

1 General

This documentation aims to help qualified technical personnel to install, operate and maintain the products described herein. It contains all of the information required for correct use of the products. However, advanced users of our products may wish to contact their nearest sales office for additional information.

The contents of this documentation are not contractual and may in no circumstances extend or restrict any binding warranty clauses.

2 Qualification of personnel

Only **qualified personnel** are authorized to install, operate and maintain the products. Intervention by non-qualified personnel or failure to observe the safety precautions contained in this document or displayed on the equipment may risk the safety of personnel and/or the safety and reliability of equipment. The following persons are deemed to be "**Qualified personnel**":

- For application design, design office personnel who are familiar with the safety concepts for the control system (for example, design engineers, etc.)
- For equipment installation, personnel who are familiar with installation, connection and commissioning of control system equipment (for example, fitters or wiring technicians working during the installation phase, installation engineers, etc.)
- For operation, personnel who are trained to use and manage control system equipment (for example, operators, etc.)
- For preventive or corrective maintenance, personnel who are trained and skilled in the adjustment and repair of control system equipment (for example, installation engineers, after sales engineers, etc.)

3 Warnings

These warnings are intended to indicate the particular risks to personnel and/or equipment. They are indicated according to their importance by a warning mark in the documentation and on the products:

Danger or Caution

indicates that failure to follow the instructions or to heed the warning may lead to serious personal injury, death and/or significant damage to the equipment.

Warning or Important or

indicates that failure to follow the particular instructions may lead to minor personal injury and/or damage to the equipment.

Note or Comment

highlights important information relating to the product, its handling or its accompanying documentation.

4 Conformity of use

The products described in this documentation **conform to the applicable European Directives*** (CE marking). However, they can only be used correctly with the applications covered in the relevant documentation and with approved third party products.

In general, if all handling, transport and storage requirements and all installation, operation and maintenance instructions are observed, the products will be correctly used, with no danger to personnel or equipment.

* EMC (Electromagnetic Compatibility) and LV (Low Voltage) Directives.

Replacement and recycling of used batteries

If the batteries are replaced, use batteries of the same type and dispose of defective batteries in the same manner as toxic waste.

Do not throw lithium or mercury batteries into a fire, and do not open or recharge them or attempt to solder them.

Lithium battery

The microcomputer contains a lithium battery which is used to back up certain data, in particular the date and time.

It must only be replaced by a qualified technician.

Warning: Failure to observe this warning may result in explosion!

For U.S.A.

Federal Communications Commission Radio Frequency Interference Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the Support Service Center or an experienced radio/TV technician for help.

Warning

To assure continued compliance, use only shielded interface cables when connecting to a computer or peripheral. Also, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference received, including interference that may cause undesired operation.
- This device must accept any interference received, including interference that may cause undesired operation.

For U.K.

Warning

This apparatus must be earthed for your safety.

To ensure safe operation the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.

Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe.

For your safety, if you have any doubt about the effective earthing of the power point, consult a qualified electrician.

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 3 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 3 amps and that it is approved by ASTA or BSI to BS 1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

Warning: THIS APPLIANCE MUST BE EARTHED

Important

The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol \perp coloured GREEN or GREEN-and-YELLOW.

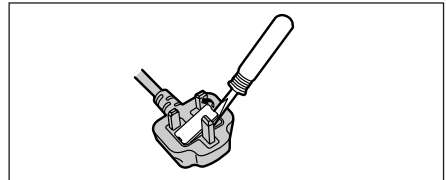
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured RED.

The mains plug on this equipment must be used to disconnect the mains power.
Please ensure that a socket outlet is available near the equipment and shall be easily accessible.

How to replace the fuse

Open the fuse compartment with a screwdriver and replace the fuse.



Warnings

- This equipment is not designed for connection to an IT power system.
(An IT system is a system having no direct connections between live parts and Earth; the exposed-conductive-parts of the electrical installation are earthed.
An IT system is not permitted where the computer is directly connected to public supply systems in the U.K.)
- Disconnect the mains plug from the supply socket when the computer is not in use.

This equipment is produced to BS800/1983.

Für Deutschland

Warnung bezüglich der Lithiumbatterie (Sicherungsbatterie)

Lithiumbatterie!

Dieser Computer enthält eine Lithiumbatterie zur Sicherung von Datum und Uhrzeit der eingebauten Uhr sowie anderer Systemdaten im Speicher bei einer Unterbrechung der Hauptstromversorgung. Diese Sicherungsbatterie darf nur von Kundendienstpersonal ausgewechselt werden.

Warnung! Bei falschem Gebrauch besteht Explosionsgefahr!
Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

Precautions

The FT 2000 has been designed and built on the basis of considerable research into portable computer environments. The constant search for improvement in terms of usability and reliability in extreme conditions has led to innovations such as a magnesium alloy exterior, a Pentium® processor based on MCM (MultiChip Module) technology, a hard disk drive and floppy disk drive which are immune to vibration, flexible internal connections, a liquid crystal display and a hermetically sealed keyboard, dust-proof hinges and the revolutionary "Shirato" liquid crystal screen mounting system. The extraordinary performance of the FT 2000 has been tested using strict procedures based on MIL-STD- 810E (for vibrations and shocks) and IP (for water and dust).

We recommend the following procedures for use and handling:

Avoid extremes of heat and cold

Do not store or use the computer in areas exposed to heat, direct sunlight or extreme cold. Do not move the computer between areas which are subject to large temperature variations.

Operation: 5°C to 35°C

Storage: -20°C to 60°C

Avoid exposing the liquid crystal display to direct sunlight

The liquid crystal display unit must not be exposed to direct sunlight or to ultraviolet rays.

Avoid liquids, humidity and dust

Do not store or use the computer in areas exposed to high levels of humidity, liquids or dust.

Avoid shocks

Avoid subjecting the computer to vibrations or severe shocks. Do not place the computer inside the trunk of an automobile.

Avoid HF interference

Do not place the computer near a television or radio.

Handling

Avoid magnetic fields

Keep the computer away from magnets.

Do not stack

Do not place heavy objects on the computer.

Avoid small objects

Do not insert paper clips or other small objects in the computer.

Do not disassemble the computer

Do not try to disassemble your computer.

Avoid excessive strain on the display unit

Do not apply excessive strain on the display unit when fully open, especially if plugs and/or cables are connected to the rear of the computer.

Carry the computer correctly

Do not carry the computer without previously powering it down.

Do not carry the computer by the liquid crystal display unit if the computer is open.

Do not move the computer if there is a floppy disk in the floppy disk drive.

Maintenance

Surface of the liquid crystal display unit

Soak a piece of gauze or soft cloth in pure isopropyl alcohol and gently wipe the display unit. Excessive force may mark the display unit. Do not use a dry cloth as this may damage the surface of the polarization plate. Do not use water or perfume as these liquids may dissolve the coloration of the polarization plate.

Other areas of the display unit

Carefully wipe the other areas with a soft cloth soaked in water or other neutral cleaning product, well wrung. Do not use solvents such as benzene, thinners or chemical cloths.

Handling the AC adapter

Do not twist or pull too hard on the AC supply lead or the connections may be damaged.

Only use the AC adapter specified (reference: FT20 ADC (CF-AA1526)) with your computer. The use of an AC adapter other than that supplied may damage the battery and/or the computer.

If the plug is not connected to the computer, unplug the power lead from the wall socket. If the lead is disconnected, there will be a very low level of power consumption, equivalent to around 1.5 W.

We recommend disconnecting the AC adapter during stormy weather.

Protection against computer viruses

Anti-virus software is not supplied. However, such software must be obtained if you intend to carry out active file transfers or to use the Internet.

Cables

We recommend that the interface cable used is no more than 3 m long.

Section	Page
1 Presentation	1/1
1.1 Introduction	1/1
1.2 Checklist	1/1

Introduction***Contents***

1.1 Introduction

Thank you for buying the series FT 2000 computer. This computer has numerous functions and can be connected to various optional peripherals. Please read the user's guide for your new computer carefully.

1.2 Checklist

Ensure that the components listed in the table below correspond to your chosen configuration. If any of these components is missing or not operating correctly, please contact your Schneider Electric distributor.

Configurations	FT20 101*	FT20 ADB5*	FT20 ADBNT*	FT20 ADWNT*	FT20 ADJ3*	FT20 ADP3*	FT20 ADP4*	FT20 ADG3*	FT20 ADG4*
FT 2000 computer	•	•	•	•	•	•	•	•	•
Set of caps (handle screw removal)	•	•	•	•	•	•	•	•	•
User's guide FT20DOC01x	•	•	•	•	•	•	•	•	•
Registration card and TranXit catalog	•	•	•	•	•	•	•	•	•
CD-ROM drive + caddy FT20VCD252W (CF-VCD252)	•	•	•	•	•	•	•	•	•
External FDD cable FT20VCF351W (CF-VCF351)	•	•	•	•	•	•	•	•	•
Adapter + power lead FT20ADC (CF-AA1526)	•	•	•	•	•	•	•	•	•
Connection cable FTCBCL020								•	•
Connection cable TSXPCU1030					•	•	•	•	•

* F : French version; E : English version; G : German version.

The tables below summarize the various components to be supplied in accordance with the configuration ordered.

Configurations	FT20 101*	FT20 ADB5*	FT20 ADBNT*	FT20 ADWNT*	FT20 ADJ3*	FT20 ADP3*	FT20 ADP4*	FT20 ADG3*	FT20 ADG4*
Quick installation guide FT20DOC01F	•	•	•	•	•	•	•	•	•
WINDOWS 95 pack	•	•			•	•		•	
WINDOWS NT pack			•	•			•		•
OS/2 pack TFTXLS2300		•	•					•	•
OS/2 Fix pack TFTXLFPLS2300		•	•					•	•
PL7-07 and MMI 17 pack TLXCDPLMVxx					•	•	•	•	•
PL7 JUNIOR pack TLXCDPL7JP33					•				
PL7 PRO pack TLXCDPL7PP33						•	•	•	•
XBT-1000 pack XBT L-1003					•	•	•	•	•
X-TEL pack TXTCDXTLxx								•	•

Backup disk FT2000 W95 DISK	•				•	•			
Backup disk FT2000 W95-OS/2 DISK		•						•	
Backup disk FT2000 WNT DISK				•			•		
Backup disk FT2000 WNT-OS/2 DISK			•						•
Reinstallation CD-ROM FT20CDR*	•	•	•	•	•	•	•	•	•

* F : French version; E : English version; G : German version.

Section	Page
1 Basic Elements	1/1
1.1 Specification	1/1
2 Physical Appearance	2/1
2.1 Front View	2/1
2.2 Rear View	2/3
3 Special Functions	3/1
3.1 Keyboard and Touch Pad	3/1

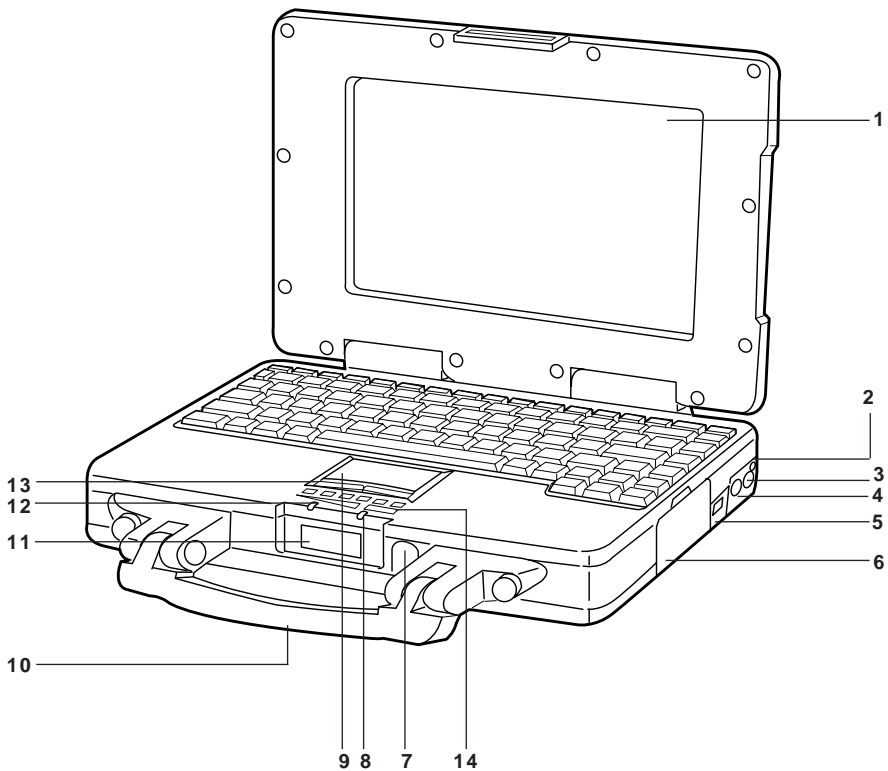
1.1 Specification

Microprocessor	PENTIUM processor with MMX technology with a frequency of 166 MHz.	
Cache memory	Internal: 32 Kb External: 512 Kb (2nd level)	
System memory	DRAM EDO 32 Mb can be expanded to 96 Mb	
Video memory	1 Mb	
LCD screen	12"1 TFT (active matrix) Definition 640 x 480 (256 / 65536 / 262144) colors Definition 800 x 600 (256 / 65536) colors	
Sound interfaces	16-bit interface, PCM/FM sound 44.1 KHZ, compatible Sound Blaster PRO. Mono speaker	
Ports	Serial port	RS 232 (COM1), (9-pin SUB-D male connector)
	Parallel port	ECP and EPP bidirectional link, (25-pin SUB-D female connector)
	Video port	For connection of an external monitor (15-pin SUB-D female connector)
	Keyboard/mouse port	For connection of an external mouse or keyboard (6-pin mini-DIN female connector)
	Connector	For connection to the "Port replicator" accessory (see part C, section 3.4-2)
	Headphone connector	For connection of stereo headphones (mini jack 3.5 DIA), 4 mW, 32 W
	Infrared port	IrDA compatible with transmission speed of 115.200 bits/s (only operates under Windows 95).
PC card slots	3 slots type I or II / 1 slot type III and 1 slot type I or II, compatible with CardBus, ZV Port (lower slot). Maximum current: 3.3 V → 400 mA 5 V → 400 mA 12 V → 120 mA	

Power supply	AC/DC adapter : input 110/240 VAC 50/60 Hz, output 15 VDC 2.6 A
Battery	Lithium-Ion 10.8 V/2.3 Ah Average autonomy: 3 hours Average charging time: 3.5 hours on 2 hours off
Real-time clock battery	Lithium 3.0 V button battery (in machine, not accessible to user). Service life: 10 years approx.
Hard disk	2"5 IDE capacity depends on configuration (> 4 Gb). For more information, see part F, section 1 "Hard Disk Physical Partition".
Multimedia Pocket	Used for either a 3"1/2 floppy drive (installed), or a CD-ROM IDE drive (see part C, section 3 "Hardware Expansion").
Power consumption	38 W typical configuration
Operating system	Windows 95 or Windows NT or Windows 95 and OS/2 or Windows NT and OS/2
Security	Security via " User " password, " Supervisor " password and " Coffee break " password. For more information, see part C, section 5 "Setup Utility".
Dimensions	Width = 299 mm Height = 59 mm Depth = 237 mm
Weight	3.4 Kg typical configuration (with disk drive) + handle 0.2 Kg

Environment	<p>The FT 2000 conforms to the national and international standards CE, UL and TÜV Rheinland.</p> <ul style="list-style-type: none">- Immunity to electrostatic discharge: IEC 801 level 3- Vibration test: MIL-810E 514.4 I-3.4.9- Shock test: MIL-810E 516.4 (IEC 63-2-32 Free fall)- Dust test: MIL-810E 510.3 Dust test (IEC 529 IP5X)- Drip test: MIL-810E 506.3 Drip test (IEC 529 IPX1) <p>Temperature (normal conditions):</p> <ul style="list-style-type: none">- operating: 5°C to 35°C (41°F to 95°F)- storage: -20°C to 60 °C (-4°C to 140°F) <p>Relative humidity (normal conditions):</p> <ul style="list-style-type: none">- operating: 30 % to 80 % RH (non-condensing)- storage: 30 % to 90 % RH (non-condensing)
Power saving	<p>"Suspend" function "Standby" function. "Hibernation" function. For more information, see part C, section 5 "Setup Utility".</p>

2.1 Front View



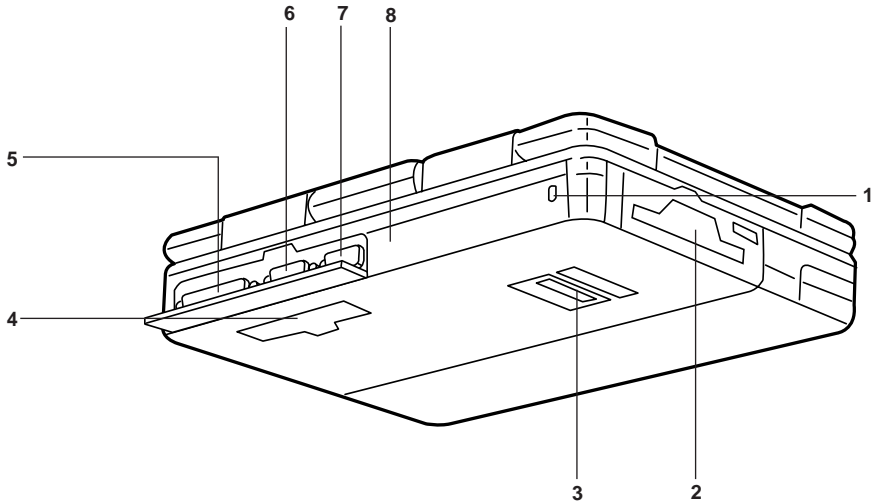
- 1 Display (liquid crystal).
- 2 RESET button: If your computer freezes, press this button to reset the computer. Use a thin object such as the tip of a ballpoint pen to press the button.
Caution: do not use a pencil. Pencil lead can break off inside the computer and damage the circuits.
- 3 Connector for AC supply adapter FT20ADC (CF-AA1526).
- 4 External mouse keyboard port: for connecting an external mouse (PS/2 type) mouse or keyboard.
- 5 Power switch.
- 6 PC card slots.
- 7 Headphone connector: for connecting headphones or speakers with amplifiers. The internal speaker audio output is disabled if headphones or external speakers are connected.

- 8 Power indicator:
 - green: power on/CPU normal speed mode,
 - orange : power on/CPU slow speed mode (CPU cools down).
- 9 Touch pad.
- 10 Handle: Use a screwdriver to remove the handle. Tighten the screws securely when replacing the handle.
After removing the handle, attach the two caps from the cap sheet provided.
- 11 Infrared communication port (conforming to IrDA).
- 12 Battery status indicator (see part C, section 2).
- 13 Keyboard.
- 14 LED indicator.

Note:

When the CPU temperature increases, the processing speed is automatically reduced.
When the CPU temperature drops, normal processing speed is automatically resumed.

2.2 Rear View







- 1 Security lock: Connect a cable (Kensington) to anchor your computer securely to a desk or other large object to prevent theft.
- 2 Multimedia Pocket unit (floppy disk drive or CD-ROM).
- 3 Multimedia Pocket release.
- 4 Expansion bus port.
- 5 Parallel port: Use this port to connect a printer or other parallel port device.
- 6 External display port: Use this port to connect an external monitor.
- 7 Serial port: Use this port to connect a serial mouse or serial communications peripheral such as a modem.
- 8 Speaker.



3.1 Keyboard and Touch Pad



The system has a keyboard and a touch pad.

Key combinations for accessing special functions

 +  Switches off the computer and cancels the Hibernation function. Use this combination after saving all files, closing all applications and quitting Windows.



 +  **Modify display**
This key combination is used to select external display (CRT), internal display (LCD), or both.



 +  **Speaker on/off**
This key combination is used to switch off the audio signal to the internal speaker and the headphone socket. Pressing these keys again reactivates the audio signal.

 +  **Power off using "Suspend" function**
This key combination stores the last screen displayed in memory then switches off the computer.

"Suspend" function and "Hibernation" function


Function	Save	Comment
Suspend	Save in memory	Risk of data loss in the event of AC power outage if battery has discharged
Hibernation	Save on hard disk	No risk of data loss

 +  **Battery level**
This key combination displays the remaining battery capacity on screen.

 +  **Standby mode with energy saving**
This key combination cuts off power to the hard disk and the LCD screen. Pressing any key reactivates the system.

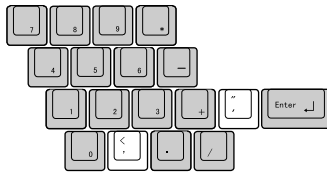


Toggles the numeric keypad on and off. When the numeric keypad is on, the corresponding LED indicator is illuminated and numerical values can be entered.

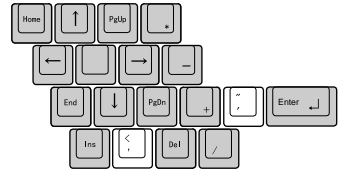
Pressing the  key when the numeric keypad is on turns it off and vice versa.

When NumLock is activated with the numeric keypad, the shaded keys operate as indicated.

NumLock on and numeric keypad on



NumLock off and numeric keypad on



Volume control



Increase volume



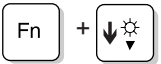
Decrease volume

These key combinations are used to adjust the volume levels for the internal speaker and the headphone socket. They cannot be used to adjust the "Beep" volume.

Display brightness adjustment

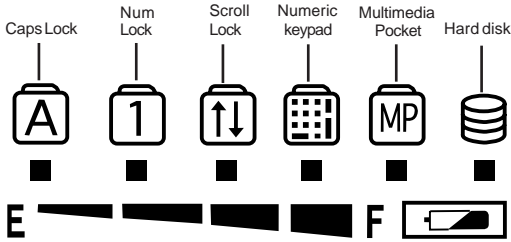


Increase brightness
(Low → Medium → High)



Decrease brightness
(High → Medium → Low)

LED indicator



Do not switch off the computer if the LED indicator is on. Do not remove/insert any disks.

Do not switch off the computer if the LED indicator is on.

In addition to the screen display, the combination + indicates the remaining battery charge level on the indicators as shown below.

E 90 ~ 100%

E 65 ~ 90%

E 35 ~ 65%

E 10 ~ 35%

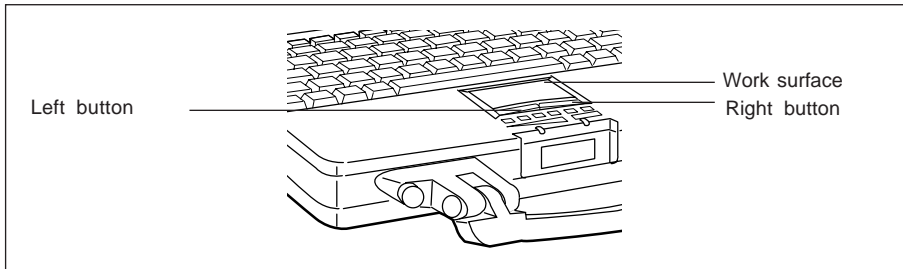
E [Flashing] The battery is not installed or the remaining charge is not known

Note:

The four LED indicators flash when the RESET button is pressed or a battery is replaced.

Touch pad

The touch pad is used to move the cursor.

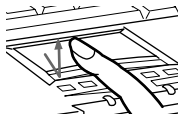


Move the tip of your finger lightly over the surface to move the cursor. Pressing the touch pad has the same effect as clicking the left mouse button.

Note:

If "Left-handed" has been selected in the mouse settings, tapping the touch pad has the same effect as clicking the left mouse button.

Click



Click the left button once or tap once on the surface.

Double-click



Click the left button twice in rapid succession or tap the surface twice in rapid succession.

Drag



Move the cursor onto the "object" you wish to drag. Hold the left button down with one finger while moving another finger across the surface, or tap the touch pad twice without removing your finger and drag the object.

When you release the left button or remove your finger from the pad, the object is "dropped".

Section	Page
1 Startup	1/1
1.1 Connecting the AC Adapter	1/1
1.2 Power-Up	1/2
1.3 First Power-Up	1/3
2 Battery Power	2/1
2.1 Presentation	2/1
2.2 Battery Status Indicator	2/2
2.3 Conserving Battery Power	2/3
2.4 Replacement	2/3
2.4-1 Removal	2/4
2.4-2 Mounting	2/5
2.5 Recharging	2/6
3 Hardware Expansion	3/1
3.1 Multimedia Pocket (MP)	3/1
3.1-1 Removal	3/1
3.1-2 Mounting	3/2
3.1-3 Floppy Disk Drive	3/2
3.1-4 CD-ROM Drive	3/5

Section	Page
3.2 PC Cards	3/10
3.2-1 Mounting	3/11
3.2-2 Removal	3/11
3.3 Memory Expansion	3/12
3.3-1 Mounting	3/12
3.3-2 Removal	3/13
3.4 Expansion Bus Port	3/14
3.4-1 Names and Functions of Parts	3/14
3.4-2 Connecting/Disconnecting the Port Replicator	3/15
3.4-3 Specifications	3/18
3.5 External Battery Charger	3/19
4 Infrared Data Transfer	4/1
4.1 Windows 95 Only	4/1
5 Setup Utility	5/1
5.1 Accessing Setup Utility	5/1
5.2 Setup Screen	5/1
5.2.1 System Setup Screen	5/2
5.2.2 Power Management Screen	5/4
5.2.3 Supervisor Setup Screen	5/6
5.3 Default Configuration	5/8

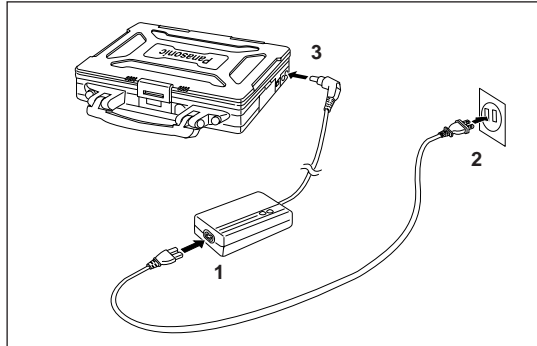
1.1 Connecting the AC Adapter

Connecting the AC adapter.

Note:

Only use the FT 20 ADC type AC adapter specified (CF-AA1526).

- 1 Connect the AC cable to the AC adapter.
- 2 Plug the AC cable into an AC outlet.
- 3 Connect the AC adapter to the computer.



Comment:

The battery supplied has not been charged: use the AC adapter on first power-up. Connecting the AC adapter automatically starts the charging process.

1.2 Power-Up

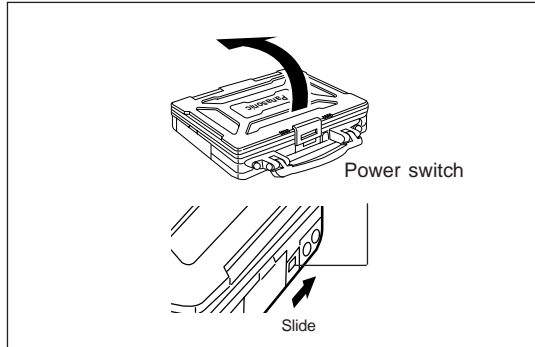
C

Undo the catch and lift the screen.

Caution

- Do not power down the computer immediately after power up.
- Similarly, wait at least 10 seconds after powering down the computer before powering up again.

Slide the power switch toward the rear of the computer and hold it there for around one second.



Caution

Before first power-up, please read the "LIMITED USE LICENSE AGREEMENT" carefully. Then remove the seal.

1.3 First Power-Up

Depending on the software configuration of your FT 2000, the following operations are necessary on first power-up:

- Customization and parametering of Windows 95
- Customization and parametering of Windows NT
- Installation, customization and parametering of Schneider Automation and Schneider Electric applications (PL7 Junior or PL7 Pro, MMI 17, XBT-L1000, PL7, X-TEL PACK, PL7-07)

Refer to the "Installation Guide for FT 2000 Terminals" (ref. FT20DOC01F) for these operations.

2.1 Presentation

The computer is equipped with the following two types of battery:

- Main battery:** (rechargeable Li-ion battery)
Removable battery to power the computer in the absence of the AC adapter.
- Real-time clock battery:** Battery located inside the computer (for saving certain data: clock, settings).

Note:

- A rise in battery temperature during normal use does not indicate a malfunction.
- Several factors can reduce battery life: the display mode, the temperature during recharging or the degree of wear.

Caution



- When transporting backup batteries, we recommend storing them in a plastic bag.
- Exposure to violent impact may cause battery failure.
- Do not touch the battery terminals. Damaged terminals may cause battery failure.
- Do not expose the battery to heat.
- Do not throw the battery into fire or water.
- Only use the battery with the computer for which it was designed.
- Do not allow any contact between the battery negative and positive terminals.
- If the battery electrolyte comes into contact with skin or clothing, immediately rinse in cold water and consult a doctor.

2.2 Battery Status Indicator

Battery indicator	Battery status	Action
Orange	Charging	Continue normal use
Green	Fully charged	Continue normal use
Red	Low power The Hibernation function is enabled: - A beep sounds at the same time. - The computer automatically switches to Hibernation mode a few minutes after the beep. The Hibernation function is disabled: - The beep sounds several minutes later and the computer powers off automatically a few minutes later.	Connect the AC adapter to the computer. Replace the main battery with a fully charged battery. If recharging is not possible, immediately save all files and power down.
Red flashing	The battery or the AC adapter may not have been connected correctly	Check the connections. If the problem persists, consult an approved Schneider Automation technical center.
Orange flashing for 5 seconds after the AC adapter is connected	The temperature is outside the specified 5°C to 35°C range	Wait for the temperature to drop within the permitted range

2.3 Conserving Battery Power

Power management increases the autonomy of the computer.

The computer switches to standby mode immediately after pressing  + . The hard disk drive motor and display are turned off.

To obtain maximum power, it is advisable to set "Power Saving" to "Advanced" in "Power Management" (see section 5.2-2 "Power Management Screen").

Note:


To operate correctly, certain applications may require temporary disabling of the power management of the machine.

2.4 Replacement

If the battery autonomy only allows use of your computer for a reduced period (even after full charging in accordance with the instructions), replace the battery [ref.: FT20BAT (CF-VZS251(Li-Ion))].

2.4-1 Removal

C

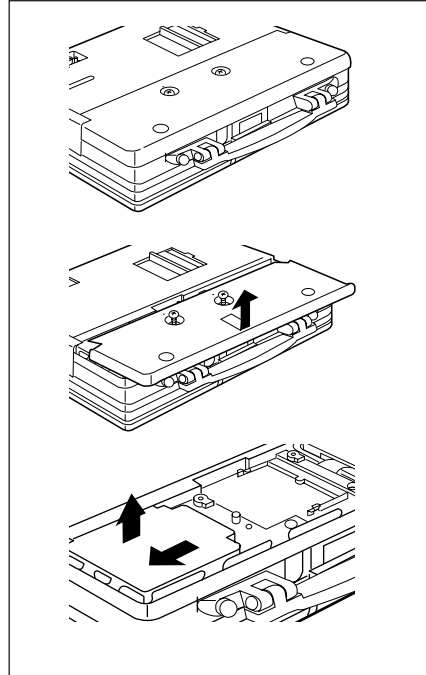
Powerdown the computer by pressing  and simultaneously holding the power switch in the On position.

Turn the computer over.

Using a screwdriver, remove the two screws located towards the front of the computer.

Remove the cover.

Slide the battery towards the outside edge to remove it.

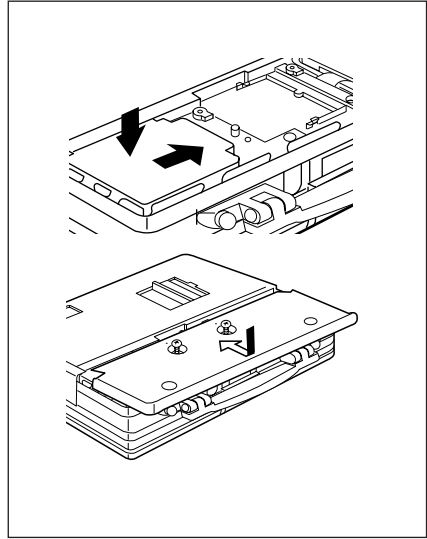


2.4-2 Mounting

Insert a new battery in the slot.

Slide the battery in until it is firmly in place.

Replace the cover and tighten both screws.

**Note:**

Always power down the computer and disconnect the AC adapter before replacing the battery.

2.5 Recharging

The battery charge cycle starts automatically when the AC adapter is plugged into a socket. Rapid charging begins when the computer is powered down.

Charging finishes (the battery status indicator changes from orange to green) automatically when the battery is fully charged. The battery remains fully charged in this state as long as the AC adapter is connected.

A temperature rise in the AC adapter during battery charging or during use does not indicate a malfunction.

Note:

If the battery is subjected to temperatures outside the specified range of 5°C to 35°C, charging will not start. In these circumstances, the battery status indicator flashes for 5 seconds. Charging starts automatically once the temperature drops back to within the permitted range. The battery temperature may rise to 60°C during charging.

Caution

- The battery supplied has not been pre-charged: use the AC adapter on first power-up. Connecting the AC adapter automatically starts the charging process.
- A new battery or a battery which has not been used for some time may not be fully charged following the charging/discharging cycle.
- Use only the specified charger for charging the battery and do not use batteries from any other computer.
- Installing and attempting to charge a fully charged battery or installing and removing a battery several times within a short period may cause battery overload and overheating. This may damage the battery.


3.1 Multimedia Pocket (MP)

The Multimedia Pocket normally houses the floppy disk drive:
reference: FT20FDD (FWV44K0054).

It can be replaced by the CD-ROM drive:
reference: FT20VCD 252W (CF-VCD252).

For applications requiring the simultaneous use of a CD-ROM drive and a floppy disk drive (FDD), it is possible to connect the FDD on the parallel port of the FT 2000 using the "FDD cable" accessory:
reference CF-VCF351.

3.1-1 Removal

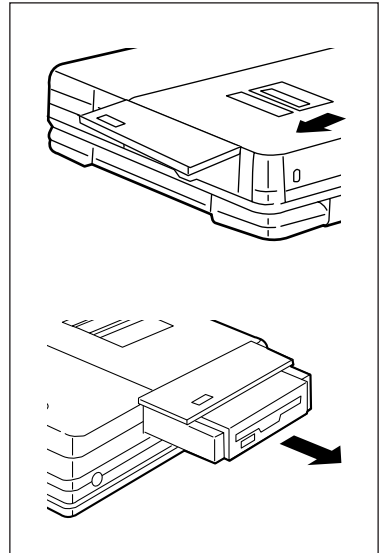
Power down the computer by pressing  and simultaneously holding the computer power switch in the On position.

Turn the computer over.

Open the cover.

Slide the MP release towards the MP unit.
The MP unit should slide outwards.

Remove the unit.

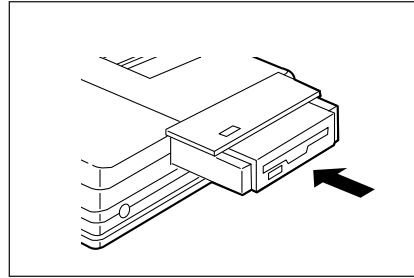


3.1-2 Mounting

Insert an MP unit in the slot.

Slide the MP unit in until it clicks in place.

Check that the MP release has returned to its original position.



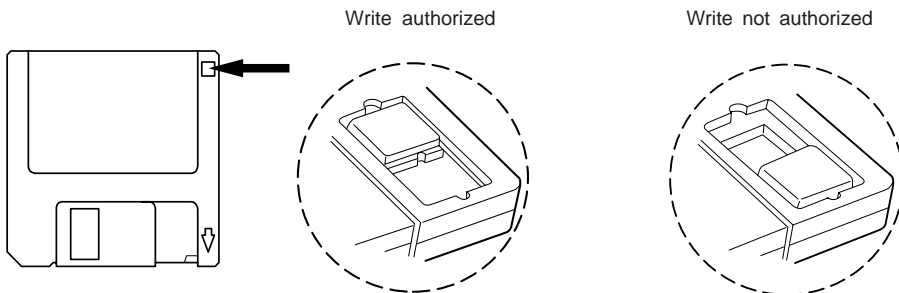
3.1-3 Floppy Disk Drive

- **Compatible floppy disks**

Type	Data recording density	Data recording capacity
2HD (double-sided, high density, twin track)	High	1.44 Mb
2DD (double-sided, double density, twin track)	Low	720 Kb

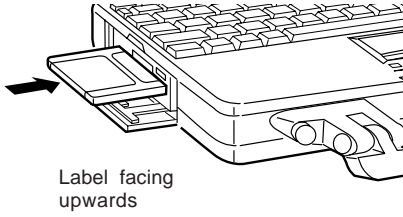
- **Avoiding accidental erasure of data**

Set the write-protect tab to avoid any accidental erasure or overwriting of data.

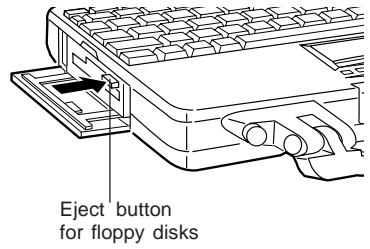


- **Inserting and removing floppy disks**

Insertion



Removal



- **FDD cable (external connection)**

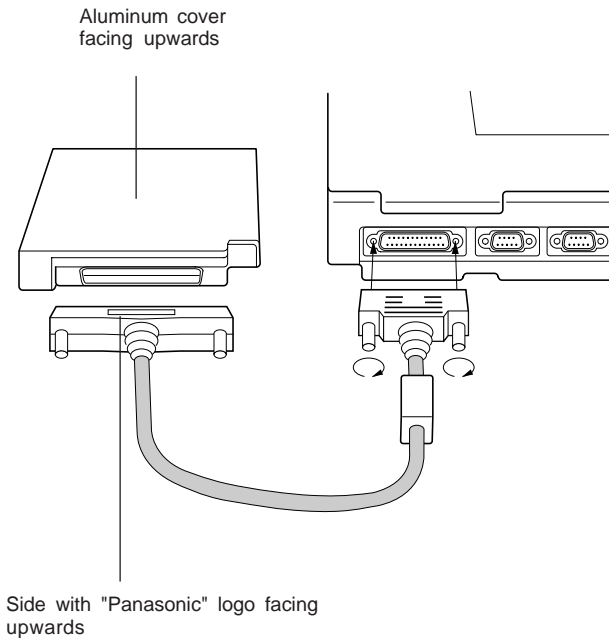
External connection of the floppy disk drive is via the parallel port of the FT 2000 using the "FDD cable", ref. FT 20 VCF351W (CF-VCF351).

- **Notes for connection:**

- Before connection, power off the computer.
- Connect the FDD cable as shown below.
- Do not attempt to tighten the screws after connecting the FDD cable to the disk drive connector (you might damage the disk drive).
- Never move the disk drive and do not disconnect the FDD cable while a floppy disk is being accessed.

- **Usage precautions:**

- Place the disk drive on a flat surface.
- Do not connect the FDD cable to any other disk drive than that specified.




3.1-4 CD-ROM Drive

• Mounting the CD-ROM drive

Do not replace a drive in the Multimedia Pocket with another one while the computer is in "Standby", "Suspend" or "Hibernation" mode as you risk damaging the drive or preventing the new drive from being recognized correctly.

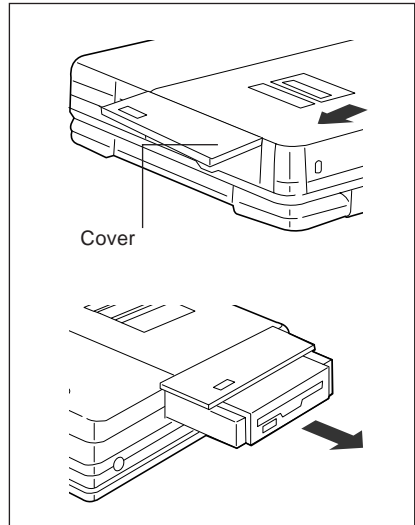
Removal

Power down the computer by pressing  and simultaneously holding the computer power switch in the On position. Turn the computer over.

Open the cover.

Slide the MP release toward the MP unit. The MP unit should slide outwards.

Remove the unit.

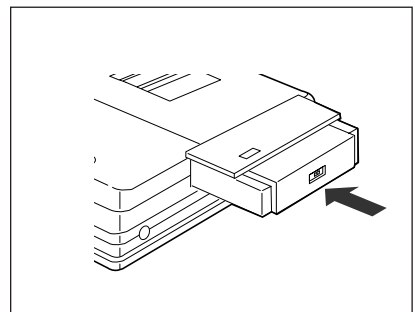


Mounting

Insert an MP unit in the slot.
Push the MP unit until it clicks in position.

Check that the MP release has returned to its original position.

Close the cover.



- **Loading a CD-ROM**

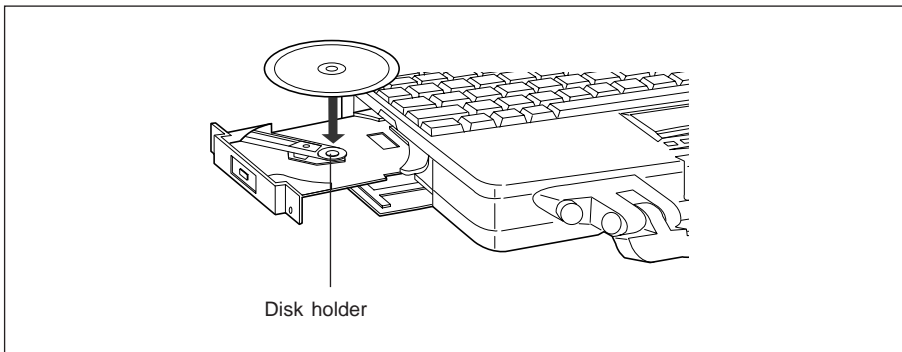
Both 12 cm and 8 cm CD-ROMs can be installed in the CD-ROM drive.

Press the CD-ROM eject button to open the tray.

Pull the tray out slowly.

Place the CD-ROM in the drive, label upwards, and push it downwards until the disc holder clicks.

Close the tray.



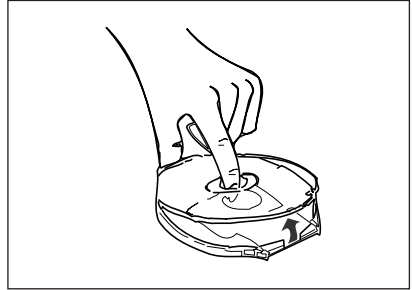
- **Using the caddy**

The caddy is a case for protecting the CD-ROM from scratches and dirt. Once a CD-ROM has been placed in the caddy it can be loaded in the CD-ROM drive.

Open the caddy case.

Insert the CD-ROM in the caddy, printed face upwards.

Close the case carefully.



Remove the lower cover from the caddy

Holding the side of the caddy, remove the lower cover as shown in the illustration. Part of the disc is exposed on the opposite side to allow data to be read.

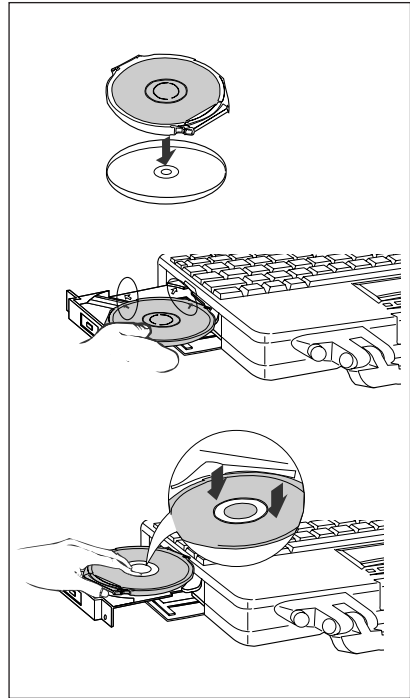
Insert the caddy

Check that the CD-ROM is inside the caddy and that the lower cap has been removed. Align the two arrows on the caddy with the arrows on the tray.

Push the caddy in

Use two fingers to push the area marked "PUSH TO ENGAGE" on the caddy to insert the assembly in the drive.

Close the tray.

**Caution**

- Applying excessive pressure on the tray when it is open may damage it.
- Only use 12 cm CD-ROMs in the caddy (an 8 cm disc may move and be damaged).
- When holding a caddy with a CD-ROM, remember to hold the caddy part. If you hold the part where the disc is exposed and touch the CD-ROM there is a risk that it will become dirty or damaged.
- Replace the lower cover of the caddy when transporting a CD-ROM.

- **Specifications**

Item	Description
Operating voltage range	5 VDC \pm 5 %
Data transfer speed	150 Kb/s (standard) 1500 Kb/s (10 x standard average speed*)
Cache memory	128 Kb
Access time	190 ms (10 x speed, 1/3 stroke**) 390 ms (10 x speed, full stroke**)
Interface	Conforms to IDE extension standard (ATAPI)
Dimensions (width x depth x height) Weight	129.4 mm x 145 mm x 23.3 mm Approximately 370 g
Operating temperature / humidity range	5 to 35°C/30 to 80 % relative humidity

* This value represents an average between:

- the speed at the outer circumference (6 x standard speed),
- the speed at the inner circumference (11.5 x standard speed)

** Indicates the degree of movement required by the CD-ROM lens (pickup) to read data.

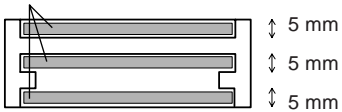
3.2 PC Cards

The PCMCIA slots accept cards which conform to the PC Card standard.

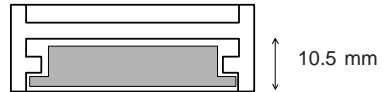
The three slots can be used for the following connections:

- 3 type I or II cards (5 mm maximum).
- 1 type III card and one other type I or II card.

Type I or II



Type III



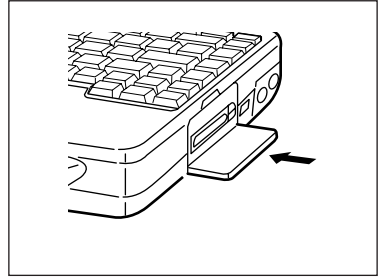
The Type III card can only be inserted in the lower slot.

Note:

- The operation of certain cards may require the installation of special drivers.
- Ensure that the total operating current of the PC cards does not exceed the maximum permitted current (3.3 V, 400 mA; 5 V, 400 mA; 12 V, 120 mA).
- **Only the lower slot can take a Zoomed Video (ZV) card.**

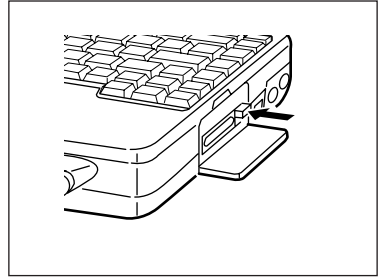
3.2-1 Mounting

Insert the PC card and slide it firmly in place. When the card is engaged a button pops out which can be used to remove the card.

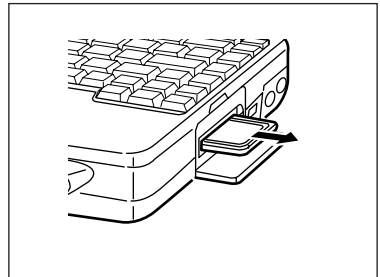


3.2-2 Removal

Press the button to remove the card.



Remove the card by pulling it outwards.



3.3 Memory Expansion

C


The memory capacity of your FT 2000 can be increased by adding a memory expansion module:

- FT20 RA6116 (CF-BA6116) → 16 Mb
- FT20 RA6132 (CF-BA6132) → 32 Mb
- FT20 RA6164 (CF-BA6164) → 64 Mb

Note:

Do not add or remove additional memory while the computer is in "Standby", "Suspend" or "Hibernation" mode. This may damage the unit or prevent the module from being recognized correctly.

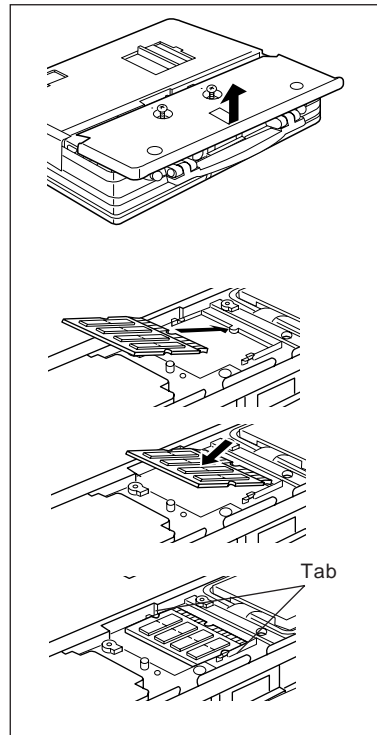
3.3-1 Mounting

Power off the computer by pressing  and simultaneously.

Unscrew the screws located near the front of the computer and remove the cover.

Insert the RAM module into the slot at an angle.

Press the module down into position so that it is held in place by the tabs.

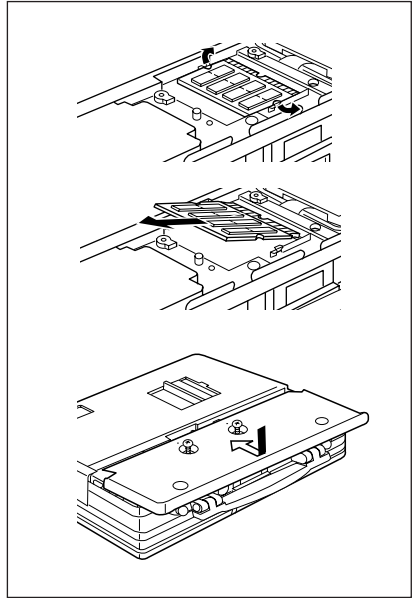


3.3-2 Removal

Open the tabs on both sides outwards.

Gently remove the RAM module from its slot.

Replace the cover and tighten both screws.

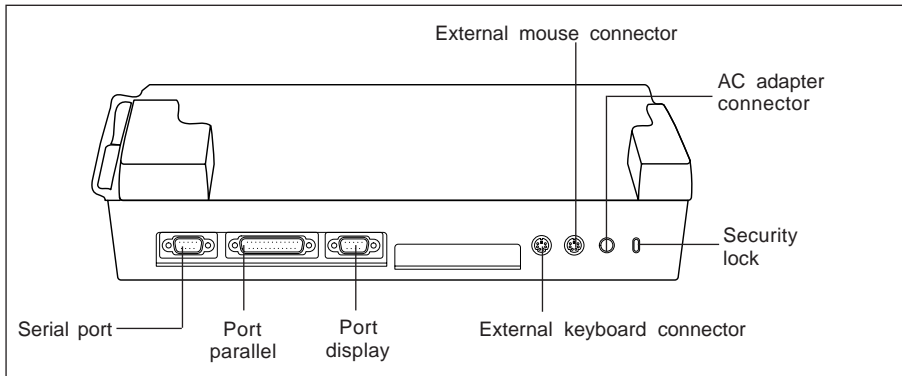


3.4 Expansion Bus Port

3.4-1 Names and Functions of Parts

The port replicator is equipped with the same connectors as the computer (with the exception of the headphone connector and the infrared communication port). It enables your peripherals to operate exactly as if they were connected directly to the computer.

Rear view



Front/right side

1 Expansion bus connector

This connects to the expansion bus connector located on the underside of the computer.

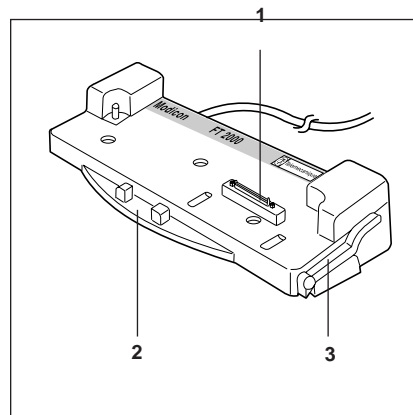
Ensure that it remains covered by the protective cover supplied when the port replicator is not connected to the computer.

2 Cover holder

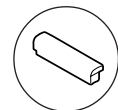
The expansion bus connector protective cover should be placed here when the port replicator is connected to the computer.

3 Lever

Lift the lever to release the computer.



Protective cover for expansion bus connector (comes with the port replicator)



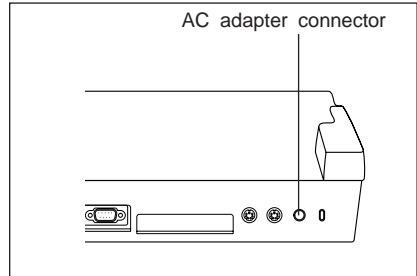
3.4-2 Connecting/Disconnecting the Port Replicator

Before connecting/disconnecting the port replicator

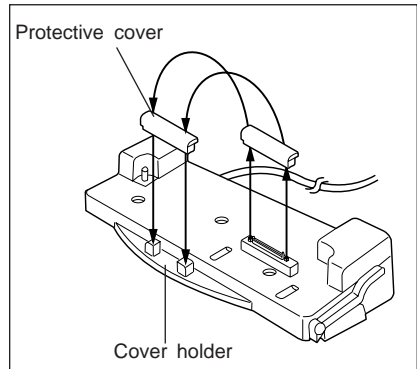
Power off the computer.

- **Connecting the port replicator**

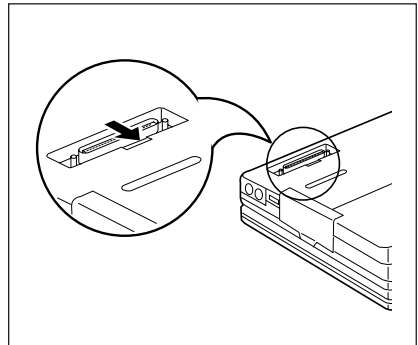
Connect the AC adapter, type FT20ADC (CF-AA1526).



Remove the expansion bus connector protective cover and place it on the cover holder to avoid losing it.



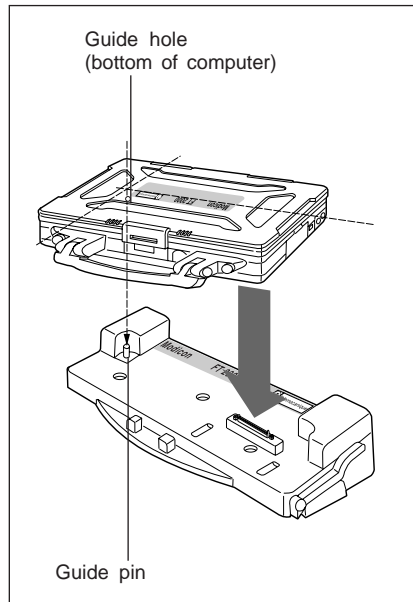
Gently turn over the computer and slide open the expansion bus connector cover.



Insert the port replicator guide pin in the computer guide hole.

Caution

- Do not attempt to make connections if the cover is closed or if there is any object between the computer and the port replicator.
- Do not attempt to move the port replicator when it is connected to the computer.

**The computer is not operating correctly**

If the computer does not operate correctly while the port replicator is connected, first refer to the "Troubleshooting" section for the computer.

If the computer is operating normally when the port replicator is not connected, the port replicator may be faulty. Consult an approved Schneider Automation technical center.

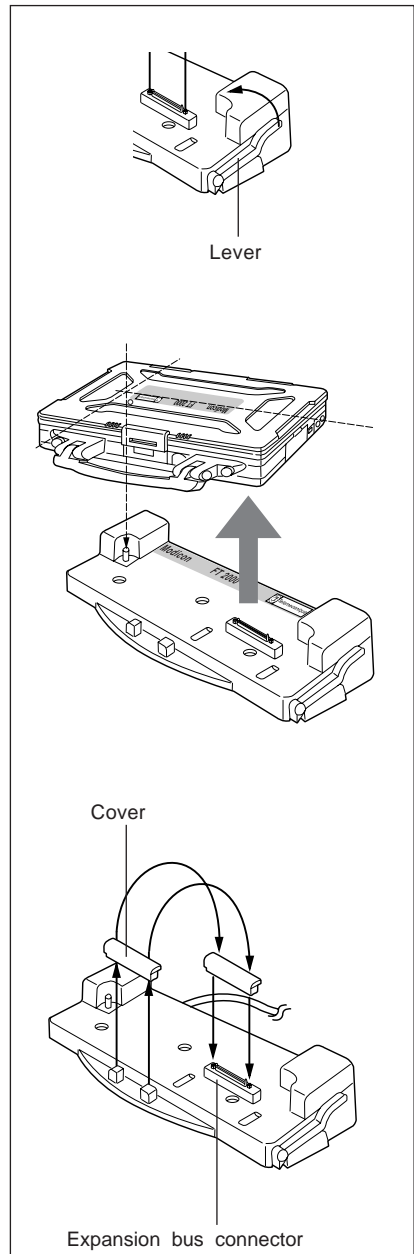
• Disconnecting the port replicator

Disconnect the FT 2000 by lifting the port replicator lever.

Caution

- The lever will stop when the computer has disengaged from the port replicator. Do not try to force the lever up further.
- After disconnecting the computer from the port replicator, close the cover on the bottom of the computer to protect the expansion bus connector.

Replace the protective cover on the expansion bus connector.



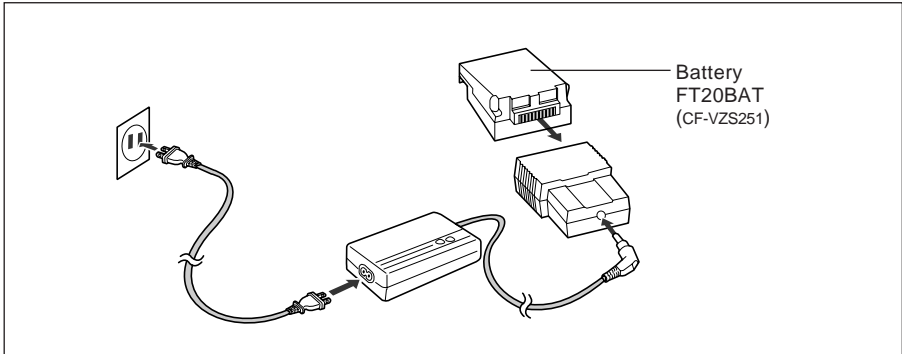
3.4-3 Specifications

Physical dimensions (L x H x D)	351 x 68 x 150 mm
Weight	Approximately 800 g
Expansion bus connector	80-pin
Operating environment Temperature Humidity	5°C to 35°C 30% to 80% relative humidity (non-condensing)
Power supply Input voltage	15.1 VDC (Do not use any other AC adapter than the FT20 ADC (CF-AA1526) specified)

3.5 External Battery Charger

To maintain the battery in good working order

Before charging the battery, discharge it completely until the computer low battery alarm sounds.



The AC adapter is not supplied with the external battery charger (use the AC adapter supplied with the FT 2000).

Precautions

- Place the battery charger on a desk or other flat surface to connect or remove the battery.
- Disconnect the battery during transport.
- Accumulated dust or marks on the terminals may cause the charger to malfunction.

Charging the battery

- The charging time for the battery with the external charger is identical to the charging time when the FT 2000 is stopped. The charging time required varies depending on the charge remaining in the battery.
- A rise in battery temperature during charging does not indicate a malfunction.
- The battery charger power indicator lights green when the charger is on (AC adapter connected).
- The battery charger power indicator operates in the same way as the computer battery status indicator.
 - **Lit orange:** **Charging**
 - **Lit green:** **Fully charged**
 - **Flashing orange:** **The battery temperature has exceeded the permitted charging rate.**
Attendre que la température retombe dans l'intervalle.
 - **Flashing red:** **Charging error**
Begin by disconnecting the AC adapter from the battery charger and check that the power indicator is off.
Reconnect the AC adapter.
If the problem persists, contact your approved Schneider technical center.
 - **Off:** **Not charging.**

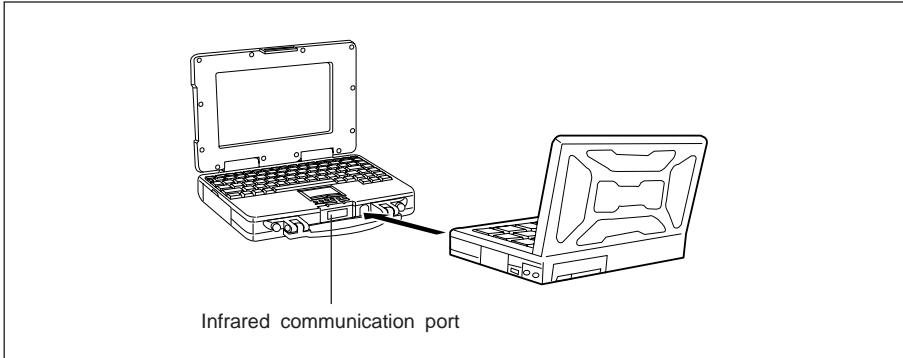
Specifications

Input voltage	15.1 VDC
Current consumption	2.6 A
Environment Temperature Humidity	5°C to 35°C 30% to 80% relative humidity (non-condensing)
Dimensions (L x H x D)	Approximately 90 x 46 x 90 mm*
Weight	Approximately 140 g*

* AC adapter not included.

4.1 Windows 95 Only

The infrared communication port (conforming to IrDA) integrated in the computer can be used to transfer data to or from other computers.

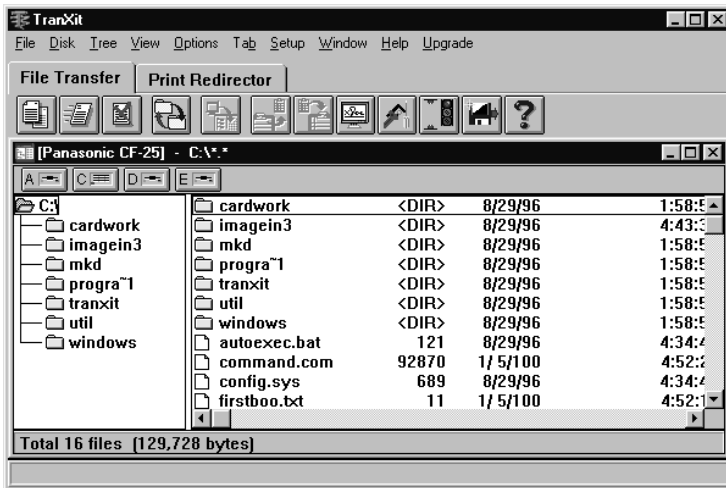
**Note:**

- Take care that the handle does not block the communication channel.
- Set the appropriate parameters for each computer so that the addresses of the infrared communication ports can be used.
- The maximum recommended distance between the two infrared ports is 20 to 50 cm.
- Data transfer may be affected by such devices as televisions, video recorders, cordless headphones, etc.



Does not operate under OS/2 or Windows NT.

Click [Start]-[Programs]-[TranXit]-[TranXit].



TranXit can be used for data synchronization (files and data updated to the latest version on both computers) and for transferring files between two computers.

Note:

- TranXit must be installed on both computers for data transfer to take place. A different "Computer name" must be assigned to each computer; use [Setup]-[Computer Name] to change the name.
- If you are using TranXit software, please refer to its online quick reference guide. Click [Start]-[Programs]-[TranXit]-[TranXit Help].
- Quit TranXit before switching to "Standby" or "Hibernation" mode. Relaunch TranXit after restarting the computer.

5.1 Accessing Setup Utility

The main "Setup Utility" screen is accessed by pressing the <F1> key in response to the message **Press F1 for setup** which appears after powering up the machine.

5.2 Setup Screen

Setup Utility
<ul style="list-style-type: none">• System Setup• Power Management• Supervisor Setup <p>Save Settings Restore Settings Load Default Settings(PnP) Load Default Settings(Non-PnP) Exit Setup</p>

System Setup

Used to access the "System Setup" menu.

Power Management

Used to access the "Power Management" menu.

Supervisor Setup

Used to access the "Supervisor Setup" menu.

Save Settings

Used to save modifications made to the various settings.

Restore Settings

Used to reload the values saved during the last "Save Settings".

Load Default Settings(PnP)

Used to reload the default values of the various menus in "Setup Utility". The "Supervisor Setup" menu is loaded with the **PnP** (Plug and Play) default values.

Load Default Settings(Non-PnP)

Used to reload the default values of the various menus in "Setup Utility". The "Supervisor Setup" menu is loaded with the **Non-PnP** (Non Plug and Play) default values.

Exit Setup

Used to quit "Setup Utility".

5.2.1 System Setup Screen

System Setup	
NumLk	[ON]
Internal Pointing Device	[Enable]
Speaker	[Enable]
Display	[External Monitor]
• User Password	
Coffee break Password	Disable
Key Combination for Coffee break	Disable

NumLk → [ON / OFF]



Enable / Disable number lock on boot up when the "keypad" is enabled.

Internal Pointing Device → [Enable / Disable]

Enable / Disable touch pad and mouse port (Ext Mouse/Keyboard Port).

The "Disable" option must be selected to use a serial mouse on the COM1 port.

Speaker → [Enable / Disable]

Enable / Disable default speaker. The key combination  +  remains active irrespective of the speaker status.

Display → [Internal LCD / External monitor / Simultaneous]

Select display peripheral → LCD screen

External monitor (if connected)

LCD screen + external monitor

User Password

Open the screen below to define or delete the "User Password".



The "User Password" function can only be accessed if the "User Password Protection" option is disabled via "Disable" in the "Supervisor Setup" menu.

User Password	
User Password Status	Enable
Enter your new User Password twice	
Enter User Password	[]
Enter User Password Again	[]
Set User Password	
Delete User Password	

The "User Password" is requested in the following cases:

- On completion of self-tests before loading the operating system or before accessing "Setup Utility".
- Each time the "Key combination for Coffee break" is enabled.

Coffee break Password → Enable / Disable

Enable / Disable the "Coffee break Password" function. This function is used to prevent access to the machine via a key combination chosen by the user.

Key Combination for Coffee break

Used to select a key combination which enables the "Coffee break Password" function.

Possible combinations: <Alt> <Ctrl> <F9>
 <Alt> <Ctrl> <F10>
 <Alt> <Ctrl> <F11>
 <Alt> <Ctrl> <F12>

5.2.2 Power Management Screen

Power Management	
Power Saving	[Standard (Battery)]
CPU Speed Change Mode	Enable
HDD Motor Timeout	1 min
Standby Timeout	2 min
Power Switch	[On-Off]
Hibernation Timeout	Never

Power Saving

The "Power Saving" function is used to reduce the power consumption of the machine via the following actions:

- CPU speed change mode → Reduce processor speed.
- HDD motor timeout → Stop hard disk motor if disk is not accessed during the time specified.
- Standby timeout → Switch off certain components (backlighting, PCMCIA, etc.).

Normal operation can be restored by pressing a key on the keyboard or by moving the mouse.

Four possible "Power Saving" options

	Standard (Battery)*	OFF	Advanced	Standard (Battery/ACadapter)
CPU speed change mode	Enable	Disable	Enable	Enable
HDD motor timeout	1 min	Never	1 min	1 min
Standby timeout	2 min	Never	1 min	2 min

* This option is only activated when the FT 2000 is running on its battery.



Set "Power Saving" to OFF if the FT 2000 is used to communicate with PLCs (see section D 1.2-4).

Power Switch → [On-Off / Hibernation]

- ON-OFF: power off the machine via the power switch only.
- Hibernation: enables the Hibernation function (enabling the Hibernation function enables the "Hibernation Timeout" function described below).

Hibernation Timeout

- Never: the "Power Switch" function is never activated.
- 4/16 min: activation of the "Power Switch" function after 4 or 16 min of inactivity (mouse or keyboard).

On activation of the Hibernation function the working context (display, data) is saved on the hard disk before powering down the FT 2000. On powering up again, the working context is restored in order that the user can resume working at the point of interruption.

Activation of the Hibernation function

The Hibernation function is activated:

- Automatically once the period specified in the "Hibernation timeout" field has elapsed.
- Each time the power switch is operated.



Do not touch the power switch while the FT 2000 is switching to Hibernation mode.

5.2-3 Supervisor Setup Screen

SUPERVISOR SETUP	
Parallel Port (Address)	[Automatic(PnP)]
Parallel port (Data direction)	[Bidirectional]
Serial Port	[Automatic(PnP)]
Sound Chip	[Enable]
Sound Blaster Compatible I/O	[Automatic(PnP)]
WSS CODEC I/O	[Automatic(PnP)]
Sound IRQ-A	[Automatic(PnP)]
Sound IRQ-B	[Automatic(PnP)]
Sound DMA-A	[Automatic(PnP)]
Sound DMA-B	[Automatic(PnP)]
IrDA	[Automatic(PnP)]
Floppy Operation	[Enable]
Boot Up Drive	[FDD → HDD]
+ Supervisor Password	
User Password Protection	[Disable]

Parallel Port (Address) → [Automatic(PnP) / 378 / 3BC / OFF]

Used to define the // port address (either via the Plug and Play function in the operating system, or manually), or to disable the function.

Parallel Port (Data direction) → [Bidirectional / ECP / Unidirectional]

Used to configure the // port as bidirectional ECP, or unidirectional.

Serial Port → [Automatic(PnP) / 3F8 / OFF]

Used to define the serial port address (either via the Plug and Play function in the operating system, or manually) or to disable the function.

Sound Chip → [Enable / Disable]

Used to enable/disable the sound interface. The "Disable" option disables the options (Sound Blaster Compatible I/O, WSS CODEC I/O, Sound IRQ-A, Sound IRQ-B, Sound DMA-A, Sound DMA-B).

IrDA → [Automatic(PnP) / 2F8 / OFF]

Used to define the IrDA port address (either via the Plug and Play function in the operating system, or manually) or to disable the function.

Floppy Operation → [Enable / Disable]

Used to enable/disable the floppy disk drive.

Boot Up Drive → [HDD → FDD, CDD → FDD → HDD, FDD → HDD]

Used to define the order of the units accessed during boot up.

Supervisor Password (enabled via <CR>)

Open the screen below to define or delete the "Supervisor Password".

Supervisor Password	
Supervisor Password Status	Disable
Enter your new Supervisor Password twice	
Enter Supervisor Password	[]
Enter Supervisor Password Again	[]
Set Supervisor Password	
Delete Supervisor Password	

The "Supervisor Password" is required when accessing the "Supervisor Password" menu from "Setup Utility".

User Password Protection [Enable/Disable]

Enables / Disables "User Password" protection.



The "User Password" function in "System Setup" can only be accessed when this function is disabled.

Comment :

For machines protected by both a "User Password" and a "Supervisor Password".

When the password is requested following the self-tests:

- Entering either of the two passwords authorizes startup of the operating system.
- Entering the "User Password" authorizes access to "Setup Utility" without displaying or accessing the "Supervisor Setup" menu.
- Entering the "Supervisor Password" authorizes full access to "Setup Utility" including the "Supervisor Setup" menu.

5.3 Default Configuration

System Setup	
NumLk	[ON]
Internal Pointing Device	[Enable]
Speaker	[Enable]
Display	[External Monitor]
• User Password	
Coffee break Password	Disable
Key Combination for Coffee break	Disable

Power Management	
Power Saving	[Standard (Battery)]
CPU Speed Change Mode	Enable
HDD Motor Timeout	1 min
Standby Timeout	2 min
Power Switch	[On-Off]
Hibernation Timeout	Never

Supervisor Setup	
Load Default Settings(PnP)	
Parallel Port (Address)	[Automatic(PnP)]
Parallel port (Data direction)	[Bidirectional]
Serial Port	[Automatic(PnP)]
Sound Chip	[Enable]
Sound Blaster Compatible I/O	[Automatic(PnP)]
WSS CODEC I/O	[Automatic(PnP)]
Sound IRQ-A	[Automatic(PnP)]
Sound IRQ-B	[Automatic(PnP)]
Sound DMA-A	[Automatic(PnP)]
Sound DMA-B	[Automatic(PnP)]
IrDA	[Automatic(PnP)]
Floppy Operation	[Enable]
Boot Up Drive	[FDD → HDD]
Supervisor Password	
User Password Protection	[Disable]

Supervisor Setup**Load Default Settings(Non-PnP)**

Parallel Port (Address)	[378]
Parallel port (Data direction)	[Bidirectional]
Serial Port	[3F8]
Sound Chip	[Enable]	
Sound Blaster Compatible I/O	[220]
WSS CODEC I/O	[530]	
Sound IRQ-A	[IRQ 5]
Sound IRQ-B	[Not Used]
Sound DMA-A	[DMA 0]
Sound DMA-B	[Not Used]
IrDA	[2F8]
Floppy Operation	[Enable]	
Boot Up Drive	[FDD → HDD]
Supervisor Password		
User Password Protection	[Disable]	

Section	Page
1 Troubleshooting	1/1
1.1 Error Codes	1/1
1.2 Dealing with Problems	1/2
1.2-1 Startup	1/2
1.2-2 During Operation	1/3
1.2-3 Floppy Disk Drive	1/4
1.2-4 Communications and Power Management	1/5
1.2-5 CD-ROM	1/6
1.2-6 Peripheral Equipment	1/7
1.2-7 XTEL Software	1/8
2 Reinstallation	2/1
2.1 Reinstallation Procedure	2/1
2.1-1 Hardware Required	2/1
2.1-2 Hardware Setup	2/2
2.1-3 Reinstallation	2/2
2.2 Special Drivers	2/3

D

1.1 Error Codes

In the event of a hardware problem during the POST (Power On Self-Test), the system displays the messages in the table below:

Code	Description
062	Boot failure-default configuration used
101	System Board Failure
102	System Board Failure
106	System Board Failure
114	Adapter ROM Error
151	System Board Failure
161	Bad CMOS Battery
162	Configuration Change Has Occurred
162	Configuration Error
163	Date and Time Incorrect
173	Configuration Change Has Occurred
177	The security passwords have been corrupted
201	Memory Size Error
301	Keyboard Error
303	Keyboard Error
604	Diskette Drive Error
605	Diskette Drive Error
1780	Hard Disk Error
1800	PCI Error
1801	PCI Error
1802	PCI Error
1803	PCI Error
1804	PCI Error
1805	PCI Error
8601	Pointing Device Error
I9990301	
I9990305	

In this case, follow the procedure below:

- Access "Setup Utility" and run "Load Default Setting (PnP)" to restore the default parameters (with the exception of passwords).
- Quit "Setup Utility" and restart the machine.
- Access "Setup Utility" again to select the specific parameters for your operating environment.

1.2 Dealing with Problems

1.2-1 Startup

The system does not power up

- Is the AC adapter connected?
- Does the battery have sufficient charge and is it correctly fitted?
- Does the computer operate normally after it has been restarted by pressing the "RESET" button?

Nothing appears on the display screen

- Is the computer in power saving mode?
Press any key to continue using your computer.
- Have you selected an external display unit using "Setup Utility"?
- Adjust the brightness.

"Post Start Up Error(s)" is displayed

- See "Error codes".

The memory counting speed is very slow

The Windows startup and processing speed is very slow

- Access "Setup Utility" and run "Load Default Setting (PnP)" to restore the default parameters (with the exception of passwords).
- Quit "Setup Utility" and restart the machine.
- Access "Setup Utility" again to select the specific parameters for your operating environment.

Machine locking

In certain cases where the machine locks up at the start of self-tests, executing the following procedure below will unlock the machine:

- With the machine powered up:
- Press "F1" and the "RESET" button simultaneously.

1.2-2 During Operation

The date or time display is incorrect

- The internal clock backup battery is flat and must be replaced.

The computer stops

- If the FT 2000 is powered by battery, connect the AC adapter.

The battery status indicator turns red

Repeated beeps sound while the computer is in use

- The battery charge is low. Connect the AC adapter or replace the battery with a charged battery.

The battery status indicator turns red and a beep sounds

- The battery temperature has increased as a result of excessive power consumption. Connect the AC adapter, enable power management and reduce the screen brightness to reduce power consumption.

The battery status indicator flashes red

- The battery or recharge function is faulty. Remove the battery immediately and disconnect the AC adapter, then reconnect it.

The battery status indicator remains red for some time

- Fully charge the battery, power up the computer, disconnect the AC adapter and fully discharge the battery.

Battery recharging (charge indicator flashing)

Accessing the CD-ROM drive temporarily interrupts battery charging.

The battery can only be correctly charged if the "Auto Insert Notification" function in Windows 95 is disabled(default status on delivery of machine).

If this function is enabled, periodic access to the CD-ROM drive causes the battery status indicator to flash.

Procedure for disabling auto insert notification under Windows 95:

- Double-click the "My Computer" icon.
- Double-click the "Control Panel" icon.
- Double-click the "System" icon.
- Click the "Device Manager" tab.
- Double-click "CD-ROM".
- Double-click "MATSHITA UJDCD8715"
Click the "Settings" tab and, under "Options", uncheck "auto insert notification".

1.2-3 Floppy Disk Drive**Cannot access floppy disk drive**

- Is the disk drive correctly installed?
- Has the floppy disk been inserted correctly?
- Has the floppy disk been initialized correctly?
- Has "Setup Utility" been used to disable the floppy disk drive?

Cannot write to floppy disk**Cannot format format floppy disk**

- Is the floppy disk write-protected?
- Have you entered the correct commands and parameters?

Connecting an external disk drive

When using an external disk drive, pay attention to the direction in which the cable at the floppy disk drive end is connected (see section 3, "Hardware Expansion").



Do not connect the floppy disk drive to the "port replicator" FT20VEB251W (CF-VEB251W) via the cable FT20VEB351W (CF-VCF351W).

1.2-4 Communications and Power Management

When running certain programs under Windows 95 which require optimum processor performance at all times (**in particular communication tasks with PLCs**), machine power management must be temporarily disabled ("Power Management" in "Setup Utility" and Windows 95) using the following procedures:

Procedure for disabling "Power Management" from "Setup Utility"

- Access the main "Setup Utility" screen by pressing the <F1> key in response to the message: Press F1 for setup after powering up the machine.
- Select the "Power Management" option.
- Select the "Power Saving" OFF option.
- Select the "Save Setting" option in the main menu before quitting "Setup Utility".

Procedure for disabling "Power Management" from Windows 95

- Double-click the "My Computer" icon.
- Double-click the "Control Panel" icon.
- Double-click the "Power" icon.
- From the "Power" tab, click "Advanced".
- "Troubleshooting" tab
Uncheck "Use APM 1.0 compatibility mode"
Click "OK".
- "Power" tab
Uncheck "Authorize Windows to manage my computer"
Click "OK".
- In response to the "Change APM Settings" dialog box
Click "Yes".
- In response to the "Modify System Settings" dialog box
Click "Yes".
- Wait for the machine to restart (acceptance of modifications).

Procedure for disabling auto insert notification under Windows NT :

As the disabling procedure requires manipulation of the Windows NT registers database, use the installation CD-ROM (ref. FT20 CDR F) supplied with the FT 2000 (see part D, section 2 "Reinstallation").

If the problem persists following disabling or full restoration, consult your approved Schneider Automation technical center.

1.2-5 CD-ROM

The computer does not recognize the CD-ROM drive

- Is the CD-ROM drive correctly installed in the Multimedia Pocket?

The access lamp (MP indicator) does not come on

- Is the CD-ROM correctly loaded in the tray?

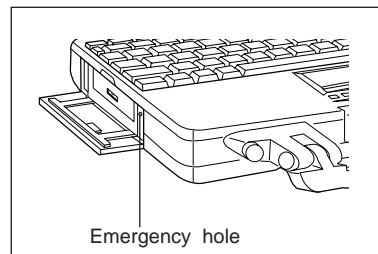
Cannot play CD-ROM or read data

- Is the CD-ROM bent, scratched or dirty?

Cannot eject CD-ROM

- Is the computer powered up?

To remove a CD-ROM when the computer is powered off, insert a pointed object such as the end of a paper clip into the emergency hole. Pushing it fully in releases the tray which can then be pulled out.



1.2-6 Peripheral Equipment

The printer is not operating:

- Is the cable correctly connected?
- Is the printer on?
- Is the printer on-line?
- Has "Setup Utility" been used to set "Parallel Port (Address)" to "Automatic (PnP)", "378" or "3BC"?

The external mouse or trackball connected to the serial port is not working:

- Is the cable correctly connected?
- Is the mouse driver OK? Refer to the mouse manual.
- Has "Setup Utility" been used to set "Internal Pointing Device" to "Disable"?

PC cards cannot be used:

- Check that the card has been correctly inserted.
- Only use the cards specified.
- The drivers for OS/2, Windows NT and Windows 95 must be updated. Contact the card manufacturer.
- Restart the computer after installing a PC card driver or other peripheral drivers.
- Check the I/O port used by the PC card.
- Using a TSX FPP20 PCMCIA card prevents simultaneous use of any other card.

The RAM module cannot be used:

- Check the orientation of the card and ensure that it is correctly in place.

1.2-7 XTEL Software

Communication drivers

If the TSX PC (PC/PLC terminal port) and/or OS/2 UTW communication drivers are selected from the list of software to be installed, against the advice given in the documentation, the data rate for the serial port is limited to 9600 bd.

Transfer of rights

Use of the software pre-installed on the FT 2000 requires the necessary user rights. See the additional instruction sheet in the XTEL PACK V6.1 documentation.

D

2.1 Reinstallation Procedure

2.1-1 Hardware Required

- CD-ROM drive ref. FT20VCD252W (CF-VCD252W)
- Floppy disk drive (FDD) ref. FT20FDD (DFWW44K0054)
- Floppy disk drive cable (FDD cable) ref. FT20VCF351W (CF-VCF351)
- AC adapter ref. FT20ADC (CF-AA1526)
- Reinstallation CD-ROM ref. FT20CDR F/E/G*
- Backup disk ref. see table below (depending on configuration)

Configurations	FT20 101 *	FT20 ADB5*	FT20 ADBNT*	FT20 ADWNT*	FT20 ADJ3 *	FT20 ADP3 *	FT20 ADP4*	FT20 ADG3*	FT20 ADG4*
FT2000 W95 DISK	•				•	•			
FT2000 W95-OS/2 DISK		•						•	
FT2000 WNT DISK				•			•		
FT2000 WNT-OS/2 DISK			•						•

* F: French version; E: English version; G: German version.

Important

Back up all important data on your hard disk (reinstallation will erase all data on your hard disk).

Reinstallation reinstalls the factory configuration on your computer.

2.1-2 Hardware Setup

- Install the CD-ROM drive in the multimedia pocket.
- Connect the FDD cable to the FT 2000 parallel port and the FDD (for more details, see part C, section 3.1 "Multimedia Pocket").
- Remove all PCMCIA cards and disconnect all peripherals (with the exception of the CD-ROM and FDD).
- Check the connection of the AC adapter to the FT 2000 and the AC supply.

2.1-3 Reinstallation

- Insert the backup disk in the floppy disk drive and power up the FT 2000.
- Install the reinstallation CD-ROM in the CD-ROM drive.
- At the MS-DOS prompt, type RESTORE<CR> and follow the messages on the screen.
- When installation is complete, remove the floppy disk and the CD-ROM from their drives and restart the machine.

2.2 Special Drivers

The special drivers for the FT 2000 are on the reinstallation CD-ROM FT20CDR F/E/G.

The table below lists the **special drivers** for the machine according to the various operating systems and gives their location (subdirectory) on the CD-ROM.

	WINDOWS 95	OS/2	WINDOWS NT
AUDIO interface	\ Driver \ W95 \ Audio	\ Driver \ OS2 \ Audio	\ Driver \ Wnt \ Audio
VIDEO interface	\ Driver \ W95 \ Video	\ Driver \ OS2 \ Video	
Update Windows 95	\ Driver \ W95 \ Update		
Drive interface LS120	\ Driver \ W95 \ LS120		
Card interface PCMCIA	\ Driver \ W95 \ Pccard		
Drive interface CD-ROM	\ Driver \ W95 \ Cdrom		
Interface infrared	\ Driver \ W95 \ TranXit		



D

Section	Page
1 Connection to TSX PLCs	1/1
1.1 Connection to TSX 07/37/57 PLCs	1/1
1.2 Connection to TSX 27 - TSX/PMX27/47/67 PLCs	1/1
1.3 Connection to TSX 17 PLCs	1/2
1.4 Connection to APRIL 2000/3000 PLCs	1/2

The "COM1" serial port on the rear panel of the FT 2000 is used for connection to PLCs.

1.1 Connection to TSX 07/37/57 PLCs

Connection requires a TSX PCU 1030 connecting cable supplied with PL7 Pro and PL7 Junior software.

The 2-meter cable is fitted with:

- a 9-pin SUB-D female connector for the FT 2000.
- a 5-pin micro DIN male connector for the TSX.

1.2 Connection to TSX 27 - TSX/PMX27/47/67 PLCs

Connection requires a FT20CBCL30 connecting cable supplied with the "XTEL Pack" software.

The 2.5-meter cable is fitted with:

- a 9-pin SUB-D female connector for the FT 2000.
- a 9-pin SUB-D male connector for the TSX.

1.3 Connection to TSX 17 PLCs

Connection to TSX 17 PLCs requires an accessory for converting the COM1 link (RS 232) to RS 485 (to be ordered separately).

- Connection accessory: ref. TSX 17 ACC PC.

E

1.4 Connection to APRIL 2000/3000 PLCs

Connection requires a TFTX KIT 2040 connecting cable (to be ordered separately).

The 2-meter cable is fitted with:

- a 9-pin SUB-D female connector for the FT 2000.
- a 9-pin SUB-D female connector for the TSX.

Section		Page
1	Hard Disk Physical Partition	1/1
1.1	FT 2000 with single operating system	1/1
1.2	FT 2000 with dual operating system	1/1
2	List of Accessories	2/1

F

The hard disk partition depends purely on the number of operating systems installed on the machine.

1.1 FT 2000 with single operating system

Two possible configurations: WINDOWS 95 or WINDOWS NT.

Partitions	Size*	Unit
WIN 95 or WIN NT operating system	1000 Mb	C:
User 1	1000 Mb	D:
User 2	1752 Mb	E:
Hibernation	153 Mb	-

* The partition sizes are for illustrative purpose only and may alter in accordance with HDD capacity and the software versions installed.

1.2 FT 2000 with dual operating system

Two possible configurations: WINDOWS 95 + OS/2 or WINDOWS NT + OS/2

Partitions	Size*	Unit
Operating system no. 1 (WIN 95 or WIN NT)	1000 Mb	C:
Operating system no. 2 (OS/2)	1000 Mb	D:
Boot Manager	3.9 Mb	-
User	1748 Mb	E:
Hibernation	153 Mb	-

* The partition sizes are for illustrative purpose only and may alter in accordance with HDD capacity and the software versions installed.

F

The table below lists the accessories available and gives their references and markings.

Description of accessory	Reference	Marking
16 Mb memory expansion module (Memory expansion)	FT20RA6116	CD-BA6116
32 Mb memory expansion module (Memory expansion)	FT20RA6132	CD-BA6132
64 Mb memory expansion module (Memory expansion)	FT20RA6164	CD-BA6164
CD-ROM drive	FT20VCD252W	CF-VCD252
Floppy disk drive	FT20FDD	DFWV44K0054
Floppy disk drive cable (Floppy disk drive cable)	FT20VCF351W	CF-VCF351
Port replicator	FT20VEB251	CF-VEB251
AC adapter	FT20ADC	CF-AA1526
Li-ion battery pack	FT20BAT	CF-VZS251
External battery charger (External battery charger)	FT20CHG	CF-VCB251
Handle kit	FT20KITPG1	-
Cover kit	FT20KITTP1	-

F