

Casio DT-X7
and standard program
Users Manual



Data Technology
Hardware • Software
Design • Consulting

ASP Microcomputers
456 North Road,
Ormond, Victoria, 3204
Australia
Telephone: (03) 9578-7600
FAX: (03) 9578-7727
email: solutions@asp.com.au
World Wide Web: <http://www.asp.com.au>

(ASP Microcomputers is a division of Grayline Holdings Pty. Ltd., A.C.N. 004 940 729)

Version 1 – September 15th, 2008

Copyright © 2008 by ASP Microcomputers
Some content © 2008 by Casio

The ASP logo is a trademark of ASP Microcomputers
The Casio logo is a trademark of Casio Japan
Windows is a registered trademark of Microsoft

Contents

Welcome to the Casio DT-X7	1
First Things First	2
DT-X7 terminal overview	2
Accessories	5
Turning the DT-X7 on and off.....	6
Using the standard Data Collection program	6
The Main Menu	6
Collect Data.....	7
Download Data	8
Delete Data.....	8
Configuration	9
About	11
Reading Barcodes.....	11
Keypad Input.....	12
Low Battery and Charging Indicator.....	12
Auto Off.....	12
Exiting to the Windows CE Desktop	13
ASP's Casio Download Utility.....	13
Installing drivers, ActiveSync and CTU.....	15
Copyright, License, and Limited Warranty	19



ASP Microcomputers is an authorised Casio Partner

Welcome to the Casio DT-X7

The DT-X7 is a sleek new handheld terminal with laser barcode scanner, which includes the following features:

Supports the most popular development environment

- Windows® CE version 5.0
- Visual Studio 2005
- Visual Studio .NET 2003 (Windows® CE .NET Utilities v 1.1 for Visual Studio .NET 2003)
- eMbedded Visual C++ 4.0

Compatibility with all of the most popular communication systems

- Built-in ultra-small IEEE802.11b/g Wireless LAN module
- High speed infrared communication with IrDA version 1.3
- Bluetooth® version 2.0
- Serial interface with USB version 1.1 (Host/Client)

Small size and light weight means improved portability

- Dimensions: Approx. 52.5 (w) x 166 (d) x 30.5 (h) mm
- Weight: Approx. 145 g

Improved durability

- Impact resistance: 1.0 m in height
- Dust and water-splash proof to IP54 level (compliant with IEC60529 International Standard)

Scans all standard barcode symbologies

- UPC-A/E, EAN8, EAN13, NW-7, Codabar (NW-7), Code 39, Code 93, Code 128/EAN128/GS1-128, ITF, MSI, Industrial 2 of 5, IATA, GS1 Databar (RSS-14, RSS Limited, RSS Expanded, RSS Stacked, RSS Expanded Stacked)

Outstanding performance and large memory

- High-performance CPU - Marvell® PXA270 Application Processor (Max. 416 MHz)
- Large-capacity memory RAM: 64 MB (user area: approximately 34 MB), Flash-ROM: 64 MB (user area: approximately 30 MB)

More information on the Casio DT-X7 is available at this web site:

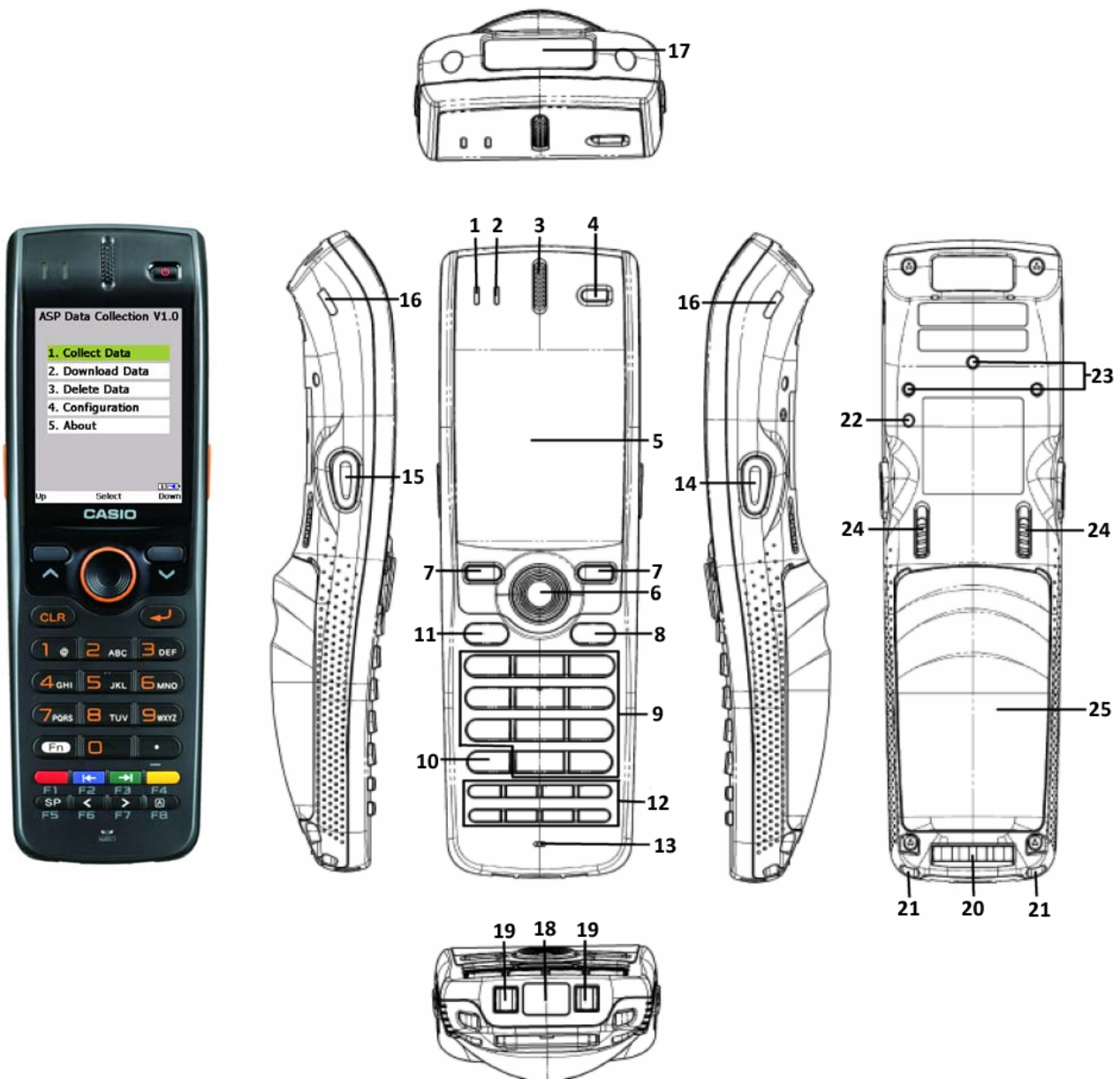
<http://www.asp.com.au/casio/dtx7.html>

First Things First

Before you can use your new Casio DT-X7, you need to install some software on your PC. Turn to page 15 and follow the instructions there, then come back here to learn more about the DT-X7.

DT-X7 terminal overview

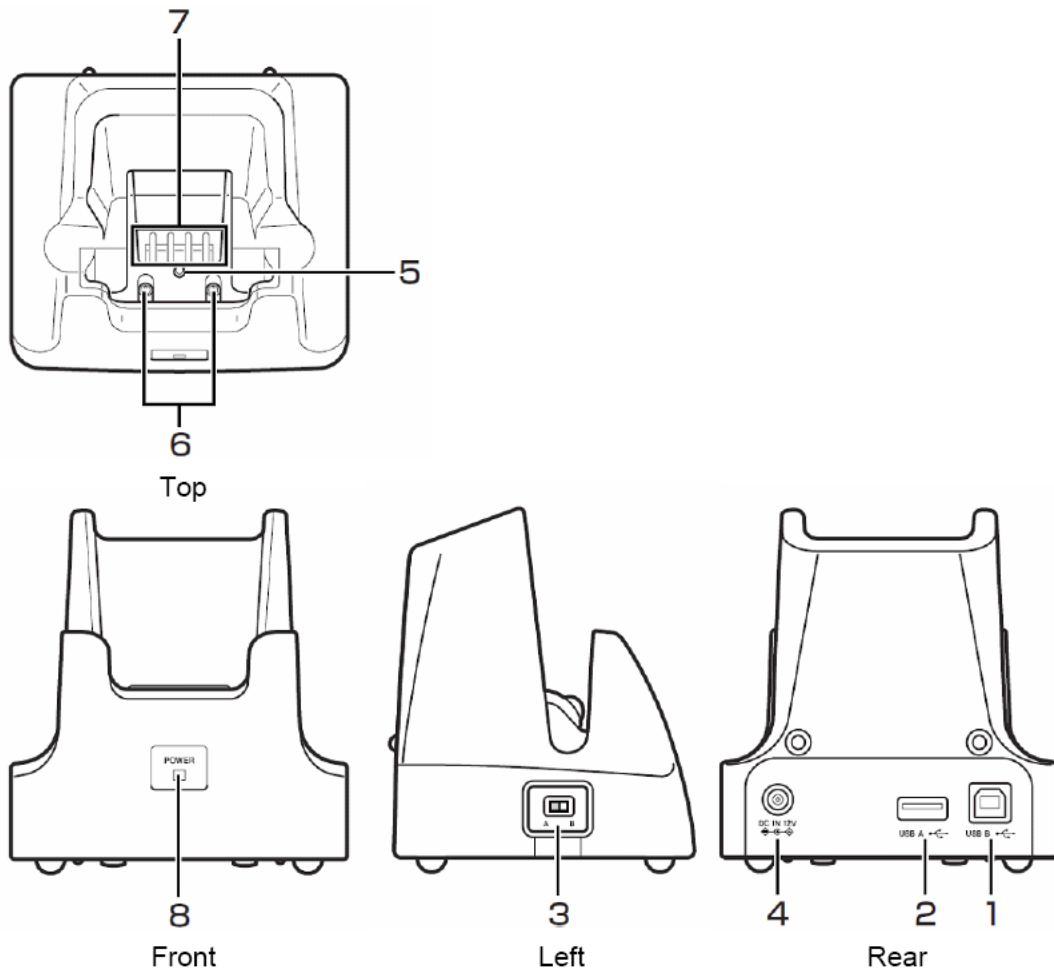
The diagrams and tables on this and the following pages show the main features of the Casio DT-X7 terminal and cradle.



Description

No	Name	Description
1	Indicator 1	Orange: Battery pack is being charged. Green: Charging is complete. Red: Something is wrong with the battery pack, or the ambient temperature is out of range.
2	Indicator 2	Flashes blue when operating via Bluetooth or orange when operating via WLAN. Lights green when reading a barcode successfully or red when alarming (programmable).
3	Speaker	Buzzer and voice messages are output.
4	Power Key	Turns the power on and off.
5	Screen	Displays text and operating instructions.
6	Trigger Centre Key	Used to perform barcode reading. Can be assigned an arbitrary function, depending on the program loaded into the DT-X7.
7	Cursor Keys	These keys operate much like a PC's cursor keys, depending on the program loaded into the DT-X7.
8	Enter Key	Press when finishing entering numerical values or when moving to the next step.
9	Numeric Keys	Used to enter numeric vales, decimal points, and letters.
10	Fn Key	Used to make various settings in combination with the function keys or numeric keys, depending on the program loaded into the DT-X7.
11	CLR Key	Used to clear one letter to the left of the input key.
12	Function Key	Various functions can be assigned to these keys, depending on the program loaded into the DT-X7.
13	Microphone	Used to input a sound including voice.
14	Trigger R Key	Used to perform barcode reading.
15	Trigger L Key	Used to perform barcode reading.
16	Contact Scanning Guide Attachment Holes	Used to mount the contact scanning guide (for DT-X7M10E, DT-X7M10R).
17	Reader Port	Laser light or LED light is emitted from this window to read barcodes.
18	IR Port	Used for communication with another Handheld Terminal.
19	Power Contacts	Used to receive power provided by Cradle.
20	Communication Terminal	Used for communications.
21	Strap Holes	Used to attach the hand strap. Also used for the hand belt.
22	Reset Switch	Used to reset the terminal.
23	Screw hole for hand belt	Used to attach the hand belt.
24	Battery Pack Cover Lock Switch	Used to lock the battery cover and to release.
25	Battery Pack Cover	Used to cover the battery compartment that holds the battery inside.

HA-F60IO USB Cradle



Description

No.	Name	Description
1 *	USB Client Port	This port is used to transfer system and file data (download, upload) by connecting the cradle to a PC using a USB cable (DT-380USB). The driver must be installed in PC before connecting the cradle to the PC.
2 *	USB Host Port	This port is used to connect a compatible USB peripheral device.
3 *	Selector Switch	This switch is used to switch between the USB host port and USB client port.
4	AC Adaptor Jack	Connect the dedicated AC adaptor here.
5	Terminal Detect Switch	Detects when the terminal is seated correctly in the cradle.
6	Power Contacts	Power is supplied to the terminal via these contacts.
7 *	Data Communication Terminal	Used for USB communications.
8	Power LED	This LED indicates the power and seating status of the terminal. Off: The terminal is not mounted, or the AC adaptor is not connected. Green: Power is on and the terminal is seated correctly.

* The HA-F30CHG cradle-type Battery Charger is identical to the HA-F60IO except for the absence of items 1, 2, 3 and 7.

The HA-F62IO Ethernet Cradle is identical to the HA-F60IO except for an RJ45 Ethernet connector between items 2 and 4.

Accessories

Accessories



DT-X7M10E

DT-X7M10R

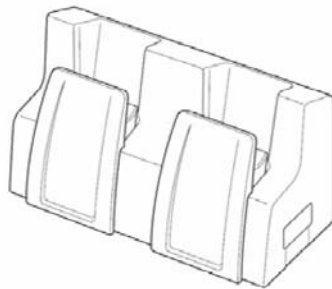
HA-F6010

HA-F6210

HA-F30CHG



HA-F36DCHG



AD-S15050B



AD-S15060B



DT-380USB



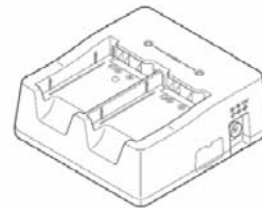
HA-F20BAT



HA-F21BAT



HA-F32DCHG



AD-S42120B



Turning the DT-X7 on and off

To turn the Casio DT-X7 on, simply press the power button at the top right of the unit (as shown on the left below) and hold it down until the display appears.



To turn the Casio DT-X7 off, press the power button and hold it down until the display turns off. If the scanner does not turn off, release the button, wait a few seconds, then press and hold it down again.

Using the standard Data Collection program

Because the program loaded into the Casio DT-X7 controls the way it works, it's difficult to describe operation of the unit without also describing the program. So, this section of the manual is based on ASP's standard Casio DT-X7 Data Collection program. Most of the information presented will also apply to other programs, but you should also read any extra information supplied with your program.

The Main Menu

Most programs behave in a similar way – there will usually be a **Main Menu**, where you can select what you want to do. With ASP's standard Data Collection program, the Main Menu looks like this →

The white bar at the bottom of the screen shows labels for the three keys immediately below the display – in this case, pressing the **▲** key on the left moves the highlight up, pressing the **▼** key on the right moves the highlight down, and pressing the round middle key selects the highlighted function.

So, to select a function, use the **up ▲** and **down ▼** keys to move the green highlight, then press the round **Select** button (or the enter key ↵).



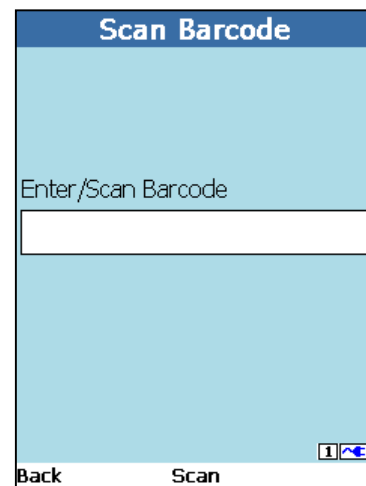
Because it affects how the program works, we'll come back to the **Configuration** function later, but for now we'll assume that the program is set to its default of prompting for, and storing, just a barcode and a quantity.

Collect Data

Select the **Collect Data** function from the Main Menu, and press the enter key. The display will now be similar to that shown on the right.

The middle of the screen shows an **Enter/Scan Barcode** prompt. At this prompt, the operator can scan or type in the barcode number (see page 11 for more information).

As shown by the labels at the bottom of the screen, pressing the left key will take you back to the **Main Menu**, while the key on the right has no function on this screen.



Pressing the round middle button will allow you to scan a barcode, and you can also scan a barcode by pressing either of the orange keys on the sides of the DT-X7.

When you're scanning a barcode, a thin beam of red light will shine from the front of the unit – move this beam onto the barcode label, holding the unit about 3 to 30cm away from the label.

When the Casio DT-X7 has read the barcode label successfully, a beep will sound and the indicator LED will flash green briefly. See **Reading Barcodes** on page 11 for more information on barcode scanning.

After you've scanned a barcode, or typed it in and pressed the **Enter** key, the next data collection screen is displayed, as shown on the right, where the operator is prompted to enter a quantity.

As an aid to the operator, the barcode that was just scanned or entered is displayed above the **Enter Quantity** prompt.

The labels at the bottom of the screen show that if the operator just presses the left (up arrow) key instead of scanning or entering a quantity, the program will go back to the previous **Enter/Scan Barcode** prompt so a new barcode can be entered, discarding the already entered or scanned barcode and not storing it in memory. This would be done if the operator realised they had scanned the wrong barcode, for example.



After the quantity has been scanned or entered, the barcode and quantity are stored as a record in the memory of the Casio DT-X7, and the data collection process continues with the operator prompted to scan or enter the next barcode and quantity.

To finish data collection, just press the back button at each prompt until you get to the **Main Menu**.

Download Data

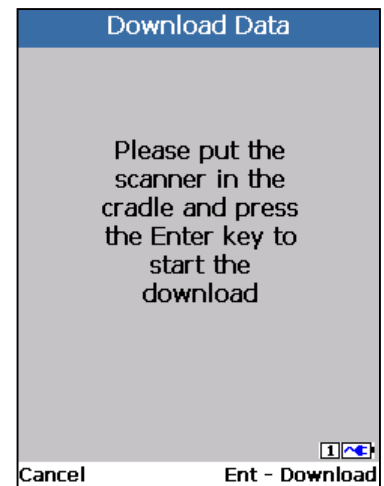
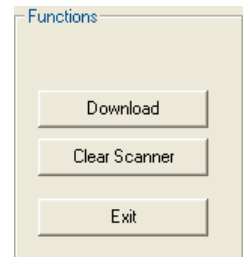
To download collected data from the Casio DT-X7 to your PC, you need to first ensure that both **Microsoft ActiveSync** and ASP's **Casio Transfer Utility (CTU)** are installed and configured – see page 13 for installation details.

You can start the download from either the PC or the DT-X7. On the PC, simply press the **Download** button – see page 13 for more information.

On the DT-X7, just select the 2. **Download Data** function from the **Main Menu**, which brings up the screen shown on the right below.

Note that the data stored in the DT-X7 is not automatically deleted after a download. You can delete the data from either the PC or the DT-X7. On the PC, simply press the **Clear Scanner** button – see page 13 for more information. To delete data from the DT-X7, see the next section.

Note that if you choose not to delete the data file, this same data will be transferred again next time you download data to the PC.

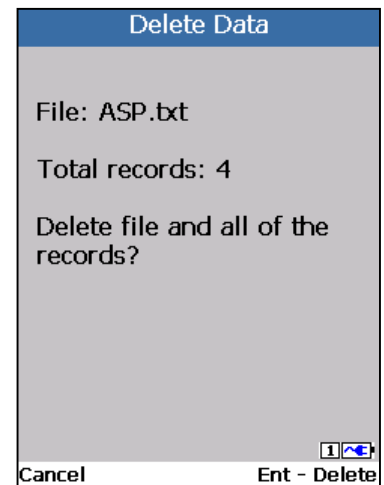


Delete Data

The scanner memory can be cleared from the PC or from the DT-X7.

On the PC, simply press the **Clear Scanner** button – see page 13 for more information.

On the DT-X7, just select the 2. **Delete Data** function from the **Main Menu**, which brings up the screen shown on the right. Press the **Enter** key to clear the memory, or the left up **▲** key to cancel and not clear memory and return to the Main Menu.



Configuration

Select **4. Configuration** at the Main Menu to enter the Configuration menu, as shown on the right. Use the **up** ▲ and **down** ▼ arrow keys to move the green highlight to the different configuration sections, then press the ENT key to enter that section. To return to the **Configuration Menu**, press the CLR key.

The first configuration section is the **Data Options** screen, which is shown on the right below.

On this screen, you can change each of the configurable settings by moving the green highlight to a setting using the **up** ▲ and **down** ▼ arrow keys, then pressing the **Scan** or **Enter** key to toggle between the available options.

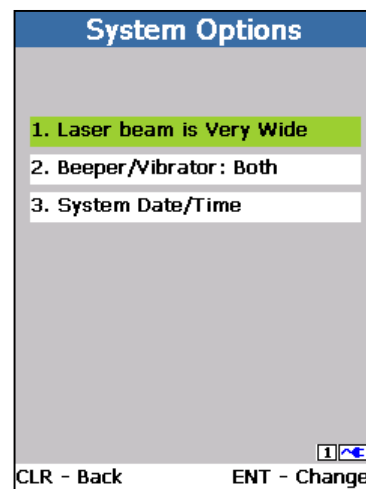
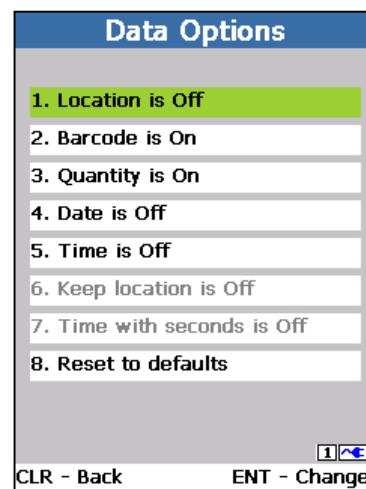
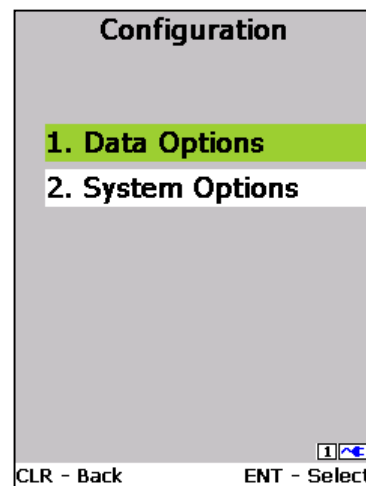
The first setting is **Location**, and in the example screen on the right, this field is currently set to **off**. To change this setting, ensure that it's highlighted, then press the round **Scan** key or the **Enter** key ↵. With each press, the setting will change between the available options.

Other settings can be changed in the same way. Note that settings 6 and 7 are "greyed out", which means that they are unavailable and cannot be changed. Setting 6 is only available when the **Location** option is turned on, and setting 7 is only available when the **Time** option is turned on.

To finish changing the Data Options settings and return to the **Configuration Menu**, press the CLR key.

The second configuration section is the **System Options** screen, which is shown on the right.

From this screen, you can change the **Laser Beam Width**, the **Beeper and Vibrator** settings, and set the date and time.



Program settings and operation

The default configuration for the ASP standard Data Collection program is for the **Barcode** and **Quantity** prompts to be turned on, the **Laser beam** set to **Very Wide**, and the **Beeper/Vibrator** set to **Both**. This configuration is what we've shown in our example screens on the previous pages.

With these settings, the scanner will prompt the user to scan or enter a barcode, and then to enter a quantity. The program will then store the barcode and quantity and return to the barcode prompt. To return to the main menu, press the **CLR** key.

If the **Location** option is turned on, the first scanner prompt will be to enter/scan a location. If the **Barcode** option is turned on, the next prompt will be to enter/scan a barcode, and similarly, if the **Quantity** prompt is turned on, the next prompt will be to enter a quantity.

If the **Date** and/or **Time** options are turned on, the scanner will append the date and/or the time to the data.

The scanner program will then store the data and return to the first prompt.

If the **Location** option is turned on, the **Keep location** option will be available, and if that option is turned on, the scanner will only prompt once for the location, and keep that location until the operator decides to change it (by pressing the **CLR** key at the **Barcode** prompt).

If the **Time** option is turned on, the **Time with seconds** option will be available. Normally, the time is stored in 24 hour format with hours and minutes only (ie hh:mm). If the **Time with seconds** option is turned on, the seconds will also be stored with the time (ie hh:mm:ss).

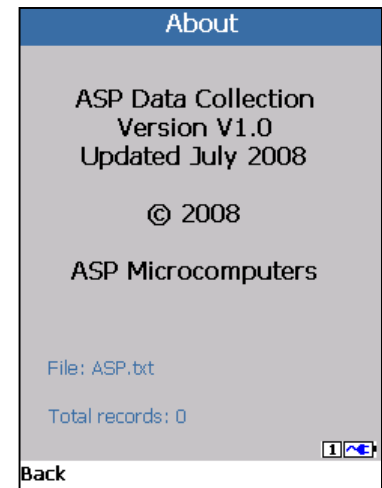
If you select item "**8. To default settings**" and press **Enter**, the settings will all be returned to their default state, as described above.

On the **Data Options** screen, you can set the **Laser Beam** scan width to **Very Wide** (the default setting), **Medium Wide**, **Wide**, or **Narrow**. You may need to adjust this setting if you're trying to read barcodes that are close to other barcodes. You can also set the **Beeper** and **Vibrator** functions on or off.

About

Select **5. About** from the Main Menu to display a screen that displays the program version number and copyright information, and also shows how many data records are stored in the DT-X7's memory.

Press the left **up** **▲** button or the **CLR** button to return to the Main Menu.



Reading Barcodes

Ensure that the Casio DT-X7 scanner is turned on, and at a place in the program where barcodes can be scanned, then press the round scan button (as shown on the right), or one of the orange trigger buttons on the sides of the scanner.


Hold the scanner about 3 to 30cm back from the barcode, and direct the scanning beam onto the barcode as shown on the right. When the barcode has been read successfully, the Casio DT-X7 will beep and the indicator LED will flash briefly.

If the scanner fails to read the barcode, change the scanning angle or the distance from the barcode, and try it again.



To read barcodes wider than the laser beam width, adjust the beam width as described on page 10, or move the scanner further away from the barcode. The Casio DT-X7 can read barcodes at a maximum distance of 45 cm from the reading window, depending on the characteristics of the barcode label.








Keypad Input

In most applications, the only time you'll need to use the keypad is to enter data such as quantities, and these are usually numeric only. The Casio DT-X7 was designed to make this kind of data entry fast and simple. **Numeric input** is the default mode, and this is indicated by a small  at the bottom right of the display, as shown in the screen fragment on the right.






If you need to enter letters or some other characters, the Casio DT-X7 has an upper case and a lower case **Alphanumeric Input mode**, indicated by a small  or  at the bottom right of the display.

To change modes, you must be at a prompt that allows keyboard input.

Then, press and release the  key at the bottom right of the keypad (as shown on the right, below the yellow key) to change between numbers , upper case letters , and lower case letters . Each press of the  key cycles through the available modes, with the current mode indicated at the bottom right of the display.



In numeric  mode, the keypad enters the numbers shown on the key. In upper case  or lower case  mode, the letters shown in white on each numeric key can be entered. Pressing a key once enters the first letter on the key, pressing a key twice quickly enters the second letter, and so on, similar to a mobile phone keypad.

To enter a space, press the **SP** key at the bottom left of the keypad, as shown above. Various punctuation marks can also be entered using the **1 @** key in upper or lower case mode.

Low Battery and Charging Indicator

To charge the battery in your Casio DT-X7, insert it into its cradle. The battery indicator at the bottom right of the screen will show a small blue "plug and cable" (as shown on the right), which indicates that the battery is being charged.



When the DT-X7 is removed from the cradle, this icon will change to a green three-segment bar graph that indicates the battery status – from three bars which indicates a full battery, down to no bars which means a flat battery.



Auto Off

Because Casio DT-X7 uses the Windows CE operating system, the auto-off functions are controlled by Windows settings. Changing these settings is not advisable, and is therefore not detailed in this manual.

Exiting to the Windows CE Desktop

Normally, programs custom-written for the Casio DT-X7 (like the standard ASP Data Collection program) are designed to “take over” the DT-X7, stopping you from exiting the program and getting to the Windows CE Desktop. This is designed to make the unit easier to operate.

However, because there can be legitimate reasons for accessing the Windows CE Desktop, we include a “hidden” exit function. When a specific key sequence is correctly entered at the program’s **Main Menu**, the custom program will exit.

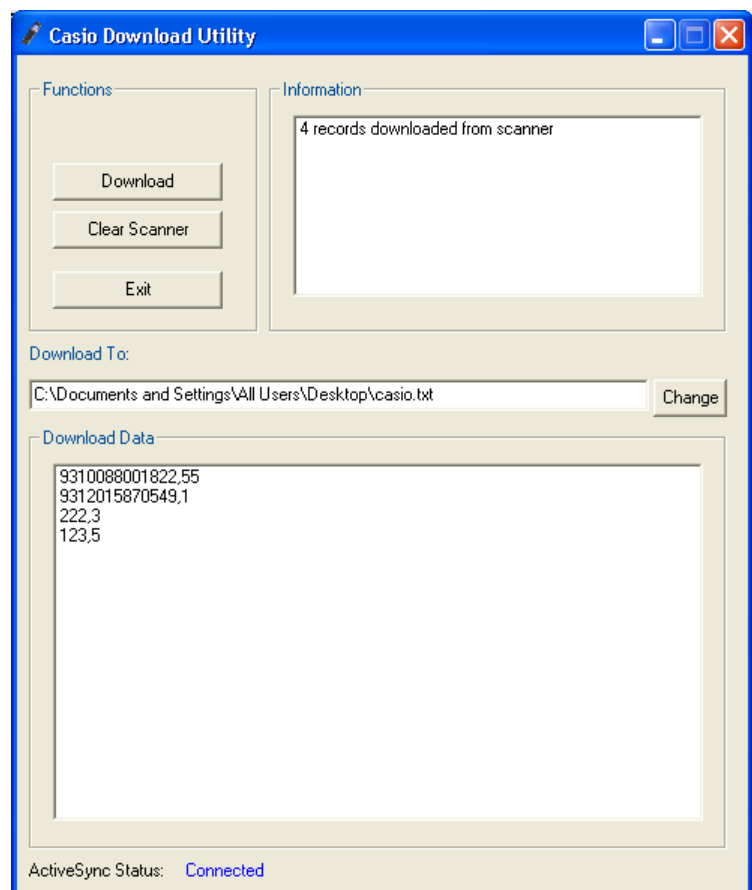
To exit the program and return to the Windows CE Desktop, press and release the following keys in order: **CLR**, **F2**, **F3**, **F1**, and **F5**. Note that this sequence only works at the Main Menu.

ASP’s Casio Download Utility

ASP’s **Casio Transfer Utility (CTU)** is used to download data from the DT-X7 to your PC. The transfer utility screen is shown on the right.

Because the Casio Transfer Utility uses Microsoft’s ActiveSync technology to communicate with the DT-X7, the only configuration you need to do is to set the filename and path that you want to save the downloaded data into.

The example screen above has been set to save the data file downloaded from the scanner to the desktop using the filename **casio.txt**.



The Casio Transfer Utility screen has three main sections – a **Function** section at the top left, an **Information** section at the top right, and a **Downloaded Data** section at the bottom.

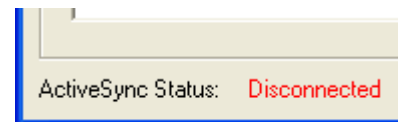
To use the Casio Transfer Utility, you need to ensure that the **ActiveSync Status** message at the very bottom of the screen shows **Connected** – if it shows **Disconnected**, you can't download – see later in this section for things to check.


There are two ways to download– either click on the **Download** button on the Casio Transfer Utility, or select **Download Data** from the Main Menu on the DT-X7. Both methods achieve the same result – the data from the DT-X7 is stored into the specified file on the PC.

You should note that downloading the data from the DT-X7 doesn't automatically delete the data in the scanner – you need to do that separately, either by pressing the **Clear Scanner** button on the PC, or by selecting the **Delete Data** function on the DT-X7. If you choose not to delete the data file, the same data will be transferred again next time you download.

Troubleshooting Data Download

If you're having trouble downloading data from the DT-X7, the first thing you need to check is if the **ActiveSync Status** message at the very bottom of the Casio Transfer Utility screen shows **Disconnected**. If it does, you should check the following:



Is ActiveSync installed and running? There should be a small green icon  in the System Tray near the clock at the bottom right of your PC screen, as shown on the right above. If the icon is grey instead of green, it means that ActiveSync is running, but it cannot connect to the DT-X7.



Is the green POWER indicator on the front of the cradle lit? If not, either the cradle is not connected to power, or the DT-X7 is not properly inserted into the cradle.

Is the cradle connected to a USB port on your computer? Check both ends of the USB cable – someone may have removed it without telling you.

Is the scanner turned on and correctly inserted into the cradle?

Installing drivers, ActiveSync and CTU

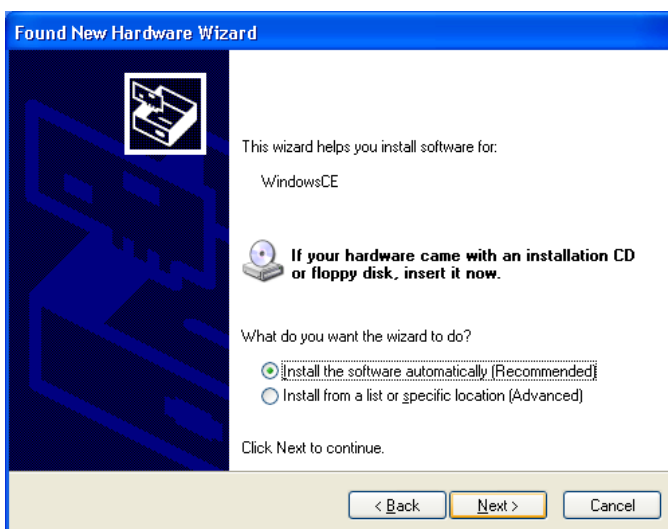
The Casio DT-X7 installation CD contains three folders, and is not an auto-run installer. This is because the USB drivers, Microsoft ActiveSync, and the Casio Transfer Utility are separate programs and cannot be installed automatically.

The programs on the CD must be installed in the correct order – first the USB drivers, then ActiveSync, then the CTU.

To install the USB drivers, insert the CD into your PC, and cancel any windows or screens that open. Connect the DT-X7 cradle to power, insert the DT-X7 into the cradle, and connect the cradle's USB cable to your PC. The PC will recognise a new USB device, and display the window on the left below.



Click on the “**No, not this time**” option, then click on the Next button.



Check the “**Install the software automatically (Recommended)**” option, and then the Next button.

Windows will then search the CD for the drivers, and then display the following screen.



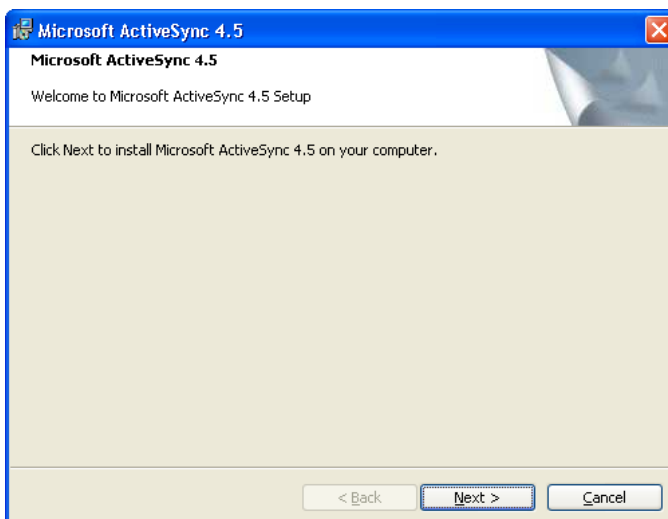
Click the “**Continue Anyway**” button.

Windows will install the Casio USB drivers, then display the screen below:



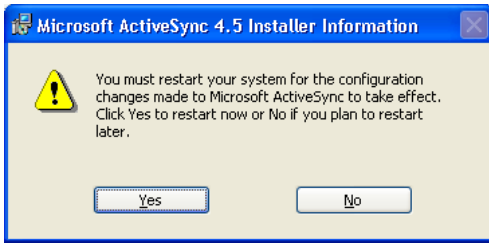
The USB drivers have now been installed.

Click on the **Finish** button.



Next, you need to install Microsoft ActiveSync. Open Windows Explorer and go to the **ActiveSync** folder on the installation CD. Double-click on the **ActiveSync.msi** file, which will open the screen on the left.

Follow the on-screen instructions to install ActiveSync. When the installation completes, the screen below will be displayed.

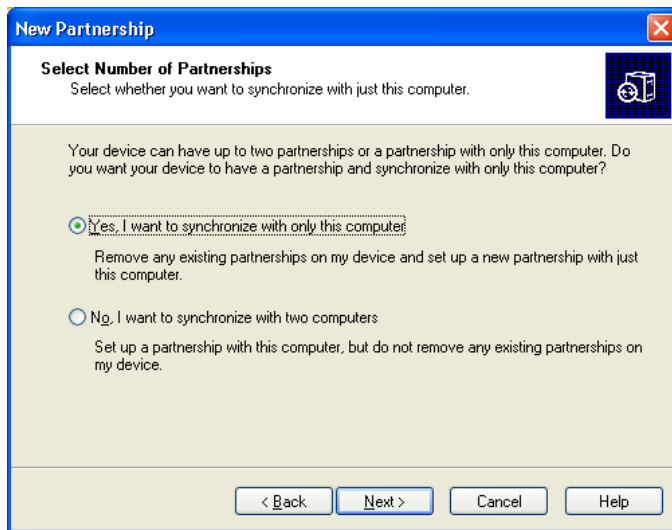


Ensure you've saved any open documents or files, then click on the **Yes** button to restart your computer.

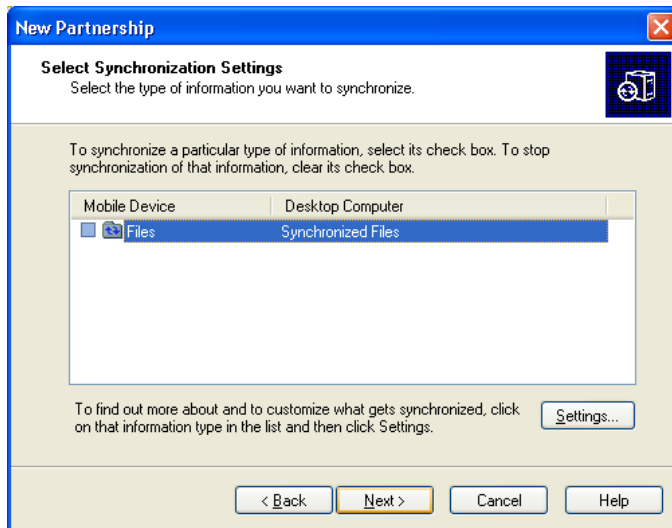


Once your computer has restarted, ActiveSync will display several configuration screens.

Ensure the **Yes** option is selected, then click on the **Next** button to continue.

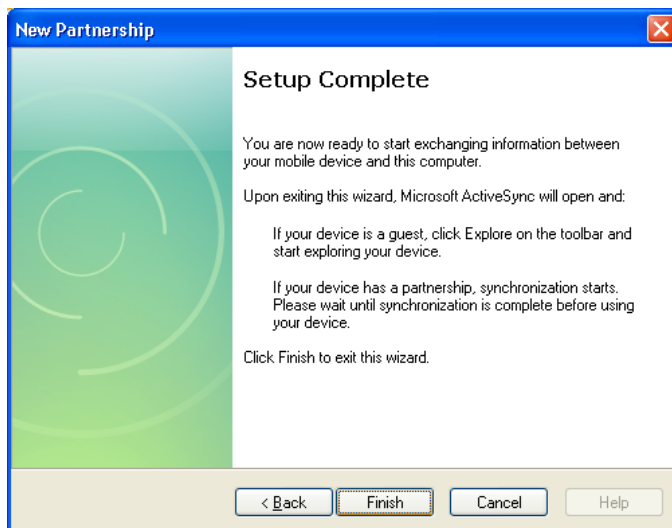


Ensure the **“Yes, I want to synchronise with only this computer”** option is selected, then click on the **Next** button to continue.



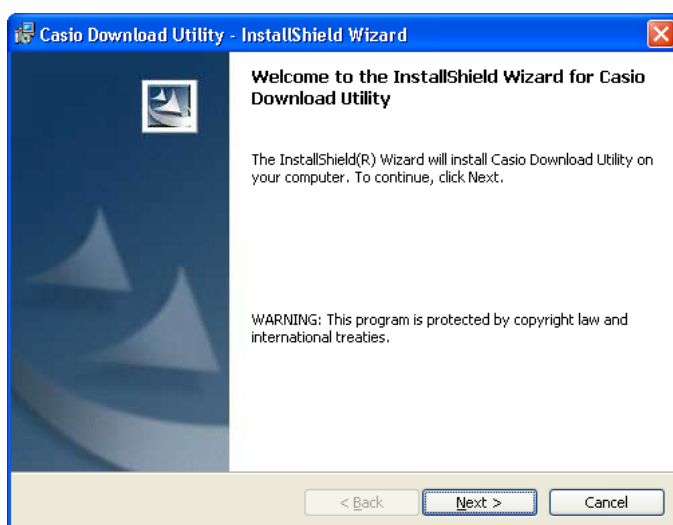
Do not change anything on this screen (do not click in any checkboxes!).

Click on the **Next** button to continue.



You have now finished installing and configuring Microsoft ActiveSync.

Click on the **Finish** button.



Finally, you need to install the Casio Download Utility (CTU).

Open Windows Explorer and go to the CTU folder on the installation CD. Double-click on the **setup.exe** file, which will eventually open this screen.

Follow the on-screen instructions to install the Casio Download Utility.

Installation is now complete - remove the CD and store it somewhere safe.

Copyright, License, and Limited Warranty

Casio DT-X7 Scanner and Cradle

To the extent permitted by law, ASP's warranty in respect of the **Casio DT-X7 Scanner and Cradle** and its use is limited to correction of defects due to faulty components or workmanship for a period of one year from the date of purchase. This warranty does not extend to consumables such as batteries, and does not cover wear and tear to products.

This warranty is in lieu of other warranties express or implied including but not limited to the implied warranties of merchantability and fitness for purpose. In no event will ASP Microcomputers be liable for damages including loss of profits or other consequential damages arising out of use or inability to use the products.

This limited warranty gives you specific legal rights. Some states give other rights and/or do not allow excluding or limiting implied warranties or limiting liability for consequential damages. Accordingly, the above limitations/exclusions may not apply to you. If any provision of this agreement shall be void unlawful or unenforceable then that provision shall be severable without affecting the validity of remaining provisions. This agreement is governed by the law of Victoria, Australia.

It is your responsibility to carefully pack any unit being returned for service, warranty or otherwise, and pay shipping charges to your dealer location or ASP. Units sent freight collect will not be accepted. Freight back to you will be paid by ASP in the case of warranty repairs.

Casio Transfer Utility and Standard Program

The **Casio Transfer Utility** and the **Standard Casio DT-X7 program** are proprietary products of ASP Microcomputers and are protected by copyright laws, which prohibit making additional copies of the software for any other person.

ASP Microcomputers grants the purchaser of the **Casio Transfer Utility** and the **Standard Casio DT-X7 program** a license to use the software with the **Casio DT-X7 Scanner and Cradle**, but not to sub-license, rent or lease the software. You may permanently transfer your license to use the software by passing the original disk or CD and manual to another person and simultaneously destroying all copies of the software or documentation in your possession. Such a transfer terminates your license to use the software, and the new possessor of the software accepts a license to use the software on the basis expressed here on first use of the software.

ASP Microcomputers undertakes that the **Casio Transfer Utility** and the **Standard Casio DT-X7 program** will perform substantially as described in this manual, and will correct "bugs" in the software reported to us by licensed users within a reasonable time. Should such "bugs" not be correctable, the only remedy available will be return of the software for refund.

This warranty is in lieu of other warranties express or implied including but not limited to the implied warranties of merchantability and fitness for purpose. In no event will ASP Microcomputers be liable for damages including loss of profits or other consequential damages arising out of use or inability to use the software.

This limited warranty gives you specific legal rights. Some states give other rights and/or do not allow excluding or limiting implied warranties or limiting liability for consequential damages. Accordingly, the above limitations/exclusions may not apply to you. If any provision of this agreement shall be void unlawful or unenforceable then that provision shall be severable without affecting the validity of remaining provisions. This agreement is governed by the law of Victoria, Australia.