8.12 DATA INPUT/OUTPUT BY EMBEDDED ETHERNET

8.12.1 FTP File Transfer Function

The operation of the FTP file transfer function is described below.

8.12.1.1 Host file list display

Procedure

- A list of the files held on the hard disk embedded to the host computer is displayed.
- **1** Press the function key |PROG|.
- 2 Press the continuous menu key at the right end of the soft key display.
- **3** Press the [HOST] soft key. The host file list screen appears. The Ethernet functions currently available are displayed.

AVAILA	HOST F	ILE DI	R		
13 F3	1BEDDED THERNET	port Board			
>	_	_		_	
MDI ***	** *** *	***	10:00:0	5 0' 30	10000
BOARD			EMBEDD		

The upper row displays the usable embedded Ethernet function device.

The embedded port or PCMCIA card is displayed.

The lower row displays the usable Ethernet option boards. When no option board is installed, no information is displayed.

4 When you press the [EMBEDD] soft key, a list of the files held on the host computer specified with the embedded Ethernet port is displayed.

HOST FILE DIR				01111	N00008
	REGISTERED PROGRE CURRENT CONNECT H	AMS : HOST :	1		16
0001 00001.DAT 0002 00002.DAT 0003 00006 0004 00007 0005 00008 0007 00199 0008 05020 0009 05021 0010 05022 0011 05023 0011 05023 0011 05025 0014 PARAMETER		0015 T	ODLOFS IORKOFS		
>				S	0 10000
		MDI **	** ***	10:00:00	
SWITCH UPDATE	STOP	SEARCH	RETURN	DELE	те 🛿

Depending on the FTP server software, the number of displayed programs may differ between the host file list screen above and the host file list (detail) screen described below.

- 5 When a list of files is larger than one page, the screen display can be switched using the page keys
 PAGE
- 6 Press the [UPDATE] soft key to update the screen display.
- 7 Press the [SWITCH] soft key. The host file list (detail) screen appears.

	PEGI	STEPEN PPOGP	OMS ·	16
	CURR	ENT CONNECT	HOST: 1	10
0001	1 owner	group	362 Mar 2	5 2:07 00001.DAT
0002	1 owner	group	362 Mar 2	5 2:07 00002.DAT
0003	1 owner	group	362 Mar 2	5 2:07 00006
0004	1 owner	group	362 Mar 2	5 2:07 00007
0005	1 owner	group	362 Mar 2	5 2:07 00008
0006	1 owner	group	362 Mar 2	5 2:07 00009
0007	1 owner	group	362 Mar 2	5 2:07 00199
9008	1 owner	group	362 Mar 2	5 2:07 05020
0009	1 owner	group	362 Mar 2	5 2:07 05021
0010	1 owner	group	362 Mar 2	5 2:07 05022
0011	1 owner	group	1460 Mar 2	5 1:24 05023
0012	1 owner	group	524288 Feb 2	7 5:27 05024
0013	1 owner	group	524288 Feb 2	7 4:23 05025
0014	1 owner	group	908 Mar :	2 4:47 PARAMETER
2 3 4	1 owner 1 owner 1 owner	group group group	524288 Feb 2 524288 Feb 2 908 Mar 3	7 5:27 05024 7 4:23 05025 2 4:47 PARAMETER
			MDT	S 0 T000
			UDI **** *** ***	10:00:00
		TOP	SEARCH RETURN	DELETE
Switch of			SERKON KETOKA	DELETE

The host file list (detail) screen shown above is an example of screen display, and information displayed may vary according to the specification of the FTP server used with the host computer.

Display items	
 Number of registered program files 	The number of files registered in the directory (folder) of the host computer currently connected is displayed.
 Currently connected host 	The number of the host currently connected is displayed.
List of operation	ons

• SWITCH	This operation switches between normal display and detail display.
• UPDATE	This operation updates information displayed.
• STOP	This operation stops [SEARCH] operation.
• SEARCH	This operation updates screen information so that a file specified by its file number is placed at the start of the list.
• DELETE	This operation deletes a file held on the hard disk embedded to the host computer.
• READ	This operation reads a file held on the hard disk embedded to the host computer to the CNC part program storage. This soft key is displayed only when 9 is set as the input/output device number of the CNC, and the CNC is placed in the EDIT mode.

8. DATA INPUT/OUTPUT	OPERATION B-63664E		
• PUNCH This operation outputs a file held in the CNC part proghard disk embedded to the host computer. This soft ke when 9 is set as the input/output device number of the 0 is placed in the EDIT mode.		part program storage to the s soft key is displayed only r of the CNC, and the CNC	
8.12.1.2 Host file search	When a list of the files held on the hard di computer is displayed, a file can be placed specifying its file number.	isk embedded to the host at the start of the list by	
Procedure	1 Display the host file list screen.		
	2 Press the [SEARCH] soft key.		
	 3 Type the file number of a file to be displaye the MDI keys. [Input format] <file-number></file-number> 	d at the start of the list with	
	4 Press the [EXEC] soft key.		
	5 During search, "SEARCH" blinks in the screen.	lower-right corner of the	
8.12.1.3 Host file deletion	A file held on the hard disk embedded to the hos	st computer can be deleted.	
Procedure	1 Display the host file list screen.		
	2 Press the [DELETE] soft key.		
	3 Type the file number or file name of a file to keys. [Input format] <file-number> or <file-name></file-name></file-number>	o be deleted, with the MDI	
	4 Press the [EXEC] soft key.		
	5 During deletion, "DELETE" blinks in the screen.	lower-right corner of the	
	 NOTE 1 When a file number is used for deletion on the host file list screen can be deleted 2 The information displayed at the right (detail) screen is recognized as a fil deleting a host file from the host file specifying its file number, check that a at the right end of the screen, befor number. 	n, only a file displayed eted. end of the host file list ile name. So, when list (detail) screen by file name is displayed ore specifying the file	

8.12.1.4 NC program input

A file (NC program) on the host computer can be read to the CNC memory.

For the host file list screen

Procedure

- **1** Place the CNC in the EDIT mode.
- 2 Display the host file list screen.
- **3** Press the [READ] soft key.
- 4 Type the file number or file name of an NC program to be input, with the MDI keys.[Input format]
 - <file-number>

or

<file-name>

- 5 Press the [EXEC] soft key.
- 6 During input, "INPUT" blinks in the lower-right corner of the screen.

AUTION

- 1 If the CNC memory holds an NC program that has the same O number as that of an NC program to be input, the NC program in the CNC memory is overwritten when bit 2 of parameter No. 3201 is set to 1.
- 2 If an NC program is input when bit 0 of parameter No. 3201 is set to 1, all NC programs in the CNC memory are automatically deleted before NC program input.

[Example of use]

When a file with the file name O0001.DAT held on the hard disk embedded to the host computer is to be input to the CNC memory, enter O001.DAT. Note, however, that the O number input to the CNC memory depends on the O number described in the file named O0001.DAT.



NOTE

When a file is input from this screen to the CNC memory, the O number described in the file is input.

— 615 —

For the program	screen
Procedure	 Place the CNC in the EDIT mode. Prage the function law prop
	2 Press the function key Prod .
	3 Press the continuous menu key at the right end of the soft key display.
	4 Press the [PRGRM] soft key. The program screen appears.
	5 Press the [(OPRT)] soft key.
	6 Press the continuous menu key at the right end of the soft key display.
	7 Press the [READ] soft key.
	8 Type the O number of an NC program to be input, with the MDI keys. [Input format] <o-number></o-number>
	9 Press the [EXEC] soft key.
	10 During input, "INPUT" blinks in the lower–right corner of the screen.
	 CAUTION 1 If the CNC memory holds an NC program that has the same O number as that of an NC program to be input, the NC program in the CNC memory is overwritten when bit 2 of parameter No. 3201 is set to 1. 2 If an NC program is input when bit 0 of parameter No. 3201 is set to 1, all NC programs in the CNC memory are automatically deleted before NC program input.
	NOTE The valid O number of a file to be input to the CNC memory is Oxxxx (with xxxx representing a number) only.

8.12.1.5 NC program output

A file (NC program) in the CNC memory can be output to the host computer.

For the host file	list screen
Procedure	 Place the CNC in the EDIT mode. Display the host file list screen. Press the [PUNCH] soft key. Type the O number of an NC program to be output, with the MDI keys. [Input format] <o-number></o-number> Press the [EXEC] soft key. During output, "OUTPUT" blinks in the lower-right corner of the screen. [Example of use] When an NC program (O0001) in the CNC memory is to be output to the hard disk embedded to the host computer, enter O0001.
For the program	n screen
Procedure	 Place the CNC in the EDIT mode. Press the function key PROG . Press the continuous menu key at the right end of the soft key display. Press the [PRGRM] soft key. The program screen appears. Press the [(OPRT)] soft key.

- 6 Press the continuous menu key at the right end of the soft key display.
- 7 Press the [PUNCH] soft key.
- 8 Type the O number of an NC program to be output, with the MDI keys.[Input format]

<O-number>

- **9** Press the [EXEC] soft key.
- **10** During output, "OUTPUT" blinks in the lower–right corner of the screen.

An outputted file name is Oxxxx.

8.12.1.6 Input/output of various types of data

With the FTP file transfer function, the types of data listed below can be input/output. This subsection describes the input/output method.

- A) NC parameter
- B) Tool offset value
- C) Custom macro variable
- D) Workpiece orogin offset value
- E) Pitch error compensation data
- F) M code group
- G) Operation history data

Parameter input

The file (NC parameter) on the host computer can be input to the CNC memory. Procedure Place the CNC in the EDIT mode. 1 Press the function key SYSTEM . 2 Press the continuous menu key at the right end of the soft key display. 3 Press the [PARAM] soft key. The parameter screen appears. 4 **5** Press the [(OPRT)] soft key. Press the continuous menu key at the right end of the soft key display. 6 Press the [READ] soft key. 7 Press the [EXEC] soft key. 8 9 During input, "INPUT" blinks in the lower-right corner of the screen. File name The fixed file name PRAMETER is used. File format, restrictions Refer to the operator's manual of each CNC.

Parameter output	
	The file (NC parameter) in the CNC memory can be output to the host computer.
Procedure	1 Place the CNC in the EDIT mode.
	2 Press the function key $system$.
	3 Press the continuous menu key at the right end of the soft key display.
	4 Press the [PARAM] soft key. The parameter screen appears.
	5 Press the [(OPRT)] soft key.
	6 Press the continuous menu key at the right end of the soft key display.
	7 Press the [PUNCH] soft key.
	8 Press the [EXEC] soft key.
	9 During output, "OUTPUT" blinks in the lower–right corner of the screen.
File name	The fixed file name PRAMETER is used.
File format, restrictions	Refer to the operator's manual of each CNC.
Tool offset value i	nput

	The file (tool offset value) on the host computer can be input to the CNC memory.
Procedure	1 Place the CNC in the EDIT mode.
	2 Press the function key $\begin{bmatrix} OFFBET\\SETTING \end{bmatrix}$.
	3 Press the continuous menu key at the right end of the soft key display.
	4 Press the [OFFSET] soft key. The tool compensation screen appears.
	5 Press the [(OPRT)] soft key.
	6 Press the continuous menu key at the right end of the soft key display.
	7 Press the [READ] soft key.
	8 Press the [EXEC] soft key.
	9 During input, "INPUT" blinks in the lower–right corner of the screen.
File name	The fixed file name TOOLOFS is used.
File format, restrictions	Refer to the operator's manual of each CNC.

	Tool offset value output		
	The file (tool offset value) in the CNC memory can be output to the hos computer.		
Procedure	1 Place the CNC in the EDIT mode.		
	2 Press the function key $\begin{bmatrix} \text{OFFSET}\\ \text{SETTING} \end{bmatrix}$.		
	3 Press the continuous menu key at the right end of the soft key display		
	4 Press the [OFFSET] soft key. The tool compensation screen appears		
	5 Press the [(OPRT)] soft key.		
	6 Press the continuous menu key at the right end of the soft key display		
	7 Press the [PUNCH] soft key.		
	8 Press the [EXEC] soft key.		
	9 During output, "OUTPUT" blinks in the lower–right corner of the screen.		
File name	The fixed file name TOOLOFS is used.		
File format, restrictions	Refer to the operator's manual of each CNC.		
Workpiece origi	in offset value input		
	The file (workpiece origin offset value) on the host computer can be input to the CNC memory.		
Procedure	The file (workpiece origin offset value) on the host computer can be inputo the CNC memory.1 Place the CNC in the EDIT mode.		
Procedure	 The file (workpiece origin offset value) on the host computer can be input to the CNC memory. Place the CNC in the EDIT mode. Press the function key OFFET . 		
Procedure	 The file (workpiece origin offset value) on the host computer can be input to the CNC memory. Place the CNC in the EDIT mode. Press the function key <pre>OFFEFF</pre>. Press the continuous menu key at the right end of the soft key display 		
Procedure	 The file (workpiece origin offset value) on the host computer can be input to the CNC memory. Place the CNC in the EDIT mode. Press the function key OFFER . Press the function key OFFER . Press the continuous menu key at the right end of the soft key display Press the [WORK] soft key. The workpiece coordinate system setting screen appears. 		
Procedure	 The file (workpiece origin offset value) on the host computer can be input to the CNC memory. Place the CNC in the EDIT mode. Press the function key OFFER . Press the function key OFFER . Press the continuous menu key at the right end of the soft key display Press the [WORK] soft key. The workpiece coordinate system setting screen appears. Press the [(OPRT)] soft key. 		
Procedure	 The file (workpiece origin offset value) on the host computer can be input to the CNC memory. 1 Place the CNC in the EDIT mode. 2 Press the function key <pre>OFFEFFF</pre>. 3 Press the continuous menu key at the right end of the soft key display 4 Press the [WORK] soft key. The workpiece coordinate system setting screen appears. 5 Press the [(OPRT)] soft key. 6 Press the continuous menu key at the right end of the soft key display 		
Procedure	 The file (workpiece origin offset value) on the host computer can be input to the CNC memory. Place the CNC in the EDIT mode. Press the function key <pre>OFFFFF</pre>. Press the continuous menu key at the right end of the soft key display Press the [WORK] soft key. The workpiece coordinate system setting screen appears. Press the [(OPRT)] soft key. Press the [READ] soft key. 		
Procedure	 The file (workpiece origin offset value) on the host computer can be input to the CNC memory. 1 Place the CNC in the EDIT mode. 2 Press the function key <pre>OFFFFF</pre>. 3 Press the continuous menu key at the right end of the soft key display 4 Press the [WORK] soft key. The workpiece coordinate system setting screen appears. 5 Press the [(OPRT)] soft key. 6 Press the continuous menu key at the right end of the soft key display 7 Press the [READ] soft key. 8 Press the [EXEC] soft key. 		
Procedure	 The file (workpiece origin offset value) on the host computer can be input to the CNC memory. Place the CNC in the EDIT mode. Press the function key . Press the continuous menu key at the right end of the soft key display Press the [WORK] soft key. The workpiece coordinate system setting screen appears. Press the [(OPRT)] soft key. Press the [READ] soft key. Press the [EXEC] soft key. During input, "INPUT" blinks in the lower-right corner of the screen 		
Procedure File name	 The file (workpiece origin offset value) on the host computer can be input to the CNC memory. 1 Place the CNC in the EDIT mode. 2 Press the function key . 3 Press the continuous menu key at the right end of the soft key display 4 Press the [WORK] soft key. The workpiece coordinate system setting screen appears. 5 Press the [(OPRT)] soft key. 6 Press the continuous menu key at the right end of the soft key display 7 Press the [READ] soft key. 8 Press the [EXEC] soft key. 9 During input, "INPUT" blinks in the lower-right corner of the screen The fixed file name WORKOFS is used. 		

Workpiece origin	offset value output
	The file (workpiece origin offset value) in the CNC memory can be output to the host computer.
Procedure	1 Place the CNC in the EDIT mode.
	2 Press the function key $\begin{bmatrix} OFFSET\\SETTING \end{bmatrix}$.
	3 Press the continuous menu key at the right end of the soft key display.
	4 Press the [WORK] soft key. The workpiece coordinate system setting screen appears.
	5 Press the [(OPRT)] soft key.
	6 Press the continuous menu key at the right end of the soft key display.
	7 Press the [PUNCH] soft key.
	8 Press the [EXEC] soft key.
	9 During output, "OUTPUT" blinks in the lower–right corner of the screen.
File name	The fixed file name WORKOFS is used.
File format, restrictions	Refer to the operator's manual of each CNC.

Pitch error compensation input		
	The file (pitch error compensation) on the host computer can be input to the CNC memory.	
Procedure	1 Place the CNC in the EDIT mode.	
	2 Press the function key $system$.	
	3 Press the continuous menu key at the right end of the soft key display.	
	4 Press the [PITCH] soft key. The pitch error setting screen appears.	
	5 Press the [(OPRT)] soft key.	
	6 Press the continuous menu key at the right end of the soft key display.	
	7 Press the [READ] soft key.	
	8 Press the [EXEC] soft key.	
	9 During input, "INPUT" blinks in the lower-right corner of the screen.	
File name	The fixed file name PITCH is used.	
File format, restrictions	Refer to the operator's manual of each CNC.	

Pitch error com	pensation output	
	The file (pitch error compensation) in the CNC memory can be output to the host computer.	
Procedure	1 Place the CNC in the EDIT mode.	
	2 Press the function key $system$.	
	3 Press the continuous menu key at the right end of the soft key display	
	4 Press the [PITCH] soft key. The pitch error setting screen appears	
	5 Press the [(OPRT)] soft key.	
	6 Press the continuous menu key at the right end of the soft key display	
	7 Press the [PUNCH] soft key.	
	8 Press the [EXEC] soft key.	
	9 During output, "OUTPUT" blinks in the lower–right corner of th screen.	
File name	The fixed file name PITCH is used.	
File format, restrictions	Refer to the operator's manual of each CNC.	
M code group i	nput	
	The file (M code group) on the host computer can be input to the CN0 memory.	
Procedure	1 Place the CNC in the EDIT mode.	
	2 Press the function key $system$.	
	3 Press the continuous menu key at the right end of the soft key display	
	4 Press the [M–CODE] soft key. The M code group setting scree appears.	
	5 Press the [(OPRT)] soft key.	
	6 Press the continuous menu key at the right end of the soft key display	
	7 Press the [READ] soft key.	
	8 Press the [EXEC] soft key.	
	9 During input, "INPUT" blinks in the lower-right corner of the screer	
File name	The fixed file name M-CODE is used.	
	Defense to the energy of the second of the the CNC	

M code group output		
	The file (M code group) in the CNC memory can be output to the host computer.	
Procedure	1 Place the CNC in the EDIT mode.	
	2 Press the function key $system$.	
	3 Press the continuous menu key at the right end of the soft key display.	
	4 Press the [M–CODE] soft key. The M code group setting screen appears.	
	5 Press the [(OPRT)] soft key.	
	6 Press the continuous menu key at the right end of the soft key display.	
	7 Press the [PUNCH] soft key.	
	8 Press the [EXEC] soft key.	
	9 During output, "OUTPUT" blinks in the lower–right corner of the screen.	
File name	The fixed file name M-CODE is used.	
File format, restrictions	Refer to the operator's manual of each CNC.	

Operation history data input		
	The file (operation history data) on the host computer can be input to the CNC memory.	
Procedure	1 Place the CNC in the EDIT mode.	
	2 Press the function key \overline{SYSTEM} .	
	3 Press the continuous menu key at the right end of the soft key display.	
	4 Press the [OPEHIS] soft key. The operation history screen appears.	
	5 Press the [(OPRT)] soft key.	
	6 Press the continuous menu key at the right end of the soft key display.	
	7 Press the [READ] soft key.	
	8 Press the [EXEC] soft key.	
	9 During input, "INPUT" blinks in the lower–right corner of the screen.	
File name	The fixed file name HISTORY is used.	
File format, restrictions	Refer to the operator's manual of each CNC.	

Operation histo	Operation history data output	
	The file (operation history data) in the CNC memory can be output to the host computer.	
Procedure	1 Place the CNC in the EDIT mode.	
	2 Press the function key $\begin{bmatrix} system \end{bmatrix}$.	
	3 Press the continuous menu key at the right end of the soft key display.	
	4 Press the [OPEHIS] soft key. The operation history screen appears	
	5 Press the [(OPRT)] soft key.	
	6 Press the continuous menu key at the right end of the soft key display	
	7 Press the [PUNCH] soft key.	
	8 Press the [EXEC] soft key.	
	9 During output, "OUTPUT" blinks in the lower–right corner of the screen.	
File name	The fixed file name HISTORY is used.	
File format, restrictions	Refer to the operator's manual of each CNC.	
8.12.1.7 Checking and changing of the connection host	The host computer to which the FTP file transfer function attempts to make a connection as the current communication destination can be checked.	
Procedure	1 Press the function key $PROG$.	
	2 Press the continuous menu key at the right end of the soft key display.	
	3 Press the [CONECT] soft key. The connection host change screen appears. The Ethernet functions currently available are displayed.	

ETHERNET CONNEC	CT HOST HERNET	
EMBEDDED ETHERNET	Port Board	
MDI **** ***	\$ 0108 *** 10:00:00	U

The upper row displays the usable embedded Ethernet function device.

The embedded port or PCMCIA card is displayed.

The lower row displays the usable Ethernet option boards. When no option board is installed, no information is displayed.

4 When you press the [EMBEDD] soft key, a list of the connection host computers specified with the embedded Ethernet port is displayed. If the usable embedded Ethernet function device is the PCMCIA card, the [PCMCIA] soft key is displayed instead of the [EMBEDD] soft key. When you press the [PCMCIA] soft key, a list of the connection host computers specified with the PCMCIA Ethernet card is displayed.

CONNECT HOST		01111	N00000
1. PORT NO. : IP ADRS : USERNAME : LOGIN DIR:	21 192. 168. 1. 150 FANUC /NCDATA/NCPROGRAM/FACTORY88	919/LINE001/GROUP002	2
2. PORT NO. : IP ADRS : USERNAME : LOGIN DIR:	21 192. 168. 1. 151 fanuc PROG\$		
3. PORT NO. : IP ADRS : USERNAME : LOGIN DIR:	21 192. 168. 1. 152 TEST		
			S 0 T0000
	M	1DI **** *** ***	10:00:00
		CON-1 CON-2 CON-3	RETURN

The title of the host computer that is the current communication destination of the data server board is displayed in reverse video.

5 The connected host can be changed by pressing the [CON-1], [CON-2], or [CON-3] soft key.

Display items

• Port number, IP address, user name, login DIR Those values that are set on the Ethernet parameter setting screen are displayed.

List of operations

• CON-1	This operation changes the connected host to host 1.
• CON-2	This operation changes the connected host to host 2.
• CON-3	This operation changes the connected host to host 3.