CE5000
USER'S GUIDE

USER'S GUIDE VERSION

In the objective of giving you the most up-to-date information, there might be an earlier version of this manual on the WEB.

See the **ADVANCED USER INFORMATION** at the end of this manual to know how to register to our Technical Web Site.

You will also find a printable full size manual, manuals in other language, the Cradle User's Guide and more.

ACTIVESYNC COMMUNICATION

If you are already familiar with Windows CE and ActiveSync and are ready to transfer your files please refers to section "*ActiveSync Communication*", at the end of this manual.

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THIS USER'S GUIDE APPLIES TO

To CE5240 and CE5320 with StrongArm processor running Win-CE 3.0, System Release Pack G or earlier and manufactured after December 1st , 2003.

CE5240X and CE5320X with Xscale processor running Win-CE.Net running Windows CE.NET 4.2, System Release Pack A or earlier and manufactured after June 1st , 2004.

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Please report your comments and problems to us to make this document more accurate (support@daptech.com).

Printed in Canada

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PRECAUTIONS

> ➢ Refer to this manual when inserting or removing batteries, cables or external peripherals.

> ➢ Operate and store your Microflex within the limits of temperature specified in this manual.

> ➢ Do not use any pointed objects on the keyboard, door or mechanisms. Doing so can damage the unit

> ➢ Use the stylus supplied by DAP TECHNOLOGIES with the unit since it has been designed with a non-abrasive material that cannot scratch or deteriorate the touch membrane.

> ➢ Never expose battery to extreme heat or dispose of in a fire

> ➢ Any attempts to open the case of a CE5000 unit will void the warranty

> ➢ The LEMO communication connector for the CE5000 unit has proprietary pin-out distribution. Any attempt to connect cables other than the ones supplied or recommended by DAP TECHNOLOGIES could result in damage to the CE5000.

> ➢ If you need to use a cable other than the ones supplied or recommended by DAP, we suggest you contact DAP TECHNOLOGIES Technical Support Department beforehand.

> ➢ When removing the LEMO cable, **DO NOT TWIST** the cable connector. Using the gray metal connector of the LEMO cable, pull back on the cable to remove it from the connector.

> ➢ To insert the LEMO cable, align both red dots found on the cable and on the CE5000 connector than, insert the cable into the connector of the unit.
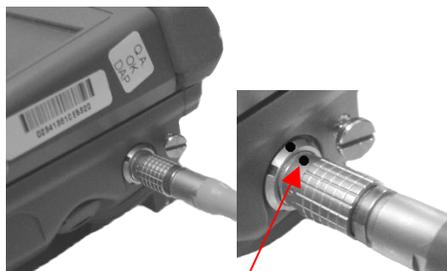
Align red dots and insert the connector in place

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Revision March 2004

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In order to have your product serviced, you must first obtain a Return Material Authorization (RMA) from DAP TECHNOLOGIES. You may then return your MICROFLEX, correctly enclosed in its original packaging if possible, to your Value Added Reseller (VAR), an Authorized Service Center, or directly to DAP TECHNOLOGIES. Service under the conditions of this warranty requires prepaid shipment from your facility to a Service Center.

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To obtain a RMA you can make your request by phone or use our on-line form at:

http://www.daptech.com/rma

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CE CONFORMITY
CE5240, CE5320

The CE5000 meets the 89/336/EEC directive intent for Electromagnetic Compatibility Compliance when used with DAP's accessories.

The compliance was demonstrated to the following specifications as listed in the official Journal of the European Communities:

Emissions:

EN 55022	Radiated & conducted, CLASS B
EN 60555	PART 2 & 3.
CISPR 22	For CLASS B

EN 50082-2:1995, Electromagnetic Immunity:

ENV 50140	Radiated RF electromagnetic field.
ENV 50204	Radiated electromagnetic field from radio telephones.
EN 61000-4-8	Power frequency magnetic field.
EN 61000-4-2	Electrostatic discharge.
EN 61000-4-4	Electrical fast transient/burst.
ENV 50141	Conducted disturbances induced by RF field.

When Barcode Scanner Options Installed

Safety of Laser Product

CEI/IEC 60825-1:1993+A1: 1997   (CLASS 2 Laser product)

US Federal (FDA) Regulation

21 CFR Chapter I, Subpart J, Part 1040.10

Performance Standards for Light Emitting Products

(Class II Laser Product)

CE CONFORMITY
CE5240X, CE5320X,

The CE5000 meets the 89/336/EEC directive intent for Electromagnetic Compatibility Compliance when used with DAP's accessories.

The compliance was demonstrated to the following specifications as listed in the official Journal of the European Communities:

Emissions:

EN 55022 Radiated & conducted, CLASS B

EN 50082-2:1995, Electromagnetic Immunity:

ENV 50204		Radiated electromagnetic field from radio telephones
EN	61000-4-2	Electrostatic discharge
EN	61000-4-3	Radiated Immunity
EN	61000-4-4	Electrical fast transient/burst.
EN	61000-4-5	Surge
EN	61000-4-6	Conducted Immunity
EN	61000-4-11	Voltage dips
EN	61000-3-2	Harmonic
EN	61000-3-3	Flickers

When Barcode Scanner Options Installed

Safety of Laser Product

CEI/IEC 60825-1:1993+A1: 1997+A2 :2001 (CLASS 2 Laser product)

US Federal (FDA) Regulation

21 CFR Chapter I, Subpart J, Part 1040.10

Performance Standards for Light Emitting Products

(Class II Laser Product)

FCC, AS/NZA STATEMENT
& COPYRIGHT POLICY

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

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 when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE5240 and CE5320 ONLY

AS/NZA 3548: 1995 for Class B

 Powerline Conducted Emission Para. No. 5; Radiated Emission Para. No. 6

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QUICK TOUR

KEYBOARD TEMPLATE
VIEW

FIGURE 1

KEYBOARD SIDE

Speaker

Microphone

Microphone

Speaker

Laser Light
Indicator *

CE5240
CE5240X

CE5320
CE5320X

MICROFLEX

Laser Light Indicator *

TAB key

Cursor pad

Function Keys (4)

BLUE key

Numeric keypad

Battery Status
Indicator

Shift key

Shoulder / belt /
carrying strap
fastener
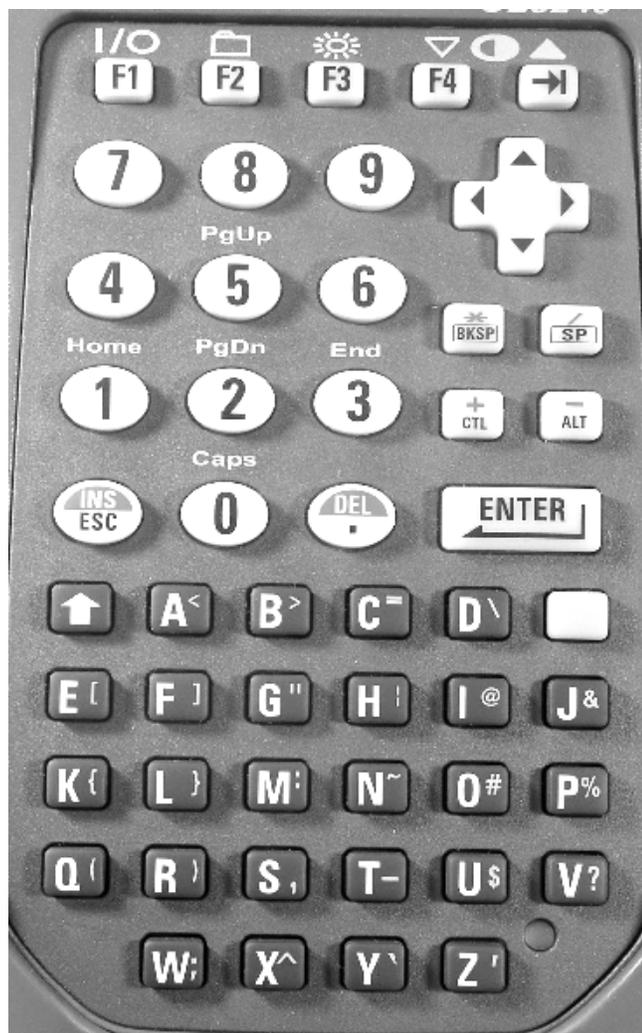
* Only present on units with the laser barcode scanner option

FIGURE 2

BOTTOM SIDE

Barcode Laser Scanner *

Release screws for PC-
Card access door

LEMO
communication
connector

Carrying strap
fastener for left
handed people

Location for
optional second
LEMO

Stylus/Pen

Battery
compartment

Carrying strap

Release screws
for battery
compartment

Charging contacts

Without the ETHERNET option   With the ETHERNET option
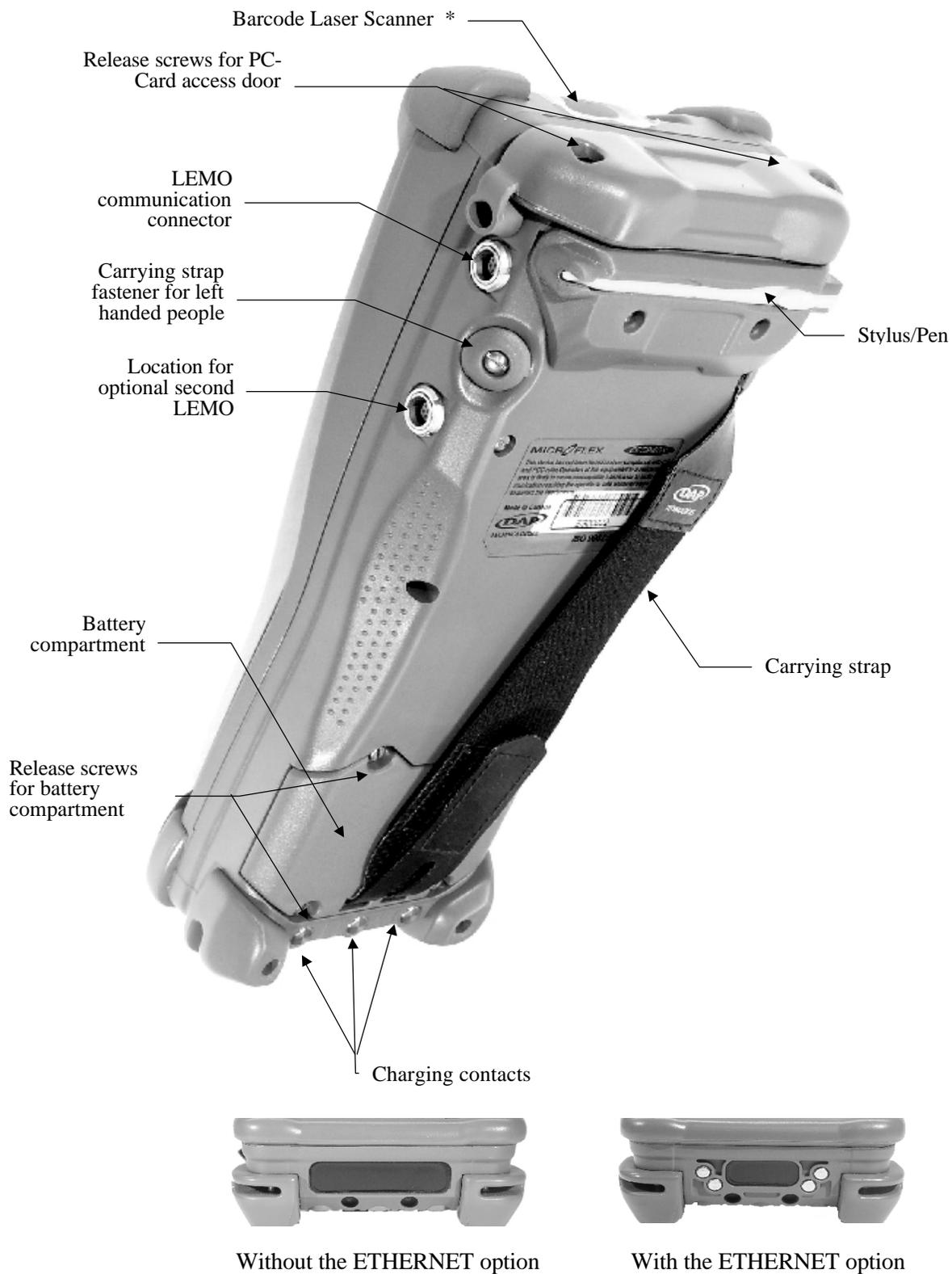
* Only present on units with the laser barcode scanner option

FIGURE 3

SECURITY NOTICE

FOR CE5000 WITH THE LASER BARCODE READER OPTION

▲ AVOID EXPOSURE- Laser radiation is emitted from this aperture

CAUTION

LASER LIGHT- DO NOT STARE INTO BEAM

630-680 LASER
1.0 mW MAXIMUM OUTPUT
CLASS II LASER PRODUCT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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DAP
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MICROFLEX
CE5240LS

Laser light
Do not stare into beam
Class 2 laser product
630-680 nm laser
1.0 mW max output

ISO 9001 CE

Danger laser light when open avoid direct exposure to beam. Complies with 21 CFR 1040.10 & IEC 60825-1:1993 +A1:1997

CAUTION - Use of commands or procedure other than those specified herein may result in hazardous laser light exposure.

Do not intentionally look at the laser beam

FIGURE 4

GET STARTED

> **The information in this manual refers to the CE5000. This is generic name indicating that the information is valid for the all model Consequently, except where otherwise indicated, it covers models CE5240, CE5320, CE5240X and CE5320X.**
>
> **When we use *Regular CE5000*, it stands for the CE5240, and CE5320.**
> **When we use *CE5000X*, it stands for the CE5240X and CE5320X.**
>
> **See the label located at the back of the unit to know the exact model of it.**

All CE5000 units have a protective sticker that must be removed before being able to use the unit. Follow steps below to remove the sticker.

DO NOT PULL OUT
Open the compartment,
remove the battery and
then remove the label

- Using a small flat blade screwdriver remove the four (4) screws that old the battery compartment found at the back of the unit.

- Pull out the battery then remove the protective sticker that cover the battery contacts.

Remove the sticker covering the battery contacts

Reinsert the battery in the compartment, reinstall the four (4) screws and tighten them until you feel some resistance. Do not over tight.

Recharging the Battery

IMPORTANT

The recharging must be done when the battery is at a temperature between 5°C (44°F) and 45°C (113°F) to preserve the battery integrity. The Battery Status Indicator goes yellow if the battery is too hot or cold to be charged and the charging system is disabled.

NEVER RECHARGE THE UNIT WITH THE BATTERY REMOVED. UNIT MIGHT RESET AND CAUSE THE DATA NOT SAVED ON THE FLASH MEMORY TO BE CORRUPTED.

From The LEMO Connector

DO-C-0040

CS810 / CS 820

The installation requires the modular charger **CS810** (110Vac adapter) or **CS820** (220Vac adapter) and the communication cable **DO-C-0040**.

Insert the round connector of the modular charger into the round connector of the small cable attached to the communication cable's 9-pin connector. Connect the modular charger to the wall outlet.

Align red dots then insert the connector

Round connector (Insert and tighten)

Communication Connector
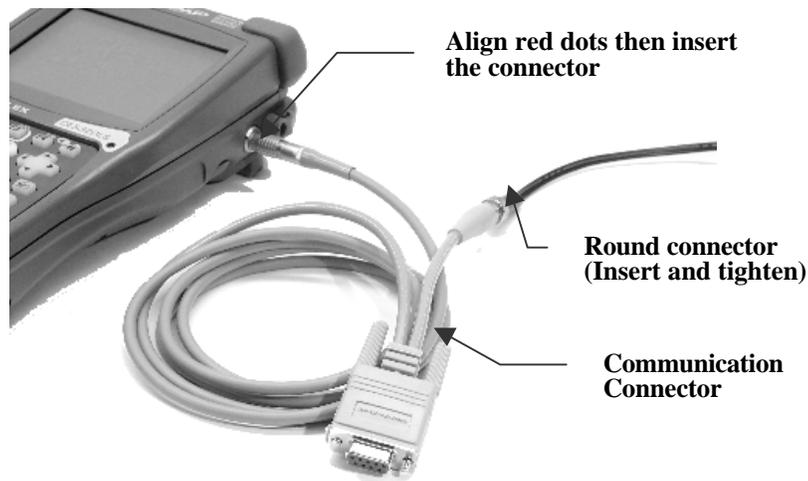
Align the red dot located on the LEMO connector's end of the cable with the red dot found on the round connector located on the right side of the CE5000 and insert connectors one into the other.

IMPORTANT

Do not twist the LEMO connector when inserting or removing the cable

For communication, if your CE5000 has two round connectors (LEMO connector) use the top one. Either of them can be used for charging.

The CE5000's Battery Status Indicator (Figure 3) will turn red in the next five (5) seconds indicating that charging is in progress and will become green when the full charge is completed. This could take up to five (5) hours. The led could turn on immediately green if the unit is fully charge.

If the unit was turned off, it should turn back on after a few seconds or at the most after 2 or 3 minutes when the main battery was maintained very low for a while. Processing will resume exactly where it was interrupted once recharging starts.

Communication Cradle

Cradles are available for office and vehicle use. The installation requires a modular charger available from DAP Technologies:

For office use:

- CS810 (110Vac)
- CS820 (220Vac)

For vehicle use (12 Vdc adapter):

- CS512 with a 240 cm (95") power cable.
- CS512SCH with a 15 cm (6") power cable

CS810 / CS820

CS512 / CS512SCH

IMPORTANT

The Vehicle Cradles require a power source of 12 to 18 Vdc. The cigarette lighter adapter should be clean and free of corrosion to offer no electrical resistance

Before charging the CE5000, you first need to power the communication cradle. Insert the round connector of the modular charger into the round connector at the top left of the cradle. Connect the modular charger to the wall outlet.

From there, to recharge the CE5000 battery you just need to slide the CE5000 into the cradle, bottom first.

The CE5000's Battery Status Indicator (Figure 3) will turn red in the next five (5) seconds indicating that charging is in progress and will become green when the full charge is completed. This could take up to five (5) hours. The led could turn on immediately green if the unit is fully charge.

If the unit was turned off, it should turn back on after a few seconds or at the most after 2 or 3 minutes when the main battery was maintained very low for a while. Processing will resume exactly where it was interrupted once recharging starts.

External Battery charger

It is also possible to charge the main battery using the External Battery Charger. Simply remove the main battery from the CE5000 and insert it into the External Battery Charger. See section "*Replacing the main Battery*" if you need help.

Be sure to power the charger using the appropriate AC/DC adapter.

The Charge Indicator will light-up red to indicate that it is charging the battery. It will turn green after up to 5 hours. A normal full charge takes about 4 hours.

Charge Indicators —

If ever the Charge Indicator does not turn red when inserting the battery, this means that the battery is already over 90% charged, assuming that the power cable is well connected.

If ever the Charge Indicator flashes a problem has occurred during the recharge. Or it could also be that the battery temperature is of range (10°C to 45°C // 50°F to 112°F). Remove the battery from the charger, disconnect the charger for 5 to 10 seconds to remove the error status and retry a new charge.

Automatic Shutoff

You generally do not have to worry about turning off the CE5000 unit to save the battery. If the unit remains inactive for more than three minutes, it will turn off automatically. The unit will save the exact status of your application program and data before turning off.

The CE5000 unit is turned off when the display is empty and the keyboard does not beep when a key is pressed. To restart, use the normal start-up procedure. Once restarted, you can resume your task where you left off.

When turned off with fully recharged batteries, you can store the CE5000 unit for several days without needing to recharge them. Refer to section "*MAINTENANCE AND STORAGE*" for more information about storing the unit.

Turning The Unit ON

ON/OFF

Out of the charger, the unit will normally turns off by itself after about three (3) minutes.

To turn **ON** the CE5000 unit, simply press the **F1** key on the keyboard. The CE5000 screen will normally activate.

It could occur that the battery is too low to start the unit when pressing the F1 key. In that case refer to section BATTERY AND CHARGING for changing instructions.

Turning The Unit OFF Manually

ON/OFF

To turn off the CE5000 unit press the following keys: **blue key** and **F1** one after the other (releasing the previous key before pressing the next). The display will clear and the keyboard will no longer beep when a key is pressed.

To restart, use the normal start-up procedure.

> **NOTE**
> The device will not turn off when charging.

Battery Status Indicator

While charging, the Battery Status Indicator has several meanings.

COLOR	MEANING
Red, continuous	Charger connected, unit is charging
Green, continuous	Charger connected, unit fully charged
Red, blinking	User's defined low battery warning
Yellow, continuous	Charger detected but the battery temperature is too high or low to be recharged. Charging will start when temperature will be adequate.
Yellow, blinking	Charging disabled by the application program (as with BATMNGR)
Turned off	Power from the charger not detected

Touch Screen Calibration

You might have to calibrate the touch screen when you receive a new unit or after you have stored the unit for a long period of time without recharging.

Calibration is simply done by touching the center of the cross a couple of seconds. When the cross moves to another place repeat the operation.

NOTE
At any time you can press CTRL + ALT + Blue Key + S to display the touch calibration menu.

Tap the center of the target with the stylus. Repeat as the target moves around the screen.
Press the Esc key to cancel.
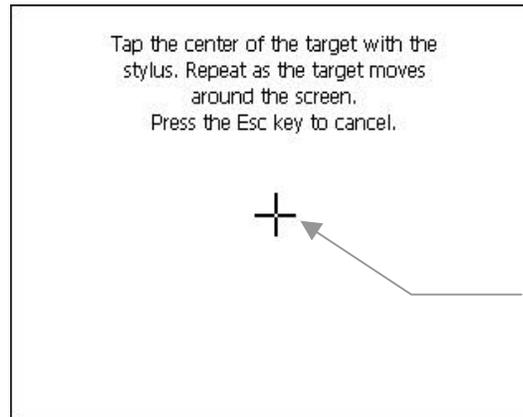
Hold your pen until the cross moves.

☞ **CE.NET Version (CE5000X)**

The function can also be reached by just to typing Shift and F2. Alternatively you can click Start / Settings / Control Panel / Stylus.

☞ **CE 3.0 Version**

The function can also be reached under Control Panel and Stylus.

Use of the Touch Screen

The touch screen is very user friendly. You simply have to use the special Stylus/Pen provided by DAP Technologies.

File   Edit   View   Style
✓ Supervisor mode
Software reset

Control Panel   My Documents   NETWORK   Program Files

Recycled   Storage_2   Storage_N..   Temp

To move a file to a folder, touch the file with your pen and drag it into the folder.

Windows   first_script

2/7/01 1:42 PM

Double-tap on the folder to open it.

Double-tap on the program to run it.

**TO SEE MORE
OBJECTS**

Move the navigation
bar by sliding your
Stylus/Pen on the
Navigation Bar
or
Click the Navigation
Arrow

CE 5000X ONLY

Start Button

Click to display additionnnal
running programs

Caring of the Touch Screen

With minimal maintenance and if you avoid using abrasive or metallic pointer on the touch screen it should last for many years. Use a normal soft cloth and mild soap to clean the touch screen of the CE5000 unit. Do not use abrasives as they may damage the finish.

IMPORTANT

Do not use any other Stylus/Pen than the one provided by DAP Technologies. If not, it may damage your touch screen.

Replace or clean the stylus as soon as it seems damaged or dirty

IMPORTANT

Apply a normal pressure on the touch screen. An abusive pressure might damage its performance.

Loading files and programs

Your CE5000 unit is now operational.

You might have to do all the previous steps if you store the unit for a long period of time and lose your data (Windows CE 3.0). For more information about storing the unit, refer to section "*STORAGE AND MAINTENANCE*".

The loading of files and programs on your device depends of your application and could require the installation of programs on a desktop computer.

Please refer to instructions for your application or contact your supervisor. Advanced users may also refer to section "*ADVANCED USER INFORMATION*" to know how to access CE5000 Technical Guide

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ACTIVESYNC COMMUNICATION

If you are already familiar with Windows CE and ActiveSync and are ready to make your file transfers please refers to section "ActiveSync Communication", at the end of this manual.

ADVANCED BATTERY OPTIONS

See How Much
Power it Remains

☞ **CE.NET Version**
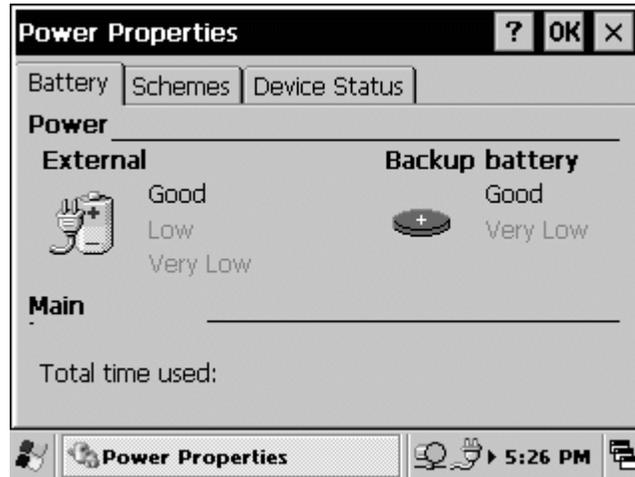
FIGURE 5

Under Win CE.NET, click on `Start`, `Settings`, `Control Panel`, `Power` then the `Battery` tab, or simply hit the `F2` key.

☞ **CE 3.0 Version**

FIGURE 6

Under Win CE 3.0, open `Control Panel` then `Power` and select the `Status` tab.

PRESERVING POWER

You can extend the battery life by modifying the power delays of the unit, screen and backlit.

☞ **CE.NET Version**
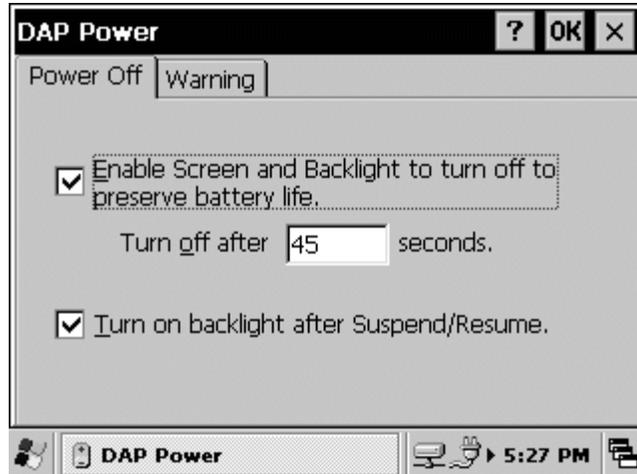
FIGURE 7

To setup the screen and backlit delays, click on `Start, Settings, Control Panel, _Power` (underscore `Power`) then the `Power Off` tab.

The "`Turn On backlit after…`" menu appears only on unit with a color screen. If you mainly work outside and do not need the backlighted screen, unclick the box to increase the battery life.
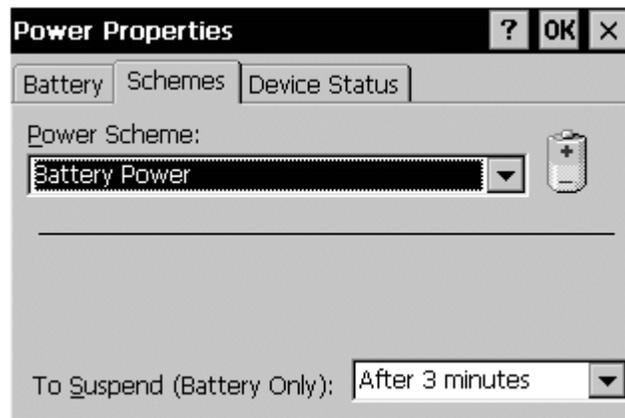
FIGURE 8

To setup the power off delay of the unit, click on `Start, Setting, Control Panel, Power` (no underscore) (or press `F2`) then the `Schemes` tab.

Select the scheme `Battery Power` and set-up de suspend delay for the delay that you need.

NOTE
Selecting `Never` will keep the unit always running and will reduce the battery life radically.

☞ **CE 3.0 Version**
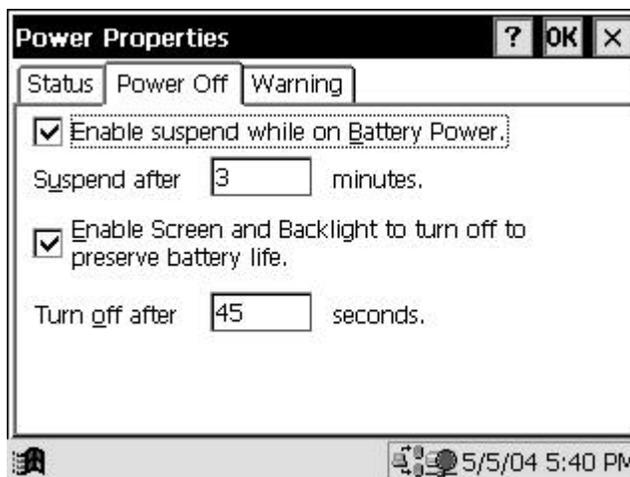
FIGURE 9

Win CE 3.0, open `Control Panel` then `Power` and select the `Power Off` tab.

The suspend delay is the delay after which the unit will power-off. You need to press the `ON/OFF` key to restart were you were in the application.

The "`Turn On backlit after…`" menu appears only on unit with a color screen. If you mainly work outside and do not need the backlighted screen, unclick the box to increase the battery life.

Battery Power Management

> **NOTE**
>
> On a **regular CE5000**, this requires that the main battery be calibrated .
>
> See section *Power Gauge Calibration*

All CE5000X unit are delivered with a calibrated main battery. This allows you to set-up the device to give you a Low Battery Warning at the level that you will define and will match with your application. On a regular CE5000, this requires that the main battery be calibrated . See section Power Gauge Calibration
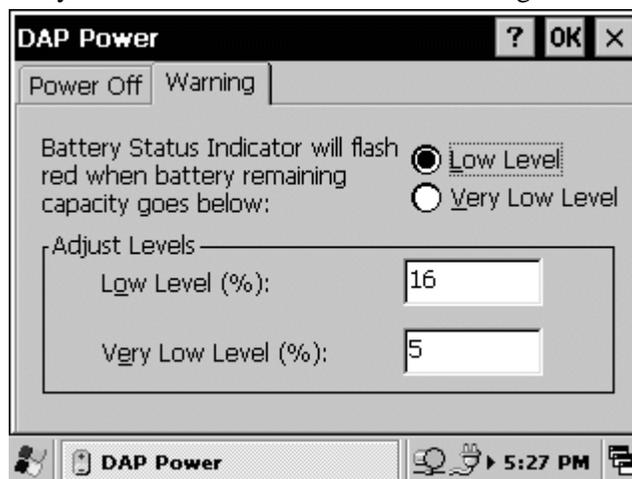
FIGURE 10

FIGURE 10 shows that the default power properties are set to:
Low level = 16%
Very Low level = 5%

This setting means that the Battery Status Indicator will start flashing red when it remains **16%** of the complete charge on the main battery.

You will see the Main Battery field becoming highlighted `Low` under the `Battery` or `Status` tab (FIGURE 5 and FIGURE 6). It will stay highlighted as long as the battery level is between 6 and 16.

At **5%**, the Battery Status Indicator monitor will still continue to flash and a pop-up window will be displayed telling you that your main battery is very low on power. Messages will be displayed every four (4) minutes approximately. The Main battery field is highlighting `Very Low` (FIGURE 5 and FIGURE 6). It will stay highlighted as long as the battery level is lower or equal to 5.

See section *"Low Battery Message"* for description of the different messages appearing when going out of battery power

You can change these settings to match them to your own need when your battery is going down.

For more information about the Battery Power Management on a Microflex CE5000 unit call the Technical Support or go to DAP Technical Web site.

NOTE

On a CE5000X, calibration will always stay valid but if the delay between two calibrations is to long, displayed information will be less accurate.

On a regular CE5000, calibration will stay valid
- as long as the main battery is not removed for more than 2 minutes
- as long as the main battery is not deeply discharged
- for about 30 charge cycles

☞ **CE.NET Version**

To run the `Power Properties` under CE.NET, click on `Start`, `Setting`, `Control Panel`, `_Power` (underscore Power) then the `Warning` tab.

☞ **CE 3.0 Version**

To run the `Power Properties` under Windows CE 3.0, open `Control Panel` then `Power` and select the `Warning` tab.

Low Battery messages on Main Battery

After several hours of usage, the main battery will become low. Two different Low Battery messages will tell you that the main battery needs to be recharged (FIGURE 11and FIGURE 12).

Main Battery Very Low
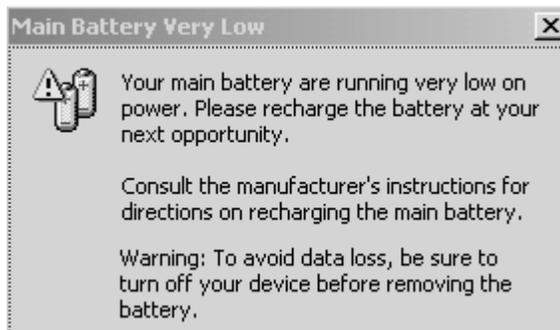
The Main Battery Very Low appears when there is still some power to continue to work.

The level at which it appears is adjustable. See previous section *"Battery Power Management"*

Press ESC or tap the X to clear the message.

FIGURE 11

It will re-appear from time to time about every four (4) minutes to remind you to charge the unit.

Main Battery Expired
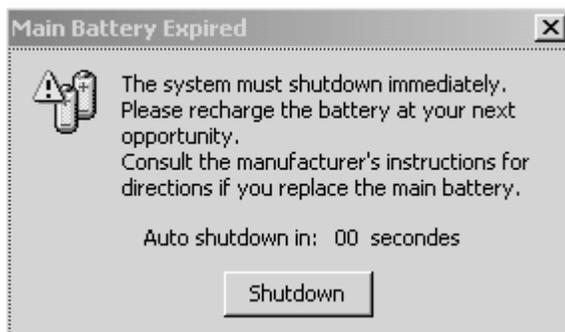
The Main Battery Expired appears when the power is really too low to power the unit anymore.

It is then better to shutdown your device immediately by tapping Shutdown. Otherwise the device will turn off by itself after 30 seconds.

FIGURE 12

If the user persists to use the unit after this message appears, it is possible that the unit does not turn-off properly and reboot when you will start to charge it. Upon reactivation, a message indicating that the system has been improperly RESET by a LOWBAT may appear on the screen.

Low battery messages on Backup Battery

The CE5000 backup battery allows you to keep programs, files and data in the memory for hours. In practice, the backup battery is used only while you replace the main battery, when the main battery is absent or when the main battery power is expired.

☞ **CE.NET Version**

Programs and files are stored into the Storage Flash. The Storage Flash requires no battery to maintain the information. So, under CE.NET only information that is not yet stored in a file can be lost when the backup battery runs down.

☞ **CE 3.0 Version**

Programs and files are stored into the DRAM memory. The DRAM memory requires a battery to maintain the information. So, under CE 3.0 all information will be lost when the backup Battery runs down.

Even if the main battery is too low to power the CE5000 unit, enough energy remains to power the memory for a period of about 30 to 50 hours without using the backup battery.

The backup battery will be turned on to maintain the memory only when the main battery is completely dead.

The backup battery is recharged every time you recharge the unit. The backup battery is also recharged from the main battery even if the unit is not charging.

The life duration of the backup battery alone is about 12 hours at room temperature. The backup battery capacity decreases greatly at temperatures below 0°C
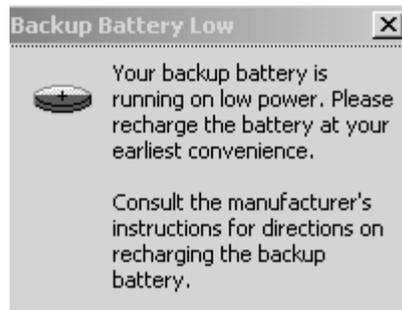
When the **Backup Battery Low** message appears the data is still secure but the backup battery needs to be recharged.

FIGURE 13
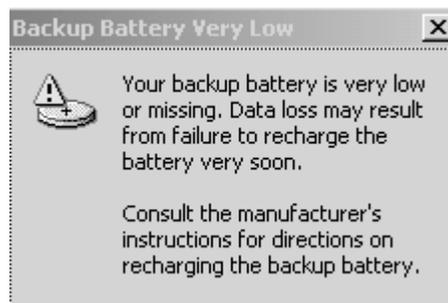
When the **Backup Battery Very Low** message appears the backup battery is so low that data and programs could have been corrupted.

FIGURE 14

Replacing the main battery

It is preferable to replace the main battery in a clean and dry area.

> ### IMPORTANT
> ALWAYS TURN-OFF THE UNIT BEFORE REMOVING THE BATTERY.
>
> ALWAYS CONSIDER THE INFLUENCE ON THE CALIBRATION SETTINGS
>
> - On a regular CE5000, remove the battery for at least 2-5 minutes to clear the calibration settings. Proceed or not to a Power Gauge Calibration
>
> - On a CE5000X the calibration settings cannot be cleared. When the battery is replaced you must proceed to a Power Gauge Calibration or to manually set the approximate power remaining in the installed battery

The CE5000 unit uses a specifically designed and tested main battery to insure quick charging time, long-battery life and to withstand shocks and vibrations. To be sure that the battery is conform for usage on a DAP equipment, buy them directly from DAP TECHNOLOGIES or one of its distributors and check for the DAP label on it.

Part number: DC800

Replacement of the main battery is an easy task. Follow the steps outlined below.

Battery cover

CHECK FOR THE ARROW

Foam: Battery protector

Simply insert the battery this side first

- Turn off the unit first (see section "Turning the Unit OFF Manually")

- Using a small flat blade screwdriver, remove the four (4) screws marked "Release screws for battery compartment" in Figure 3.

- Pull out the battery and insert the new one inserting the left side first. Be sure to align the arrow on the battery toward the right as shown on figure. The foam should go over the battery for a tight fit in the casing.

- Re-install the four (4) screws and tighten them until you feel some resistance.

- Turn the unit back on and charge the battery if required.

BATTERY PRECAUTIONS

WARNING: Personal injuries may result if batteries are not handheld with care

- If the battery becomes unusable, dispose of it immediately.

- Keep the battery away from heat sources, including open fires and direct sunlight.

- Never disassemble a battery.

- Do not place the battery through metal pieces that can short-circuit the power contact pins.

Recycling the battery

The type of main battery used in all CE5000 units is not considered as a hazardous waste. Refer to your local regulation for the proper methods of disposal.

Power Gauge Calibration

The CE5000 includes a Power Gauge to monitor the power remaining in the main battery at any time (Good, Low, Very Low). This gauge indicates the estimated remaining time and percentage.

When the power gauge is calibrated, the Battery Status indicator will flash when the battery reaches the Battery Warning Level.

To be operational, the Power Gauge needs to be calibrated. This could take up to 20 hours.

NOTE

A non-calibrated power gauge DOES NOT affects neither the battery life nor the charging duration. The calibration only allows the CE5000 to accurately report the remaining capacity of the main battery and to enable the Battery Status indicator to blink when the battery reaches the Warning Level.

- A regular CE5000 can be used with a non-calibrated power gauge.

- On a CE5000X the power gauge is always calibrated but accuracy decrease with the time.

You can start the application by pressing **CTRL** and **F2**

Tap on the **File menu** and select **Start Calibration**
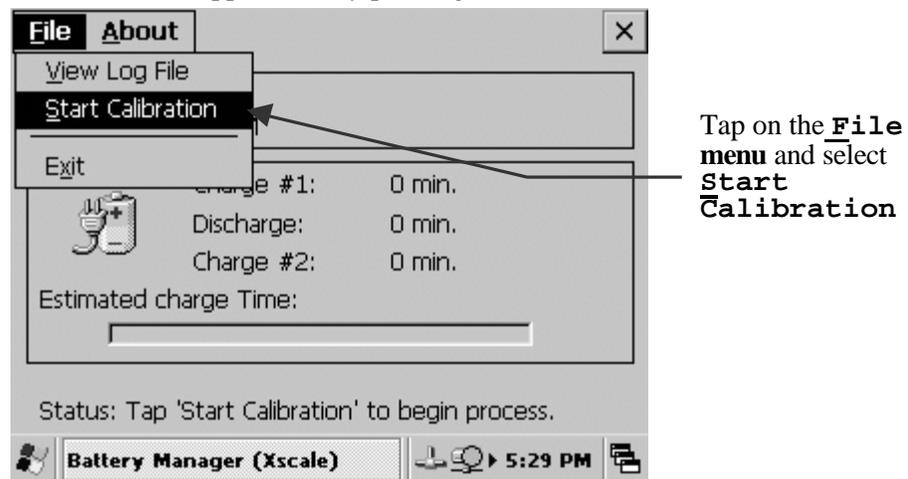
Result of the calibration will be given at the end of the cycle.

NOTE

On a CE5000X, calibration will always stay valid but if the delay between two calibrations is to long, displayed information will be less accurate.

On a regular CE5000, calibration will stay valid
- as long as the main battery is not removed for more than 2 minutes
- as long as the main battery is not deeply discharged
- for about 30 charge cycle

Results highly depends of the installed options and of the power save settings. Discharge duration will be much lower with color screen compared to a monochrome screen.

Always compare the current reading to previous readings to know the current battery capacity and the tendency. Click on `File > View Log File` to get the historic of the BATMNGR results.

NOTE

To clear the log file, delete the file `BATMNGR.TXT` under the folder `My Computer`.

If values are far from the most recent values it is suggested to:

- Run another BATMNGR and compare the numbers.
- Check if the power save settings have not changed (power off delay, screen and backlit delay).

If it still remains with values far from the previous values:

- Replace the battery,
- Call DAP Technologies Customer Support.

NOTE

The displayed capacity will be always lower than the capacity written on the battery (for example 2200 mAh displayed, 2400 mAh printed on the battery). This is caused by the fact that a small part of the main battery is reserved to extend the backup battery duration.

Quick calibration (CE5000X only)

Since the CE5000X calibration cannot be cleared and because you not always have time to proceed to a full calibration when you replace the battery in the field, it is possible to set the approximate current setting of the new battery.
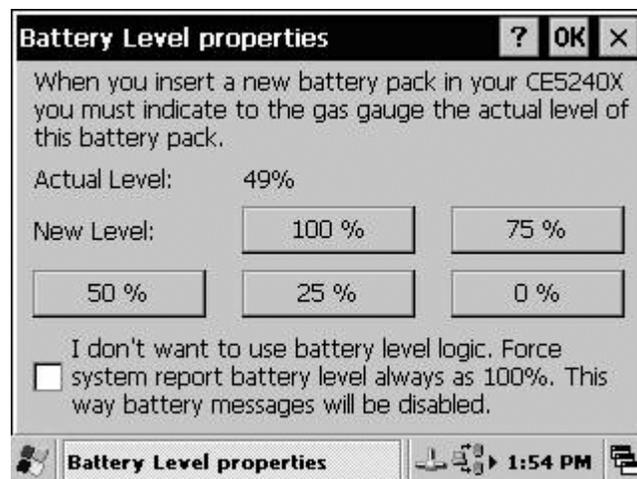
When the new battery is installed, press **Ctrl F4** to display the `Battery Level Properties` menu, or click `Start`, `Control Panel`, and `_Battery Level`.

Click on the button that shows the current power remaining in the new battery. If you replace the discharged battery by a new freshly recharged battery, the value to set will be 100%.

If you prefer that the battery, whatever its condition, always reports as being 100% charged click the box marked `I don't want to use…`. In that case, the system looks like having a non-calibrated battery. The message Battery Low Level will not be displayed and the Battery Status Indicator will never flash.

USE OF THE KEYBOARD

Multi-key entry

Sometimes you might need to press more than one key to get a character or a special function. The **SHIFT (↑), CTL, ALT** or **blue key** are the keys that can precede a letter or a digit to modify its original value.

According to your preferences or as the situation demands, you can decide to use one of the two following methods to form the sequence of keys:

- Press the keys one after the other, releasing the previous key before pressing the next. This method (also known as one finger typing) allows you to use only one finger to make any function.

Or

- You can press the two (2) keys together, using two fingers.

The color code simplifies the way the keyboard works. The **blue key** needs to be pressed first to get a character in blue.

A simple way to understand how the multi-key entry works is by typing a **?**. The **?** Being in blue means that you must precede it with the **blue key** which is also in blue. You may use either method described above.

Auto-repeat

A key will automatically start to repeat if left pressed for more than one second. It will stop repeating once released.

Digit and letter keys

To generate a character either as an alpha (letter) or numeric (digit) value, simply press the key corresponding to the desired letter or digit. Letters are normally all in lower case.

Lower case/ Upper case once

To generate an upper case letter, press the following keys: the **SHIFT (↑)** followed by the desired letter.

Lower case/ Upper case continuous

To generate a of upper case letters, first press the **blue key** then the **0** (zero) also marked **Caps** in blue. This will simulate the **Caps Lock** key you find on a conventional PC keyboard.

Punctuation and special symbols

To enter punctuation marks or special typographic symbols, press the **blue key** and then the letter key marked with the desired symbol in blue. To generate a **?**, press the **blue key** and then **V**.

Function keys (F1…F4)

The function keys are for direct access to a specific function in your application. Function keys F1 to F4 are direct access. Other functions might be attached to keys **SHIFT (↑) F1** to **F4** and **CTL F1** to **F4.**

Please refer to your Application User's Guide to know the intended meaning of these keys.

Some functions keys are already used by the Operating System. Refer to TABLE 1 in section "*Other Special Keys*" and to TABLE 2 in section "*ADVANCED USER'S INFORMATION , Active Sync Communication*"

NOTE

On the CE5000LS, the **F3 <SCAN>** key is generally used to start a barcode scan and, consequently, will not generate a **F3** function key. See the Security Notice (FIGURE 4).

Activating the backlighted screen and keyboard

To use the unit in a low-light environment, every CE5000 is equipped with a backlighted screen. Optionally, the CE5000 can also be equipped with a backlighted keyboard.

NOTE

Backlighting can drain batteries rapidly if used constantly. Only use it when necessary in a low-light environment.

To activate the backlighting of the screen and keyboard, press the **blue key** and then the **F3** key. The same sequence will deactivate this feature.

Backlighting normally turns off by itself after 45 seconds if there is no key pressed or new information on the screen.

Additional Adjustment on the Display Background and Contrast

NOTE
These keys have only a small effect on a CE5000X with color screen

The CE5000 includes a precise automatic temperature compensation system to assure you that the screen display contrast will be at its best in any circumstance. In extreme temperatures outside of the -20 to +50°C (-4 to +122°F) range, or simply to adjust it to your preference, you may have to manually readjust it.

In extreme low temperatures, pressing the **blue key** and then the **TAB** key one after the other can increase the display contrast. You can hold down the **TAB** key to take advantage of the keyboard repeat function and go quickly from one step to another.

In extreme high temperatures, pressing the **blue key** and then the **F4** key one after the other can reduce the display background darkness. You can hold down the **F4** key to take advantage of the keyboard repeat function and go quickly from one step to another.

Other Special Keys

The tab key ⟨→|⟩. is used in the same way as the one found on a desktop computer.

Other popular special keys are shift 0 to shift 9 (↑0 to ↑9), and ↑. They respectively give these characters: **) ! @ # $ % ^ & * et (**

The CE5000 also have pre-defined functions keys

F1 SHIFT + F1 CTRL + F1 CTRL + F3	Pre-programmed for communication. See section ActiveSync communication
F2	☞ **CE.NET Version (CE5000X)** Display the \<Power\> menu to get the current power level.
CTL + F2	Starts the BATMNGR program to re-calibrate the power gauge.
SHIFT (↑) + F2	☞ **CE.NET Version (CE5000X)** Start the \<Screen Calibration\> menu.
CTL+ Blue key + F2	☞ **CE 3.0 Version (CE5000)** Activated/de-activated the taskbar
CTRL + F4	☞ **CE.NET Version (CE5000X)** Start the \<Battery level\> menu to set-up a non-calibrated battery. See section Quick Calibration
ALT-ESC	☞ **CE 3.0 Version (CE5000)** Show the Task Manager
ALT-TAB	☞ **CE.NET Version (CE5000X)** Show the Task Manager ☞ **CE 3.0 Version (CE5000)** Toggle between running task

TABLE 1

All these pre-defined functions keys are available at the initial configuration of the CE5000 unit. They could have been disabled or associated with other programs by your application software.

ADVANCED USERS

Refer to "*DAP Shell*" section on **DAP Technologies Technical Web Site** for complete information about viewing or changing these functions keys.

For information how to log-in see section "*ADVANCED USER INFORMATION*" in that guide.

USE OF PC CARDS

To insert, remove or swap a PC Card, follow the steps described below.

NOTE

It is preferable to insert, remove or replace a PC Card in a clean and dry area. Make sure that no water or dust will enter the CE5000.

Release button slot 0

Watertight
Gasket

Release button slot 1

1. It is normally not necessary to turn off the CE5000 before inserting, removing or swapping a PC Card. This can be done any time while the unit is running or turned off.

    It is possible that the PC Card used or the application program does not allow an insertion while the unit is running. Your supervisor, the application program supplier or DAP TECHNOLOGIES are the best sources to contact in order to answer this question.

2. Using a small flat blade screw driver remove the PC Card access door by loosening the two screws located on the top side of the CE5000, about two turns to the left (counterclockwise). Slowly pull out the door. A flexible strap will keep the PC Card door attached to the right side of the casing. In similar manner, the screws have a special mechanism to retain them in the cover.

3. To remove an actual PC Card, if present, press the appropriate release button located on the side of the card. The card will exit the socket by a few millimeters. It is preferable to use a finger, as a protection to stop the card. Complete the removal by pulling out the card.

4. To insert a PC Card, slide it in the socket (the end with the two rows of little holes first and the manufacturer label on top). When the sliding begins to be a bit tight, push the card firmly. The release button should pop out and the card should hold firmly in the socket. If this is not so, the card is possibly upside down. Before closing the door, check the plastic gasket located around the internal side of the casing. It should be in good condition, perfectly clean, with no dust, sand, grease, oil or other impurities. Any fault in this aspect could cause the PC Card door to leak and eventually damage the unit.

5. To close the door, slowly replace the door in its initial position. Assure yourself that the card does not exceed the casing and touch the door. Tighten the two screws, about two turns to the right (clockwise). Tighten them until you feel some resistance. Do not over tighten.

The application program should run normally after these steps.

NOTE

The CE5000 does not accept CardBus and 32-bit PC Cards.

IrDA INTERFACE

An IrDA interface is an advanced technology that allows Infra Red communication with peripherals and between computers. On a CE5000, the main purpose of an IrDA Interface is to communicate with a printer without any cable attachment. Communication with another computer or even another CE5000 is also possible.

The way the printing is done using IrDA is mainly dependent on the application program. You should refer to your application program user's guide for complete details.

IrDA on CE5000
Without Ethernet

IrDA on CE5000
With Ethernet

The following is basic information on IrDA.

·   To communicate with the IrDA interface, the peripheral or the remote computer should also have an interface supporting the IrDA protocol.

·   To communicate with the peripheral, point the bottom side of the CE5000 at the IrDA receptor on the peripheral. Usually the receptor looks like a dark plastic window about 17 x 7 mm (3/4" x 5/16"). Stay aligned within about ±15°

·   The communication can be done from a distance of up to one meter (three feet).

·   The communication link is strong enough to withstand quite a large displacement between the computer and the peripheral. In case of bad reception, the communication protocol will restart the transmission of the missed data block.

·   Direct, strong sunlight can degrade the communication link, increasing the communication duration or even causing a breaking of the link. Under direct sunlight, protect the CE5000 and the peripheral with the shade of your body and keep the CE5000 closer to the peripheral.

BARCODE LASER SCANNER
(CE5240LS and CE5320LS)

FOR CE5000 WITH THE LASER BARCODE READER OPTION

CAUTION

LASER LIGHT - DO NOT STARE INTO BEAM

630-680 LASER
1.0 mW MAXIMUM OUTPUT
CLASS II LASER PRODUCT

The functioning of the Laser Barcode Reader is mainly under the control of an application program and a special software driver. You should refer to your application program user's guide for complete details.

The following is basic information on laser barcode reading.

- Point the top of the CE5000 toward the barcode label to read.

- Press the **F3 <SCAN>** key and move the CE5000LS back and forth to assure you that the beam will completely cross the label.

Two proper ways to scan a label

1

2
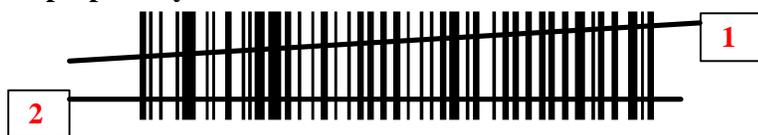
Two improper ways to scan a label

1

2

- You will hear a short beep when the label is decoded.

- You can release the **F3<SCAN>** key at any time to stop the scanning.

- If you keep the **F3 <SCAN>** pressed for too long the scanning will stop by itself after a certain time. You will hear two beeps meaning that no barcode has been decoded.

Refer to the CE5000 Technical Guide for more information about usage and the programming.

CAUTION

Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

Do not intentionally look at the laser beam.
See Security Notice in FIGURE 4

Maintenance
Notice
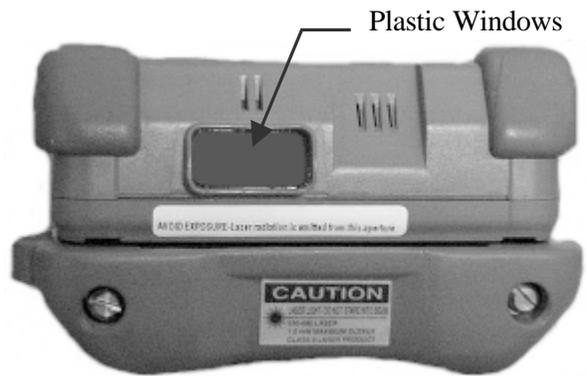
Plastic Windows

The efficiency of the reading depends on the quality of this plastic window. TAKE PARTICULAR CARE OF IT

- Any scratch, dirt or finger mark will degrade the reading quality.

- To clean, use a soft cloth with soap and water. Any plastic lens cleaner will also do the job.

USE OF THE CRADLE

For information about the installation and configuration of all different types of cradles available for the CE5000 , please refer to the document numbered TB25-A.

The manual is also available on the **DAP Technologies Technical Web Site**. For information how to log-in see section "*ADVANCED USER INFORMATION*" in that guide.

The TB25-A document content information about:

	Office cradle
UC840	Charge & communication: Serial (RS232) Only compatible with CE5320 & CE5240
CBCE540E	Charge & communication: Ethernet Only compatible with CE5320X. CE5240X & CE5320, CE5240 with the Ethernet option
	Vehicle cradle
CBCE540VC	Charge Only
CBCE540V	Charge & Communication: Serial ports (RS232) Only compatible with CE5320 & CE5240
CBCE540V1	Charge & Communication: with Ethernet to serial ports converter Only compatible with CE5320X. CE5240X & CE5320, CE5240 with the Ethernet option

The Ethernet cradle (CBCE540E) being the most popular, some basic information follow.

Use of the
Ethernet Cradle

To activate the Ethernet cradle

1) Connect a charger to the cradle,
2) Connect the RJ-45 network cable to the cradle
3) Slide down unit into cradle

RJ-45 Cable

Power Supply
CS810, CS812
CS512SCH or CS512
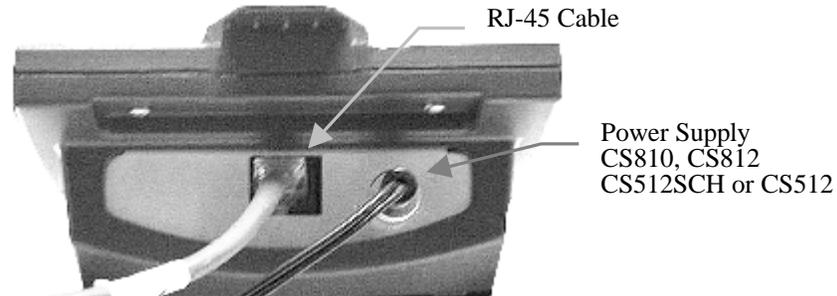
The CE5000 unit must have the Ethernet option installed. To validate that the current unit has this option check the bottom of the CE5000 , it should look like this:

When the unit is inserted in the cradle, an icon should appear in the taskbar located at the bottom of the screen. This icon informs the user about the network controller and connection status.

2/27/01 10:21 AM
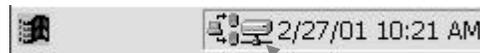
The Ethernet On-Board Adapter activated and linked to a network, ready to be used by the user or by a Windows application.

5/31/01 5:21 PM
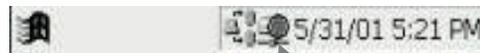
- Blinking icon -
Connection is established with the network and data is being transferred.

If neither of these two icons   /   appear in the taskbar, one of these conditions must be true:

- The Ethernet On-Board Adapter is activated but no network cable is connected on the back of the cradle

- The Ethernet On-Board Adapter is activated but the cable used is defective or not connected to the Network.

- The Ethernet On-Board Adapter is in power save mode or not activated.

2/27/01 10:21 AM

FTP Server running. By default, server starts automatically when a network connection is established.

For more information about the configuration of the Ethernet driver, please refer to the CE5000 Technical Guide.

STORAGE & MAINTENANCE

The CE5000 unit is reliable instruments and require little maintenance. Only occasional replacement of the battery and strap is required.

It is important not to leave the CE5000 exposed to the sun for long periods of time since the airtight casing may accumulate sufficient heat to cause a malfunction.

NOTE

There are no user serviceable parts inside the CE5000 unit. Do not try to open the case. Any attempt to do so may affect the weatherproofing, damage the unit as well as void the warranty.

Storage

If the unit is not going to be used for few days you can just keep it on the charger.

For a storage period of a few weeks, fully recharge the CE5000, turn it off and store the unit at a temperature from 20°C (68°F) to 25°C (77°F). This procedure can be used for a storage period shorter than three (3) weeks. Within that time range, your data will be preserved on the disk.

After the specified period you need to fully recharge the unit if you wish to continue the storing for another period. This to preserve the battery specification as per the manufacturer directives.

The backup battery will discharge more and more quickly as storing temperature decrease below 20°C (68°F) to be about 50% shorter at -20°C (-4°F). It is preferable to store the unit at a temperature from -15°C (5°F) to 25°C (77°F).

Keeping the unit continuously on the charger is also possible but will affect the battery capacity in the time. This could affect applications where very long battery life is required but shows no problem if the unit is normally recharged daily.

Main Battery maintenance

The high quality Lithium-Ion battery installed by DAP in your CE5000 unit is specified by the **battery manufacturer** to be rechargeable over 500 times. If you find that the batteries are not lasting for the normal period after having been recharged, it may be time to change them. When used under normal conditions, the main battery should last, on average, from 12 to 24 months.

Backup Battery Maintenance

The CE5000 backup battery allows you to keep programs and data in the CE5000 memory for years without being replaced. Being rechargeable and with a minimum of care (see *Storage* section) , the backup battery will not normally need to be replaced during the expected lifetime of the CE5000 unit.

Cleaning

Use a normal soft cloth and mild soap to clean the CE5000 unit. Do not use abrasives as they may damage the finish.

Make certain that the battery compartment and PC-Card door are correctly closed before starting the cleaning operation.

Shipping The Unit

The CE5000 units have been designed to resist the vibration and shock that can occur during normal use of the product. However, if it is necessary to ship one of these units any long distance, the handling involved in land and air transportation can often subject these units to impact beyond that for which they where designed to withstand. It is therefore essential that the CE5000 unit be properly packed in an adequate and appropriate manner before being shipped.

The packing box that DAP TECHNOLOGIES uses for shipping the CE5000 unit to its customers was designed for this very purpose and should, therefore, be set aside and kept in case reshipping becomes necessary.

Carrying Strap Maintenance

The carrying strap requires no specific maintenance. Use a normal soft cloth and mild soap to clean it.

It may be necessary to replace it from time to time due to wear.

List of User Replaceable Parts

There are few parts that the user can easily replace on the CE5000.

The following list shows parts that need to be replaced occasionally as they deteriorate with use.

Part Number	Description
DC800	Lithium-ion battery
DC801	Carrying strap (four per package)
DCCE500	Stylus / Pen (Minimum quantity of 5 units)

OPERATING ENVIRONMENT

**Operating
Temperature**

The recommended temperature range where the CE5000 may be used is from -20°C to +50°C (-4°F to +122°F).

A short exposure to temperatures lower or higher than these could possibly make the screen very dark or light until the unit returns within the suggested temperature range.

Long exposure to temperatures below -40°C (-40°F) may damage the screen. Prolonged exposure to temperatures above +60°C (+140°F) will damage the main battery and above +70°C may damage the unit (+158°F).

**Rain And Water
Resistance**

The CE5000 will withstand exposure to rain without the ingress of water. It is designed to withstand occasional immersions. The unit floats, making it easy to retrieve when dropped in water.

These characteristics can be impaired if the battery compartment or the PC-Card doors are improperly closed or if their gaskets have deteriorated.

**Resistance To
Shock**

The CE5000 is designed to withstand shock and accidental drops from up to two meters (six feet) onto a hard surface within the fully specified temperature range.

The CE5000 with the barcode scanner (LS) is designed to withstand shock and accidental drops from up to one meter (three feet) onto a hard surface within the fully specified temperature range.

It is obvious that these situations should be avoided as much as possible.

**Electromagnetic
Resistance**

The CE5000 work perfectly well in most common environments involving electromagnetic fields such as when near power transmission lines, electric motors, transformers, compressors, low power RF transmitters, etc. Performance can be degraded when using a communication cable, a peripheral or a battery charger under these conditions.

ADVANCED USER INFORMATION

Where to find more information

In the objective of giving you the most up-to-date information, advanced user information is available on the WEB.

Register your unit and get the latest information by following these simple steps:

- Under CE 3.0: locate and double-tap the Control Panel folder
  Under CE.Net: click Start, Settings & Contrtol Panel

- Locate the hardware applet

- Open the Hardware applet

- Note the 16 digit extended serial number on the last line of the screen
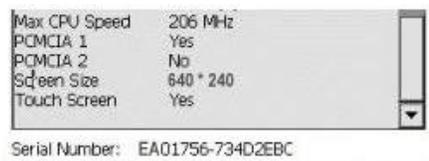
- On your desktop computer, start your Internet browser and go to the following address:
  support.daptech.com

- Locate and click the label
  Register a serial number.

- Enter your 16-digit extended serial number as the serial number.

- Fill the form that will follow

- Be sure to take note of the Username and Password selected by the system

A set of links will bring you toward the information you need.

NOTE
All these information are not a requirement for adequate use of the CE5000 unit.

Resetting the CE5000

There are some specific situations that can cause the CE5000 unit to crash or behave strangely. The most common causes are as listed below:

- Programming errors, specifically when trying a new application program.
- Missing, corrupted programs or data files.
- Operation of the unit outside the specified temperature range.
- Physical abuse. In such an instance, the physical cause will be observable by examining the unit or looking for plastic cracks or corrosion marks in the battery and PC-Card compartments.

In all of these cases, contact your supervisor or the application program supplier. If the problem cannot be resolved, contact the equipment supplier or DAP TECHNOLOGIES. A reset of the unit may correct the problem or it may be necessary to return the unit to a DAP Service Center.

They are two ways to reset the CE5000 unit

<u>By Software</u> (Supervisor mode required)

☞ **CE.NET Version**

Click on `Start, Dap Utilities` then `soft Reset`. If you are in Supervisor Mode, the unit will reset immediately. In User's Mode, the unit will ask you to enter the Supervisor Mode to allow it to reset.

> **NOTE**
> Default password is
> **YIWT**

☞ **CE 3.0 Version**

To access the software reset you must enter the supervisor password. Go under the `Style` menu, choose `Supervisor Mode` and than enter the supervisor password.

After entering the supervisor password, you will now have access to the software reset option under the `Style` menu.

<u>By a keyboard sequence</u>

To do a hardware reset simultaneously press the **F1** + **9** + **0** keys for a few seconds. A message box will be displayed while applications are closed and the unit will reset at the end of this process.

A reset password can be asked to complete the software reset correctly, contact your system integrator if such password is required.

ActiveSync Communication

If you are already familiar with Windows CE and Activesync and are ready to make your file transfers, DAP Technologies has provided direct access keys.

F1	Launch a serial or USB communication with the host computer (launch `replog.exe`). The connection `LEMO1 @ 115200` requires a DO-C-0040 cable connected between the LEMO connector and your PC.
CTL + F1	Allows the creation of new connections (under Win-CE 3.0 launch `remnet.exe` and `connmc.exe` under Win CE.NET).
SHIFT (↑) + F1	Allows to select and launch a specific connection to connect to Activesync (launch `aync.asy`)

TABLE 2

NOTE

All these keys could have been deactivated or configured to launch applications other than the ones described here.

ActiveSync & ETHERNET

A first ETHERNET connection normally requires a « partnership » with your host computer using the serial or USB port. However, DAP Technologies provide programs `SetPartnerShip.exe` and `PartnerShip Server.exe.` that permit to create the « partnership » using the ETNERNET port.

The ETEHRNET connection requires the use of a cradle model CBCE540E and of a ETHENET cable connected between the cradle and your PC. See the cradle user's guide for more information

The program `PartnerShip Server.exe` should be launched on the host computer. `PartnerShip Server.exe` is available under section `Download` of the CE5000 Technical Guide, on the WEB.

The program `SetPartnerShip.exe` should be launched on the CE5000.

☞ **CE.NET Version:** click Start >Communication >SetPartnerShip

☞ **Version CE 3.0:** launch `Windows/SetPartnerShip.exe`.

When the « partnership » is established, launch ActiveSync by typing `Shift-F1` and select `Network connection`.