

Reliable

T5200 User's Manual

ITRONIX

W E K N O W T H E R O A D™



Rugged

Identification

T5200 Computer User's Manual

June 1999 · Revision 002

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Important Before using this manual and the product it describes, read the Microsoft's Certificate of Authenticity and the safety information in Appendix D.

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Getting Started



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Precautions

Please be aware of the following important information before you begin operating your T5200 computer.

- Data stored on PC Cards may be corrupted if the cards come in close contact with the magnetic components of the computer. Do not lay a PC Card on top of or under the computer.
- The internal components of the T5200 computer will be damaged if exposed to contaminants. When the battery is removed or when the PC card door is open, shield the unit from all contaminants such as liquids, rain, snow, and dust.
- You can lose data if you remove the battery while the computer is operating. Turn off the unit before you remove the battery. You can also lose data if the battery is removed for more than 10 minutes.
- Use the stylus that comes with your T5200 computer. Don't use sharp implements such as keys, pens or mechanical pencils to touch the screen because they can damage the screen.
- **WARNING** The T5200 computer is powered by a Lithium Ion (Li-ion) battery. Disposing of these batteries improperly can cause serious personal injury. Do not crush the batteries or place them in a fire. The battery is recyclable and, under various state and local laws, it may be illegal to dispose of these batteries into the municipal waste stream. Check with your local solid-waste officials for details on recycling options or proper disposal.

Introduction

The T5200 computer is a rugged handheld computer that uses the Windows CE operating system. The T5200 computer is smaller than a ruggedized laptop, but has many of the same features. It is weather-sealed, resists bumps and drops, can connect with a variety of peripherals and host computers, and is capable of communicating over landline and wireless networks.

This section shows you the basics you need to do when you first receive your computer and how to get started.

Unpacking Your System

Inside your packaging you will find:

- T5200 computer
- Power cord
- AC Adapter
- Lithium Ion battery
- *T5200 User's Manual*

You may have additional components or peripherals if you ordered these items separately. Check your packing slip for a complete list of items included in your package.

The First Time. . .

Using your T5200 computer for the first time involves:

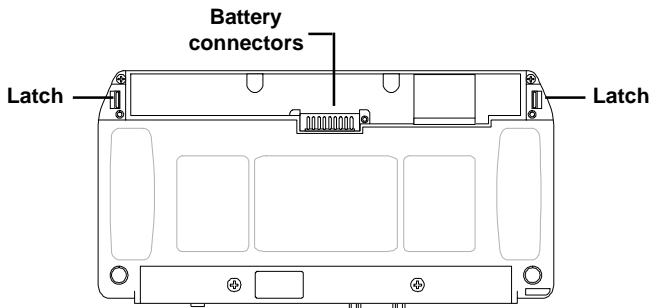
- Installing the battery
- Connecting the AC Adapter to the computer to charge the battery

Installing the Battery

Make sure the T5200 computer is sheltered (away from liquids, dirt, etc..) when you install the Lithium Ion battery; the computer is not weather sealed until the battery is properly installed. The battery should be fully charged before you operate the unit on battery power. To get the most from your battery, follow the guidelines in Section 5, “Power Management.”

To install the battery

- 1 Align the battery connectors and place the battery in the computer.
- 2 Press down on the battery and slide the latches into place to secure the battery.

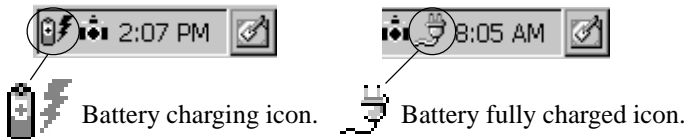


BOTTOM VIEW

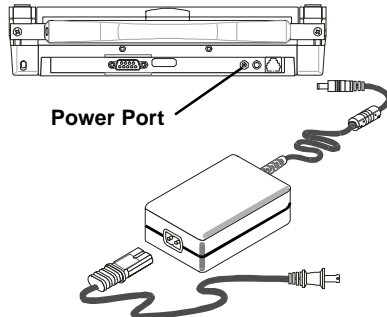
Connecting the AC Adapter

To connect the AC Adapter

- 1 Attach the power cord to the AC Adapter and connect the appropriate end of the cord to an AC wall outlet.
- 2 Insert the appropriate end of the AC Adapter cable into the power port on the back of the computer.
- 3 The T5200 computer will power on and start charging the battery automatically. The battery charging icon appears on the taskbar until the battery is fully charged, then the fully charged icon appears.



At moderate temperatures, approximately 70°F (21°C), the battery should be fully charged in three to four hours. In warmer or cooler temperatures, the battery may take longer to fully charge.



Turning the T5200 Computer On and Off

To turn on the computer

- Press the POWER button once, and then give the system time to respond

Note If the computer does not power on, press and hold the POWER button for at least ten seconds and then release the button to restart the computer.

To turn off the computer

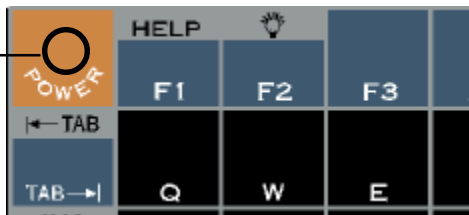
- Press the POWER button once

When you power the computer back on, the system resumes from where you left off.

If you need to leave the system for a short time and want to conserve battery power, you can turn off the computer even if you are running applications. You can resume where you left off by pressing POWER.

Note The computer automatically powers on when it is connected to external power. Also, the computer does not power off when it is connected to external power.

Press the POWER button
once to switch the
computer on or off



Things You Need to Do at Start-up

When you turn on your T5200 computer for the first time, you need to perform these simple tasks:

- Calibrate the touch screen
- Adjust the screen to your own personal viewing preference
- Set the date and time
- Enter User Information

CAUTION Use the stylus that comes with your T5200 computer. Using sharp implements such as keys, pens or mechanical pencils to touch the screen can cause damage to the screen.

Calibrating the Touch Screen

Calibrating the touch screen involves touching the screen with the stylus in specific locations to align the background image with the screen. The calibration screen is typically the first screen that appears when you turn on the computer for the first time.

Simply position and briefly hold the stylus at the center of each crosshair as it appears on the screen.

After this initial calibration, if you cannot select objects accurately with the stylus, or if you notice later that the stylus is not accurate, you may need to recalibrate the touch screen. To open the calibration screen, simultaneously press CTRL, ALT, EQUAL SIGN (=).

Adjusting the Screen

You can toggle the backlight on if you need additional light to view the screen more easily. To conserve battery power, the backlight switches off automatically after one minute of continuous idle time.

You can also adjust the display contrast for better viewing.

Use the following keys to make adjustments:

To Do This...	Press
Toggle the backlight on and off	SHIFT+F2
Lighten the display	SHIFT+F5
Darken the display	SHIFT+F6

Setting the Date and Time

To set the date and time

- 1 Tap the Start button, tap Settings, and then double-tap Control Panel (or simply double-tap the time on the task bar and skip Step 2).
- 2 Double-tap the “World Clock” icon.
- 3 From the Time menu, make changes to the Time and Date, and then close this screen by tapping OK in the upper right-hand corner of the World Clock window



Start-up Problems?

If your T5200 computer does not operate, try these solutions.

- Check to make sure the battery is installed and charged properly
- Connect the AC adapter to charge the battery if it is not charged
- If the AC adapter is connected, make sure the electrical outlet you are using works
- If the computer does not turn on, press and hold the POWER button for at least 10 seconds, and then release the button
- If the battery doesn't begin charging, remove the battery, connect the AC adapter, turn on the computer by pressing POWER, then reinstall the battery

Section 7, “Troubleshooting,” lists additional solutions you can try.

Password Security

If you are using the T5200 computer for the first time, enter the default password provided by your company.

To set or change your password

- 1 Tap the Start Menu, select Settings, Control Panel, and then double-tap the Password icon.
- 2 Set or change your password by entering a word of up to eight characters—once in the Password box and again in the Confirm Password box.
- 3 Check “Enable Password Protection.”

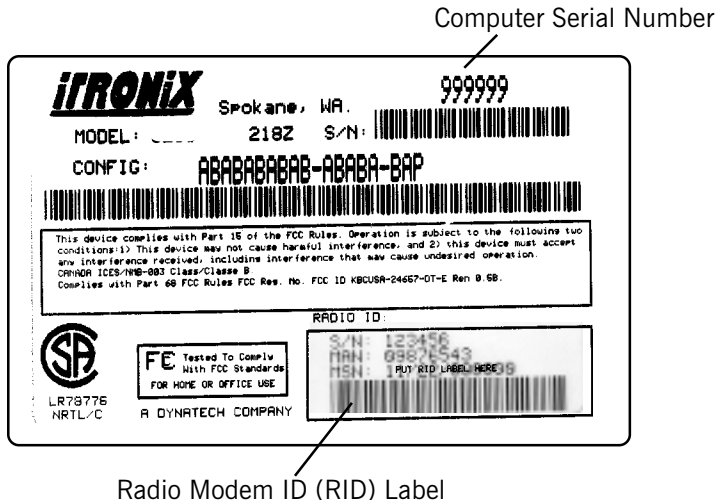


CAUTION If you forget your password, you won't be able to access information on your computer. You must reset (cold boot) the system, which will erase any data that was not saved to Compact Flash or PC Card..

If You Have a Radio

If your computer is equipped with a radio modem, you must register it with the appropriate network provider. When you register, you need to furnish the network provider with your radio modem ID and the computer's serial number. This information is printed on the bottom of the T5200 computer.

If you are registering with the ARDIS wireless network or the BellSouth Wireless Data MOBITECH network, your Radio Modem ID (RID) will be printed on a label as shown below.



If you are registering with a Cellular provider for data service, your modem's Electronic Serial Number (ESN) will be printed on a label as shown below.



If you are registering with a Cellular provider for CDPD service, your modem's Equipment Identifier (EID) will be printed on a label as shown below.



CAUTION Your modem generates radio frequency (RF) signals. Do not operate the radio modem before you have registered it with a network provider. The network will not accept a signal from an unregistered device. Unauthorized use of your radio modem may interfere with local business or government communications, resulting in fines or other legal action.

CAUTION While the radio is operating, its antenna must be at least 29mm (1.25 inches) from all persons in order to comply with the FCC RF exposure limit. Radio operators must make sure their radio unit is in compliance with these FCC regulations.

SECTION 2

A Closer Look at the T5200 Computer



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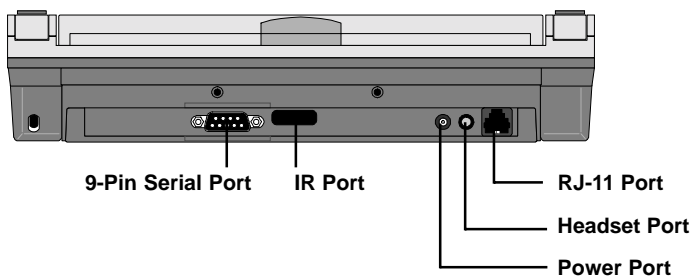
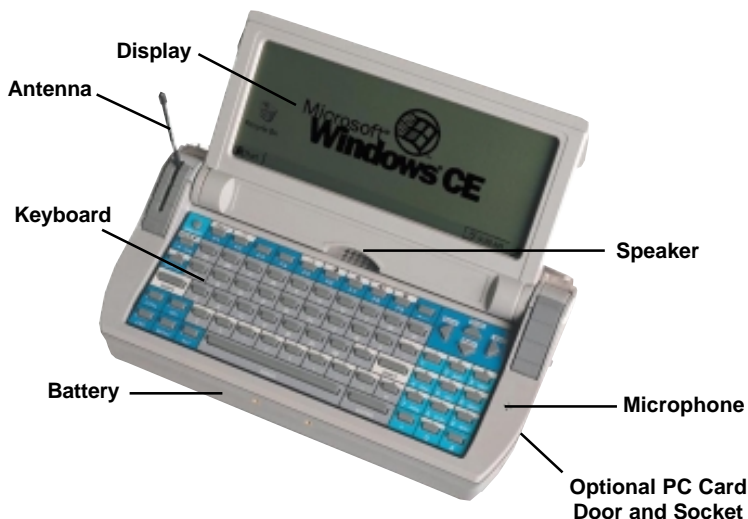
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Introduction

The following diagrams and descriptions provide an overview of the T5200 computer.



Standard Hardware

The labeled components are described below.

9-Pin Serial Port This port can be used for serial communications, connection to a printer, or connecting to a desktop PC.

Battery The Lithium Ion (Li-ion) battery is located on the bottom of the computer.

Display The standard display is a 7.3-inch monochrome touch screen with 640x240 resolution.

Headset Port This port is located on the back of the computer and allows you to connect a headset instead of using the speaker and microphone.

Keyboard The keyboard is environmentally sealed and each key can provide audio feedback when pressed.

PC Card Door and Socket If your T5200 computer is equipped with an optional PC Card socket, the PC Card is inserted here. When this door is open, shield the area from all contaminants such as liquids, rain, snow, and dust.

Power Port This port is used to connect the external power supply to the computer.

RJ-11 Port This port is used by the internal modem to communicate over standard voice grade telephone lines.

Speaker Located on the top of the computer above the keyboard, the speaker provides sound for the unit.

Microphone The microphone is located to the right of the keyboard below the thumbgrip.

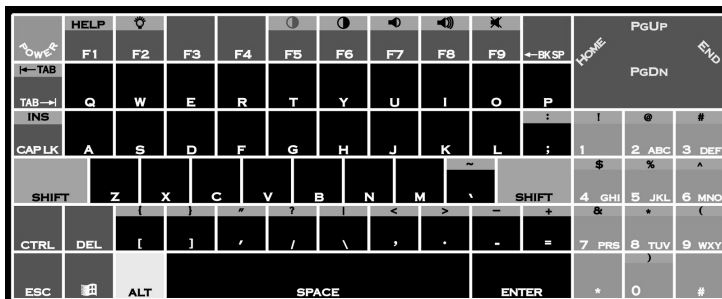
Cradle Contacts Located on the bottom of the unit, the cradle contacts allow connection to the optional vehicle cradle (not shown).

Standard Software

The Speaker Phone Application comes with the T5200 computer. This application allows you to dial a number and talk with another person over telephone lines. Other standard applications that come with the computer are discussed in more detail in Section 3, “Customizing Settings.”

T5200 Computer Keyboard

The standard keyboard for the T5200 computer contains 75 keys that are sealed to protect them from harsh environments. It includes a telephone-type numeric keypad for entering or dialing numbers. Pressing the SHIFT key allows you to enter characters located above each key with the same background color as the SHIFT key. Also, the ALT key works with the PGUP, PGDN, HOME and END keys. When a key is pressed, a click provides audio feedback (if desired).



CAUTION You can restart the T5200 computer by pressing the POWER button for at least ten seconds and then releasing it; however, restarting your computer while you are running applications or working in Windows CE may cause data loss or corrupt files.

Basic Keys

The following table shows the keys for basic operations. Appendix C contains a complete description of key functions.

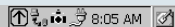
To do this...	Press
Turn on the computer	POWER
Turn off the computer	POWER
Toggle the backlight on and off	SHIFT+F2
Lighten the display contrast	SHIFT+F5
Darken the display contrast	SHIFT+F6
Decrease the volume	SHIFT+F7
Increase the volume	SHIFT+F8
Toggle the speaker on and off	SHIFT+F9
Restart the computer	POWER for at least 10 sec.

Keyboard Tips

The **SHIFT** key is used in combination with other keys on the keyboard to perform special functions. This key has been designed as a “sticky” key for convenient one-handed operation. Pressing the key once is the same as holding it down until a second key is pressed.

For example, pressing **SHIFT+F5** dims the display. With one hand you can press **SHIFT**, release it, and then press **F5**. The **SHIFT** key remains pressed until the second key is pressed.

When the sticky shift key is enabled, the icon appears in the taskbar area of the screen. _____



Using the Stylus

CAUTION Use the stylus that comes with your T5200 computer. Don't use sharp implements such as keys, pens or mechanical pencils to touch the screen because they can damage the screen.

To use the stylus

- Slide the stylus out of the slot on the hard handle or from the clip below the display
If you have a shoulder strap, you may also have a slot or pocket on the strap to hold the stylus
- To replace it, slide it into the appropriate slot or pocket point first

To recalibrate the touch screen

If you cannot select objects accurately with the stylus, you may need to recalibrate the touch screen.

- 1 To open the calibration screen, simultaneously press CTRL, ALT, EQUAL SIGN (=) or tap the Start Menu, select Control Panel and double-tap the Stylus icon on the screen.



Stylus

- 2 Select the Calibration Tab in the Stylus Properties box and tap the Recalibrate button to bring up the target screen.



- 3 Position and briefly hold the stylus at the center of each crosshair or "target" as it appears on the screen.
- 4 After you have finished, press ENTER to accept the new settings and ok in the Stylus Properties box to accept all changes.

SECTION 3

Customizing Settings



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Control Panel 22

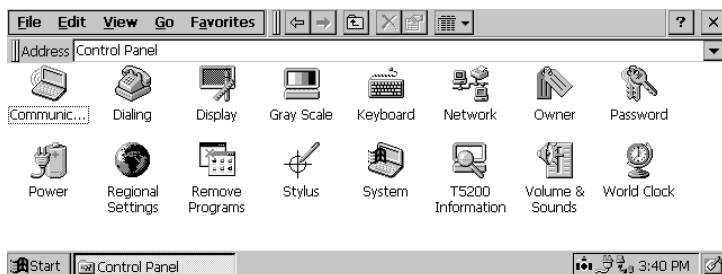
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Introduction

You can customize several settings on the T5200 computer to suit your own personal preference. These settings can be modified by using the utilities under Control Panel. This section tells you about these utilities and how to make changes.

Control Panel

To access these utilities, tap the Start Menu, choose Settings, choose Control Panel, and then double-tap the appropriate icon.



Important After making changes to settings in Control Panel, you must tap OK to save them. Tapping the X closes the window without saving any changes on any of the tabs.



Communications

- Tap the Start Menu, select Settings, Control Panel, and then double-tap the Communications icon.

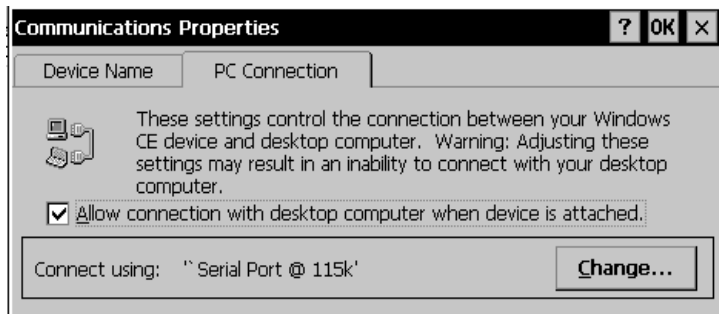
This utility allows you to establish a name for your T5200 computer, which is important when connecting to a desktop computer. You can also use this utility to set automatic dialing patterns and make adjustments for communicating between computers.

Device Name



PC Connection

Open this dialog box to make any necessary changes when you are connecting to a desktop computer.



Display

- Tap the Start Menu, select Settings, Control Panel, and then double-tap the Display icon

This utility allows you to change the background that appears on your screen, or the backlight idle time/power saving settings.

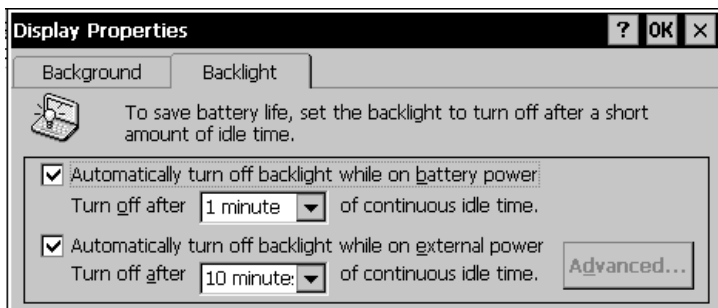
To change your background

- 1 Tap Browse to locate an image you want to use. If you want the image to cover the entire background, check "Tile image on background."

- 2 Tap OK to close the window and save any new settings.

To change your backlight

- 1 Tap the Backlight tab to view the view the current backlight defaults.
- 2 Tap the box to select or deselect the power saving options.
- 3 Change the idle time settings by typing in a new time or by tapping the down arrow and selecting a new time from the menu.



Note The Advanced button in the bottom right corner of the Backlight window is grayed-out and does not function.



Keyboard

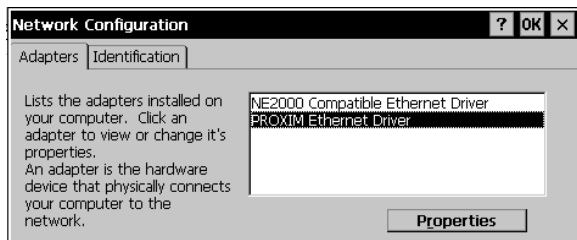
- Tap the Start Menu, select Settings, Control Panel, and then double-tap the Keyboard icon.

Move the sliders to adjust the key repeat rate. Refer to Appendix C Keyboard Functions for additional information.



Network

The Network Configuration box lists the installed hardware devices that enable your computer to connect to the network and the identification process by which you may access data.

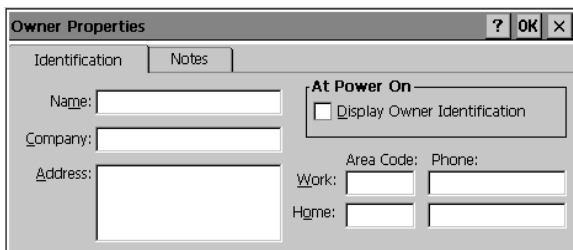


Owner

- Tap the Start Menu, select Settings, Control Panel, and then double-tap the Owner icon.

Record owner information here, including your name, address, and phone number(s). If you want this information to appear on the screen each time you start your computer, check “Display Owner

Identification” in the At Power On area. You can also add more information in the Notes tab.



The **Owner Properties** dialog box has two tabs: **Identification** and **Notes**. The **Identification** tab is active, showing fields for **Name**, **Company**, and **Address**. To the right, under the **At Power On** section, there is a checkbox for **Display Owner Identification**. Below this, there are fields for **Area Code** and **Phone**, with sub-fields for **Work** and **Home**.



Password

- Tap the Start Menu, select Settings, Control Panel, and then double-tap the Password icon.

To set or change your password

- 1 Set or change your password by entering a word of up to eight characters—once in the Password box and again in the Confirm Password box.
- 2 Check “Enable Password Protection.”



The **Password Properties** dialog box has a **Password Settings** tab. On the left is a key icon. The **Password** section contains **Password** and **Confirm Password** fields. The **Power-On Protection** section contains a checkbox for **Enable Password Protection**.



Power

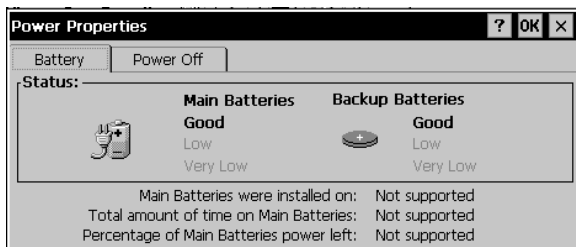
- Tap the Start Menu, select Settings, Control Panel, and then double-tap the Power icon.

The Battery window provides information about the status of your battery. The T5200 computer uses a Lithium Ion battery as the main battery.

The T5200 computer uses a super capacitor as the backup battery.

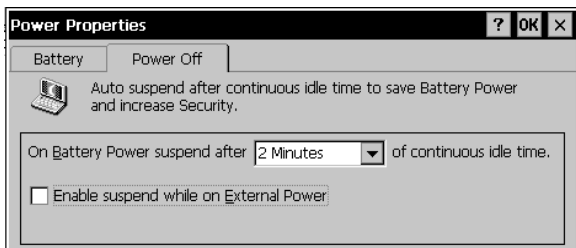
CAUTION If you forget your password, you won't be able to access information on your computer. You must reset (cold boot) the system, which will erase any data that was not saved to Compact Flash or PC Card.

The super capacitor is automatically recharged from the main battery and it never needs to be replaced.



To conserve battery power, the computer automatically suspends operation after two minutes of continuous idle time. You can change this time by selecting the Power Off tab and then selecting a different time from the list. The system will not suspend while connected to external power, and if suspended will automatically

turn on when connected to external power.



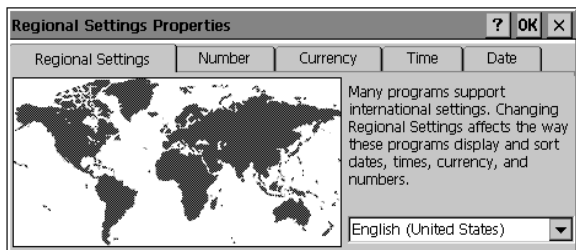
For important information about batteries and power, see Section 5, “Power Management.”



Regional Settings

- Tap the Start Menu, select Settings, Control Panel, and then double-tap the Regional Settings icon.

If the programs you are using support international settings, this utility allows you to set the way these programs manage numbers, currencies, times, and dates.

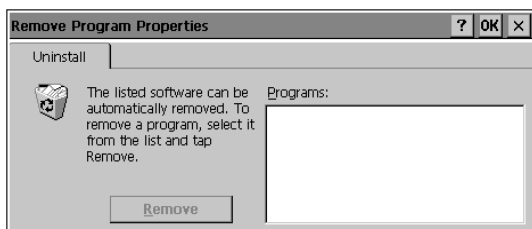




Remove Programs

- Tap the Start Menu, select Settings, Control Panel, and then double-tap the Remove Programs icon.

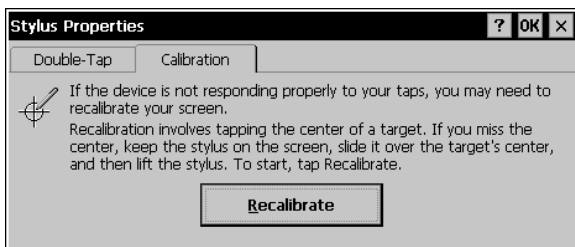
This utility enables you to remove programs you no longer need on your computer. Check with your company's help desk before removing any programs from your system.



Stylus

- Tap the Start Menu, select Settings, Control Panel, and then double-tap the Stylus icon.

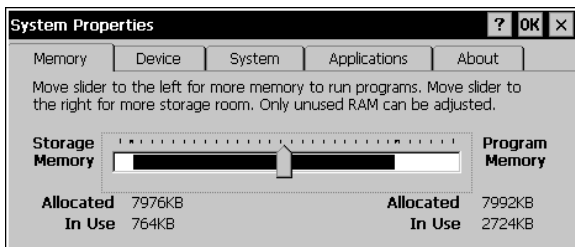
Use this utility to calibrate your touch screen or to adjust the double-tap rate of the stylus.



System

- Tap the Start Menu, select Settings, Control Panel, and then double-tap the System icon.

This utility provides general information about your Windows CE system and also allows you to adjust unused internal memory on your T5200 computer. The system is preset with the recommended Program Memory and Storage Memory defaults. In general, an increase in Program Memory allows your T5200 computer to run more programs simultaneously, while an increase toward Storage Memory allows for additional data storage.

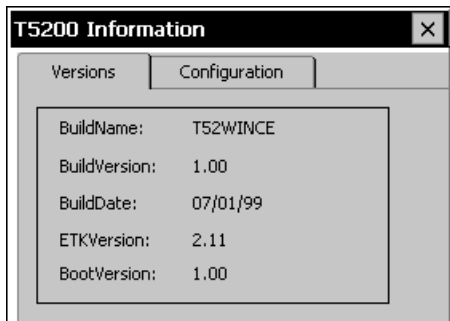




T5200 Information

- Tap the Start Menu, select Settings, Control Panel, and then double-tap the T5200 Information icon.

From this utility, under the Version Tab, you can identify your computers software version, build name, build date and boot version. Under the Configuration Tab you can identify the Serial Number and Configuration String of your software.



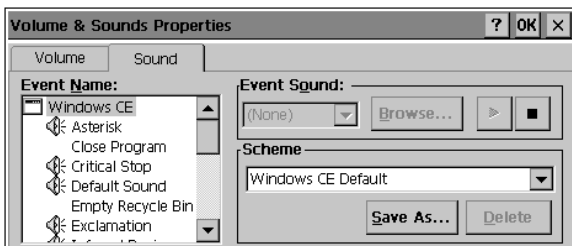
Volume and Sounds

- Tap the Start Menu, select Settings, Control Panel, and then double-tap the Volume and Sounds icon.

From this utility, you can adjust the volume of sounds, or you can turn sounds on or off. On the Volume tab, move the slider to adjust volume; select or clear check boxes to turn sound on or off for items.



On the Sound tab, select the events on the Event Name list for sounds that you want to hear. Choose None from the Event Sound list to turn sound off for that event. Select Browse to locate a different sound to use. Different schemes can be saved by selecting Save As... and then naming the sound scheme.



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Operating Your T5200 Computer

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Introduction

This section shows you how to connect your T5200 computer to a desktop computer and how to transfer and print files.

Connecting to a Desktop Computer

Windows CE Services is a program that resides on your desktop computer with Windows 95/98/NT installed. It allows you to browse folders, files and install programs on the T5200 computer. Setting up this program involves two steps: installing it on your desktop, and then establishing a connection between computers. You will need a 9-pin null modem serial cable for this connection, and you can use any available serial port on your desktop. See Section 7 Troubleshooting for the null modem serial cable connection specifications.

Installing Windows CE Services on Your Desktop

There are several ways to install Windows CE Services onto your desktop computer. Contact your company's help desk for the procedure established by your organization.

To install Windows CE Services

- 1 Use your company's established procedure to run the Windows CE Services setup program that installs this program onto your

desktop.

- 2 Follow the instructions on the screen.
- 3 After you choose Finish from the setup program, you will be prompted to select a communications port.

After selecting this port, follow the next procedure to establish a connection between your desktop computer and your T5200 computer.

Establishing a Connection

To establish a connection

- 1 Start Windows CE Services on your desktop computer if it is not already running.
- 2 Turn on your T5200 computer by pressing the POWER button once (if it is on battery power).
- 3 Insert the 9-pin null modem serial connector into the communications port on your desktop computer, which you selected previously in the setup procedure.
- 4 Insert the other end of the null modem serial cable into the serial port on the T5200 computer.

The connection process starts automatically.

Once your T5200 computer is connected to your desktop computer, it displays files and folders on your T5200 computer. You cannot run programs that are stored on your T5200 computer from Windows CE Services.



This connection icon is displayed in the taskbar on both the PC and CE device when the connection is established and services are enabled.

The following pop-up window is displayed when the initial connection is made and services are established. Tap **Hide** to clear the window, or **Disconnect** to disconnect from CE Services.



Copying and Converting Files

Windows CE uses the same method to copy files as Windows 95. You can copy a file by dragging it to a destination or by using the Cut, Copy, and Paste commands. Files are automatically converted when they are copied between these systems. You can also specify how files are converted by selecting File Conversion from the Tools menu of Windows CE Services on your desktop.

Printing Files from the T5200 Computer

You can print files that reside on the T5200 computer using Windows CE Services on your desktop computer.

To print a file

- 1 Connect the T5200 computer to your desktop computer and start Windows CE Services.
- 2 In Windows CE Services, select the file you want to print.
- 3 Select File, and then choose Print.

PC Cards

If your T5200 computer is equipped with the optional PC Card socket, you can use a PC Card, such as SRAM and Flash Memory PC Cards, to transfer files.

SECTION 5

Power Management

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Introduction

The T5200 computer uses a Lithium Ion (Li-ion) battery as the main battery. This section provides some important information about this battery and ways to extend its life.

The T5200 computer can be operated on battery power or external power. If a battery is installed, the system automatically starts charging the battery when external power is connected.

Practical Battery Tips

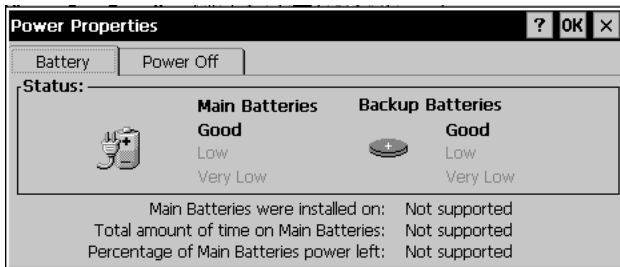
- Your battery will last longer during the day if it is used and charged between 50° F and 86° F (10° C and 30° C)
- Charge the battery nightly where the temperature will remain around 70° F (22° C)
- Turn off the computer manually whenever you are not using it
- Make sure your system suspends automatically. PC Cards, custom applications, or modified system settings can affect this
- Turn off the backlight when you do not need it
- Turn off volume and sounds for events you do not need
- Avoid exposing batteries to extremely hot or cold temperatures for long periods
- If you plan to store the computer for more than 30 days, backup files and data, remove the battery, and store the battery in a dry place

Low Battery Indicators

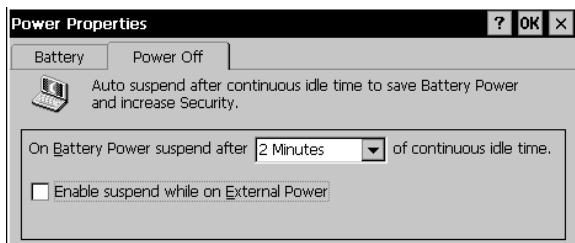
When the battery becomes low, the computer beeps and the low battery icon appears in the taskbar. Double-tapping this icon opens the Power Properties window so you can view the level of battery power. If the battery becomes very low, the computer beeps and a low battery message appears on the screen periodically. Unless you replace the battery or connect external power, the computer shuts off automatically.

Checking Battery Power

You can check the level of battery power by opening the Power utility from Control Panel or by double-tapping the battery icon in the taskbar. The Battery window provides information about the status of your battery.



To conserve battery power, the computer automatically suspends operation after two minutes of continuous idle time. You can change this time by selecting the Power Off tab and then selecting a different time from the list. The system will not suspend while connected to external power even if the box is checked here.



Replacing Batteries

When operating on battery power, the T5200 computer is equipped with enough internal backup power to maintain memory contents for about ten minutes each time you exchange batteries.

CAUTION

You can lose data if you remove the existing battery while the computer is operating on battery power. Before you remove the battery, turn off the computer by pressing the POWER button. You can also lose data if the battery is removed for more than ten minutes.

Removing the battery exposes the internal components of the computer to the environment. Whenever you remove the battery, always shield the unit from contaminants such as liquids, rain, snow, and dust.

To replace the battery

- 1 Press down on the battery near the latches, slide the battery latches out and remove the battery.
- 2 Align the battery connectors and install a new battery.
- 3 Press down on the battery near the latches and slide the latches into place to secure it.

Charging Batteries

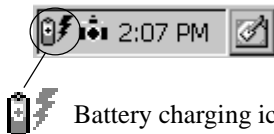
To maintain power and prevent data loss from a low battery, charge the battery daily. Use the AC Adapter that comes with your T5200 computer.

You can operate the T5200 computer while the battery is charging.

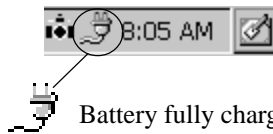
To charge the battery

- 1 Make sure the battery is installed properly in the T5200 computer.
- 2 Connect the appropriate end of the AC Adapter to an AC wall outlet.
- 3 Connect the other end to the computer's power port on the back of the unit.

The battery starts charging automatically. A fully discharged battery is fully charged in approximately three to four hours at moderate temperatures, around 70o F (22° C). In warmer or cooler temperatures, the fully discharged battery can take much longer to fully charge.



Battery charging icon.



Battery fully charged icon.

Note If the computer does not power on, press and hold the POWER button for at least ten seconds and then release the button to restart the computer.

Battery Storage and Care

Follow these guidelines to maintain performance of the Lithium Ion battery.

- Avoid exposing batteries to extremely hot or cold temperatures for long periods.
- Charge the battery nightly where the temperature will remain around 70o F (22o C).
- Store the batteries within this temperature range: 50° F to 86° F (10° C to 30° C).

Disposing of Batteries

WARNING Disposing of the Lithium Ion battery improperly can cause serious personal injury. Do not crush the battery or place it in a fire. The battery is recyclable and, under various state and local laws, it may be illegal to dispose of it into the municipal waste stream. Check with your local solid-waste officials for details on recycling options or proper disposal.

SECTION 6

Maintenance and Storage

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Introduction

The T5200 computer was designed to withstand rugged and harsh environments. Following the guidelines in this section will help you maintain the condition and performance of your computer.

Care and Cleaning

Physical Inspection Periodically inspect the computer and accessories for wear, damage, or loose or missing parts. Identifying and correcting potential problems early can help reduce the need to return the unit for service.

Outside Case Like all tools, the outside of the computer will get dirty with use. The case can be cleaned with a solution of mild detergent in water applied to a clean, soft cloth. Always wipe off the computer with a soft cloth after cleaning.

Display Periodically inspect the display to make sure the contrast and brightness functions are operating properly. To clean the display, apply a household glass cleaner to a clean, dry, soft cloth and then wipe the screen. Do not use paper products because they can scratch the screen.

External Power Connector The external power connector may sometimes be exposed to moisture and/or contamination causing an unreliable connection to the external power source. Clean this connector using a cotton swab dipped in isopropyl alcohol.

RJ-11 Connector Make sure this connector is operating properly. During normal use, the connector pins can get dirty or become broken, bent, or pushed out of place. Clean the connector with a cotton swab dipped in isopropyl alcohol.

Keyboard Check all keys to make sure they are working properly. To clean the keyboard, use a solution of mild detergent in water applied to a clean, soft cloth.

I/O Ports Make sure the ports are working correctly. Periodically inspect the ports for damage and contamination.

PC Card Connector If your computer is equipped with a PC Card connector, make sure it is operating correctly by reading from or writing to a PC Card.

Battery If moisture condenses on the battery and battery connectors, remove it using a clean, dry cloth. The connectors may corrode if they are exposed to moisture for extended periods. Corrosion can be removed with a cotton swab dipped in isopropyl alcohol.

Storing Your T5200 Computer

With a fully charged battery, you can store the computer for approximately 30 days without losing data in DRAM. If you plan to store the computer for more than 30 days, follow these guidelines.

To store the T5200 computer

- 1 Use a reliable backup process to store files or data.
- 2 Exit all applications and turn off the computer.
- 3 Remove the battery from the unit and store it in a dry place.
- 4 Once the battery is removed, the computer is no longer weather sealed, so you need to protect the computer's internal components. Placing the computer inside a sealed, antistatic bag is ideal for long-term storage.

- 5 Store the unit within the recommended temperature ranges of -40° F to +167° F (-40° C to +75° C).

If you use PC Cards, refer to the manufacturer's instructions you received with the card for storage and care information.

Note When you turn the computer on after it has been stored for a long time, you may need to restart the system by holding down the POWER button for about ten seconds and then releasing it. You will also need to recalibrate the touch screen. See the Getting Started section of this manual for more information.

SECTION 7

Troubleshooting



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Introduction

This section provides some basic solutions to problems you might have while using the T5200 computer or connecting to your desktop computer. If you can't find a solution here, contact your company's help desk.

What to Try First

If the T5200 computer stops functioning, try this first:

- Restart the system by pressing the POWER button for at least 10 seconds and then releasing the button.

If the computer still does not work, contact your company's help desk.

Operational Problems

The computer shuts off unexpectedly

- The computer has suspended automatically. Press the POWER button to turn it back on.
- The battery may be critically low. Connect external power to charge the battery, or replace the battery with a charged one.

The computer won't turn on

- The battery may not be installed properly, or it may not be fully charged. Make sure a fully charged battery is properly installed.
- Connect external power to charge the battery if it is not charged.
- If you are using the AC Adapter, check the electrical outlet you are using to make sure it is working properly.
- Try restarting the system by pressing the POWER button for at least ten seconds and then releasing it.

The computer suspends too quickly

- You can extend the auto-suspend time. From the Start Menu, tap Settings, Control Panel, and then double-tap the Power icon. Select the Power Off tab and enter a different time from the list.

The computer doesn't automatically suspend

- The computer will not suspend when it is connected to external power.

The computer has stopped working and restarting the system doesn't work

- If the computer stops responding even after you've tried restarting the system, you may need to do a full reset.

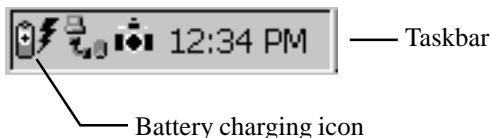
CAUTION Performing a full reset erases all data and files in DRAM since the last time you backed up files to a desktop computer, Compact Flash or PC Card.

- To reset the system, remove the battery, disconnect external power, and then press the POWER button for at least 20 seconds. Reinstall the battery and connect external power. The T5200 computer turns on automatically once external power is applied.

Battery Problems

The battery does not charge

- Move the computer to a location with a moderate temperature of around 70o F (22o C) to charge the battery
- Make sure the AC Adapter cables are connected properly. When connected and charging, the battery charging icon displays in the taskbar



The battery doesn't last very long

- Turn off the computer whenever you're not using it
- Shorten the time the backlight automatically shuts off
- Turn off sound and volume to events you do not need
- Charge the battery nightly where the temperature will remain around 70o F (22o C)

Display Problems

The display is too dark or too light to read

- The system may have suspended operation automatically. Turn the computer on by pressing the POWER button once.
- Adjust the contrast by pressing SHIFT+F5 or SHIFT+F6
- Toggle the backlight on by pressing SHIFT+F2

The display performance is slow

- The temperature may be too cold. Move the computer to a warmer operating environment.

Keyboard Problems

PGUP, PGDN, HOME, and END keys don't work

- Press and hold **ALT** and then the appropriate key

I can't tell if the computer recognizes keys when I press them

- Enable key clicks and/or adjust the volume
To enable key clicks from the Start Menu, tap Settings, Control Panel, and then double-tap the Volume and Sounds icon. To hear audio feedback when you press a key, make sure the “Key Clicks” box is checked on the Volume tab. Move the slider to adjust the loudness.

Touch Screen Problems

When I tap the screen with the stylus, nothing happens

- Try recalibrating the touch screen
To recalibrate the screen simultaneously press **CTRL**, **ALT**, **EQUAL SIGN (=)**, and follow the directions on the screen.

Radio Problems

How can I tell if my radio is working?

- Enable a RIM Radio communications session

To enable a RIM Radio communication session from the Start Menu, tap Programs, Communication, and Terminal. Double-tap the “Make a New Session” icon to bring up the Session Properties dialogue box. On the Communications Tab name your session, select modem “RIM Radio on COM4” then tap the Configure button. Under the Device Properties Port Settings tab, check Manual Dial and configure the Connection Properties as follows:

Baud Rate	9600
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	Hardware

Tap OK to save these settings and return to Session Properties. Enter any digit in the Telephone Number block and tap OK. This will bring up the Connection Dialing status window for your session . Type in “menu” at the command line to view options for this session. Select an option from the menu for your session. When finished tap OK.

- Enable a CDPD communications session

To open a terminal session to your CDPD modem from the Start Menu, tap Programs, Communication, and Terminal. Double-tap the “Make a New Session” icon to bring up the Session Properties dialogue box. On the Communications Tab name your session, select modem “CDPD on COM4” then tap the

Configure button. Under the Device Properties Port Settings tab, check Manual Dial and configure the Connection Properties as follows:

Baud Rate	19200
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	Hardware

Tap OK to save these settings and return to Session Properties. Enter any digit in the Telephone Number block and tap OK. This will bring up the Connection Dialing status window for your session. Type AT and wait for an OK. This creates a terminal connection to the internal CDPD modem. Refer to your CDPD modem User's Manual for information on commands available for your modem.

Desktop Communication Problems

I have installed Windows CE Services on my desktop, but I still cannot see files and folders that reside on my T5200 computer.

- Make sure the null modem serial cable from the T5200 computer is connected to an appropriate serial port on your desktop
- Make sure the null modem serial cable is inserted correctly
- Verify both are communicating at the same speed
- Check the communications settings on the T5200 computer and your desktop:

To check communications settings on the T5200 computer

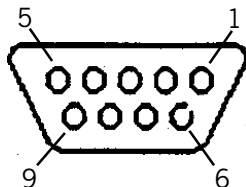
- 1 From the Start Menu, select Settings, Control Panel, and then double-tap the Communications icon.
- 2 Select the PC Connection tab and make sure the “Allow connection with desktop computer when H/PC is attached” box is checked.

To check communications settings on your Windows 95/98/NT desktop computer

- 1 From the Start Menu, select Settings, Control Panel, and then choose System.
- 2 Select the Device Manager tab, select Modem, and then choose the communications port you are using.
- 3 Select the Modem tab and make sure the port you are using matches the one that appears in the list.

Null modem Serial Cable Pin Assignments:

1	2	3	4	5	6	7	8	9
								≡N/C
4	3	2	6&1	5	4	8	7	9

**Null modem Cable**

APPENDIX A

Expanding Your T5200 Computer

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Introduction

The T5200 computer comes with many built-in features. You can also add options and order many peripherals to expand the capabilities of your system. Several accessories are also available for your T5200 computer.

This section shows you the options available for your T5200 computer and the peripherals and accessories you can order. Contact your company's help desk for a current list of equipment.

Options

PC Card Socket

- Type III socket
- Accepts both Storage and I/O Cards
- PCMCIA version 2.1

Expansion DRAM

- 16 MB (Total 32 MB)

Expansion Flash (Compact Flash)

- 8 and 15 MB

Radio Modem

The T5200 computer has several radio options for networks. These include Bell South Wireless Data (Mobitex), American Mobile/Ardis (DATATAC) and CDPD. Contact your company's help desk for a current list of the various modem options.

Peripherals

Vehicle Cradle

The Vehicle Cradle is a vehicle-based docking station designed to safely secure the computer in the vehicle. A standard key lock located in the front of the cradle locks the computer onto the cradle for security purposes. You can use the vehicle cradle to:

- Charge batteries
- Communicate with other devices (serial communications)
- Radio connection for external antennas (option)

Charging Batteries

The Vehicle Cradle is designed to charge the computer's battery with voltage from the vehicle battery while you are traveling. Follow the procedure below to charge a Lithium Ion (Li-ion) battery.

Important

- A temperature of 0° to +50° Celsius (32° to +122° Fahrenheit) is recommended when charging batteries with the Vehicle Cradle. Batteries may not charge successfully outside this temperature range.

To charge a battery installed in the T5200 computer

1. Place the computer onto the Vehicle Cradle, making sure it is securely latched.
2. The vehicle cradle automatically begins fast charging the battery.

CAUTION

- There are no user-replaceable parts within the Vehicle Cradle, so do not open the Cradle case. The Vehicle Cradle is internally protected. It resets automatically if there is a power fault.
- Do not use the Vehicle Cradle to charge the computer battery overnight. Turn off the Vehicle Cradle at the end of each work day to prevent draining the voltage in your vehicle's battery below starting levels.

Communicating with Other Devices

The Vehicle Cradle is designed with a standard serial port so you can connect external devices such as a printer or modem. Specify COM1 when you select the communications port in your application. Connect the external device to the serial port on the back of the cradle, and then place the mobile computer onto the vehicle cradle. You can install or remove the computer from the vehicle

cradle without connecting or disconnecting a printer or modem cable from the cradle.

As an option, an external RF antenna also can be connected to the cradle using the TNC RF connector on the back. Contact your supervisor or your organization's help desk for information about using an external antenna.

CAUTION

- Turn off the Vehicle Cradle at the end of each work day to prevent draining the voltage in your vehicle's battery below starting levels.

Vehicle Adapter

The Vehicle Adapter is an optional device that supplies power from the vehicle battery to operate the computer and charge the battery installed in the unit. It typically connects to the vehicle battery using the cigarette lighter socket.

CAUTION

- There are no user-replaceable parts within the Vehicle Adapter, so do not open the Adapter case. The Vehicle Adapter is internally protected. It resets automatically if there is a power fault.
- Do not use the Vehicle Adapter to charge the computer battery overnight. Turn off the Vehicle Adapter at the end of each work day to prevent draining the voltage in your vehicle's battery below starting levels.

To prevent possible damage to the battery, the system will not allow the battery to charge at extreme temperatures. Be aware of the following charging characteristics, especially if the computer is left unattended in a closed vehicle.

Temperature	Charging Activity
<0°C (<32°F)	Battery will not charge
>50°C (>122°F)	Battery will not charge

To connect the Vehicle Adapter

1. Insert the Vehicle Adapter's power cord into the power port on the side of the T5200 computer.
2. Insert the cigarette lighter adapter into the vehicle's cigarette lighter socket, turning it slightly to make a good connection.

The power light illuminates to indicate that current is reaching the Vehicle Adapter. When you connect the Vehicle Adapter, it automatically begins fast charging the computer's battery. At moderate temperatures, around 70° Fahrenheit (22° C), the battery will be fully charged within about three hours (charging times will vary depending on the power level remaining in the battery prior to starting the charge). Under extremely cold or hot temperatures, however, the battery will not charge.

AC Adapter

The AC Adapter is an optional charging device used to charge a Lithium Ion battery and externally power the T5200 computer. This charger allows you to charge the battery while operating the computer on AC input power. The operating temperature for this device is 0° to +50° Celsius (+32° to +122° Fahrenheit). Operating the AC Adapter outside of this temperature range may damage the battery.

To connect to external power

1. Insert the appropriate end of the AC Adapter power cord into the power port on the T5200 computer; insert the other end of the power cord into an electrical wall outlet.

The AC Adapter automatically begins fast charging the battery. At moderate temperatures, around 70° Fahrenheit, the battery will complete charging in approximately three hours. The AC Adapter is intended for in-house use and should not be used in extreme conditions.

CAUTION

- There are no user-replaceable parts within the AC Adapter, so do not open the Adapter case. The AC Adapter is internally protected. It resets automatically if there is a power fault.

Stand Alone Battery Charger

The Stand Alone Battery Charger is an optional charging device used to charge a Lithium Ion battery. This charger allows you to charge an additional T5200 battery for the mobile computer. The operating temperature for this device is 0° to +50° Celsius (+32° to +122° Fahrenheit). Operating the Stand Alone Battery Charger outside of this temperature range may damage the battery.

To charge a battery

1. Insert the appropriate end of the power cord into the power port on the Stand Alone Battery Charger; insert the other end of the power cord into an electrical wall outlet, the AC Adapter or the Vehicle Adapter.

2. Align the connectors and place the battery onto the charger.

The charger automatically begins fast charging the battery. At moderate temperatures, around 70° Fahrenheit (22° C), the battery will complete charging in approximately three hours. Under extremely cold or hot temperatures, however, the battery will not charge.

CAUTION

- There are no user-replaceable parts within the Stand Alone Battery Charger, so do not open the Charger case. The Stand Alone Battery Charger is internally protected. It resets automatically if there is a power fault.

A P P E N D I X B

Hardware Specifications

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Physical Features

- Length: 9.8 inches
- Width: 5.0 inches
- Height: 2.25 inches

Display

- 7.3-inch, 640x240 pixel resolution
- Transflective monochrome; 16-shades of gray
- Passive touch screen, pressure sensitive for finger or stylus
- Backlight and contrast controls

Processor and Memory

- Philips PR31700 CPU, 32-bit 73.7 MHz MIPS-based RISC processor
- 16 MB DRAM (maximum 32 MB)
- 16 MB system flash memory (nonvolatile)
- Internal compact flash connector for optional expansion memory (various capacities)

Input/Output

- Fully-sealed, 75-key QWERTY keyboard
- Passive pen or finger touch screen
- Full duplex RS-232, 9-pin “D” serial port
- IrDA Level 1 serial port
- Sealed headset jack
- Built-in RJ-11 phone jack
- External power
- 5VDC power supply from serial port to power peripherals
- Vehicle cradle contacts and serial out of contacts

Power

- 3 cell Lithium Ion battery at 10.8V
- High efficiency SMPS 3.3V, 5V, and 12V
- External 18V power supply (AC and Vehicle)
- Cradle contacts for vehicle-based power supply
- Stand Alone Battery Charger

Communications

Modems

- 33.6 Kbps V.34 fax/data wireless modem
- ARDIS network (DATATAC)
- Bell South Wireless Data network (Mobitex)
- CDPD

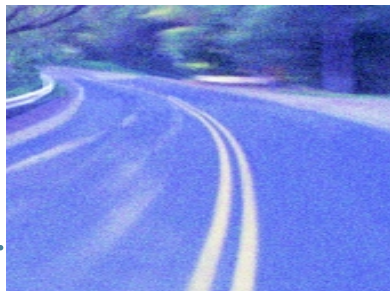
Telephone Line Connector

- Built-in RJ-11 jack

APPENDIX C

Keyboard Functions

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Introduction

This section provides a detailed description of key functions for the standard keyboard. Special features and custom keyboard overlays also can be developed. Contact your company's help desk for a description of key functions if you have a custom keyboard.

The keyboard for the T5200 computer is a fully sealed, 75-key QWERTY keyboard. It includes a numeric keypad for entering or dialing numbers. When a key is pressed, a click provides audio feedback. See “Customizing Keyboard Settings” later in this section to change this setting.

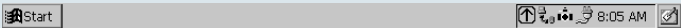
	HELP										PGUP	END	
	F1	F2	F3	F4	F5	F6	F7	F8	F9	←BKSP	HOME		
	←TAB										PGDN		
	TAB→												
INS	Q	W	E	R	T	Y	U	I	O	P			
CAP LK	A	S	D	F	G	H	J	K	L	;			
											1	2 ABC	
											3 DEF		
SHIFT	Z	X	C	V	B	N	M			SHIFT	4 GHI	5 JKL	
	{	}	"	'	<	>	-	+			6 MNO		
CTRL	DEL	[]	/	/	\	,	.	=		7 PRS	8 TUV	
											9 WXY		
ESC		ALT	SPACE							ENTER	*	0	#

Keyboard Tips

The **SHIFT** key is used in combination with other keys on the keyboard to perform special functions. The shift key has been designed as “sticky” key for convenient one-handed operation. Pressing the key once is the same as holding it down until a second key is pressed.

For example, pressing **SHIFT+F5** dims the display. With one hand you can press **SHIFT**, release it, and then press **F5**. The **SHIFT** key remains pressed until the second key is pressed.

When the sticky key is enabled, the icon appears in the tray area of the screen.



Power On/Off

Press	To do this...
POWER	Turn on the computer
POWER	Turn off the computer
POWER for at least 10 sec.	Restart the computer
POWER for at least 20 sec. (with battery removed)	Reset the computer

CAUTION You can restart the computer by pressing the **POWER** button for at least ten seconds and then releasing it; however, restarting your computer while you are running applications or working in Windows CE may cause data loss or corrupt files.


Function Keys

Key(s)	Description
SHIFT+F2	Toggles the backlight on and off
SHIFT+F5	Lightens the display
SHIFT+F6	Darkens the display
SHIFT+F7	Decreases the volume
SHIFT+F8	Increases the volume
SHIFT+F9	Turns off the speaker

Primary Keys

Pressing the SHIFT key produces upper case alphabetic characters and the symbols and functions (such as |←TAB) shown above the keys. You also can press CAP LK to enter upper case alphabetic characters; however, even when CAP LK is pressed SHIFT must also be pressed to enter the characters located above each key.

Key(s)	Description
BK SP	Deletes one character to the left
TAB	Moves the cursor to the next tab stop
SHIFT ←TAB	Used for backtab
SHIFT+INS	Inserts a character within a line (may vary depending on the software used)
CAP LK	Locks alphabetic characters in the upper case position
CTRL	Works with other keys to perform various functions
DEL	Deletes highlighted text or object

Key(s)	Description
ESC	Cancels the current operation
	Displays the Windows CE Start menu
ALT	Works with other keys to perform various functions
SPACE	Enters one space
ENTER	Tells the computer to process the information you have typed or selected
ALT+PGUP	Moves information on the screen up one page
ALT+PGDN	Moves information on the screen down one page
ALT+HOME	Moves the cursor to the top, left corner of the screen
ALT+END	Moves the cursor to the bottom, right corner of the screen

Numeric Keys

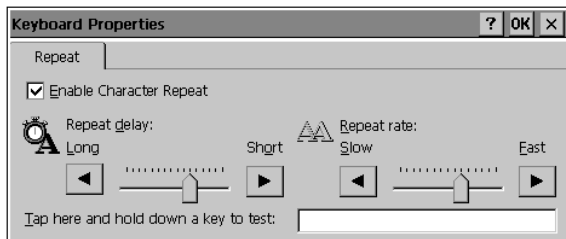
The keypad emulates the numeric keypad typically found on a full-size keyboard. It is arranged like a telephone touch pad. It also contains alphabetic characters you can use when dialing telephone numbers. Press SHIFT to enter the characters shown above each key.

Customizing Keyboard Settings

You can adjust the rate at which keys repeat when you hold them down, and you can adjust the sound of key presses.

Adjusting the Key Repeat Rate

- 1 Tap the Start Menu, select Settings, Control Panel, and then double-tap the Keyboard icon.
- 2 Move the sliders to adjust the key repeat rate, and then tap OK to save the new settings.



Adjusting Audio Feedback

- Tap the Start Menu, select Settings, Control Panel, and then double-tap the Volume and Sounds icon.

Under “Enable clicks & taps for:” you can turn off the audio feedback by clearing the Key Clicks box, or you can adjust the sound of clicks by selecting Loud or Soft.



A P P E N D I X D

Statements and Notices

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Compliance Statements

The T5200 computer 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.

CAUTION While the radio is operating, its antenna must be at least 29mm (1.25 inches) from all persons in order to comply with the FCC RF exposure limit. Radio operators must make sure their radio unit is in compliance with these FCC regulations.

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 dealer or an experienced radio/TV technician for help.

The T5200 computer complies with Part 68 of the FCC Rules. On the bottom of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

The T5200 computer may be connected to the telephone network using the RJ-11 jack provided.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the equipment manufacturer for repair and/or warranty information. Do not attempt repairs of this equipment yourself without obtaining manufacturer authorized parts and documentation. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

Compliance Statement for Canada

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION! Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Ringer Equivalence Number (REN) for this device is located on the Equipment Identification Label affixed to the bottom of the computer.

NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

The T5200 computer may be connected to the telephone network using the RJ-11 jack provided.

Fax Branding

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the

transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual.

In order to program this information into your fax machine, you should complete the following:

This information is entered through the FAX application software you have installed. Consult your FAX software documentation for instructions about entering this information.

Warnings and Cautions

Warning It is important that only authorized Itronix personnel attempt repairs on Itronix equipment as this might void any maintenance contract with your company. Unauthorized service personnel might be subject to shock hazard on some Itronix equipment if removal of protective covers is attempted.

The product you have purchased is powered by a rechargeable battery. The battery is recyclable and, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Do not crush the battery or place it in a fire. Check with your local solid-waste officials for details on recycling options or proper disposal.

Caution Internal components of the T5200 computer will be damaged if exposed to contaminants. When the PC card door is open or the battery is removed, shield the unit from all contaminants such as liquids, rain, snow, and dust.

Federal Communication Commission (FCC) Regulations for the Intellicharger

The T5200 computer Intellicharger 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 dealer or an experienced radio/TV technician for help.

Warning It is important that only authorized Itronix personnel attempt repairs on Itronix equipment as this might void any maintenance contract with your company. Unauthorized service personnel might be subject to shock hazard on some Itronix equipment if removal of protective covers is attempted.

Safety Information

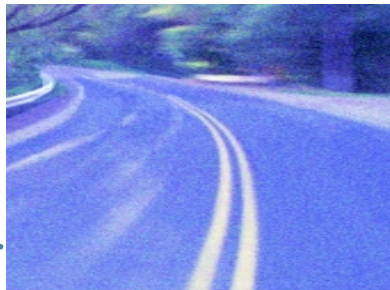
The following safety symbols are used in this manual to indicate potential dangerous situations. Do not proceed beyond a WARNING or CAUTION symbol until the indicated conditions are met.

CAUTION This caution statement denotes a hazard. It calls attention to a procedure or practice that could result in damage to or destruction of part or all of the product if not performed correctly.

WARNING This warning statement denotes a hazard. It calls attention to a procedure or practice that could result in personal injury if not performed correctly.

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