept installation process by clicking **Next**-button.

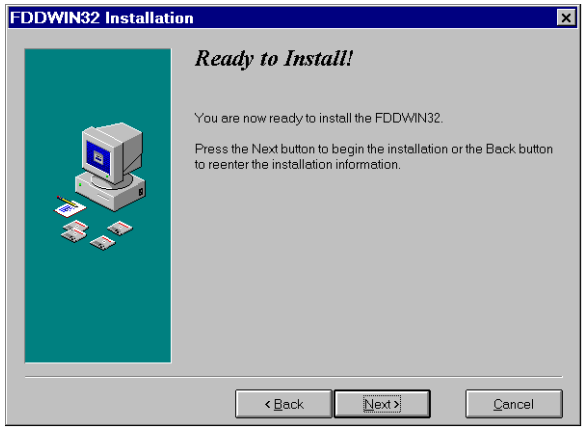


Fig.7 Start installation

p) Installation starts.

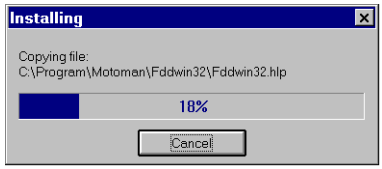


Fig.8 Installation progress counter

q) After some time you are told to enter disk #2/2.

r) Insert disk and click on OK-button.

Fig.9 Insert disk #2

s) The installation is finished and the last screen appears.

t) Accept installation by clicking the **Finish**-button.

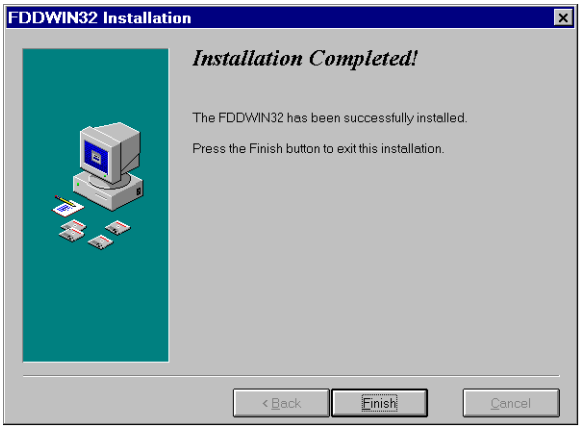


Fig.10 Installation complete

u) Before it is possible to run the software, the hardware key must be installed on the parallel port.

2.2 After installation

After installation, fill in and return the registration card to Motoman Robotics AB.

During installation the main directory is automatically created and all necessary files are installed in the specified drive.

In the end of the setup a program group (MOTOMAN) and a icon is created. To start FDD for Windows just double-click on the **Start Menu**.

If you want to create a shortcut to FDDWIN32, see Windows manual for further information

2.3 Uninstall

As in all WIN95/NT softwares there are an uninstall facility if you want to remove the software from the hard disk.

a) Start the **Control panel** from the start menu. Select **Add/Remove** button from the menu.

b) Mark the line **FDDWIN32** from the menu.

c) Click **Add/Remove** button.

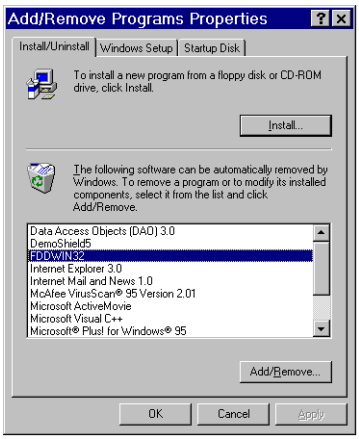


Fig.11 Mark the FDDWIN32 software

d) Activate uninstall guide by **Next**-button.

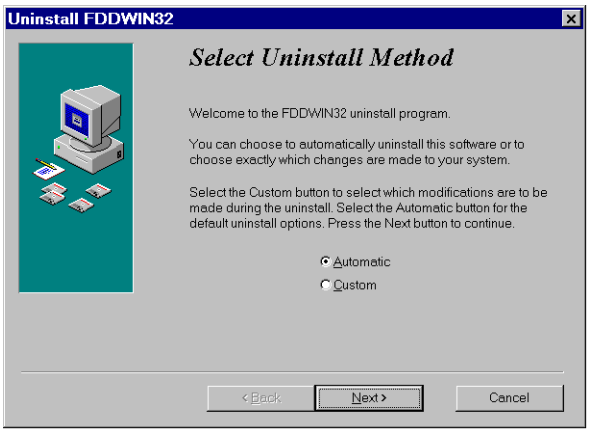


Fig.12 Automatic uninstall

e) End the operation by clicking the **Finish**-button.

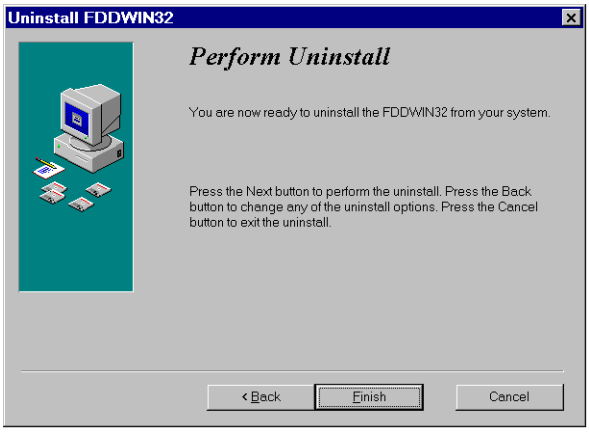


Fig.13 Uninstall

3. Communication setup

3.1 Communication cable

Communication between PC and robot controller via RS232C-serial interface.

Cable length max. 15 m to each robot-controller. It is possible to use short-distance-modem if the distance is longer.

Com1 and **Com3** are 9-pole plugs.

Com2 and **Com4** are 25-pole plugs

Cable layout, see figure.

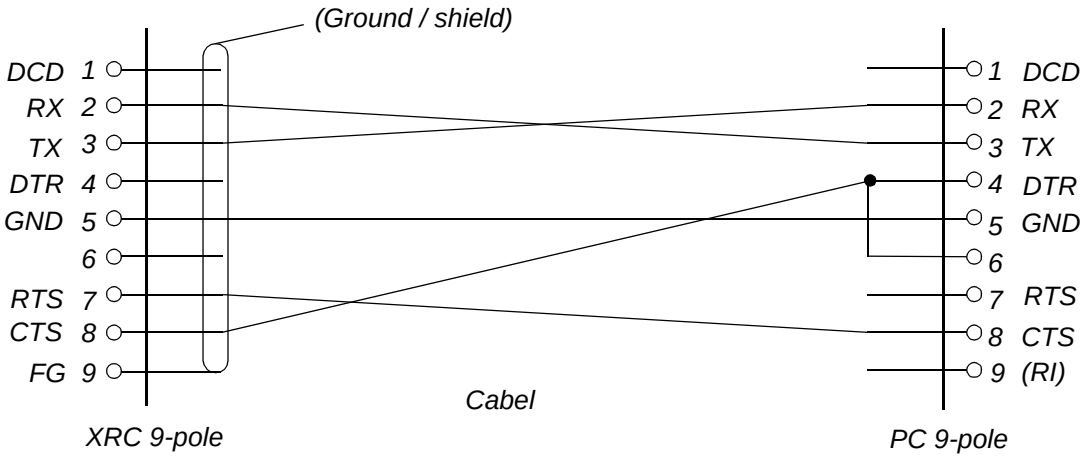


Fig.15 Cabel P/N 347359

3.2 I/O and IRQ setting

For communication the following settings is recommended in the PC.

port	I/O	IRQ
Com1	03F8	4
Com2	02F8	3
Com3	03E8	5
Com4	02E8	9

Setting of I/O and IRQ is made by software in Windows under the icon **Control panel / ports.**

This is the normal setting for **Com1** and **Com2**. For the extra board (**Com3** and **Com4**) it could be needed to move jumpers direct on the board.

3.3 Directories and files

Together with this manual two installation diskettes are included. These diskettes contains the FDD-program in compressed form.

The license is valid for communication with up to four robots from one PC. The hardware key can only be use on one PC at a time.

It is advisable to create separate directories for the robot jobs, name them for example; *robot-1*, *robot-2*, etc, see figure.

For more information, see Windows user's manual.

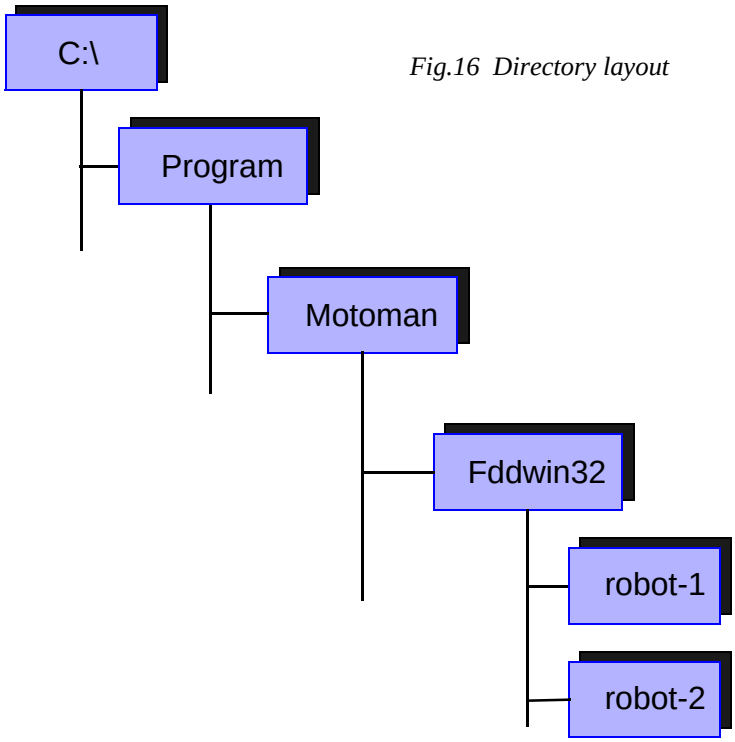


Fig.16 Directory layout

Files loaded into the PC file system will get an extension of .jbr .jbi .dat .prm .cnd .lst .sys or .hex dependinng on typ of file.

See further information at the end of this manual.

3.4 Communication setup

■ *In FDDWIN32*

The communication protocol is very special, (for more information see MOTOMAN XRC computer communication User's manual.)

Communication parameters in the PC shall be set as follows:

Baud rate	*4800*
Data bits	*8*
Stop bits	*1*
Parity check	*2 (even)*

a) Click on [File] in the menu.

b) Click on [Port setup].
A menu is displayed, normally it's not necessary to make any changes in this settings.

c) When the settings are ok, click on [OK].

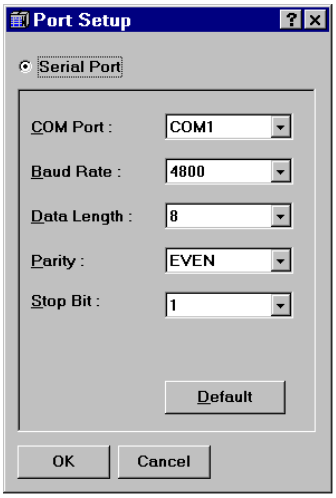


Fig.17 Port setting menu

■ *Robot parameters*

To establish communication between XRC robot controller and PC some parameters have to be set.

Contact your MOTOMAN-representative if in doubt.

Type	***XRC***	***Initial setting***
	RS000= (* Std. port #1)	0
Data bit	RS50=8	8
Stop bit	RS51=0	0
Parity	RS52=2	2
Baud rate	RS53=6	6
Response timer	RS54=0	0
Text end mon.	RS55=0	0
ENQ retry	RS56=0	0
Data retry	RS57=0	0
Disk size	RS58=3	3
Job overwrite	RS59=0	0

■ *Hardware connection to XRC*

The XRC controller has two 9-pole cable connectors. One 9-pole socket underneath the lid at the short end of the programming pendant = **FDD Port (CN01)**.

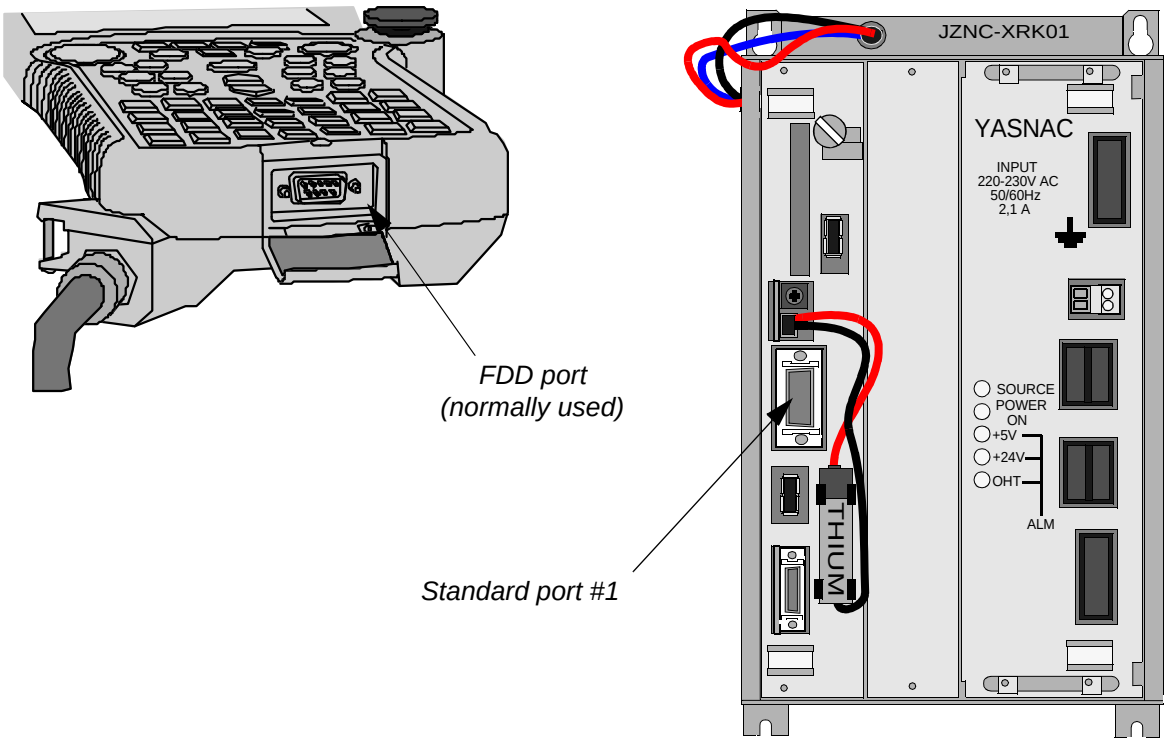
And a 9-pole socket inside XRC located at CPU unit (XCP01-board) = **Std. port #1**.

The FDD port is used for normal temporary use. The port inside is used for stationary use.

(*) Settings for parameter RS000 (Std. port #1):

0 = Not used
2 = Data transmission protocol (PC as host)
3 = FC1 protocol (FDD software)

To run FDDWIN32 via Std. port #1 you must set RS000 to value "3"



■ *Hardware key*

To be able to run the program it is necessary to apply the hardware key. Mount the hardware key on the parallel port of the PC.

For Windows NT applications, see separate chapter.

4. FDD functions

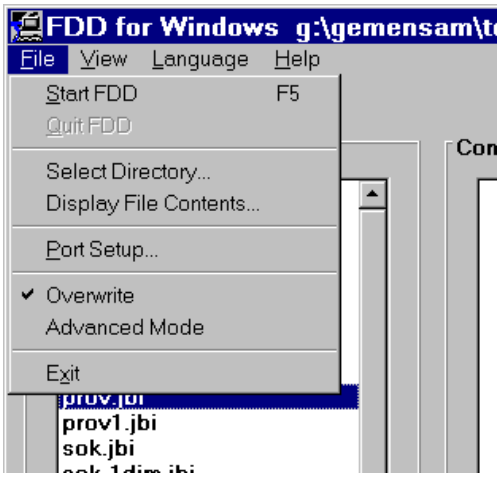


Fig.18 FDD setting

4.1 File menu

■ *Select Directory*

From this menu you select to which directory you will copy your robot files.

■ *Display File Contents*

By first selecting a file in the **File Information** window and then use this command, the choosen file is opened in Windows Notepad.

You can also start Notepad by doubble-click on the file directly.

■ *Create directory*

A new directory can be created direct from the Select Directory menu.

Just write the new name in the "**Directory:**"-box in the right place and click on the **Create**-button. The Windows system can handle (max 255 characters).

■ *Overwrite*

Under this menu it's possible to set the basic functions for file-copy.

If **Overwrite** is marked when the files are sent from the robot controller the files in the user directory will be written over without warning!

If **Overwrite** is not marked an alarm messages will be sent if the file already exists in the user directory. Erase the file or switch to another user directory.

4.2 Select language

Every time you start FDD for Windows version 4.00 you will be given the facility to choose language for menues and commands.

Fig.19 Multi language

Choose language and then click on the **OK** button.

Note!
Japanees language can't be displayed in an European computer.

It is even possible to correct and change each word or to create a totally new language file, see separate chapter in this document.

If you don't want to display this window every time you start the FDD software, just mark the line "**Ignore language selection at program start**".

You also have the facility to change the font in the menues. If the "**Default Fonts will be used**" is marked **MS Sans serif** will be used.
If you unmark the funktion a dialogue box from Windows system will appear and you have the facility to choose font (style).

4.3 Help

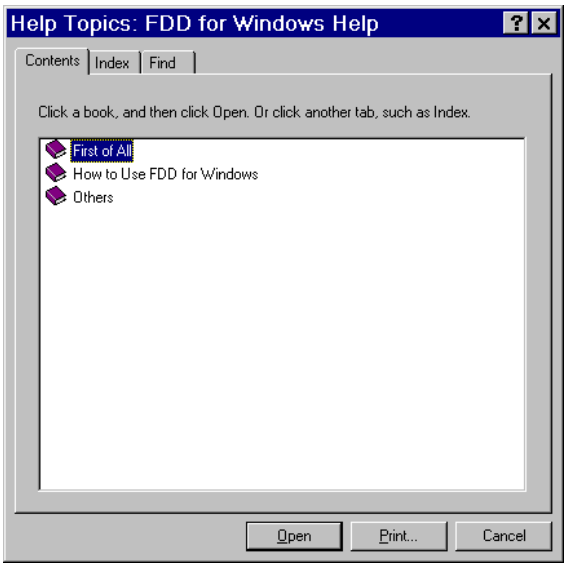


Fig.20 Help menu

From the Help menu you get short information about commands, functions, etc. which can be helpful when you run the software.

5. Program structure

FDD is a Windows based communication program for connection between a PC and MOTOMAN industrial robots, controller type ERC, MRC or XRC.

5.1 Files

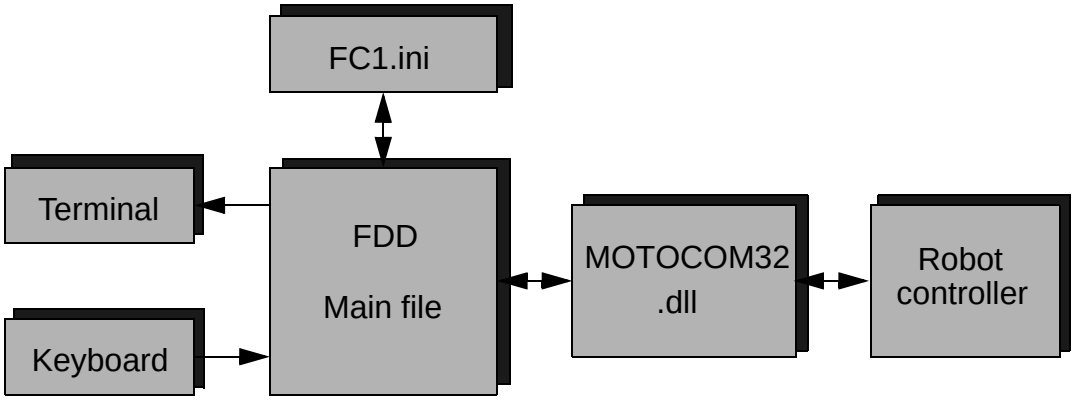


Fig.21 Data flow

FDD consists of one main file communicating with the user and controlling the main functions. The main file is written in Visual Basic which is a Windows based designer program. Therefore, the functions and the menus are the same as for Windows.

FDD uses the colours set up for Windows, which can be set under the Windows **Control panel**.

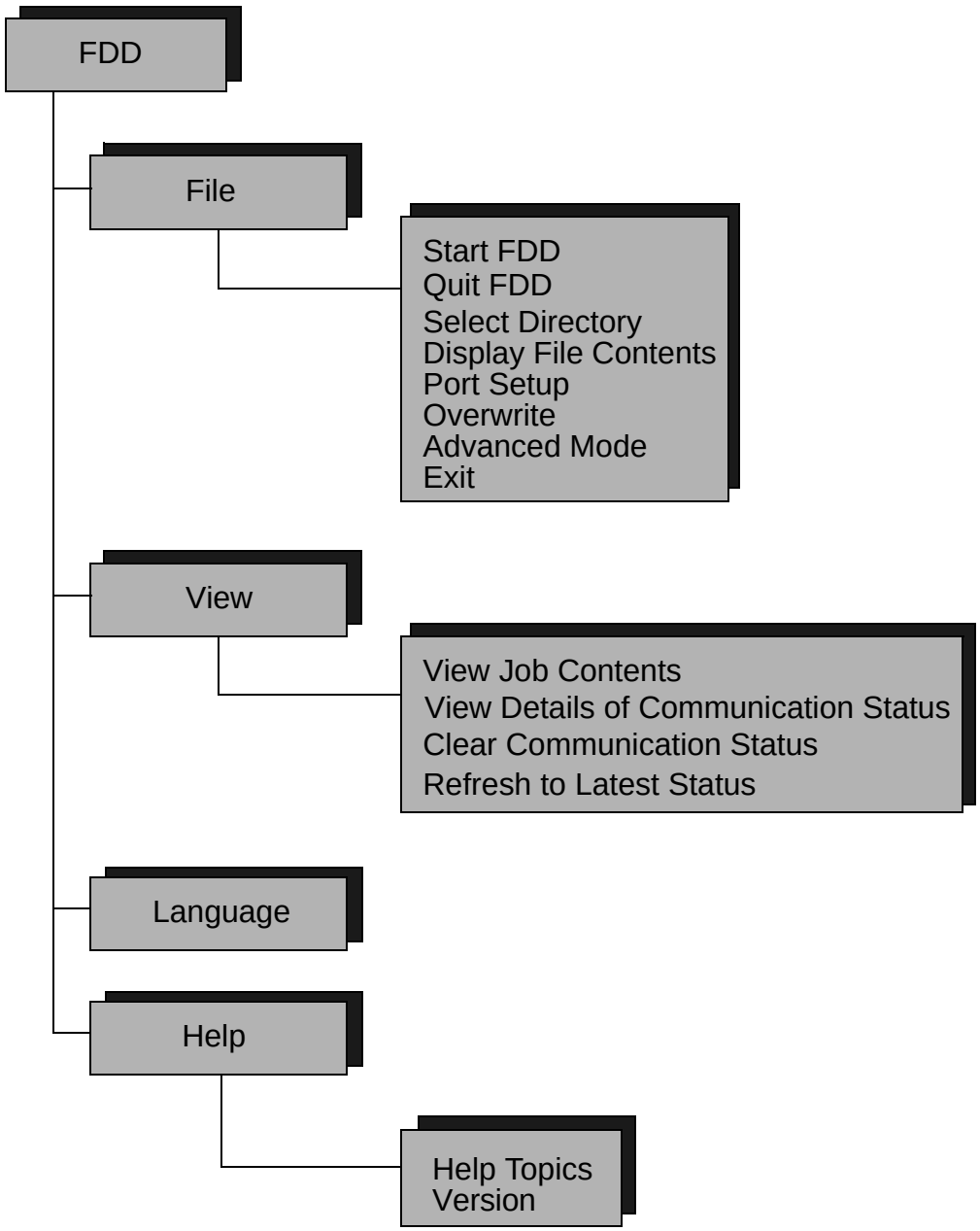
FDD also comprises a DII-file which supervise the communication between the PC and the robot controller. The DII-file is written in Visual C++ and will be installed in the Win.ini-file.

FDD also comprises a fc1.ini-file in which information about main directory and user directory is stored.

FDD for Windows is available in 11 languages:

-Swedish
-English
-French
-German
-Italian
-Finnish
-Norweigan
-Danish (excluded)
-Spanish
-Portugese (excluded)
-Japanese

5.2 Commands

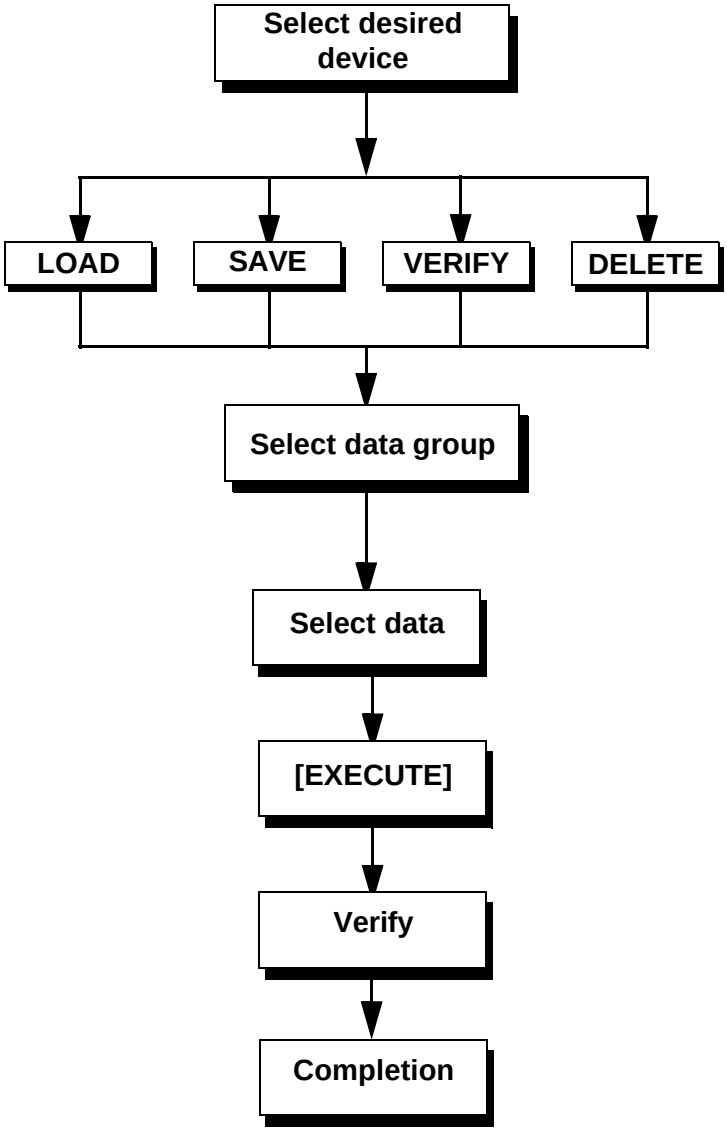

FDD
File
Start FDD
Quit FDD
Select Directory
Display File Contents
Port Setup
Overwrite
Advanced Mode
Exit
View
View Job Contents
View Details of Communication Status
Clear Communication Status
Refresh to Latest Status
Language
Help
Help Topics
Version

6. Program running

FDD-program is run (load and save files) from the programming pendant of the controller. The command run from the PC is only for handling of the files in the PC (move files, user directory and open files for printing etc.).

6.1 File management

The following diagram is an operation flow to show file transfer and management. The operation is performed with the programming pendant.



6.2 Start software

The program is activated in the PC and then run from the robot controller.

a) Start software
Start the program by double-click on the icon, the start menu is shown (Fig. 1).

b) Select directory
Click on [Select Directory] and choose user directory for file transfer, for more information see Windows manual.

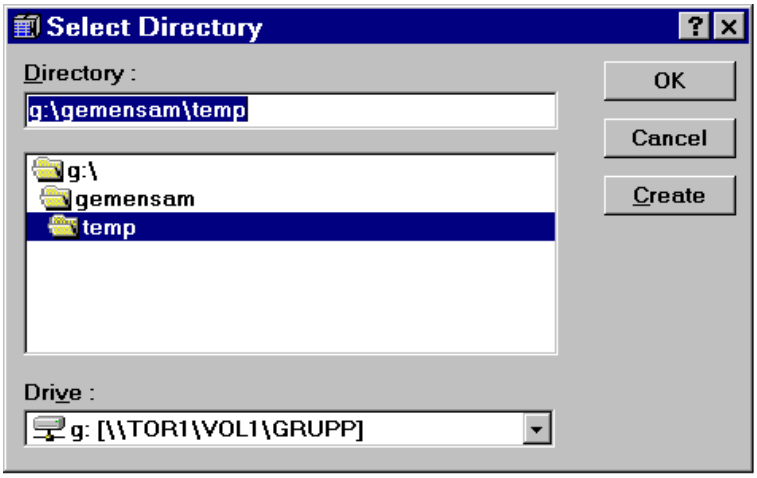


Fig.22 User directory

c) When the right directory is stated, click on the [OK].

d) Activate FDD function
Click on [Start FDD]. The communication is now established and all other FDD functions are locked.

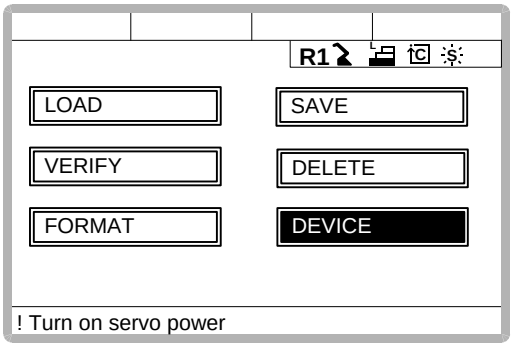
e) Proceed from the programming pendant of the robot controller.

6.3 Running from the robot

■ Main menu för FDD communication

a) From the [TOP MENU] choose [FD/PC CARD].

b) Choose the appropriate task.



1) LOAD
Copy files from the computer into the robot controller.

2) SAVE
Copy files from the robot controller into the computer.

3) VERIFY
Compare files in the robot controller with the files in computer. This should always be done to secure correct data transmission.

4) DELETE
Delete files in the computer.

5) FORMAT
Not to be used when running FDDWIN32 to a computer.

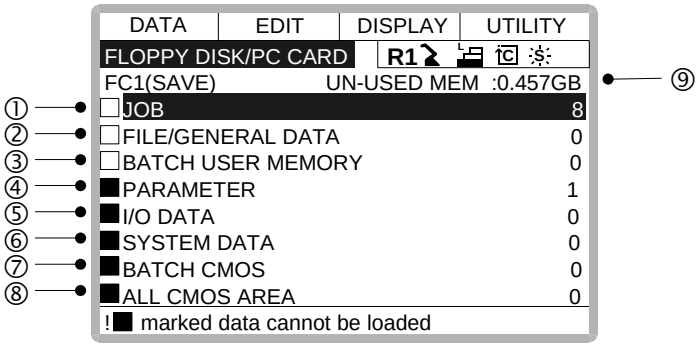
6) DEVICE
Select device, FC1, FC2, PC Card, etc.

■ Data that can be saved and save destination file names

The floppy disk display is shown below. Data that can be saved are classified into eight groups. The table on the next page lists the data of the eight groups. The table also shows different file names provided for saving different types of data.

Data saved at an external memory unit can be reloaded into the memory of the XRC. Data belonging to the data groups marked with "■" on the FD/PC CARD display (shown below) have restrictions which apply to reloading into memory because they include system-related information.

Note!
Refer to "YASNAC XRC Maintenance manual" for the method to reload into the memory any data belonging to the data groups marked with "■" on the FD/PC CARD display,



The numbers ① through ⑧ in the above display correspond to the numbers ① through ⑧ in the table on the next page.

1) Single job selection.

2) Single data file selection.

3) All files belonging to No. 1 and No. 2 is selected.

4) All parameters. Restricted to load.

5) I/O data. Restricted to load.

6) System Data. Restricted to load.

7) Batch CMOS. Restricted to load.

8) Whole CMOS memory. Restricted to load.

Note!
When ③ "BATCH USER MEMORY", ⑦ "BATCH CMOS", or ⑧ "ALL CMOS AREA" is selected, jobs are also saved, but the job headers of the saved jobs are not saved to an external memory unit. Saving of job headers is only completed if ① "JOB" is selected to save the data.

Data That Can Be Saved		File Name (Saved Data)	Save		Load	
			OPER	EDIT	OPER	EDIT
⑧ ALL CMOS AREA		ALLCMSxx.HEX	✔	✔	✷	✷
⑦ BATCH CMOS		CMOSxx.HEX	✔	✔	✷	✷
③ BATCH USER MEMORY		JOBxx.HEX	✔	✔	✔	✔
① JOB	Single job	JOBNAME.JBI	✔	✔	✔	✔
	Related job (Job+Condition)	JOBNAME.JBR	✔	✔	✔	✔
②FILE/ GENERAL DATA	Tool data	TOOL.CND	✔	✔	✔	✔
	Weaving data	WEAV.CND	✔	✔	✔	✔
	User coordinate data	UFRAME.CND	✔	✔	✔	✔
	Converted data	VAR.DAT	✔	✔	✔	✔
	Arc start condition data	ARCSRT.CND	✔	✔	✔	✔
	Arc end condition data	ARCEND.CND	✔	✔	✔	✔
	Welder condition Assist Data	ARCSUP.DAT	✔	✔	✔	✔
	Welder characteristic Data	WELDER.DAT	✔	✔	✔	✔
	Welder char. definition data	WELDDUDEF.DAT	✔	✔	✔	✔
	Shoch detection level data	SHOCKLVL.CND	✔	✔	✔	✔
	Servo Gun Pressure Power	SPRESS.CND	✔	✔	✔	✔
	Servo Gun Dry Spot Pres-	SPRESSCL.CND	✔	✔	✔	✔
	Spot Gun Characteristic Data	SGUN.DAT	✔	✔	✔	✔
	Spot Welder Characteristic Data	SWELDER.DAT	✔	✔	✔	✔
	Short/Full Open Position Data	STROKE.DAT	✔	✔	✔	✔
④ PARAMETER BATCH		ALL.PRM	✔	✔	✷	✔
④ PARAME-TER	Robot matching parameter	RC.PRM	✔	✔	✷	✔
	System definition parameter	SD.PRM	✔	✔	✷	✔
	Coordinate origin parameter	RO.PRM	✔	✔	✷	✔
	System matching parameter	SC.PRM	✔	✔	✷	✔
	ClO parameter	CIO.PRM	✔	✔	✷	✔
	Function definition parameter	FD.PRM	✔	✔	✷	✔
	Application parameter	AP.PRM	✔	✔	✷	✔
	Transmission(general) parame-	RS.PRM	✔	✔	✷	✔
	Sensor parameter	SE.PRM	✔	✔	✷	✔
	Servo parameter	SV.PRM	✔	✔	✷	✔
	Servo motor parameter	SVM.PRM	✔	✔	✷	✔
	Operation Control Parameter	AMC.PRM	✔	✔	✷	✔
	Servo Power Block Parameter	SVP.PRM	✔	✔	✷	✔
	Motion Function Parameter	MF.PRM	✔	✔	✷	✔
	Motion Transmission Parameter	RSM.PRM	✔	✔	✷	✔
	PC Definition Parameter	PCD.PRM	✔	✔	✷	✔
⑤ I/O DATA	Concurrent I/O program	CIOPRG.LST	✔	✔	✷	✔
	I/O name data	IONAME.DAT	✔	✔	✷	✔

Data That Can Be Saved			File Name (Saved Data)	Save		Load	
				OPER	EDIT	OPER	EDIT
	⑥SYSTEM DATA	User Word Registration	UWORD.DAT	✔	✔	✷	✔
		SV monitor signals	SVMON.DAT	✔	✔	✷	✔
		Variable name	VARNAME.DAT	✔	✔	✷	✔
		Second home position	HOME2.DAT	✔	✔	✷	✔
		Alarm history data	ALMHIST.DAT	✔	✔	✷	✔
		Home position calibrating data	ABSO.DAT	✔	✔	✷	✔
		System Information	SYSTEM.SYS	✔	✔	✷	✔

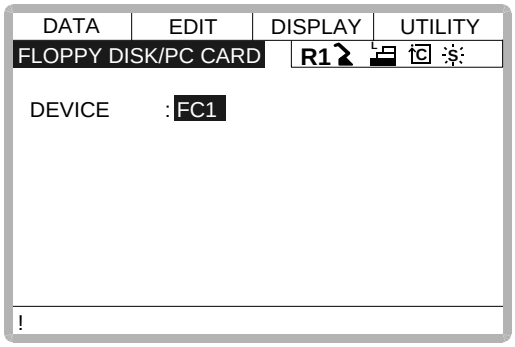
OPER : Operation Mode
EDIT : Edit Mode
✷ = Not possible
✔ = OK (possible)

6.4 Select unit

■ Selecting a memory unit

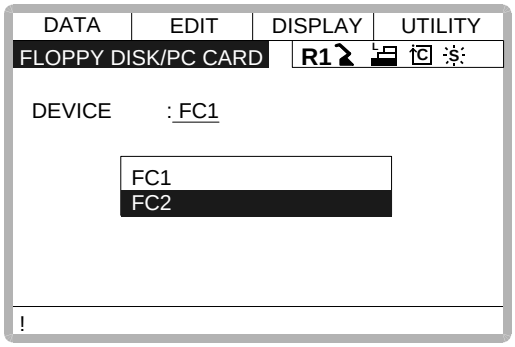
a) Select [FD/PC CARD].

b) Select [DEVICE].
The device select display is shown.



c) Press [SELECT].
The select dialog is displayed.

d) In FDDWIN case, select >FC1<,
Move the cursor and press [SELECT].



e) Press [ENTER].

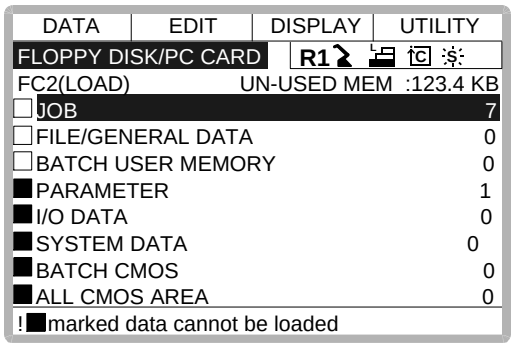
6.5 Load

To upload data from the external memory unit to the memory of the XRC, follow the procedure in the following.

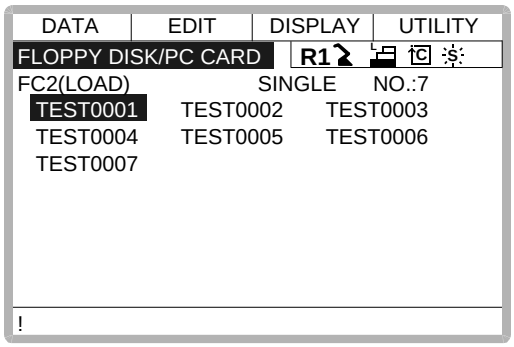
■ *Loading the job*

a) Select {FD/PC CARD} under the top men.

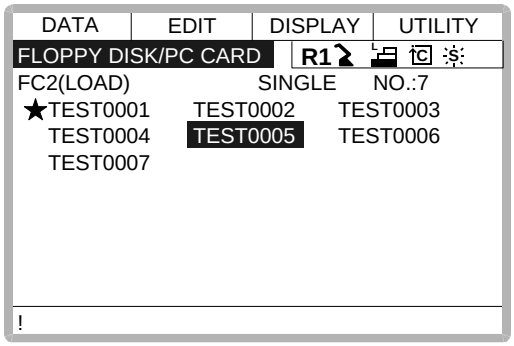
b) Select {LOAD}.
The floppy disk display is shown.



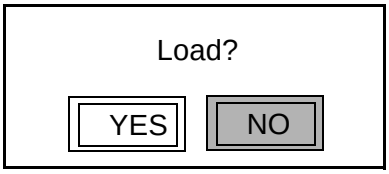
c) Select "JOB".
The job list display is shown.



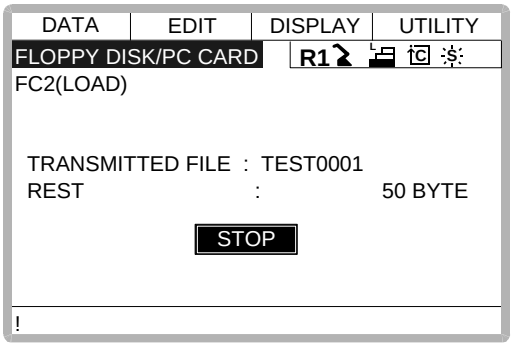
d) Select the job to be loaded.
The selected job is marked with "★".



e) Press [ENTER].
The confirmation dialog is displayed.



f) Select "YES".
The job starts loading, and the transmission display is shown.

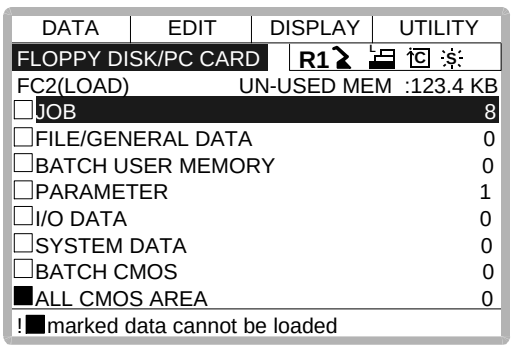


To cancel loading, press [SELECT].
Once the load operation is completed or cancelled, the job list display is shown.

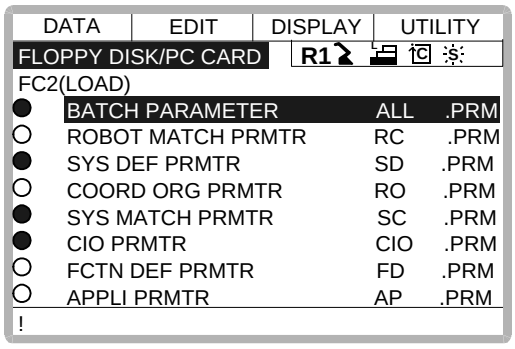
■ *Loading files*

a) Select {FD/PC CARD} under the top menu.

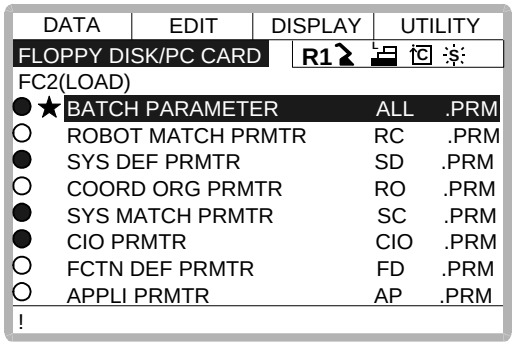
b) Select {LOAD}.
The floppy disk display is shown.



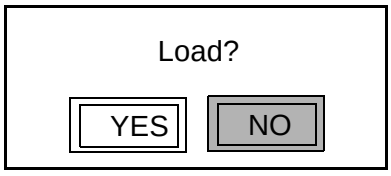
c) Select the file group to be loaded.
The file select display is shown.



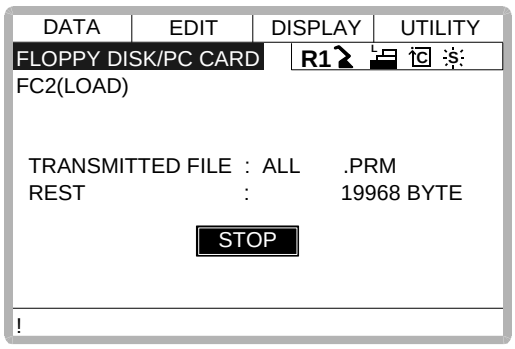
Select the file to be loaded.
The selected data is marked with "★". The "●" mark in the display shows the file which exists in the external memory unit (floppy disk).



Press [ENTER].
The confirmation dialog is displayed.



d) Select "YES".
The data starts loading, and the transmission display is shown.



To cancel loading, press [SELECT].
Once loading is completed or cancelled, the file select display is shown.

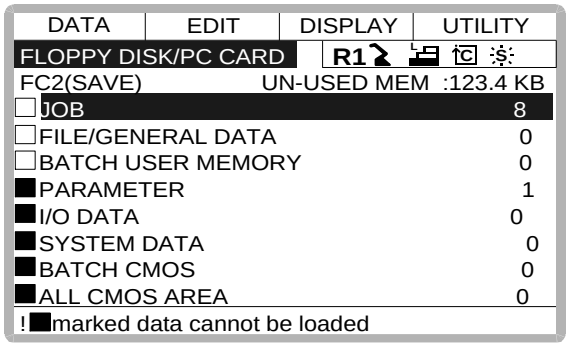
6.6 Save

To download data from the memory of the XRC to the external memory unit, perform the following procedure.

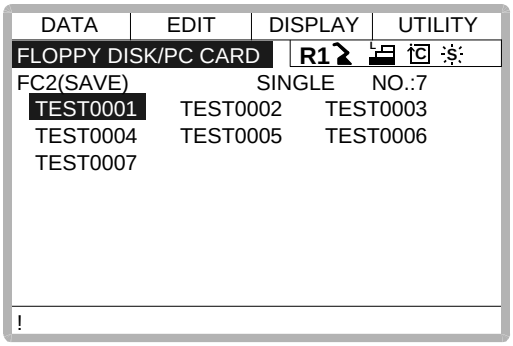
■ *Saving the job*

a) Select {FD/PC CARD} under the top menu.

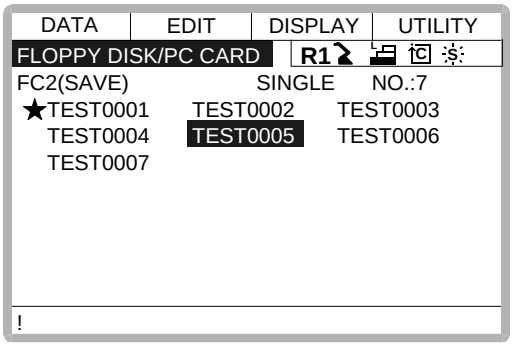
b) Select {SAVE}.
The floppy disk display is shown.



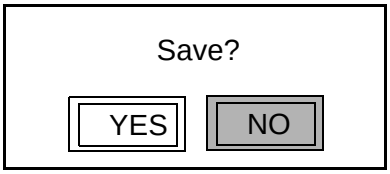
c) Select "JOB".
The job list display is shown.



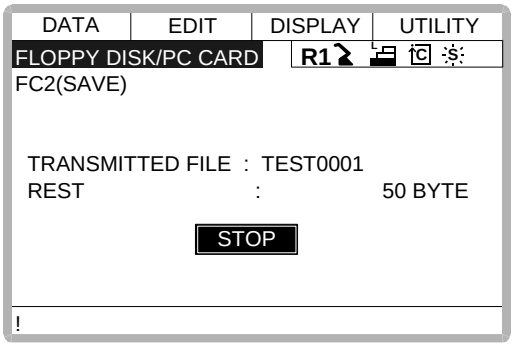
d) Select the job to be saved.
The selected job is marked with "★".



e) Press [ENTER].
The confirmation dialog is displayed.



f) Select "YES".
The job starts saving, and the transmission display is shown.

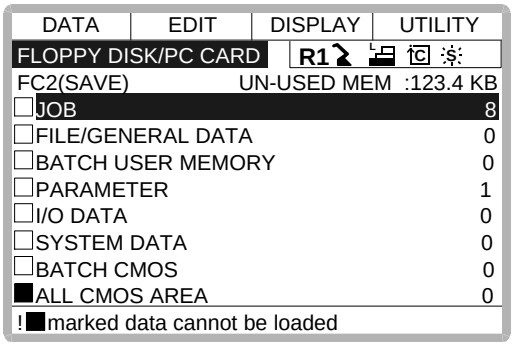


To cancel the save operation, and press [SELECT].
Once saving is completed or cancelled, the job list display is shown.

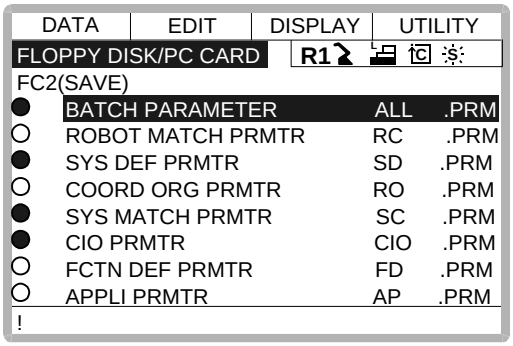
■ *File saving*

a) Select {FD/PC CARD} under the top menu.

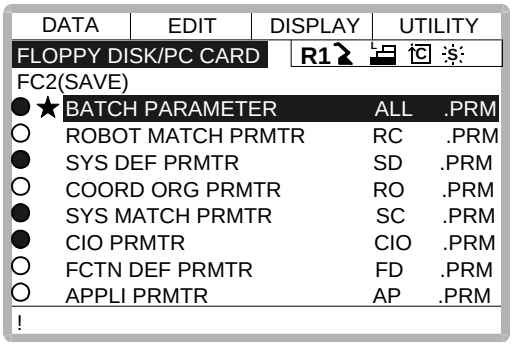
b) Select {SAVE}.
The floppy disk display is shown.



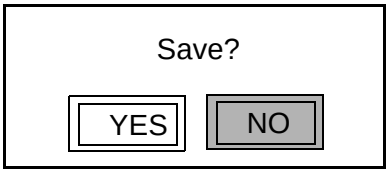
c) Select the file group to be saved.
The file select display is shown.



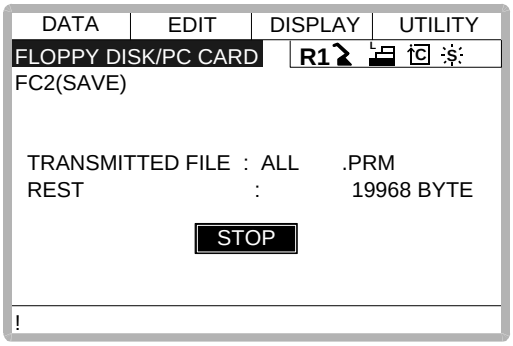
d) Select the file to be saved.
The selected data is marked with "★". The "●" mark in the display shows the file which exists in the external memory unit (floppy disk).



e) Press [ENTER].
The confirmation dialog is displayed.



f) Select "YES".
The data starts saving and the transmission display is shown.



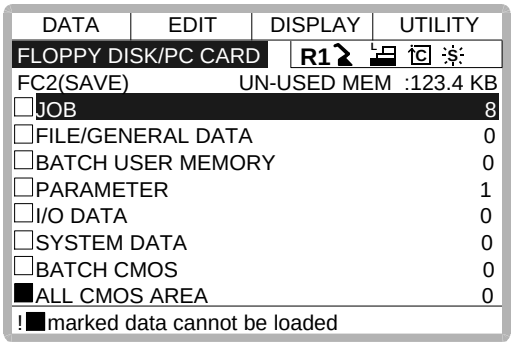
To cancel loading, press [SELECT].
If loading is completed or canceled, the file select display is shown.

■ *Saving the CMOS data*

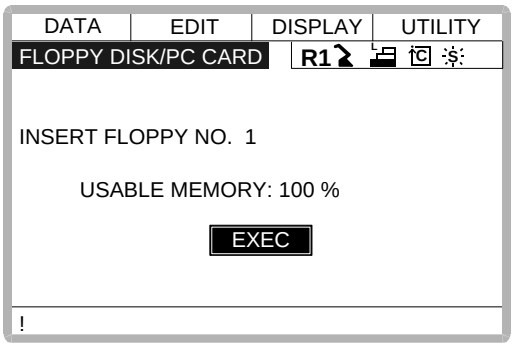
To save all user's programs (BATCH USER MEMORY), all data in the CMOS (BATCH CMOS), or all data in the CMOS area (ALL CMOS AREA), a single floppy disk may not be sufficient. In that case, the operator must provide another floppy disk when so instructed by a message on the display.

a) Select {FD/PC CARD} under the top menu.

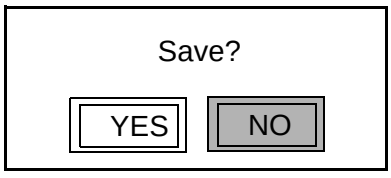
b) Select {SAVE}.
The floppy disk display is shown.



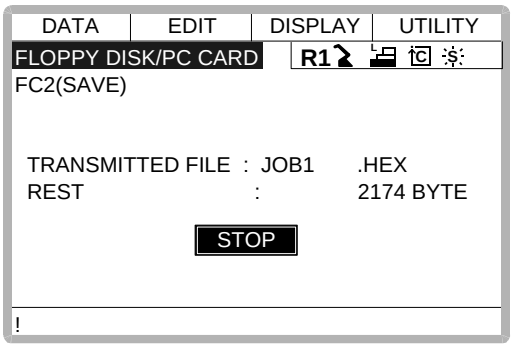
c) Select "BATCH USER MEMORY".
The following display is shown. Please insert the first floppy disk in the external memory unit.



d) Select "EXEC".
The confirmation dialog is shown.

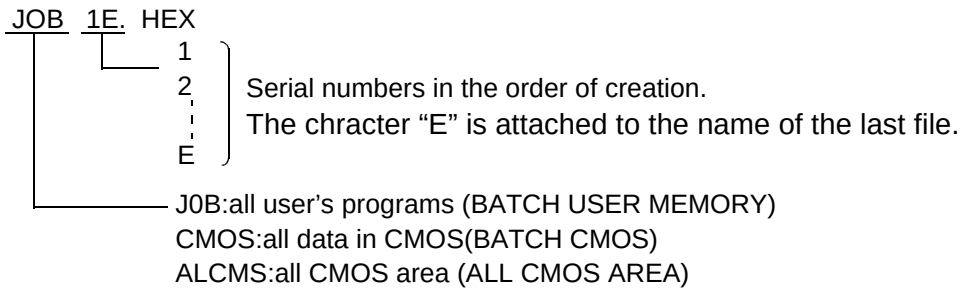


e) Select "YES".
The file starts saving, and the transmission display is shown.

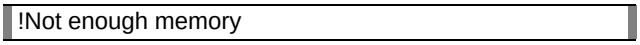


To cancel the save operation, press [SELECT].

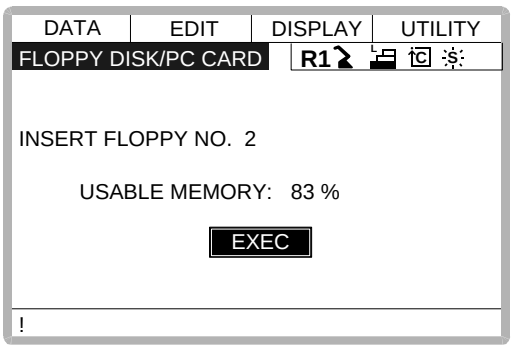
Files can be created as long as there is still space remaining on the floppy disk. Each file created on the floppy disk is given a file name that includes a serial number (in order of creation).



An error will occur if the operator inserts a floppy disk having the unused area of 2KB or less. Replace it with another floppy disk.



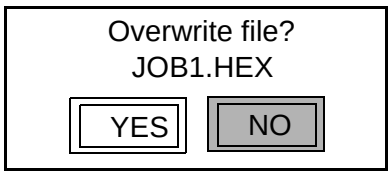
f) Insert the floppy disk.
If more data need to be saved when the first floppy disk is full, a message appears to prompt the operator to supply another floppy disk. Remove the current floppy disk, insert another one, and move the cursor to "EXEC" and press [SELECT].



After saving is completed, the floppy disk display is shown.

■ *Overwriting existing files*

If the floppy disk contains a file with the same name as the one to be created by the saving process, the confirmation dialog is displayed.



When overwriting the file, move the cursor to "YES" and press [SELECT]. The file in the floppy disk is deleted and the forwarded data is saved. When not overwriting the file, move the cursor to "NO" and press [SELECT] . The save operation can be continued while replacing the new floppy disk.

6.7 Verifying data

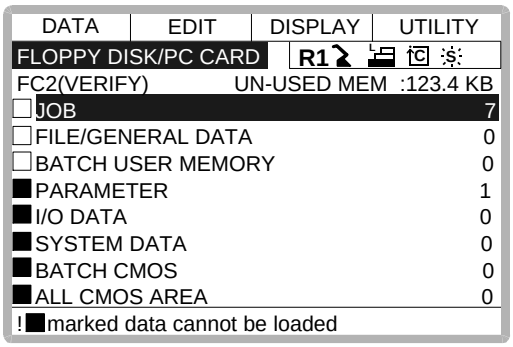
Follow the procedure below to verify data in the memory of the XRC with similar data saved at the external memory unit.

Note!
This function cannot be executed with "BATCH CMOS" or "ALL CMOS AREA" specified.

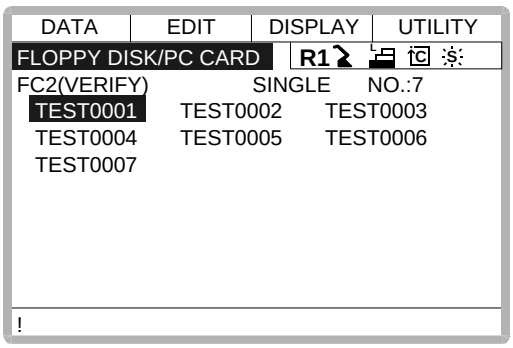
■ *Verifying the job*

a) Select {FD/PC CARD} under the top menu.

b) Select {VERIFY}.
The floppy disk display is shown.

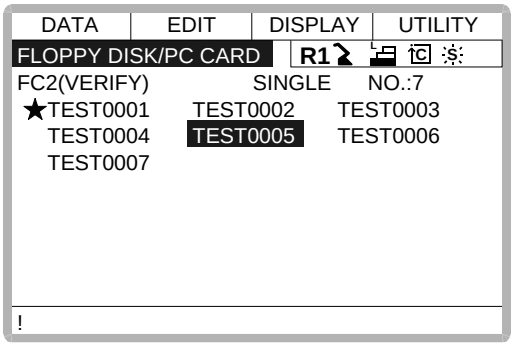


c) Select "JOB".
The job list display is shown.

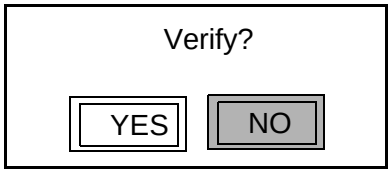


d) Select the job to be verified.

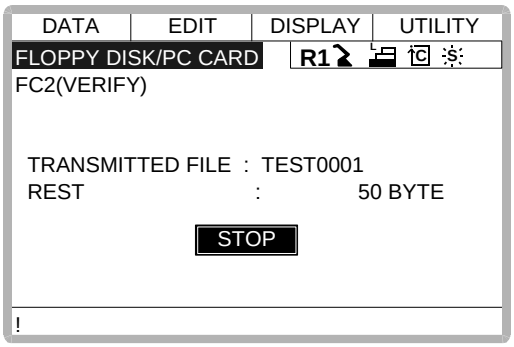
The selected job is marked with "★".



e) Press [ENTER].
The confirmation dialog is displayed.



f) Select "YES".
The job starts verifying and the transmission display is shown.

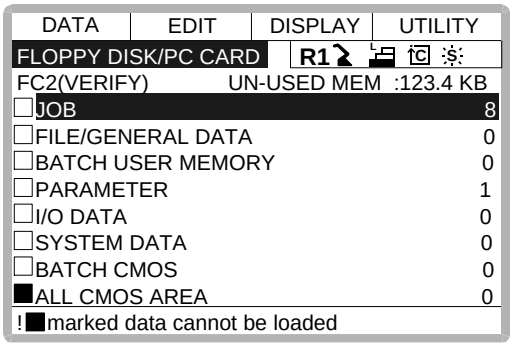


To cancel the verifying operation, press [SELECT].
After verifying is completed or cancelled, the job list display is shown.

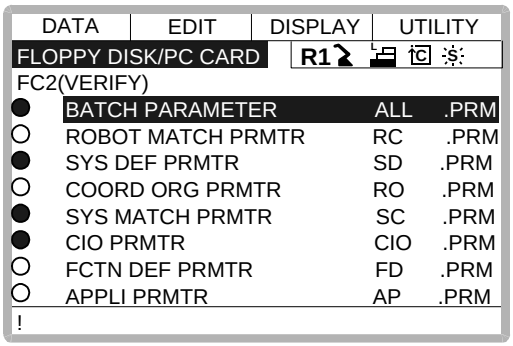
■ *Verifying the condition file / universal data*

a) Select {FD/PC CARD} under the top menu.

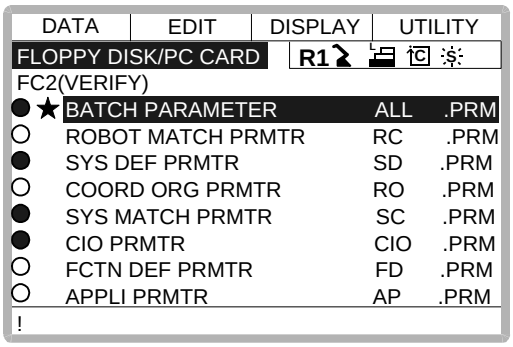
b) Select {VERIFY}.
The floppy disk display is shown.



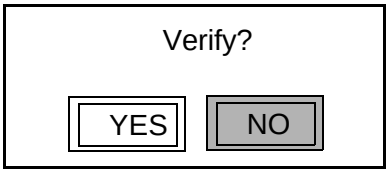
c) Select the file group to be verified.
The file select display is shown.



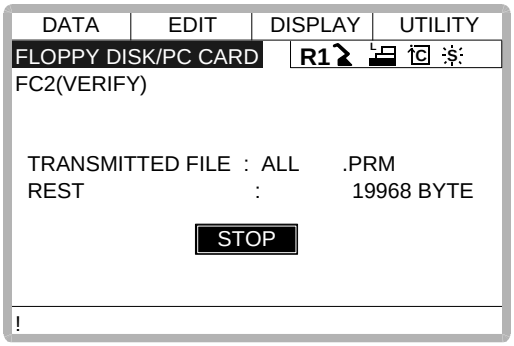
d) Select the file to be verified.
The selected data is marked with "★".



e) Press [ENTER].
The confirmation dialog is displayed.



f) Select "YES".
The data starts verifying and the transmission display is shown.



To cancel the verifying operation, press [SELECT].
Once the verifying is completed or cancelled, the data list display is shown.

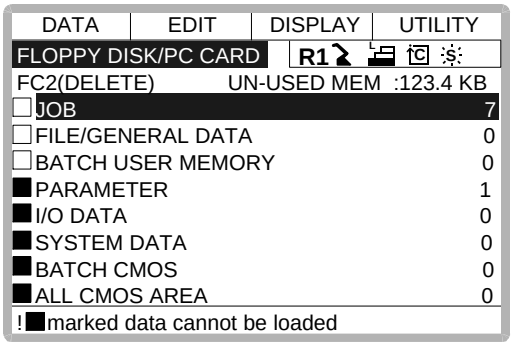
6.8 Deleting files

Follow the procedure below to delete a file or files from the hard disk in the computer.

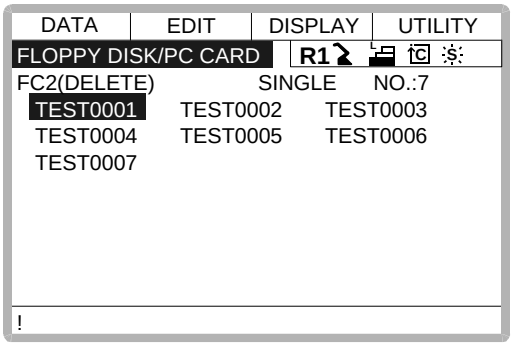
■ *Delete the job*

a) Select {FD/PC CARD} under the top menu.

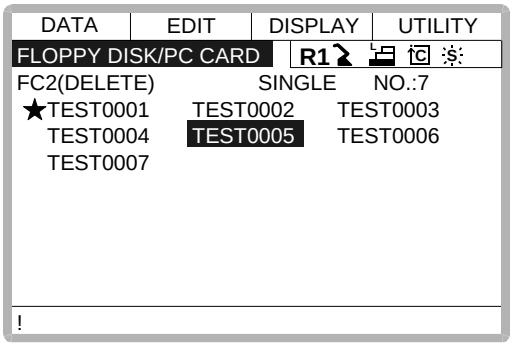
b) Select {DELETE}.
The floppy disk display is shown.



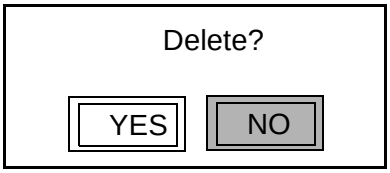
c) Select "JOB".
The job list display is shown.



d) Select the job to be deleted.
The selected job is marked with "★".



e) Press [ENTER].
The confirmation dialog is displayed.

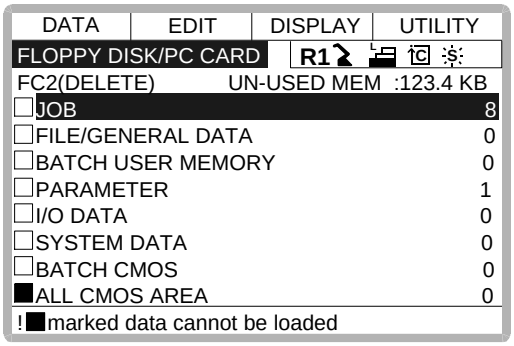


f) Select "YES".
Once deleting is completed, the floppy disk display is shown.

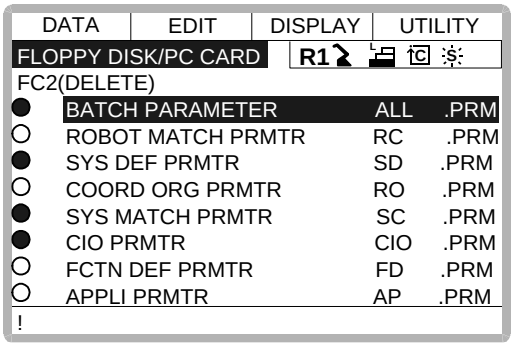
■ *Delete the file*

a) Select {FD/PC CARD} under the top menu.

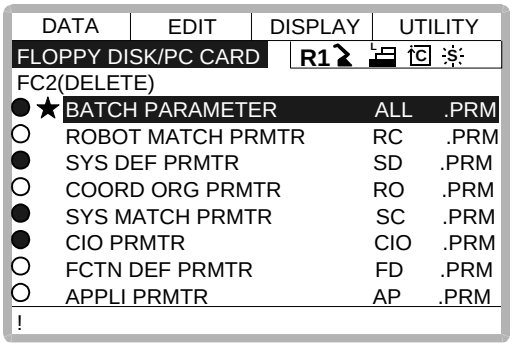
b) Select {DELETE}.
The floppy disk display is shown.



c) Select the file group to be deleted.
The file select display is shown.



d) Select the file to be deleted.
The selected data is marked with "★". The "●" mark in the display shows the file which exists in the external memory unit (floppy disk).



e) Press [ENTER].
The confirmation dialog is displayed.

f) Select "YES".
Once deleting is completed, the floppy disk display is shown.

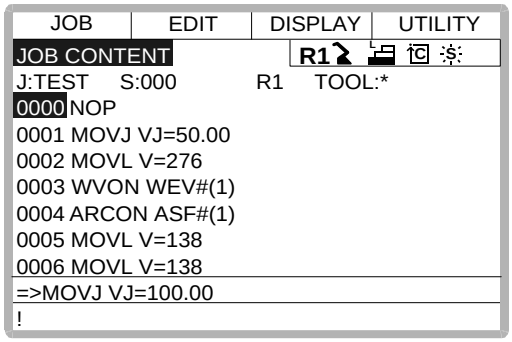
■ *Job selection mode*

The selection of jobs to be loaded, saved, compared, or deleted can be performed in different selection modes described below:

✔ Select SINGLE Mode
Only the selected job can be loaded, saved, or verified.

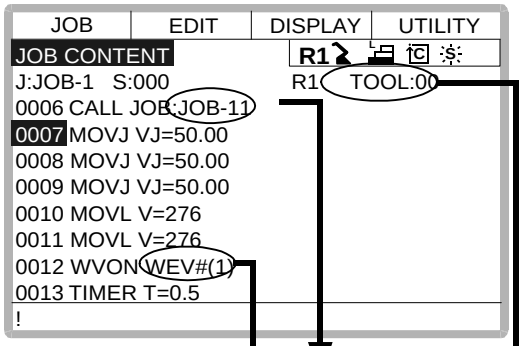
Select RELATED Mode
The selected job and related jobs data and files can be loaded, saved, or verified.

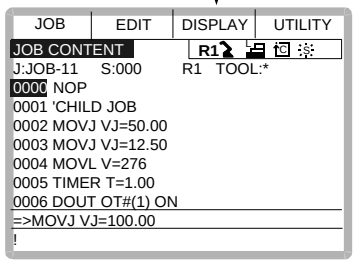
For single selection mode

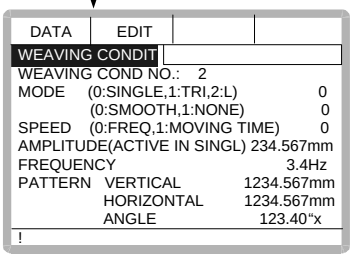


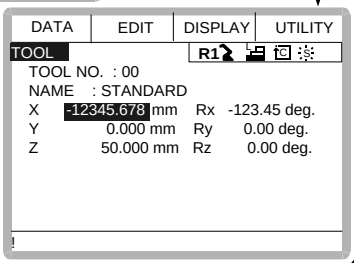
Only the selected job is loaded, saved, and collated.

For relative selection mode





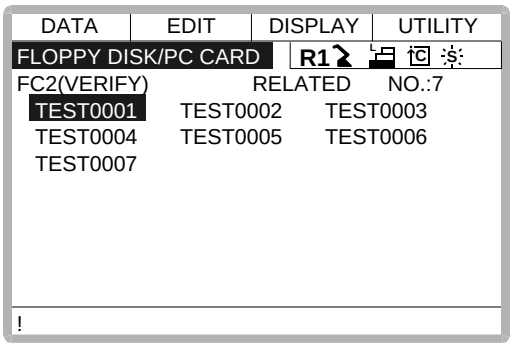




The selected job and the data file and related job are loaded, saved and collated.

6.9 Switch select mode

a) Press the page key in the floppy disk job list display.
Each time the page key is pressed the display switches back and forth between the "SINGLE SELECT MODE" and "RELATED SELECT MODE".



■ *How to select job and data files*

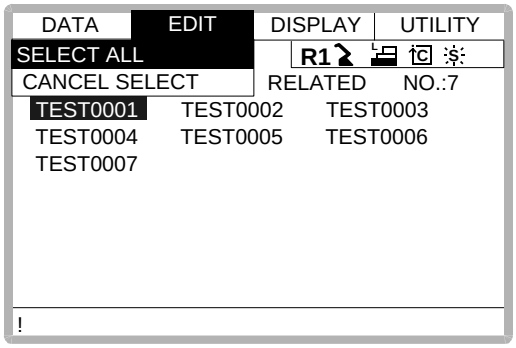
The method of selecting a job and various data files when loading, saving, verifying, and deleting are described in the following:

✔ Individual Select
Jobs and data files are selected individually one at a time.

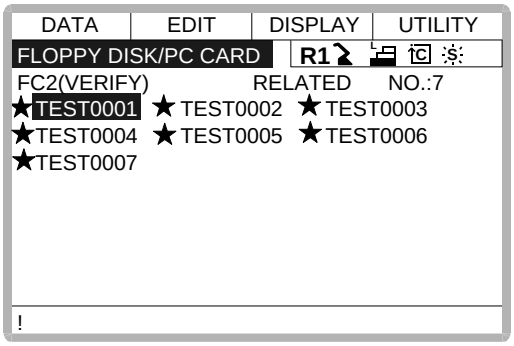
✔ Batch Select
Jobs and data files are selected all at one time.

Batch selection can be performed as in the following:

a) Select {EDIT} under the menu in either the floppy disk job list display or the file select display.
The pull down menu is displayed.



b) Select {SELECT ALL}.
All jobs are selected.



When {EDIT} → {CANCEL SELECT} is selected, the selected item batch operation is cancelled.

6.10 Open a robot job

Files in the PC can be opened (contents).

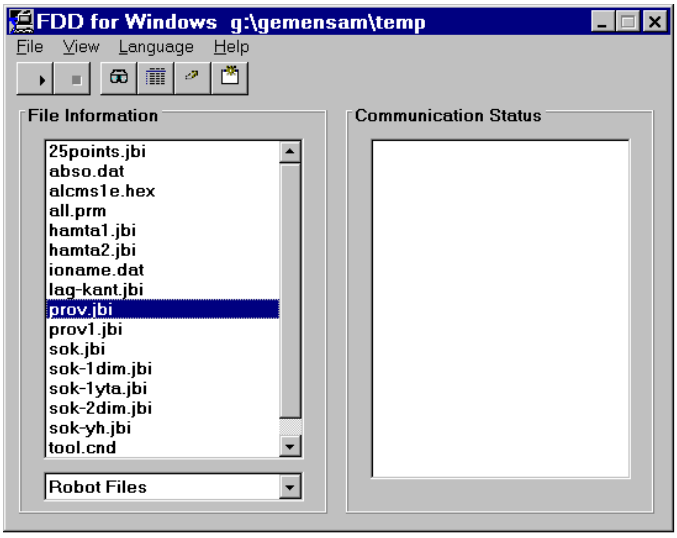


Fig.23 Main menu

a) Click on **Stop FDD**.

b) Mark the wanted file in **File information**. If where are a lot of files a special type of files can be selected. Under the menu **File type** it can be set e.g. [***.jbi**] which results in that only files ending with (jbi) is shown in the window.

c) Then click on the **Job**-button. A new menu is shown there different sorts of information can be displayed.

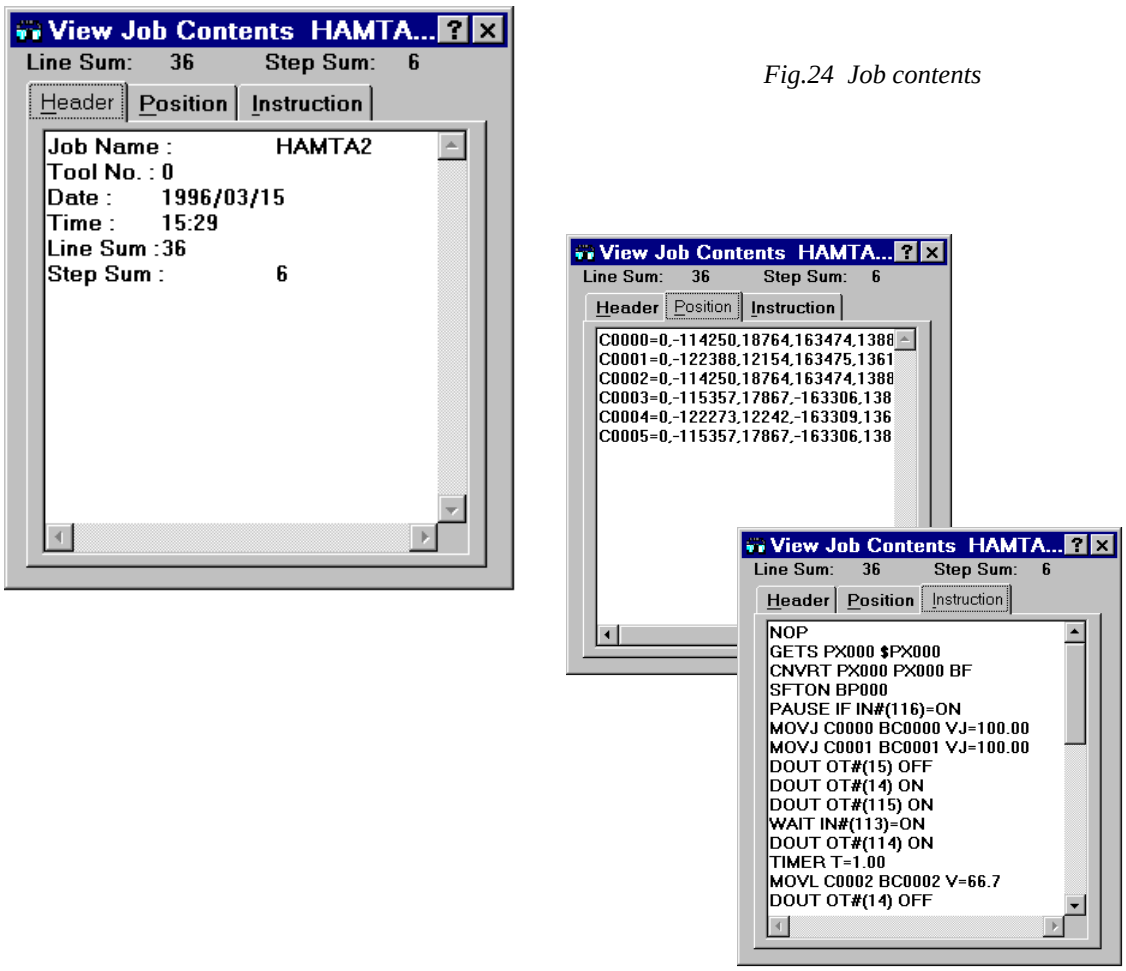


Fig.24 Job contents

■ *View Header*

Gives information about title, tool and other main data.

■ *View Position*

Gives information about the axis position in each joint of the job
Information is given in pulses not millimetre.
(The axis are displayed in the order S,L,U,R,B,T).

■ *View Instruction*

Display all instructions in the job such as MOVJ, JUMP, ARCON etc.

■ *Line Sum*

Display the number of lines in the job.

■ *Step Sum*

Display the number of MOV-instructions in the job.

If the function **File** is used in the main menu all file information is shown in one piece.

6.10.A Cut and paste

a) It is possible to make a printout of the file or use it in documentation etc. by using the Cut & Paste-method.

b) Mark the wanted text by holding the left mouse button and drag across the text. The marked text shall now be marked with "inverted text".

c) Press and hold the Ctrl-button and C-button simultaneous (**Ctrl+C**).

d) Start another text-editor e.g. MS-WORD, Write or Windows/Notepad.

e) Paste the text in this new program by pressing Ctrl-button and V-button simultaneous (**Ctrl+V**).

f) It's also possible to cut out the text from the FDD window by pressing Ctrl-button and X-button simultaneous (**Ctrl+X**).

NOTE!
The Text is only cut out from the local window, the file will not be change at all!

6.11 Editing a language file

In the dialogue box of the Language selection function there is a button named "**EDIT**". Normally this button is not active but by a simple editing of the **FC1.INI** - file it becomes active. This .ini-file can be edited from the Windows Notepad.
When the EDIT-button is active it is possible to edit the language file directly from the Language selection menu.

NOTE!
If you are not a very skilled PC operator you should not edit this files, because it is easy to destroy the syntax!

(Part of the **FC1.INI** - file, found in the **FDDWIN**-directory)
ReWrite=False
StartDsp=False
StartLang=System
LangSelect=Yes
LangEdit=No ← *Change this one to* =Yes
FontName=MS Sans Serif
FontSize=8

Then you have to restart FDD to use the new conditions.

6.12 Create a new language file

When you want to add another language.

Modification can be carried out from the Windows Notepad.

If you want to add other language which is not already available, proceed as follows:

("Korean" as an example)

a) Copy "English.lng" to "User13.lng" (Don't rename it to "Korean.lng".)

b) In the file "User13.lng" you modify row "User13" to "*Korean*" and to "*Local Language Item*". This has to be done in all of the language files.

c) Make "User13.ico" for a country flag if you need. (Created by VisualBasic software.)

d) If you add more, continue with "User14.lng"

Note!

The new languages are not displayed under "System" language. But if you select "User13", you will see Korean language again.

(Example of the first part of an language file)

```
FORMAT DESCRIPTION FOR LANGUAGE TRANSLATION
Length IndexNo. "English Name", "Local Language Name", Comment
Start:
30 000 "FDDWIN","FDDWIN",                                   Title of Main Dialogue Box
30 001 "&File","&Tiedosto",                                 Menu Command in Main Dialogue Box
30 002 "&Ports Setup","&Sarjaliikenneasetukset",            Menu Command in Main Dialogue Box
30 003 "&FDD Setup","&FDD Asetukset...",                    Menu Command in Main Dialogue Box
30 004 "&Exit","&Lopeta",                                   Menu Command in Main Dialogue Box
30 005 "&Language","&Kieli",                                Menu Command in Main Dialogue Box
30 006 "&Help","&Ohje",                                     Menu Command in Main Dialogue Box
30 007 "&Version","&Versio",                                Menu Command in Main Dialogue Box
10 008 "Start FDD","Käynnistä FDD",                         Command Button in Main Dialogue Box
10 009 "Directory","Hakemisto",                             Command Button in Main Dialogue Box
10 010 "Job","Työ",                                         Command Button in Main Dialogue Box
10 011 "File","Tiedosto",                                   Command Button in Main Dialogue Box
10 012 "Exit","Lopeta",                                     Command Button in Main Dialogue Box
10 013 "Clear","Tyhjennä",                                  Command Button in Main Dialogue Box
10 014 "Review","Päivitä",                                  Command Button in Main Dialogue Box
30 015 "File Information","Tiedostoinformaatio",            Frame Box in Main Dialogue Box
30 016 "Communication Status","Tiedonsiirron tila",         Frame Box in Main Dialogue Box
10 017 "Directory","Hakemisto",                             Lable in Main Dialogue Box
10 018 "File Type","Tyyppi",                                Lable in Main Dialogue Box
20 019 "View Detail","Näytä yksityiskohdat",                Option Button in Main Dialogue Box
20 020 "View Simple","Näytä yksinkertaist.",                Option Button in Main Dialogue Box
10 021 "Quit FDD","Lopeta FDD",                             Command Button in Main Dialogue Box
```

7. Trouble shooting

7.0.A Can not open communication port

■ *Port setting not correct / not done!*

Correct the setting

■ *Hardware key missing!*

Check if the hardware key is mounted in right place, if there are several parallel ports try another one.

Mount a printer cable in the hardware key socket (does not need to be connected to a printer).

■ *Communication disabled*

This occurs if you try to start FDD without beeing connected to the robot controller. Close FDD-software, connect to controller restart FDD-software.

Fig.25 Error message

7.0.B Select Job file.

■ *No file was marked!*

Mark file and repeat command.

Fig.26 Select file first

7.0.C Remove Shared Component

■ *Warning at uninstall sequence*

A warning may occure when you are removing a software in the Motoman group. A file in Windows system is no longer used by any software. Accept to remove this file by clicking **Yes**.

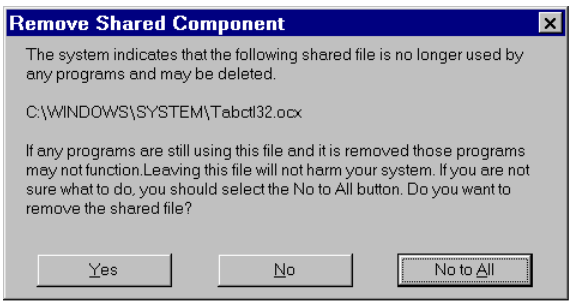


Fig.27 Warning message

8. Windows NT

As the Windows NT do not use Parallel ports such as LPT1. A parallel port must be set up for the hardware key.

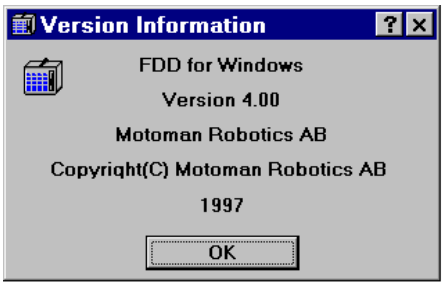
Rainbow Port Driver Microsoft Windows NT.
This version runs only on Intel based machines.
The following files needed to be able to run FDDWIN32 in NT environment. Necessary files are included in one of the disks.

- RAINPORT.DLL - Rainbow port driver setup.
- RAINPORT.HLP - Help file for RAINPORT.DLL.
- OEMSETUP.INF - Installation file for Rainbow port driver.
- RAINVDD.DLL - Rainbow virtual device driver.
- RAINPORT.SYS - Rainbow port driver.

For installation procedure, see Windows NT manual.
More information is found in the file "sentinel.hlp" included in the diskette.

9. FDD-version

By clicking on **Help**-button in the main menu the version No. is displayed.
Quit by clicking on **Close**.



9.1 Manufacturer

Address: Motoman Robotics Europe AB
P.O. Box 504
SE-385 25 Torsås
Sweden
Telephone: +46 486 488 00
Telefax: +46 486 414 10

Notes

Headquarters:

Sweden — **MOTOMAN** Robotics Europe AB
Box 504, SE-385 25 Torsås, Sweden
Tel: +46-486-48800, +46-486-41410

Group companies:

France — **MOTOMAN** Robotics SARL
Rue Nungesser et Coli, D2A Nantes-Atlantique, F-44860 Saint-Aignan-de-Grand-Lieu, France
Tel: +33-2-40131919, Fax: +33-40754147

Germany — **MOTOMAN** Robotec GmbH
Kammerfeldstraße 1, DE-85391 Allershausen, Germany
Tel: +49-8166-90-0, Fax: +49-8166-90-39

Germany — **MOTOMAN** Robotec GmbH
Im Katzenforst 2, DE-61476 Kronberg/Taunus, Germany
Tel: +49-6173-60-77-30, Fax: +49-6196-60-77-39

Great Britain — **MOTOMAN** Robotics UK (Ltd)
1 Swan Industrial Estate, Banbury, OXON OX16 8DJ, England
Tel: +44-1295-272755, Fax: +44-1295-267127

Italy — **MOTOMAN** Robotics Italia SRL
Via Emilia 1420/16, IT-41100 Modena, Italy
Tel: +39-059-280496, Fax: +39-059-280602

Netherlands — **MOTOMAN** benelux B.V.
Zinkstraat 70, NL-4823 AC Breda, Netherlands
Tel: +31-76-5424278, Fax: +31-76-5429246

Slovenia — **RISTRO d.o.o.**
Lepovce 23, SI-1310 Ribnica, Slovenia
Tel: +386-61-861113, Fax: +386-61-861227

Spain — **MOTOMAN** Robotics España S.A.
Avenida Marina 56, Parcela 90, ES-08830 St. Boi de Llobregat (Barcelona), Spain
Tel: +34-93-6303478, Fax: +34-93-6543459

Sweden — **MOTOMAN** Mecatron Robotic Systems AB
Box 4004, SE-390 04 Kalmar, Sweden
Tel: +46-480-444600, Fax: +46-444699

Distributors:

Czech Republic — **MGM Spol s.r.o.**
Trebízského 1870, CZ-39002 Tábor, Czech Republic
Tel: +420-361-254571, Fax: +420-361-256038

Denmark — **HN-Automatic Robia A/S**
Hjulmagervej 4, DK-7100 Vejle, Denmark
Tel: +45-79428000, Fax: +45-79428001

Finland — **Robia Suomi OY**
Kärsämäentie 8, FI-20300 Turku, Finland
Tel: +358-22145600, Fax: +358-22145660

Greece — **Kouvalias Industrial Robots**
25, El. Venizelou Ave., GR-17671 Kallithea, Greece
Tel: +30-1-9589243-6, Fax: +30-1-9567289

Norway — **Robia ASA**
Øvre Eikervei 177, NO-3048 Drammen, Norway
Tel: +47-32217830, Fax: +47-32217840

Portugal — **Electro-Arco S.A.**
Rua Vice-Almirante Azevedo Coutinho 4, Venda Nova, PT-2700 Amadora, Portugal
Tel: +351-1-4968160, Fax: +351-1-4990696

MOTOMAN ROBOTICS EUROPE AB
a subsidiary of YASKAWA Electric Corporation