#### Date Mar. 15.2007 General Manager of CNC Laboratory

CNCMT

## FANUC PANEL i

The additional information of connection and maintenance manuals 3.15

#### 1. Communicate this report to:

0	Your information
0	GE Fanuc Americas, GE Fanuc CNC Europe
	FANUC Robotics America, FANUC Robotics Europe
0	Machine tool builder
	Sales agency
	End user

#### 2. Summary for Sales Documents

An information for PANEL i for Automotive with Windows XP Embedded (CF card type) is added to the connection and maintenance manual of PANEL i.

#### 3. Notice

#### 4. Attached Document:

#### **Export Control**:

Controlled (Related item No. of Foreign Exchange Order Attachment List of Japan:\_\_\_\_) V Non-controlled for item No. 2 to 15 of Foreign Exchange Order Attachment List of Japan

Drawing No. B-64223EN/01-05 02edition	(1/31~ <sup>31</sup> /31)	
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No.CLB3-07/3086 Date Mar.15.2007





#### FANUC PANEL i The additional information of connection and maintenance manual

### 1. Type of applied technical documents

Name	FANUC PANEL I CONNECTION AND MAINTENANCE MANUAL
Spec.No./Version	B-64223EN/01

#### 2. Summary of change

Group	Name / Outline	New, Add, Correct, Delete	Applicable Date
Basic Function	A information for PANEL i with Windows XP Embedded (CF card type) is added to the connection and maintenance manual of PANEL <i>i</i> .	Addition	Immediately
Optional Function			
Unit			
Maintenance parts	A information for PANEL i with Windows XP Embedded (CF card type) is added to the connection and maintenance manual of PANEL <i>i</i> .	Addition	Immediately
Notice			
Correction			
Another			

						Title	FANUC PANEL i The additional information connection and maintena	n of nce m	anual
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# Appendix

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Design

Design.

Description

Apprv.

# PANEL i with Windows XP Embedded (CF card type)

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# PREFACE

**F.1** 

This chapter explains information required for connecting and maintaining the FANUC PANEL i equipped with Windows XP Embedded (CF card type) and Pentium M processor.

This PANEL i uses CF (Compact Flash) card that has higher reliability than HDD and uses Windows XP Embedded that has write filter function that protects important files against careless writing.

Please pay attention that there are some difference between CF card + Windows XP Embedded type and HDD + Windows XP Professional type.

The previous chapters should be refered about details which are not described in this chapter.

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# F.3 SPECIFICATIONS

# F.3.1 HARDWARE SPECIFICATIONS

#### F.3.1.1 PANEL i (For Series 150i/160i/180i/210i/Power Mate i-D/H)

1			CF card type PANEL i	HDD type PANEL i		
Unit (Basic Unit)						
CPU			Pentium M 1.6GHz or		As same as left	
			Celeron M 1.3GHz			
Memory			1GB or 512M		1GB, 512M or 256MB	
Display			15.0"XGA (1024x768dot),		15.0"XGA (1024x768dot),	
Unit			12.1"SVGA (800x600dot) or		12.1"SVGA (800x600dot),	
			10.4"SVGA (800x600dot)		10.4"SVGA (800x600dot) or	
	LOD				10.4"VGA (640x480dot)	
					Note) Windows XP cannot be	
					used on 10.4" VGA type unit.	
	Touch-P	anel	1024x1024 dots (Option)		As same as left	
			Horizontal 12 keys (Option)		As same as left	
	Soft key		Note) Available only in case o	to		
			CNC via HSSB.			
I/O port	Serial Po	ort	2 ports (Port 1 cannot be used v	vith touch pan	hel As same as left	
		~	option)			
			Based on USB 2.0		As same as left	
	USB		2 ports (rear, USB connector)			
	ļ		2 ports (tor Punch panel, Note 1	)		
Parallel port		port	1 port (Data transfer mode is	al As same as left		
			mode)			
	Full Key	board	1 port (PS/2 compatible)	As same as left		
	Mouse		1 port (PS/2 compatible)	As same as left		
			2 ports/4 devices (Signal conr	C 2 ports/4 devices (Signa		
	IDE		compatible)	connector: IBM PC compatible		
			1 port /2 devices of them is us	ra		
	Floonyd	liek	1 port (Signal connector: IBM P	As same as left		
	Ethernet		1 port (10BASE-T/100BASE-TX	As same as left		
	Video po	ort	1 port (apalog RGB output)	)	As same as left	
	HSSB (	High Speed	1 port (An optical connector for	the connection	As same as left	
	Serial B		with CNC controller)	the connectiv	As same as left	
	PCMCIA	Card slot	1 port (Type I/ II, based on PCM	CIA 2 1)	As same as left	
	PC I/F		1 port	0//(2.1)	As same as left	
	nsion		2 slots of the short card		2 slots of the short card	
			1 slot of them is used by CF car	d unit.	Based on PCI specification	
			Based on PCI specification 2.1		2.1.	
			32-bit, 33MHz, +5V		32-bit, 33MHz, +5V	
			Maximum dimension of card:	176.41mm	x Maximum dimension of card	
			106.68mm		176.41mm x 106.68mm	
Real time	clock		Monthly error is within 3 minutes	3.	As same as left	
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PC Unit (Basic U Dimension (WxHxD) Weight Power consumption	Init)           10.4"SVGA type           12.1" type           15.0" type           10.4"SVGA type           12.1" type           15.0" type           15.0" type           12.1" type           15.0" type           10.4"SVGA type           12.1" type           12.1" type           12.1" type           12.1" type           12.1" type           15.0" type	290 x 220 x 125 mm 340 x 280 x 125 mm 400 x 320 x 125 mm 3.8kg (Note 3) 5.1kg (Note 3) 5.9kg (Note 3) 56W (Note 2) 62W (Note 2) 73W (Note 2)	As same as leftAs same as leftAs same as left3.6kg (Note 3)4.9kg (Note 3)5.7kg (Note 3)61W (Note 2)67W (Note 2)
Dimension (WxHxD) Weight Power consumption	10.4"SVGA type         12.1" type         15.0" type         10.4"SVGA type         12.1" type         15.0" type         10.4"SVGA type         12.1" type         15.0" type         10.4"SVGA type         15.0" type         15.0" type         10.4"SVGA type         12.1" type         15.0" type         15.0" type	290 x 220 x 125 mm         340 x 280 x 125 mm         400 x 320 x 125 mm         3.8kg (Note 3)         5.1kg (Note 3)         5.9kg (Note 3)         56W (Note 2)         62W (Note 2)         72W (Note 2)	As same as leftAs same as leftAs same as left3.6kg (Note 3)4.9kg (Note 3)5.7kg (Note 3)61W (Note 2)67W (Note 2)
Weight Power consumption	12.1" type         15.0" type         10.4"SVGA type         12.1" type         15.0" type         10.4"SVGA type         12.1" type         12.1" type         12.1" type         12.1" type         12.1" type	340 x 280 x 125 mm         400 x 320 x 125 mm         3.8kg (Note 3)         5.1kg (Note 3)         5.9kg (Note 3)         56W (Note 2)         62W (Note 2)         73W (Note 2)	As same as left           As same as left           3.6kg (Note 3)           4.9kg (Note 3)           5.7kg (Note 3)           61W (Note 2)           67W (Note 2)
Weight Power consumption	15.0" type         10.4"SVGA type         12.1" type         15.0" type         10.4"SVGA type         12.1" type         12.0" type         12.1" type	400 x 320 x 125 mm         3.8kg (Note 3)         5.1kg (Note 3)         5.9kg (Note 3)         56W (Note 2)         62W (Note 2)         73W (Note 2)	As same as left           3.6kg (Note 3)           4.9kg (Note 3)           5.7kg (Note 3)           61W (Note 2)           67W (Note 2)
Weight Power consumption	10.4"SVGA type           12.1" type           15.0" type           10.4"SVGA type           12.1" type           12.0" type	3.8kg (Note 3)         5.1kg (Note 3)         5.9kg (Note 3)         56W (Note 2)         62W (Note 2)         73W (Note 2)	3.6kg (Note 3)         4.9kg (Note 3)         5.7kg (Note 3)         61W (Note 2)         67W (Note 2)
Weight Power consumption	12.1" type 15.0" type 10.4"SVGA type 12.1" type 15.0" type	5.1kg (Note 3)         5.9kg (Note 3)         56W (Note 2)         62W (Note 2)         73W (Note 2)	4.9kg (Note 3)         5.7kg (Note 3)         61W (Note 2)         67W (Note 2)
Power consumption	15.0" type 10.4"SVGA type 12.1" type 15.0" type	5.9kg (Note 3) 56W (Note 2) 62W (Note 2) 72W (Note 2)	5.7kg (Note 3)           61W (Note 2)           67W (Note 2)
Power consumption	10.4"SVGA type 12.1" type 15.0" type	56W (Note 2) 62W (Note 2) 72W (Note 2)	61W (Note 2) 67W (Note 2)
Consumption	12.1" type 15.0" type	62W (Note 2)	67W (Note 2)
Hard Disk Drive	15.0" type	72W (Note 2)	
Hard Diek Drive		TSW (NOLE Z)	78W (Note 2)
laiu Disk Dilve	Unit		
Ha	rd Disk Drive	-	3.5" Hard Disk Drive, 40GB c
			more
			Ultra ATA/100
CF card unit		Weight : 0.2kg	
CF	card unit	Integrated into the PCI Extension slot 1	
CF	card	Master : 2GB	-
		Slave: 1GB, 256MB, 128MB or non.	
Applicable OS		Windows® XP Embedded	Windows® XP Professional

#### Note 2)

Above power consumption includes the following devices.

- < HDD type >
  - PC UNIT, HDD Unit, FAN for HDD, Keyboard, and Mouse.
- < CF card type >

- PC UNIT, CF card unit, Keyboard, and Mouse.

Above power consumption does not include the following devices.

- FDD Unit, CD-ROM Drive, PCMCIA Card, PCI Extension board, USB device, and Devices to connect by Serial or Parallel Interface.

Above power consumption is reference. If peripherals are connected or PCI extended boards are mounted, the power consumption will increase. Also, please consider the cabinet design and the cooling method, which is most suitable to the total power consumption.

Note 3) The weight of CF card type PANEL i includes the weight of CF card unit. The weight of HDD type PANEL i does not include the weight of HDD unit.

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#### F.3.1.2 PANEL i (For Series 300i/310i/320i)

CPU       Pentium M 1.8GHz or Celeron M 1.3GHz       As same as left         Memory       1GB of SI2M       10B, 512M or 25 15.0°XGA (1024x768dot) or 10.4°SVGA (800x600dot)       10B, 512M or 25 15.0°XGA (1024x768dot) or 10.4°SVGA (800x400dot)         LCD       10.4°SVGA (800x400dot)       10.4°SVGA (800x400dot)       10.4°SVGA (800x400dot)         LCD       10.4°SVGA (800x400dot)       As same as left       As same as left         Soft key       Note) Available only in case of connecting to CNC via HSSB.       As same as left       As same as left         VO port       Serial Port       2 ports/POrt 1 cannot be used with touch panel option)       As same as left         VO port       USB       3 ports (rear 2 and front 1, USB connector)       As same as left         Parallel port       1 port (PS/2 compatible)       As same as left       As same as left         Mouse       1 port (PS/2 compatible)       As same as left       As same as left         Mouse       1 port (Signal connector: IBM PC connector: IBM PC       2 ports/4 devices (Signal connector: IBM PC connector: IBM PC       2 ports/4 devices (Signal connector: IBM PC       2 port	l Unit (Basic Unit)			CF Card type PANEL I	HDD type PANEL i			
CPU         Celecon         Notice of Celecon         Notice of Notice of the stresstress of the stress of the strestress of the stress of the stres	onic (Dash	c onity		Pentium M 1 6GHz or		Assam	e as left	
Memory         16B of \$12M         16B of \$12M         16B of \$12M         16B of \$12M         15.0"XGA (1024x768dot) or 10.4"SVGA (800x1024x768dot) or 10.4"SVGA (800x10.4"VCA (640x4 Note) Windows 3 used on 10.4"VCA (640x4 Note) Windows 3 used in 1.4"VCA (640x4 Note) Windows 3 used in 1.4"VCA (640x4 Note) Windows 3 used in 1.4"VCA (640x4 Note) Windows 3 used in 1.5"VCA (10.2"VCA (640x4 Note) VCA (640x4 Note) 1 assame as left           I/O port         Serial Port         2 ports(Port 1 cannot be used with touch panel option))         As same as left           UO port         Serial Port         2 ports(Port 1 cannot be used with touch panel option)         As same as left           USB         3 ports (reer 2 and front 1, USB connector)         As same as left           Parallel port         1 port (PS/2 compatible)         As same as left           Mouse         1 port (PS/2 compatible)         As same as left           Floppy disk         1 port (Signal connector: IBM PC connection: IBM PC connection: IBM PC unit.         As same as left           Floppy disk         1 port (Signal connector: IBM PC connection: As same as left         As same as left           Video port         1 port (Signal connector: IBM PC connection: IBM PC intervent of the connection As same as left </td <td>CPU</td> <td></td> <td></td> <td>Celeron M 1 3GHz</td> <td></td> <td>A3 3011</td> <td colspan="2">As same as left</td>	CPU			Celeron M 1 3GHz		A3 3011	As same as left	
Display Unit         15.0°XGA (1024x768d0t) or 10.4°SVGA (800x 10.4°SVGA (800x 10.4°VGA (800x Note) Windows 2 used on 10.4° VG used on 10.4° VG same as left           I/O port         Touch-Panel         1024x1024 dots (Option)         As same as left option)           Serial Port         2 ports(Port 1 cannot be used with touch panel option)         As same as left as ports (for Punch panel, Note 1)           Parallel port         1 port (Data transfer mode is by-directional mode)         As same as left As same as left           Full Keyboard         1 port (PS/2 compatible)         As same as left mode)           I/E         2 ports/4 devices (Signal connector: IBM PC connector: IBM PC compatible)         As same as left tout.           Floppy disk         1 port (10BASE-T/100BASE-TX)         As same as left with CNC controller)         As same as left total connector: IBM PC connector:           FCI L/F         1 port (10PASE-T/100BASE-TX)         As same as left total sot of the short card 1 slot of them situed by CF card with CNC controller)         As same as left total sot of the short card 2 slots of the short card 1 slot of them short card 1 slot type <t< td=""><td>Memory</td><td></td><td></td><td>1GB or 512M</td><td></td><td>1GB 51</td><td colspan="2">1GB 512M or 256MB</td></t<>	Memory			1GB or 512M		1GB 51	1GB 512M or 256MB	
Unit       10.4°SVGA (800x600d)       10.4°SVGA (800x600d)         LCD       10.4°SVGA (800x600d)       10.4°VGA (800x600d)         Touch-Panel       1024x1024 dots (Option)       As same as left         Soft key       Note) Available only in case of connecting to CNC via HSSB.       As same as left         VO port       Serial Port       2 ports(Port 1 cannot be used with touch panel As same as left       As same as left         UO port       Serial Port       2 ports(Port 1 cannot be used with touch panel As same as left       As same as left         Parallel port       1 port (Data transfer mode is by-directional As same as left       As same as left         Mouse       1 port (PG/2 compatible)       As same as left         IDE       1 port (PG/2 compatible)       As same as left         Hidde       1 port (PG/2 compatible)       As same as left         Video port       1 port (No potical connector: IBM PC connector: IBM PC       Connector: IBM PC         Video port       1 port (No potical connector for the connection As same as left       As same as left         SSB (High Speed       1 port (no park) An optical connector for the connection As same as left       As same as left         Video port       1 port (Napel A connector for the connection As same as left       As same as left         Serial Bus)       vith CNC controller)       A	Display			15 0"XGA (1024x768dot) or		15 0"XC	15 0"XGA (1024x768dot)	
LCD         10.1 VGA (640x4 Note)           Touch-Panel         1024x1024 dots (Option)         As same as left           Soft Key         Note) Windows 2 used on via HSSB.         As same as left           I/O port         Serial Port         2 ports(Port 1 cannot be used with touch panel option))         As same as left           USB         3 ports (rear 2 and front 1, USB connector)         As same as left         As same as left           Parallel port         1 port (PS/2 compatible)         As same as left         As same as left           Mouse         1 port (PS/2 compatible)         As same as left         As same as left           Mouse         1 port (PS/2 compatible)         As same as left         As same as left           IDE         1 port (PS/2 compatible)         As same as left         As same as left           IDE         1 port (PS/2 compatible)         As same as left         As same as left           Floppy disk         1 port (Ganal connector: IBM PC compatible)         As same as left         As same as left           Video port         1 port (Ganal GRG Boutput)         As same as left         As same as left           Video port         1 port (Ganal GRG Boutput)         As same as left         As same as left           PCMCIA Card slot         1 port (PpeV II, based on PCMCIA 2.1)         As same as lef	Unit			10.4"SVGA (800x600dot)		10.0 XC	GA (800x60	Odot) or
Note)         Note)         Windows 3 used on 10.4* VG used on 10.4* VG same as left           Touch-Panel         1024x1024 dots (Option)         As same as left           Soft key         Note)         Available only in case of connecting to CNC via HSSB.         As same as left           I/O port         Serial Port         2 ports(Port 1 cannot be used with touch panel option))         As same as left           USB         3 ports (rear 2 and front 1, USB connector)         As same as left           Parallel port         1 port (Data transfer mode is by-directional mode)         As same as left           Full Keyboard         1 port (PS/2 compatible)         As same as left           Mouse         1 port (PS/2 compatible)         As same as left           IDE         1 port (PS/2 compatible)         As same as left           IDE         1 port (PS/2 compatible)         As same as left           House         1 port (PS/2 compatible)         As same as left           Floppy disk         1 port (An optical connector IBM PC connector)         As same as left           Vide op ort         1 port (An optical connector for the connection SSG (High Speed         1 port (An optical connector for the connection SSG (High Speed         1 port (An optical connector for the connection Serial Bus)         As same as left           PCL/F         1 port (An optical connector for the connection						10.4"VC	GA (640x480	dot)
IOUCH-Panel         1024x1024 dots (Option)         As same as left           Soft Key         Horizontal 12keys and vertical 9 keys (Option)         As same as left           I/O port         Serial Port         2 parts/Port 1 cannot be used with touch panel option))         As same as left           US port         Serial Port         2 parts/Port 1 cannot be used with touch panel option))         As same as left           Based on USB 2.0         Jort (Data transfer mode is by-directional mode)         As same as left           Full Keyboard         1 port (Data transfer mode is by-directional mode)         As same as left           Full Keyboard         1 port (PS/2 compatible)         As same as left           Mouse         1 port (PS/2 compatible)         As same as left           IDE         2 ports/4 devices of them is used by CF card unit.         2 ports/4 devices of them is used by CF card           Floppy disk         1 port (DabaSE-T100BASE-TX)         As same as left           Video port         1 port (Chaoling RG output)         As same as left           PCMCIA Card slot         1 port (Type I/ II, based on PCMCIA 2.1)         As same as left           PCMET         1 port (Type I/ II, based on PCMCIA 2.1)         As same as left           PCI Extension         10.4*SVGA type         290 x 220 x 135 mm         As same as left           Did-SV						Note) V	Vindows XP	cannot be
Touch-Panel         1024x1024 dots (Option)         As same as left           Soft key         Note) Available only in case of connecting to CNC via HSSB.         As same as left           I/O port         Serial Port         2 ports(Port 1 cannot be used with touch panel option))         As same as left           USB         3 ports (rear 2 and front 1, USB connector)         As same as left         As same as left           Parallel port         1 port (Data transfer mode is by-directional mode)         As same as left         As same as left           House         1 port (PS/2 compatible)         As same as left         As same as left         Connector)           IDE         2 ports/4 devices (Signal connector: IBM PC compatible)         As same as left         Connector: IBM PC compatible)         As same as left           IDE         1 port (PS/2 compatible)         As same as left         As same as left         As same as left           Floppy disk         1 port (Optical connector: IBM PC compatible)         As same as left         As same as left           Video port         1 port (Ganal connector for the connection Sa same as left         As same as left         As same as left           PCMCIA Card slot         1 port (Type II) Lassed on PCMCIA 2.1)         As same as left         As same as left           Video port         1 port (Type II) Lassed on PCMCIA 2.1)         As sa						used or	10.4" VGA t	vpe unit.
Soft key         Horizontal 12keys and vertical 9 keys (Option) Note) Available only in case of connecting to CNC via HSSB.         As same as left           I/O port         Serial Port         2 ports(Port 1 cannot be used with touch panel option))         As same as left           Based on USB 2.0         USB         3 ports (rear 2 and front 1, USB connector) 2 ports (for Punch panel, Note 1)         As same as left           Parallel port         1 port (Data transfer mode is by-directional mode)         As same as left         As same as left           Mouse         1 port (PS/2 compatible)         As same as left         As same as left         Compatible)           Full Keyboard         1 port (PS/2 compatible)         As same as left         Compatible)         As same as left           I/DE         1 port (PS/2 compatible)         As same as left         Sa same as left         Compatible)         As same as left           I/DE         1 port (Righal connector: IBM PC compatible)         As same as left         As same as left         Sa same as left         Sa same as left           Vide oport         1 port (InabaSE-T/100BASE-TX)         As same as left         As same as left         Sa same as left           PCMCIA Card slot         1 port (Type I/ II, based on PCMCIA2.1)         As same as left         Sa soft of the short card         2 slots of the short card         2 slots of the short card         <		Touch-F	Panel	1024x1024 dots (Option)		As sam	e as left	//
Soft key         Note) Available only in case of connecting to CNC via HSSB.           I/O port         Serial Port         2 ports(Port 1 cannot be used with touch panel option))         As same as left           USB         3 ports (rear 2 and front 1, USB connector)         As same as left           Parallel port         1 port (Data transfer mode is by-directional mode)         As same as left           Full Keyboard         1 port (DS/2 compatible)         As same as left           Mouse         1 port (PS/2 compatible)         As same as left           DE         2 ports/4 devices (Signal connector: IBM PC compatible)         2 ports/4 devices of them is used by CF card           Floppy disk         1 port (BS/2 compatible)         As same as left           HSSB (High Speed         1 port (analog RGB output)         As same as left           HSSB (High Speed         1 port (An optical connector for the connection Serial Bus)         As same as left           PCMCIA Card slot         1 port (Type I/ II, based on PCMCIA 2.1)         As same as left           PCMCIA Card slot         1 port (Stort them is used by CF card unit. Based on PCI specification 2.1, 2.1, 32-bit, 33MHz, +6V         As same as left           PCI Extension         1 soft of them is used by CF card unit. Based on PCI specification 2.1, 3.2, bit, 33MHz, +6V         As same as left           Maximum dimension of card: 176.41mm x 106.68mm				Horizontal 12keys and vertical 9 ke	ys (Option)	As sam	e as left	
I/O port         Serial Port         2 ports(Port 1 cannot be used with touch panel option))         As same as left           USB         3 ports (rear 2 and front 1, USB connector) 2 ports (for Punch panel, Note 1)         As same as left           Parallel port         1 port (Data transfer mode is by-directional mode)         As same as left           Full Keyboard         1 port (PS/2 compatible)         As same as left           Mouse         1 port (PS/2 compatible)         As same as left           IDE         2 ports/4 devices (Signal connector: IBM PC connector: IBM PC 2 ports/4 devices of them is used by CF card unit.         Connector: IBM PC 2 ports/4 devices (Data transfer mode)           Floppy disk         1 port (Gagnal connector: IBM PC compatible)         As same as left           Video port         1 port (Cata connector: IBM PC compatible)         As same as left           Video port         1 port (An optical connector iBM PC compatible)         As same as left           Video port         1 port (An optical connector for the connection Serial Bus)         As same as left           PCMCIA Card slot         1 port (Serial connector of the connection 1 slot of them is used by CF card unit.         Based on PCI Based on PCI specification 2.1, 32-bit, 33MHz, +5V Maximum dimension of card: 176.41mm x         Maximum dimen 166.48mm           POWer         10.4"SVGA type         20x 320 x 125 mm         As same as left		Soft key	/	Note) Available only in case of c	onnecting to CNC			
I/O port         Serial Port         2 ports/Port 1 cannot be used with touch panel option))         As same as left           USB         Based on USB 2.0 3 ports (for Punch panel, Note 1)         As same as left           Parallel port         1 port (Data transfer mode is by-directional mode)         As same as left           Full Keyboard         1 port (PS/2 compatible)         As same as left           Mouse         1 port (PS/2 compatible)         As same as left           IDE         2 ports/4 devices (Signal connector: IBM PC compatible)         As same as left           IDE         1 port (Signal connector: IBM PC compatible)         As same as left           Video port         1 port (Signal connector: IBM PC compatible)         As same as left           Video port         1 port (Analog RGB output)         As same as left           HSSB (High Speed         1 port (An optical connector for the connection Serial Bus)         As same as left           PCI Extension         1 port (Type I/I port         As same as left         2 slots of the short card         2 slots of the short card           10er(WxHxD)         10.4"SVGA type         20 x 20 x 135 mm         As same as left           Weight         10.4"SVGA type         20 x 20 x 135 mm         As same as left           Weight         10.4"SVGA type         3.8kg (Note 3)         3.6kg (Note 3)				via HSSB.				
Serial Polt         option))         As same as left           USB         3 ports (rear 2 and front 1, USB connector) 2 ports (for Punch panel, Note 1)         As same as left           Parallel port         1 port (Data transfer mode is by-directional mode)         As same as left           Full Keyboard         1 port (PS/2 compatible)         As same as left           Mouse         1 port (PS/2 compatible)         As same as left           IDE         2 ports/4 devices (Signal connector: IBM PC compatible)         As same as left           IDE         1 port (Signal connector: IBM PC compatible)         As same as left           Floppy disk         1 port (analog RGB output)         As same as left           Video port         1 port (analog RGB output)         As same as left           Serial Bus)         with CNC controller)         As same as left           PCMCIA Card slot         1 port (Type I/ II, based on PCMCIA 2.1)         As same as left           PCUF         1 port         1 slot of them is used by CF card unit. Based on PCI specification 2.1, 32-bit, 33MHz, +5V         Maximum dimension of card: 176.41mm x 106.68mm           PCI Extension         16.68mm         As same as left         Maximum dimension of card: 176.41mm x 106.68mm           Dimension         10.4"SVGA type         20 x 320 x 125 mm         As same as left           Weight<	I/O port	Sorial D	lort	2 ports(Port 1 cannot be used	with touch panel	As sam	e as left	
Based on USB 2.0 3 ports (rear 2 and front 1, USB connector) 2 ports (for Punch panel, Note 1)         As same as left mode)           Parallel port         1 port (Data transfer mode is by-directional mode)         As same as left As same as left           Full Keyboard         1 port (PS/2 compatible)         As same as left mode)         As same as left As same as left           IDE         2 ports/4 devices (Signal connector: IBM PC compatible)         Connector: IBM PC annector: IBM PC connector: IBM PC connector		Senar	on	option))				
USB         3 ports (rear 2 and front 1, USB connector)           2 ports (for Punch panel, Note 1)           Parallel port         1 port (Data transfer mode is by-directional mode)           Full Keyboard         1 port (PS/2 compatible)         As same as left           Mouse         1 port (PS/2 compatible)         As same as left           IDE         2 ports/4 devices (Signal connector: IBM PC compatible)         As same as left           Floppy disk         1 port (Signal connector: IBM PC compatible)         As same as left           Ethernet         1 port (analog RGB output)         As same as left           HSSB (High Speed         1 port (Type I/ II, based on PCMCIA 2.1)         As same as left           Video port         1 port (Type I/ II, based on PCMCIA 2.1)         As same as left           PCI/F         1 port         1 sot of them is used by CF card unit.         Based on PCI specification 2.1, 32-bit, 33MHz, +5V           Maximum dimension of card:         17.641mm x         Maximum dimension of card:         17.641mm x 106.           Real time clock         Monthly error is within 3 minutes.         As same as left         10.4*SVGA type           Vieight         10.4*SVGA type         2.9kg (Note 3)         3.6kg (Note 3)         3.6kg (Note 3)           Power         10.4*SVGA type         5.9kg (Note 2)         61W (Note 2)<				Based on USB 2.0		As sam	e as left	
Parallel port       1 ports (Data transfer mode is by-directional mode)       As same as left mode)         Full Keyboard       1 port (PS/2 compatible)       As same as left As same as left 1 port (PS/2 compatible)         Mouse       1 port (PS/2 compatible)       As same as left 2 ports/4 devices (Signal connector: IBM PC compatible)         IDE       2 ports/4 devices of them is used by CF card unit.       Compatible)       As same as left 4 port (10BASE-T/100BASE-TX)         Floppy disk       1 port (IOBASE-T/100BASE-TX)       As same as left 1 port (analog RGB output)       As same as left 4 Serial Bus)         Video port       1 port (Type // II, based on PCMCIA 2.1)       As same as left 2 solts of the short card 1 solt of them is used by CF card unit.       Sa same as left 2 solts of the short card 1 solt of them is used by CF card unit.         PCI Extension       1 solt of them is used by CF card unit.       Based on PCI specification 2.1, 32-bit, 33MHz, +5V Maximum dimension of card: 176.41mm x       Maximum dimension of card: 176.41mm x         Real time clock       Monthly error is within 3 minutes.       As same as left         Dimension       10.4*SVGA type       290 x 220 x 135 mm       As same as left         Meight       10.4*SVGA type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4*SVGA type       5.9kg (Note 2)       61W (Note 2)         consumption       15.0* type       73W (Note 2) <td></td> <td>USB</td> <td></td> <td>3 ports (rear 2 and front 1, USE</td> <td>3 connector)</td> <td></td> <td></td> <td></td>		USB		3 ports (rear 2 and front 1, USE	3 connector)			
Parallel port         1 port (Data transfer mode is by-directional mode)         As same as left mode)           Full Keyboard         1 port (PS/2 compatible)         As same as left           Mouse         1 port (PS/2 compatible)         As same as left           IDE         2 ports/4 devices (Signal connector: IBM PC connector: IBM PC connector: IBM PC inductor (IBM PC connector: IBM PC connector: IBM PC inductor)         As same as left           Floppy disk         1 port (10BASE-T/100BASE-TX)         As same as left           Video port         1 port (analog RGB output)         As same as left           Video port         1 port (Type I/ II, based on PCMCIA 2.1)         As same as left           Video port         1 port (Type I/ II, based on PCMCIA 2.1)         As same as left           PCI A Card slot         1 port (Type I/ II, based on PCMCIA 2.1)         As same as left           PCI Extension         2 slots of the short card         2 slots of the short card         2 slots of the short card           1 slot of them is used by CF card unit.         Based on PCI specification 2.1, 32-bit, 33MHz, +5         Maximum dimension of card: 176.41mm x         Maximum dimension of card: 176.41mm x           PCI Extension         15.0° type         3.8kg (Note 3)         3.6kg (Note 3)         3.6kg (Note 3)           Power         10.4°SVGA type         5.9kg (Note 3)         5.7kg (Note 3)				2 ports (for Punch panel, Note	1)			
Full Keyboard       1 port (PS/2 compatible)       As same as left         Mouse       1 port (PS/2 compatible)       As same as left         IDE       2 ports/4 devices (Signal connector: IBM PC       2 ports/4 devices (Dignal connector: IBM PC         IDE       1 port (Signal connector: IBM PC compatible)       As same as left         Floppy disk       1 port (Signal connector: IBM PC compatible)       As same as left         Ethermet       1 port (Connector: IBM PC compatible)       As same as left         Video port       1 port (An optical connector for the connection Serial Bus)       As same as left         Video port       1 port (An optical connector for the connection Serial Bus)       As same as left         PCMCIA Card slot       1 port (PSP // II, based on PCMCIA 2.1)       As same as left         PCI Extension       2 slots of the short card       2 slots of the short card       2 slots of the short card         1 slot of them is used by CF card unit.       Based on PCI specification 2.1, 32-bit, 33MHz, +5V       Maximum dimension of card:       176.41mm x 106.68mm         Real time clock       Monthly error is within 3 minutes.       As same as left       Maximum dimension of card:       176.41mm x 106.         Ibmension       10.4*SVGA type       2.9kg (Note 3)       5.7kg (Note 3)       5.7kg (Note 3)         1 0.4*SVGA type       5.9kg (Not		Parallel	port	1 port (Data transfer mode	is by-directional	As sam	e as left	
Full Keyboard       1 port (PS/2 compatible)       As same as left         Mouse       1 port (PS/2 compatible)       As same as left         Mouse       2 ports/4 devices (Signal connector: IBM PC       2 ports/4 devices         IDE       1 port (Signal connector: IBM PC compatible)       As same as left         Floppy disk       1 port (Signal connector: IBM PC compatible)       As same as left         Floppy disk       1 port (I0BASE-T/100BASE-TX)       As same as left         Video port       1 port (analog RGB output)       As same as left         HSSB (High Speed Serial Bus)       1 port (Type I/ II, based on PCMCIA 2.1)       As same as left         PCI Kard slot       1 port (Type I/ II, based on PCMCIA 2.1)       As same as left         PCI IE xtension       1 slot of them is used by CF card unit. Based on PCI specification 2.1, 32-bit, 33MHz, +5V       Based on PCI specification 2.1, 32-bit, 33MHz, +5V         Maximum dimension of card:       176.41mm x       Maximum dimension 166.68mm       As same as left         Dimension       10.4*SVGA type       290 x 220 x 135 mm       As same as left         Weight       10.4*SVGA type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4*SVGA type       5.9kg (Note 3)       5.7kg (Note 3)         row prover       15.0* type       5.9kg (Note 2) <td< td=""><td colspan="2" rowspan="3">Full Keyboard Mouse</td><td></td><td>mode)</td><td colspan="3"></td></td<>	Full Keyboard Mouse			mode)				
Mouse         1 port (PS/2 compatible)         As same as left           IDE         2 ports/4 devices (Signal connector: IBM PC unit.         2 ports/4 devices (Signal connector: IBM PC compatible)         As same as left           Floppy disk         1 port (Signal connector: IBM PC compatible)         As same as left         As same as left           Video port         1 port (10BASE-T/100BASE-TX)         As same as left         As same as left           HSSB (High Speed Serial Bus)         1 port (An optical connector for the connection Serial Bus)         As same as left           PCI IF         1 port         1 port (Type I/ II, based on PCMCIA 2.1)         As same as left           PCI Extension         2 slots of the short card 1 slot of them is used by CF card unit. Based on PCI specification 2.1, 32-bit, 33MHz, +5V Maximum dimension of card: 176.41mm x         Maximum dimen 176.41mm x 106.           Dimension         10.4"SVGA type         290 x 220 x 135 mm         As same as left           Weight         10.4"SVGA type         3.8kg (Note 3)         3.6kg (Note 3)           15.0" type         3.8kg (Note 3)         5.7kg (Note 3)         5.7kg (Note 3)           Power         10.4"SVGA type         58kg			/board	1 port (PS/2 compatible)	As sam	e as left		
IDE       2 ports/4 devices (signal connector: IBM PC       2 ports/4 dev         IDE       1 port/2 devices of them is used by CF card       connector: IBM PC         Floppy disk       1 port (Signal connector: IBM PC compatible)       As same as left         Ethernet       1 port (OBASE-T/100BASE-TX)       As same as left         Video port       1 port (analog RGB output)       As same as left         HSSB (High Speed       1 port (Type I/ II, based on PCMCIA 2.1)       As same as left         PCI Extension       2 solts of the short card       2 solts of the short card         PCI Extension       1 solt of them is used by CF card unit.       Based on PCI specification 2.1, 32-bit, 33MHz, +5V         Maximum dimension of card:       176.41mm x       Maximum dimension 106.68mm         Neight       10.4*SVGA type       290 x 220 x 135 mm       As same as left         Weight       10.4*SVGA type       3.8kg (Note 3)       3.6kg (Note 3)         Power       10.4*SVGA type       56W (Note 2)       61W (Note 2)         consumption       15.0* type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4*SVGA type       56W (Note 2)       61W (Note 2)         consumption       15.0* type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4*SVGA type <td></td> <td>1 port (PS/2 compatible)</td> <td>As sam</td> <td>e as left</td> <td>. (0:</td>				1 port (PS/2 compatible)	As sam	e as left	. (0:	
IDE       1 port/2 devices of them is used by CF card unit.       Contractions         Floppy disk       1 port (Signal connector: IBM PC compatible)       As same as left         Ethernet       1 port (analog RGB output)       As same as left         Video port       1 port (analog RGB output)       As same as left         HSSB (High Speed Serial Bus)       ip ort (An optical connector for the connection PCMCIA Card slot       1 port (Type I/ II, based on PCMCIA 2.1)       As same as left         PCI F       1 port       2 slots of the short card       2 slots of the short card       2 slots of the short card         PCI Extension       2 slots of the short card       32-bit, 33MHz, +5V       Maximum dimension of card: 176.41mm x         Maximum dimension of card:       16.68mm       As same as left       Maximum dimension         Dimension       10.4*SVGA type       29 x 220 x 135 mm       As same as left         Weight       10.4*SVGA type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4*SVGA type       5.9kg (Note 2)       61W (Note 2)         consumption       15.0* type       73W (Note 2)       78W (Note 2)         consumption       15.0* type       73W (Note 2)       78W (Note 2)         consumption       15.0* type       73W (Note 2)       78W (Note 2)   <				2 ports/4 devices (Signal con	2 por	S/4 DEVICE	s (Signa	
Floppy disk       1 port (Signal connector: IBM PC compatible)       As same as left         Ethernet       1 port (10BASE-T/100BASE-TX)       As same as left         Video port       1 port (analog RGB output)       As same as left         HSSB (High Speed Serial Bus)       1 port (An optical connector for the connection Serial Bus)       As same as left         PCMCIA Card slot       1 port (Type I/ II, based on PCMCIA 2.1)       As same as left         PCMCIA Card slot       1 port (Type I/ II, based on PCMCIA 2.1)       As same as left         PCI Extension       2 slots of the short card 1 slot of them is used by CF card unit. Based on PCI specification 2.1, 32-bit, 33MHz, +5V       Sabet on PCI 32-bit, 33MHz, +5V         Real time clock       Monthly error is within 3 minutes.       As same as left         Dimension       10.4*SVGA type       290 x 220 x 135 mm       As same as left         Weight       10.4*SVGA type       3.8kg (Note 3)       3.6kg (Note 3)         Power       10.4*SVGA type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4*SVGA type       56W (Note 2)       61W (Note 2)         consumption       15.0* type       73W (Note 2)       78W (Note 2)         Onsumption       15.0* type       73W (Note 2)       78W (Note 2)		IDE		1 port/2 devices of them is u	sed by CE card	connect		ompatible
Floppy disk       1 port (Signal connector: IBM PC compatible)       As same as left         Ethernet       1 port (10BASE-T/100BASE-TX)       As same as left         Video port       1 port (analog RGB output)       As same as left         HSSB (High Speed Serial Bus)       1 port (An optical connector for the connection Serial Bus)       As same as left         PCMCIA Card slot       1 port (Type I/ II, based on PCMCIA 2.1)       As same as left         PCI Extension       2 slots of the short card       2 slots of the short card         1 slot of them is used by CF card unit.       Based on PCI         Based on PCI specification 2.1, 32-bit, 33MHz, +5V       32-bit, 33MHz, +5V         Maximum dimension of card:       176.41mm x       Maximum dimension 176.41mm x 106.         Real time clock       Monthly error is within 3 minutes.       As same as left         Dimension       10.4*SVGA type       290 x 220 x 135 mm       As same as left         Weight       10.4*SVGA type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4*SVGA type       56W (Note 2)       61W (Note 2)         consumption       15.0* type       5.9kg (Note 2)       78W (Note 2)         consumption       15.0* type       5.9kg (Note 2)       78W (Note 2)         consumption       15.0* type       73W (Not				unit	seu by Cr caru			
PCI       Ethernet       1 port (10BASE-T/100BASE-TX)       As same as left         Video port       1 port (analog RGB output)       As same as left         HSSB (High Speed Serial Bus)       1 port (An optical connector for the connection Serial Bus)       As same as left         PCMCIA Card slot       1 port (Type I/ II, based on PCMCIA 2.1)       As same as left         PCI Extension       1 slot of them is used by CF card unit. Based on PCI specification 2.1, 32-bit, 33MHz, +5V       Based on PCI specification 2.1, 32-bit, 33MHz, +5V         Real time clock       Monthly error is within 3 minutes.       As same as left         Dimension       10.4*SVGA type       290 x 220 x 135 mm       As same as left         Weight       10.4*SVGA type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4*SVGA type       56W (Note 2)       61W (Note 2)         consumption       15.0* type       56W (Note 2)       61W (Note 2)         consumption       15.0* type       73W (Note 2)       78W (Note 2)		Floppy disk		1 port (Signal connector: IBM PC c	ompatible)	As sam	e as left	
Video port       1 port (analog RGB output)       As same as left         HSSB (High Speed Serial Bus)       1 port (An optical connector for the connection Serial Bus)       As same as left         PCMCIA Card slot       1 port (Type I/ II, based on PCMCIA 2.1)       As same as left         PCI Extension       2 slots of the short card       2 slots of the short card       2 slots of the short card         1 slot of them is used by CF card unit.       Based on PCI specification 2.1, 32-bit, 33MHz, +5V       32-bit, 33MHz, +5V         Maximum dimension of card:       176.41mm x       Maximum dimension 106.68mm       As same as left         Dimension       10.4"SVGA type       290 x 220 x 135 mm       As same as left         Weight       10.4"SVGA type       3.8kg (Note 3)       3.6kg (Note 3)         Power       10.4"SVGA type       5.9kg (Note 3)       5.7kg (Note 2)         onsumption       10.4"SVGA type       56W (Note 2)       61W (Note 2)         consumption       15.0" type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4"SVGA type       56W (Note 2)       61W (Note 2)         consumption       15.0" type       73W (Note 2)       78W (Note 2)         Discover type       5.9kg (Note 3)       5.7kg (Note 3)       5.7kg (Note 2)         Discover type       7		Etherne	et	1 port (10BASE-T/100BASE-T)	1 port (10BASE-T/100BASE-TX)			
HSSB (High Speed Serial Bus)       1 port (An optical connector for the connection with CNC controller)       As same as left         PCMCIA Card slot       1 port (Type I/ II, based on PCMCIA 2.1)       As same as left         PCI F       1 port       As same as left         PCI Extension       Based on PCI specification 2.1, 32-bit, 33MHz, +5V       Sabit, 33MHz, +5V         Maximum dimension of card:       176.41mm x       Maximum dimension 106.68mm         PCI Extension       10.4"SVGA type       290 x 220 x 135 mm       As same as left         Weight       10.4"SVGA type       200 x 220 x 125 mm       As same as left         Weight       10.4"SVGA type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4"SVGA type       56W (Note 2)       61W (Note 2)         consumption       15.0" type       73W (Note 2)       78W (Note 2)         Title       Draw       B-642223EN		Video p	ort	1 port (analog RGB output)	As sam	e as left		
Serial Bus)       with CNC controller)       Note of the solution of the controller in the control of the c		HSSB	(High Speed	1 port (An optical connector fo	As same as left			
PCMCIA Card slot       1 port (Type I/ II, based on PCMCIA 2.1)       As same as left         PC I/F       1 port       As same as left         2 slots of the short card       2 slots of the short card       2 slots of the short card         1 slot of them is used by CF card unit.       Based on PCI specification 2.1, 32-bit, 33MHz, +5V       32-bit, 33MHz, +5V         Maximum dimension of card:       176.41mm x       Maximum dimension 106.68mm         Real time clock       Monthly error is within 3 minutes.       As same as left         Dimension       10.4"SVGA type       290 x 220 x 135 mm       As same as left         Weight       10.4"SVGA type       3.8kg (Note 3)       3.6kg (Note 3)         15.0" type       5.9kg (Note 3)       5.7kg (Note 3)       5.7kg (Note 3)         Power       10.4"SVGA type       5.6W (Note 2)       61W (Note 2)         consumption       15.0" type       73W (Note 2)       78W (Note 2)         15.0" type       73W (Note 2)       78W (Note 2)       78W (Note 2)         consumption       15.0" type       73W (Note 2)       Title         Draw       B-64223EN       No.       B-64223EN		Serial E	Sus)	with CNC controller)	As same as left			
PC I/F       1 port       As same as left         2 slots of the short card       2 slots of the short card       2 slots of the short card         1 slot of them is used by CF card unit.       Based on PCI specification 2.1,       32-bit, 33MHz, +5V         Maximum dimension of card:       176.41mm x       Maximum dimension         106.68mm       10.4"SVGA type       290 x 220 x 135 mm       As same as left         Weight       10.4"SVGA type       290 x 220 x 135 mm       As same as left         10.4"SVGA type       3.8kg (Note 3)       3.6kg (Note 3)         Power       10.4"SVGA type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4"SVGA type       5.9kg (Note 2)       61W (Note 2)         consumption       15.0" type       73W (Note 2)       78W (Note 2)         Title       Draw       B-64223EN         ate       Design       Description       EANULOC LITER		PCMCL	A Card slot	1 port (Type I/ II, based on PCM				
PCI Extension       2 slots of the short card 1 slot of them is used by CF card unit. Based on PCI specification 2.1, 32-bit, 33MHz, +5V Maximum dimension of card: 176.41mm x 106.68mm       2 slots of the shor Based on PCI 2.1, 32-bit, 33MHz, +5V Maximum dimension of card: 176.41mm x         Real time clock       Monthly error is within 3 minutes.       As same as left         Dimension       10.4"SVGA type       290 x 220 x 135 mm       As same as left         (WxHxD)       15.0" type       400 x 320 x 125 mm       As same as left         Weight       10.4"SVGA type       3.8kg (Note 3)       3.6kg (Note 3)         Power       10.4"SVGA type       5.9kg (Note 2)       61W (Note 2)         consumption       15.0" type       73W (Note 2)       78W (Note 2)         maximum       Title       Draw       B-64223EN         ate       Design       Description       EADUICO LITER		PC I/F		1 port	,	As sam	e as left	
PCI Extension       1 slot of them is used by CF card unit. Based on PCI specification 2.1, 32-bit, 33MHz, +5V       Based on PCI 2.1, 32-bit, 33MHz, +5V         Real time clock       Monthly error is within 3 minutes.       As same as left         Dimension       10.4"SVGA type       290 x 220 x 135 mm       As same as left         Weight       15.0" type       400 x 320 x 125 mm       As same as left         Weight       10.4"SVGA type       5.9kg (Note 3)       3.6kg (Note 3)         Power       10.4"SVGA type       5.9kg (Note 2)       61W (Note 2)         consumption       15.0" type       56W (Note 2)       61W (Note 2)         consumption       15.0" type       73W (Note 2)       78W (Note 2)         dot       Draw       B-64223EN         Motor       Draw       No.         ate       Design       Description		•		2 slots of the short card		2 slots of	of the short c	ard
PCI Extension       Based on PCI specification 2.1, 32-bit, 33MHz, +5V       2.1, 32-bit, 33MHz, +5V         Maximum dimension of card: 176.41mm x 106.68mm       32-bit, 33MHz, +5V         Real time clock       Monthly error is within 3 minutes.       As same as left         Dimension       10.4"SVGA type       290 x 220 x 135 mm       As same as left         (WxHxD)       15.0" type       400 x 320 x 125 mm       As same as left         Weight       10.4"SVGA type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4"SVGA type       56W (Note 2)       61W (Note 2)         consumption       15.0" type       73W (Note 2)       78W (Note 2)         Image: Second				1 slot of them is used by CF ca	Based	Based on PCI specification		
32-bit, 33MHz, +5V       32-bit, 33MHz, +5V         Maximum dimension of card: 176.41mm x       Maximum dimension of card: 176.41mm x         106.68mm       176.41mm x 106.         Real time clock       Monthly error is within 3 minutes.       As same as left         Dimension       10.4"SVGA type       290 x 220 x 135 mm       As same as left         (WxHxD)       15.0" type       400 x 320 x 125 mm       As same as left         Weight       10.4"SVGA type       3.8kg (Note 3)       3.6kg (Note 3)         Power       10.4"SVGA type       5.9kg (Note 3)       5.7kg (Note 3)         Power       10.4"SVGA type       56W (Note 2)       61W (Note 2)         consumption       15.0" type       73W (Note 2)       78W (Note 2)         Meximum       Intervention       Title       Draw         B-64223EN       No.       No.		ncion		Based on PCI specification 2.1	2.1,			
Maximum dimension of card: 176.41mm x         Maximum dimension           Real time clock         Monthly error is within 3 minutes.         As same as left           Dimension         10.4"SVGA type         290 x 220 x 135 mm         As same as left           (WxHxD)         15.0" type         400 x 320 x 125 mm         As same as left           Weight         10.4"SVGA type         3.8kg (Note 3)         3.6kg (Note 3)           Power         10.4"SVGA type         5.9kg (Note 3)         5.7kg (Note 3)           Power         10.4"SVGA type         56W (Note 2)         61W (Note 2)           consumption         15.0" type         73W (Note 2)         78W (Note 2)           Image: Superior in the second se	FUIEXIE	151011		32-bit, 33MHz, +5V	32-bit, 3	32-bit, 33MHz, +5V Maximum dimension of card:		
I06.68mm         176.41mm x 106.           Real time clock         Monthly error is within 3 minutes.         As same as left           Dimension         10.4"SVGA type         290 x 220 x 135 mm         As same as left           (WxHxD)         15.0" type         400 x 320 x 125 mm         As same as left           Weight         10.4"SVGA type         3.8kg (Note 3)         3.6kg (Note 3)           15.0" type         5.9kg (Note 3)         5.7kg (Note 3)           Power         10.4"SVGA type         56W (Note 2)         61W (Note 2)           consumption         15.0" type         73W (Note 2)         78W (Note 2)           Image: Second				Maximum dimension of care	Maximu			
Real time clock         Monthly error is within 3 minutes.         As same as left           Dimension (WxHxD)         10.4"SVGA type         290 x 220 x 135 mm         As same as left           Wkight         15.0" type         400 x 320 x 125 mm         As same as left           Weight         10.4"SVGA type         3.8kg (Note 3)         3.6kg (Note 3)           Power         10.4"SVGA type         5.9kg (Note 3)         5.7kg (Note 3)           consumption         15.0" type         73W (Note 2)         61W (Note 2)           consumption         15.0" type         73W (Note 2)         78W (Note 2)           dots         dots         dots         dots           dots         dots         dots         dots         dots           dots         dots         dots         dots         dots         dots           dots         dots         dots         dots         dots         dots         dots           dots         dots         dots				106.68mm		176.41r	nm x 106.68i	nm
Dimension (WxHxD)         10.4"SVGA type         290 x 220 x 135 mm         As same as left           Weight         15.0" type         400 x 320 x 125 mm         As same as left           Weight         10.4"SVGA type         3.8kg (Note 3)         3.6kg (Note 3)           Power         10.4"SVGA type         5.9kg (Note 3)         5.7kg (Note 3)           consumption         15.0" type         56W (Note 2)         61W (Note 2)           consumption         15.0" type         73W (Note 2)         78W (Note 2)	Real time	clock		Monthly error is within 3 minute	S.	As sam	e as left	
(WxHxD)         15.0" type         400 x 320 x 125 mm         As same as left           Weight         10.4"SVGA type         3.8kg (Note 3)         3.6kg (Note 3)           Power         10.4"SVGA type         5.9kg (Note 3)         5.7kg (Note 3)           consumption         10.4"SVGA type         56W (Note 2)         61W (Note 2)           consumption         15.0" type         73W (Note 2)         78W (Note 2)	Dimensio	n 10.4	"SVGA type	290 x 220 x 135 mm		As sam	e as left	
Weight         10.4"SVGA type         3.8kg (Note 3)         3.6kg (Note 3)           Power         15.0" type         5.9kg (Note 2)         61W (Note 2)           consumption         15.0" type         73W (Note 2)         78W (Note 2)	(WxHxD)	15.0	" type	400 x 320 x 125 mm		As sam	e as left	
Is.0" type         5.9kg (Note 3)         5.7kg (Note 3)           Power         10.4"SVGA type         56W (Note 2)         61W (Note 2)           consumption         15.0" type         73W (Note 2)         78W (Note 2)	Weight	10.4	"SVGA type	3.8kg (Note 3)		3.6kg (N	Note 3)	
Power         10.4"SVGA type         56W (Note 2)         61W (Note 2)           consumption         15.0" type         73W (Note 2)         78W (Note 2)	- <b>J</b>	15.0	" type	5.9kg (Note 3)		5.7kg (N	Note 3)	
consumption         15.0" type         73W (Note 2)         78W (Note 2)           Image: Consumption         Title         Title         Image: Consumption         Image	Power	10.4	"SVGA type	56W (Note 2)		61W (N	lote 2)	
Title Title Draw No. B-64223EN No.	consumption	on 15.0	" type	73W (Note 2)		78W (N	lote 2)	
Title Title Draw No. B-64223EN No.								
Draw B-64223EN					Title			
ate Design Description Draw No. B-64223EN								
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			(Continue)				
tem			CF card type PANEL i		HDD type PANEL i		
Hard Disk	isk Drive Unit						
	Hard Disk Driv	ve	-		3.5" Hard Disk Drive, 40GB or		
					more		
					Ultra ATA/100		
CF card uni	t		Weight : 0.2kg				
	CF card unit		Integrated into the PCI Extension	slot 1			
	CF card		Master : 2GB		-		
			Slave : 1GB, 256MB, 128MB or	non.			
pplicable O	S		Windows® XP Embedded		Windows® XP Professional		
			USB port of Punch panel Note 2) Above power consumption in < HDD type > - PC UNIT, HDD Unit, FA < CF card type > - PC UNIT, CF card unit, Above power consumption de - FDD Unit, CD-ROM Dr device, and Devices to c Above power consumption is extended boards are mount please consider the cabinet suitable to the total power con Note 3) The weight of CF card The weight of HDD type	is used. cludes the f N for HDD Keyboard, bes not incl ive, PCMC onnect by S s reference ed, the po design an nsumption. type PANE PANEL i do	following devices. , Keyboard, and Mouse. and Mouse. ude the following devices. IA Card, PCI Extension board, USB Serial or Parallel Interface. e. If peripherals are connected or PCI ower consumption will increase. Also, ad the cooling method, which is most L i includes the weight of CF card unit. bes not include the weight of HDD unit.		
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#### F.3.1.3 PANEL i for Automotive

γ στης τραδί	ic Unit)	CF CARD TYPE PANEL I	עט נעpe PANEL I			
		Pentium M 1.6GHz or	As same as left			
CPU		Celeron M 1.3GHz				
Memory		1GB or 512M	1GB, 512M or 256MB			
Display	LCD	15.0"XGA (1024x768dot),	As same as left			
	Touch-Panel	1024x1024 dots (Option)	As same as left			
Keyboard	Control key	33 keys (Note 1)	As same as left			
	Function/Alphabet	26 keys (Note 1)				
	Vertical softkey	16 keys (Note 2)				
I/O port	Serial Port	2 ports (Port 1 cannot be used with touch panel option)	As same as left			
	USB	Based on USB 2.0 3 ports (rear 1 and front 2, USB connector) 2 ports (for Punch panel, Note 3)	As same as left			
	Parallel port	1 port (Data transfer mode is by-directional mode)	As same as left			
	Full Keyboard	This is used by integrated keyboard.	As same as left			
	Mouse	1 port (PS/2 compatible)	As same as left			
	IDE	<ul> <li>2 ports/4 devices (Signal connector: IBM PC compatible)</li> <li>1 port/2 devices of them is used by CF card unit.</li> <li>CD-ROM drove (option) uses 1 port.</li> </ul>	2 ports/4 devices (Signal connector: IBM PC compatible) HDD unit (basic) uses 1 port. CD-ROM drove (option) uses 1 port.			
	Floppy disk	1 port (Signal connector: IBM PC compatible)	As same as left As same as left			
	Ethernet	1 port (10BASE-T/100BASE-TX)				
	Video port	1 port (analog RGB output)	As same as left			
	HSSB (High Speed	1 port (An optical connector for the connection	As same as left			
	Serial Bus)	with CNC controller)				
	PCMCIA Card slot	1 port (Type I/ II, based on PCMCIA 2.1)	As same as left			
	I/O Link	Master device 1ch, Slave device 1ch (option)	As same as left			
PCI Extens	sion	2 slots of the short card 1 slot of them is used by CF card unit. Based on PCI specification 2.1, 32-bit, 33MHz, +5V Maximum dimension of card: 176.41mm x 106.68mm	2 slots of the short card Based on PCI specification 2.1, 32-bit, 33MHz, +5V Maximum dimension of card: 136 41mm v 106 68mm			
Real time	clock	Monthly error is within 3 minutes.	As same as left			
Hard Disk	Drive (integrated)	None	As same as left 3.5" Hard Disk Drive, 40GB or more Ultra ATA/100			
Dimension (WxHxD)		482.6 x 354.8 x 145.0 mm (without FDD&CD drive unit) 482.6 x 354.8 x 180.0 mm (with FDD&CD drive unit)	As same as left			
		8.8kg (without FDD&CD drive unit) (Note 5)	10.0kg (without FDD&CD drive unit) 78W (Note 4)			
Weight						

				(Continue)								
lte	m			CF card type PANEL i HDD type PANEL i								
	F card un	\i+		Weight : 0.2kg								
C			nit	Integrated into the PCI Exten	sion slot 1							
		CF card u	THL	Mastar · 2GB								
		CF card		Master . 2GD		-						
۸	unlingh la (			Slave . IGB, 250MB, 120M		Windows ND Drofoo						
Ap	opiicable C	5		VVINDOWS® XP Embedded VVINDOWS® XP Professional								
				Note 1) Key arrangement i Note 2) In case of A08B-00 B722, B723 vertic A08B-0086-B712, B733 vertical soft Appendix C "KEY PANEL i FOR AUTO Note 3) Please use the ex USB port of Punch Note 4) Above power consumpti < HDD type > - PC UNIT, HDD Ur < CF card type > - PC UNIT, CF card Above power consumpti - FDD Unit, CD-RO device, and Device Above power consumpt extended boards are n please consider the ca suitable to the total power Note 5) The weight of CF c	s different from 186-B702, B703 al soft keys B713, B732, E keys signals ge CODE OF SOI DMOTIVE" about the solution of the solution cernal USB cable banel is used. Don includes the it, FAN for HDE unit, Keyboard, on does not incle M Drive, PCMC is to connect by fon is reference bounted, the pro- bounted, the pro- bounted design are er consumption. ard type PANEI	MDI. 8, B722, B723, A13B-0199- signals go to only PC. 8733, A13B-0199-B712, E to to both PC and I/O Lin FT KEYS AND FUNCTION at key code to PC.) le which length is 1 meter of following devices. 9, Keyboard, and Mouse. 104 and Mouse. 104 the following devices. 114 Card, PCI Extension box Serial or Parallel Interface. 125 Serial or Parallel Interface. 136 Devices are conner 137 Serial or Parallel Interface. 138 Devices are conner 139 Serial or Parallel Interface. 130 Act of the cooling method, which is a set of the cooling method, which is a set of the cooling method, which is a set of the cooling method is a set of the coolin	B702, B7 In case 3713, B7 k. (Refe N KEYS or less w or less w ard, USB ected or rease. A nich is n F card ur	703, of 732, r to OF hen hen PCI Iso, nost nit.				
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# F.3.2 ENVIRONMENT

When the PANEL *i* is used, the following environmental conditions (as measured top of the unit inside the cabinet) must be ensured for the unit.

Ambient temperature	Operating : 0 to +58°C					
Ambient temperature	Non-operating : - 20 to +60°C (Note 1, 2)					
Change in temperature	Up to 20 degrees/hour					
	Standard : under 75% (non-condensing)					
Ambient relative humidity	Short-term (within one month)					
	: under 95% (non-condensing)					
Vibration	Operating : up to 0.5G					
Vibration	Non-operating : up to 1.0G					
Environment	Installed in a hermetically sealed cabinet					
Altitude	Operating : - 60m to 1000m					
Altitude	Non-operating : - 60m to 12000m					

(Note 1) Confirm the environmental specification of the peripheral devices when the peripheral devices are used with PANEL i.

(Note 2) The environmental specification of the floppy disk drive or CD drive (DVD drive) supplied from FANUC is as follows.

Ambient temperature	Operating	: +5 to +50°C			
Ambient temperature	Non-operating	: - 20 to +60°C			

If the temperature of CPU and ambience at power-on are beyond the allowable range, it is indicated as follows.

In the case of the CPU temperature error (More than 75°C) CPU Temperature = 76°C (Actual temperature is indicated.) CPU Temperature Exceeds the Upper Limit - FATAL

In the case of the ambient temperature error (High temperature side : over 55°C) Ambient Temperature Exceeds the Upper Limit – FATAL

Low side of ambient temperature error does not occur.

## F.3.3 SHUTDOWN OPERATION

Shutdown operation must be needed before power down in CF card type PANEL i as in HDD type.

Only in the case that CF card unit has no slave CF card, shutdown operation is not needed before power down because the data in the master CF card are protected by enabling EWF function. (EWF function is mentioned later.)

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# F.4.3 CF CARD

Two CF cards can be mounted on CF card unit. (master and slave)

Master : mounted on connector CA84A

OS and MTB application are installed in this CF card. Also read-only application data is able to be installed in it.

Total capacity is 2GB. OS uses 1GB or more, and the remains are used for MTB application or read-only data. (The OS capacity may be changed in OS version up or other reasons.)

Please set EWF (Enhanced Write Filter) function ENABLE surely. (this setting is DISABLE by the time PANEL i is shipped from FANUC.) If EWF function is disable, reliability may not be kept.

Slave : mounted on connector CA84B

This is for user data that is written by MTB application. Please choose the necessary capacity of 128MB/256MB/1GB for MTB's purpose.

If slave CF card is not necessary, please choose the unit that has no slave CF card.

How to choose the slave CF card capacity (Reference) Please choose necessary capacity of slave CF card referring the following calculation. Large capacity CF card is needed for frequent writing, in spite of small data size. Remained capacity of CF card : C (byte) The size of writing data per 1 writing : Y (byte) The number of writing times per 1 day : Z (times) in condition that the life is 50 years (18250 days), then C = 18250 \* Z \* (Y+5120) / 400If Y=10Mbyte and Z=1 time,then C=456Mbyte => 1GB If Y=2kbyte and Z=3000 times, then C=975Mbyte => 1GB If Y=100byte and Z=500byte, then C=119Mbyte => 128MB

(Note) FANUC does not guarantee proper working of CF cards in the market, for example some functions may not work. So, please use the CF card FANUC provided.

(Note)	CF	card	access	speed	may	be	slower	than	HDD.	Please	confirm	carefully	in the	actual
	sys	tem ir	n case o	f excha	anging	g fro	m HDE	) type	to CF	card typ	e.			

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# **OUTLINE DRAWINGS**

Outline dimensions are the same as PANEL i with Pentium 3 or Pentium M (HDD type). Refer to the section 6. OUTLINE DRAWINGS in the connection and maintenance manual of PANEL i. HDD unit is not included in CF card type PANEL i for Automotive, and Vertical key sheet of CF card type is different from that of HDD type as below figure.





Vertical key sheet for CF card type ("CARD" lamp is added instead of "HDD".)

Vertical key sheet for HDD card type

Note) This key sheet is same as that of CNC Display unit for Automotive, but "CARD" la	amp
of PANEL i is NOT same in the time that the lamp turned on or off.	

	Access to	Access to PCMCIA card inserted in
	integrated CF card	PCMCIA slot in front of the unit
PANEL i	Turned ON	Turned OFF
CNC Display unit	Turned OFF	Turned ON
for Automotive		

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# **F.5**

# F.6 Windows XP Embedded

### F.6.1 What is Windows XP Embedded ?

Windows XP Embedded is a Microsoft Operating System that is based on Windows XP Professional and customizable for embedded use. Features are following.

- Easy to use the applications or drivers that works on Windows XP Professional.
- CF card, not only HDD, is available as the storage device.
- "EWF (Enhanced Write Filter) function" is equipped that protects important files against careless writing.
- This is not real-time OS and not proper for machine control. Please use as the platform of the application that has MTB's original GUI.

### F.6.2 FANUC Windows XP Embedded system

#### Function and size of OS

FANUC Windows XP Embedded is the best-customized OS for PANEL i. Its functions are almost same as Windows XP Professional and its size is a little over 1GB.

#### **OS** language

There are neither English version nor Japanese version in Windows XP Embedded. English is the standard language of Windows XP Embedded. And Japanese can be selected on the Regional and Language Options in the control panel.

#### **Displayable language**

Available languages on the application software are the following 18 languages.

English,	Japanese,
German,	French,
Spanish,	Italian,
Chinese (Traditional),	Chinese (Simplified),
Korean,	Portuguese,
Dutch,	Danish,
Swedish,	Hungarian,
Czechoslovak,	Polish,
Russian,	Turkish

#### Virtual memory

Virtual memory is not available in Windows XP Embedded. OS and all application software works on the main memory. The memory consumption of OS itself is about 128MB at the time of starting OS.

#### **OS** standard runtime

Following runtime libraries are installed.

Visual C / C++ Runtime Library, MFC Library, Visual Basic 5.0 / 6.0 Runtime Library, COM+ Service, .NET Framework 2.0, DirectX, OpenGL, and so on.

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#### Software supplied by FANUC

Following drivers and application software are installed.

Touch panel driver, HSSB driver, MDI key driver, Hardware monitor driver (this watches the status of the Thermal, FAN and Battery),

Hardware monitor (this watches the status of the Thermal, FAN and Battery and controls EWF function), NCBOOT32, FOCAS1/2 library (HSSB version), \* To use this function, software option is also necessary. CNC screen display function (HSSB version) \* To use this function, software option is also necessary.

#### License certification (Product Activation)

Not required.

### F.6.3 EWF function protects OS

EWF (Enhanced Write Filter) function is the feature that makes the data to write not to CF card but to cache of the main memory that is written to drive "C:".

The data written to the drive "C:" look like normally written from operator or application software, because these data are read from main memory cache. But the drive "C:" will return to the previous contents when OS is restarted.

Enabling EWF function makes the drive "C:" to read-only, and protects OS and MTB application software against careless writing.

FANUC shipping setting of EWF function is disabled. Please enable EWF function surely after finish "F.6.6. First setup of Windows XP Embedded" described later.

EWF function setting can be changed dialogically by "Hardware monitor" icon in the task bar. Please refer to "6. Enabling EWF protection" of "F.6.6. First setup of Windows XP Embedded" about operation.

#### **Changing OS settings**

Make the drive "C:" writable by disabling EWF function, if you want to write data to the drive "C:" after enabling EWF function. (e.g. Performing OS settings, Changing registry entries, Installing some software, and so on.)

After operations, please enable EWF protection again surely.

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#### **Event log**

By default, OS event log files are stored in the "C:¥Windows¥system32¥config" folder.

If these event log files are needed after restarting OS, make an adequate folder in the drive "D:", and then modify the following registry entries to point that folder.

 Key:
 HKEY\_LOCAL\_MACHINE¥SYSTEM¥CurrentControlSet¥Services¥EventLog¥Application¥

 Name:
 File

 Type:
 REG\_EXPAND\_SZ

Value: <folder name on the drive "D:">¥AppEvent.evt

Key: HKEY\_LOCAL\_MACHINE¥SYSTEM¥CurrentControlSet¥Services¥EventLog¥Security¥ Name: File Type: REG\_EXPAND\_SZ

Value: <folder name on the drive "D:">¥SecEvent.evt

 Key:
 HKEY\_LOCAL\_MACHINE¥SYSTEM¥CurrentControlSet¥Services¥EventLog¥System¥

 Name:
 File

 Type:
 REG\_EXPAND\_SZ

 Value:
 <folder name on the drive "D:">¥SysEvent.evt

#### **Communication Log of FOCAS1/2 library**

By default, communication log files of FOCAS1/2 library are stored in the "C:¥Windows¥fwlib" folder.

If these communication log files are needed after restarting OS, add the following registry entry and then set the value to 2.

Key: HKEY\_LOCAL\_MACHINE¥SOFTWARE¥FANUC¥Fwlog¥

- Name: AlternativeDrive
- Type: REG\_DWORD
- Value: 2 = Communication log files are output to the "D:¥fwlib" folder.
  - 0 = Communication log files are output to the "C:¥Windows¥fwlib" folder.

#### **Temporary files folder**

By default, temporary files that are used in application software are stored in the "C:¥Documents and Settings¥<user name>¥Temp" folder.

Note that all contents which were written to the drive "C:" are kept in main memory by EWF function. Therefore, if an application software uses temporary files in large quantities or frequently, or if an application runs continuously for very long time, main memory may become full and "Insufficient memory alarm" may occur.

In such a case, make an adequate folder in the drive "D:", and then specify that folder name to environment variables "TEMP" and "TMP". Or modify the following registry entries to point that folder. These settings are necessary every user account.

Key:	HKEY_CURRENT_USER¥Environment¥
Name:	TEMP
Type:	REG_SZ
Value:	<folder "d:"="" drive="" name="" on="" the=""></folder>

Key: HKEY\_CURRENT\_USER¥Environment¥

- Name: TMP
- Type: REG\_SZ

Value: <folder name on the drive "D:">

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#### **Temporary internet files folder**

By default, temporary internet files are stored in the "C:¥Documents and Settings¥<user name>¥Temporary Internet Files" folder.

If these temporary files are needed after restarting OS, make an adequate folder in the drive "D:", and then modify the following registry entries to point that folder. These settings are necessary every user account.

 Key:
 HKEY\_CURRENT\_USER¥Software¥Microsoft¥Windows¥Current
 Version¥Explorer¥User

 Shell Folders¥
 Name:
 Cache

 Type:
 REG\_EXPAND\_SZ
 Value:

 Value:
 <folder name on the drive "D:">

Key: HKEY\_CURRENT\_USER¥Software¥Microsoft¥Windows¥CurrentVersion¥Explorer¥Shell Folders¥ Name: Cache Type: REG\_EXPAND\_SZ Value: <folder name on the drive "D:">

### F.6.4 Notes in using

- Windows XP Embedded is a compact OS that is based on Windows XP Professional and is re-built by selecting the necessary components for PANEL i.
   So, please confirm certainly of the proper working of MTB application or application in the market on Windows XP Embedded of PANEL i.
- Virtual memory is not available in Windows XP Embedded. Please confirm carefully if the application software that consume large memory size is used.
- It is impossible to write data to a master CF card (the drive "C:") because of EWF function. Please confirm carefully if the application software may write data to the drive "C:".
- Shutdown operation is necessary before powered-off. The contents of the master CF card (the drive "C:") are protected by enabling EWF function. However, there is a possibility that some data under OS buffer are not stored yet into the slave CF card (the drive "D:"). Therefore, some user files may be destroyed, if shutdown operation was not performed.
- The followings are not approved because of the license of Windows XP Embedded.
  - Installing Office components (Word, Excel etc.) that can make new documents freely.
    - Installing software by end users freely.

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# F.6.5 Notes in making application software

Please pay attention to the followings when MTB designs application software.

- Please pay attention to the whole size of the program and internal data of the application software in order to work inside of main memory completely.
  - The application software that consumes large memory size may not work properly because virtual memory is not available.
- Please do not write data to the drive "C:".
  - Note that all contents which were written to the drive "C:" are kept in main memory by EWF function. Therefore, if an application software write data in large quantities or frequently, or if an application runs continuously for very long time, main memory may become full and "Insufficient memory alarm" may occur.
  - Please write data to the drive "D:" if necessary.
  - Please assign a folder in the drive "D:" to environment variables TMP and TEMP, if temporary files are necessary.
- Please do not save the setup information of the application software to the registry.
  - By EWF function, the registry will return to the previous contents when OS is restarted.
  - Please save the setup information to the drive "D:".

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# F.6.6 First setup of Windows XP Embedded

When starting up PANEL i for the first time, perform an initial setup by the following procedure.

- 1. Logon
- 2. Calibration and Setting of right click simulation of touch panel (For PANEL i with Touch panel)
- 3. Settings of HSSB Node
- 4. Settings of MDI keyboard (For PANEL i with MDI key)
- 5. Setup of applications and setting of OS
- 6. Enabling EWF protection

#### Notice

- The username "Administrator", which is used for the first logon, has a password. See "1. Logon" section for details.
- When PANEL i was shipped from FANUC, EWF protection feature is disabled, so the drive "C:" can be written. After the first setup completes, enable EWF protection certainly. See "6. Enabling EWF protection" section for details.

#### Things to be prepared

- Full keyboard via PS/2 or USB
- Mouse via PS/2 or USB (Unnecessary for PANEL i with Touch panel)

#### 1. Logon

- (1) Connect full keyboard and mouse to PANEL i, adequately, and turn on the power.
- (2) After Windows Logon dialog is displayed, logon using the following Username and Password.

Username: Administrator Password: OPENCNC

# 2. Calibration and Setting of right click simulation of touch panel (For PANEL i with Touch panel)

If necessary, calibrate the cursor position of touch panel.

- (1) Open Control Panel from [Start] menu. Select [Other Control Panel Options] at [See Also].
- (2) Select [Touch Panel] icon to open Touch Panel Setting screen.
- (3) Invoke Touch panel calibration program by clicking [Calibrate Now] button on [Calibration] tab.
- (4) Calibration screen will appear. (The cross-shaped mark is displayed on the upper-left corner of the screen.) Touch the center of the cross-shaped mark with touch-pen and hold its point for about 1 second. After touching, next cross-shaped mark will appear. Repeat touching 9 times.
- (5) After touching all 9 cross-shaped marks, click [Update] button to finish this calibration program.
- (6) Click [OK] button to close Touch Panel Setting screen.
- (7) Close Control Panel.

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Also, if necessary, set the right click simulation of touch panel.

- (1) Open Control Panel from [Start] menu. Select [Other Control Panel Options] at [See Also].
- (2) Select [Touch Panel] icon to open Touch Panel Setting screen.
- (3) Check [Enable the right click simulation] on [Right button simulation] tab, then select function key to use right click simulation from Ctrl key, Shift key and Alt key.
- (4) Check either [Right click is simulated whilst function key is pressed] or [Right click happens only once after function key is pressed] according to the purpose.
- (5) Click [OK] button to close Touch Panel Setting screen.
- (6) Close Control Panel.

#### 3. Settings of HSSB Node

The Node number of internal HSSB interface is assigned as 0.

When PANEL i is configured as the HSSB multi-connection using the PCI extension board, the Node number is assigned as 1, 2, ... for PCI HSSB board according to the order of the PCI slot number. Set each HSSB node by the following procedure.

- (1) Open Control Panel from [Start] menu. Select [Other Control Panel Options] at [See Also].
- (2) Select [HSSB] icon.
- (3) Select the node number which corresponding to the HSSB interface, and then click [Setting...] button.
- (4) Enter proper name, which indicates the machine connected to the HSSB interface (for example, "FS160 No.1", "Milling Machine"), to [Node Name:] within 19 characters.
- (5) Select CNC connected to the HSSB interface from the [CNC Type:] list box.
- (6) Click [OK] button to close this window.
- (7) In case of HSSB multi-connection, go back to step 3 and repeat these steps for each node.
- (8) Click [Close] button.
- (9) The dialog box, which indicates the modification on HSSB setting, will appear. Click [OK] button to close the dialog box.
- (10) Close Control Panel.

#### 4. Settings of MDI keyboard (For PANEL i with MDI key)

If necessary, set MDI keyboard.

- (1) Open Control Panel from [Start] menu. Select [Other Control Panel Options] at [See Also].
- (2) Select [MDI] icon.
- (3) Select a type of MDI key connected to PANEL i from [MDI keyboard type:] list box on [General] tab.
- (4) Click [OK] button to close the dialog box.
- (5) Close Control Panel.

#### 5. Setup of applications and OS setting

If there are some applications of MTB, install those software.

Also, if there are some OS settings required by MTB (for example, Adding new users, Setting for Automatic Logon feature, Settings for Taskbar functions, Adding custom programs to Startup and/or NCBOOT32, Creating data folders, and so on), perform those settings.

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#### 6. Enabling EWF protection

After a series of setup is finished, write-protect the drive "C:" by enabling EWF protection feature. Administrator authority is needed to operate.

- (1) Right-click the icon of Hardware Monitor on System Tray, then select [EWF] menu.
- (2) Click [Enable EWF protection] button.
- (3) Confirm [Next EWF protection] becomes "ENABLE", then click [Close] button.
- (4) Shutdown PANEL i from [Start] menu. EWF protection feature will be effective after next boot-time.

You have to enable EWF protection feature, because this procedure is necessary for improving OS security and for increasing the life of a CF card by minimizing the number of write operations.

Make the drive "C:" writable by disabling EWF protection feature, if you want to perform OS settings or install some software after enabling EWF protection feature. Administrator authority is needed to operate.

- (1) Right-click the icon of Hardware Monitor on System Tray, then select [EWF] menu.
- (2) Click [Disable EWF protection] button.
- (3) Confirm [Next EWF protection] becomes "DISABLE", then click [Close] button.
- (4) Shutdown PANEL i from [Start] menu. EWF protection feature will be ineffective after next boot-time.

After operations, please enable EWF protection again surely.

### F.6.7 Recovery of Windows XP Embedded

"Recovery" is the operation to restore the software, such as OS and device drivers, originally installed on PANEL i using "Windows XP Embedded Recovery Disk".

Perform the recovery, when a problem (for example, OS does not start up, and so on) occurred and when the master CF card was exchanged.

#### Notice

- When recovery is performed, all contents of the master CF card will be erased. If necessary, backup your data beforehand.
- If the slave CF card exists, contents of it are not erased.
- The software installed after PANEL i was shipped (for example, MTB's application) are not restored.
- If peripheral devices are attached, remove them once and restore to original condition of PANEL i. Also, don't connect Ethernet cable, too.

#### Things to be prepared

- Full keyboard via PS/2 or USB
- DVD-ROM drive connected via ATAPI
- Windows XP Embedded Recovery Disk (A08B-0086-K780)

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#### **Recovery procedure**

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- (1) Connect full keyboard and DVD-ROM drive to PANEL i, adequately, and turn on the power.
- (2) To open the BIOS Setup Utility screen, press F2 key during the Power-On-Self-Test (POST) of BIOS.

And at this time, set the Windows XP Embedded Recovery Disk onto DVD-ROM drive.

- (3) Select "Boot Device Priority" at "Boot" menu, and press Enter key.
- (4) Configure the boot device order as follows and then press Esc key to exit the menu.

		+ Removable CD-ROM E + Hard Drive	e Devices Drive					
	(5) (6)	Save the setting at " PANEL i restarts au	Exit Saving Changes tomatically, and then	s" and exit the BIOS the following screen	Setup Utility n is displaye	y screen. d after a while		
		FANUC PANEI Windows(R) X	i _ i P Embedded with S	======================================	ery Tool			
		This tool will rec	over the OS softwa f	re "A08B-0086-J58 rom DVD media to	0 Edition x CompactF	.x" lash card.		
		All contents of th Are you sure (Y/	ne 1st CompactFlas N)?	h card will be rene	ewed.			
	(7) (8)	After confirming tha key. Next, the following s	t the attached maste	er CF card is prope	er one, pres	s Y key, then	press E	nter
		Is this Unit with a	a Touch panel (Y/N)	?				
	(9) (10	If Touch panel is but then press Enter key Recovery is started when ended.	uilt into PANEL i, pre /. . It takes <u>20 to 30</u>	ess Y key, then pres <u>minutes</u> for recove	ss Enter key ry. The follo	v. Otherwise, p	oress N I is displa	key, yed
		Reboot OK (Y/N)	? While rebooti	ng, remove the DV	D media.			
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- (11) Press Y key, then press Enter key.
- (12) PANEL i restarts automatically. Restore the boot device order to the former setting by the procedure like step (2) to (5).
  - And remove the Windows XP Embedded Recovery Disk from DVD-ROM drive.
- (13) PANEL i restarts automatically, and then the following screen is displayed after a while.

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#### System Loading... Wait a few minutes.

- (14) At the first boot-time just after recovery, it takes **<u>about 7 minutes</u>** with the above screen kept, because an initial OS setting is performed internally.
- (15) In case of PANEL i with Touch panel, calibration screen will appear after the initial OS setting is finished. Perform operations with referring to step (4) and step (5) of "Calibration and Setting of right click simulation of touch panel".
- (16) PANEL i shutdown automatically.
- (17) Since then, perform operations with referring to " First setup of Windows XP Embedded ".

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# F.7 LIST OF THE PCBS, UNITS, MAINTAINANCE SUPPLIES AND TOOLS

# F.7.1 LIST OF PCBS

### F.7.1.1 Main board

CNIC	Linit		Creation of Main board	Applied Decis Lipit
CINC	Unit	LCD type	Specification of Main board	Applied Basic Unit
160i	PANELi	12.1"	A20B-8101-0360	A08B-0086-B111, -B113
/180i			(total edition is 06F or later)	A13B-0199-B111 ~ 4
/210i		10.4"SVGA	A20B-8101-0368	A08B-0086-B161, -B163
			(total edition is 06F or later)	A13B-0199-B161 ~ 4
		15.0"	A20B-8101-0361	A08B-0086-B121, -B123
			(total edition is 06F or later)	A13B-0199-B121, -B123, -B124
	PANEL i for	15.0"	A20B-8101-0364	A08B-0086-B702, -B703,
	Automotive		(total edition is 06F or later)	A08B-0086-B712, -B713,
				A13B-0199-B702, -B703,
				A13B-0199-B712, -B713
300i	PANEL i	10.4"SVGA	A20B-8101-0369	A08B-0086-B631, -B633
			(total edition is 06F or later)	A13B-0199-B632, -B634
				A13B-0199-B652, -B654
		15.0"	A20B-8101-0366	A08B-0086-B621, -B623
			(total edition is 06F or later)	A13B-0199-B622, -B624
				A13B-0199-B672, -B674
	PANEL i for	15.0"	A20B-8101-0366	A08B-0086-B722, -B723,
	Automotive		(total edition is 06F or later)	A08B-0086-B732, -B733,
				A13B-0199-B722, -B723,
				A13B-0199-B732, -B733

• Refer to section F.8.1.2 and check that all setting is right.

 TM7 setting is different for HDD type and CF card type. Default setting at shipping is for HDD type. Change the setting of TM7 to CF card type setting when these boards is used in CF card type PANEL i.

# F.7.1.2 CF card adapter PCB

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CF card ada	pter PCB	A20B-8002-0660		A08B-0086-H100 A08B-0086-H101 A08B-0086-H102 A08B-0086-H104
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# F.7.2 LIST OF MAINTENANCE CF CARD

	Name	Specification of Maintenance Parts	Applied Order Specification	
CF card (master)	2GB	A87L-0001-0197#002GB	A08B-0086-H100 A08B-0086-H101 A08B-0086-H102 A08B-0086-H104	
CF card	128MB	A87L-0001-0197#128MB	A08B-0086-H101	
(slave)	256MB	A87L-0001-0197#256MB	A08B-0086-H102	
	1GB	A87L-0001-0197#001GB	A08B-0086-H104	

# F.7.3 LIST OF CPU AND MEMORY

	Name	Specification of Maintenance Parts	Applied Order Specification		
CPU	Celeron M 1.3GHz	A08B-0086-C210	A08B-0086-H010		
	Pentium M 1.6GHz	A08B-0086-C220	A08B-0086-H020		
Main memory	512MB	A76L-0500-0027	A08B-0086-H002		
	1GB	A76L-0500-0028	A08B-0086-H003		

256MB main memory is not available for CF card type PANEL i.

The specifications of the other PCBs, units, maintainance supplies and tools are the same as for HDD type PANEL i with Pentium M.

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# F.8 CONFIGURATION AND SETTING OF PCB

# F.8.1 MAIN BOARD

### F.8.1.1 Parts layout



# F.8.1.2 Adjustment (Setting of Short Plug on the Main Board)

Name	Meaning	Setting (Fit the part's direction to the figure of section F.8.1.1.)		Details
TM1	FDD Mode	TM1	□□ : Open □□ : Short	Setting for designated FDD. Default on manufacture.
		TM1	—	Setting for old FANUC FDD.
TM18 TM3 TM4	Reserved	TM18 TM3 TM4	□ : Open ■ : Short	Default on manufacture Never change (TM4 will be set to right temporay at maintenance.)
TM5 (Note1)	LCD type	TM5	⊡ : Open ■ : Short	10.4"VGA LCD setting
		TM5		12.1"SVGA LCD setting Default on manufacture.
TM7	Alarm mode	TM7	□ : Open ■ : Short	Default on manufacture. Don't change except t unit for CF card type PANEL i.
		<b>TM7</b>		In case of the basic unit for CF card type PANE i, change to this setting. Without changing, HDD FAN alarm will occur.
TM19 (Note3)	PANEL i for Ethernet display function	TM19	□ : Open ■ : Short	Default on manufacture. Don't change except t unit of A08B-0086-B65x and –B67x.
		TM19		In case that the basic unit is A08B-0086-B65x of A08B-0086-B67x, change to this setting. Without changing, key input from MDI-key does not work properly.
TM9 TM10	Reserved	TM9 TM10	□ : Open ■ : Short	Default on manufacture. Don't change

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#### F.8.1.3 LED Display (LED on Main Board) RE2 RE3 RE4 GR4 D41M CD32 GR3 GR2 CD38U GR1 GR4 GR6 L \_ \_ \_ \_ \_ \_ \_ \_ Name1 Name2 Color Status RE1 TRM Thermal Alarm. Thermal is not in regulated range. Red RE2 BAT Red Battery Alarm The battery on PANEL i is exhausted. FANs for basic unit are stopped. Please exchange. FAN for HDD is not necessary for CF card type PANEL i. FAN alarm does not occurred if FAN for HDD is connected or not. Attention: If this LED is on although no screen is displayed and all RE3 FAN Red fans don't stop, PANEL i is reset status or one of the fans has trouble. In this case, there is possibility that the Main Board or Power PCB has trouble. Refer to "9. TROUBLE SHOOTING", too. There is the status of the power-off. (Soft-off) Attention: This LED usually is not to continue to be on. But it is to continue to be on. In this case, you can think that the RE4 S5 Red setting is missed and etc. Set the right side of TM4 temporary and back This means that back-up memory is cleared. (Refer to section.3.) GR1 5V Power on LED (+5V) Green HDD HDD or CF card access LED GR2 Green PCM PCMCIA access LED GR3 Green Ethernet link LED GR4 LINK Green GR5 100M Green Ethernet 100MHz link LED GR6 ACT Green Ethernet activity LED Title Draw B-64223EN/01-05 No. Ed. Date Design Description page 30/ FANUC LTD Date Design. Apprv.

