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Electromagnetic Compatibility

Contents

CAUTION!

Approved accessories only may be used with this equipment. In general, all cables must be high quality, shielded, correctly terminated and normally restricted to 2 meters in length. Itronix AC Adaptors employ special provisions to avoid radio interference and should not be altered or substituted.

Unapproved modifications or operations beyond or in conflict with these instructions for use may void authorization by the authorities to operate the equipment.

Europe

This product complies with the radio interference protection requirements of the Council Directive 89/336/EC on the approximation of the laws of the Member States of the European Union relating to electromagnetic compatibility. The product was tested in a typical configuration and found to conform to the following test specifications:

EN55022 Radiated and conducted emissions, Class B.
EN50082 or EN55024 ESD and radiated and conducted immunity.

For further compliance details, refer to the specific CE Declaration Of Conformity. This is available on request, please quote the exact and full model number for the product(s) in question.

USA

RADIO INTERFERENCE, FCC Statement

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

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

Canada

English

This digital apparatus does not exceed class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications, standard ICES-003.

Français

Avis de conformité aux normes du Ministère des Communications du Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada, NMB-003.

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USA Modem Only (FCC part 68)

ANALOG DEVICE WARNINGS

This equipment complies with Part 68 of the Federal Communications Commission (FCC) rules for the United States.

A label is located on the underside of the base unit containing the registration number and Ringer Equivalence Number (REN). You must upon request provide the following information to your local telephone company:

USOC Jack Type: RJ-11
REN: 0.8

Should you experience trouble with this telephone equipment, please contact Itronix - contact addresses are listed on the back cover of this booklet.

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

If you have problems with your Itronix fax21 modem, contact Itronix for repair and warranty information. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

Your telephone company may disconnect your service if your equipment causes harm to the telephone network. They will notify you in advance of disconnection, if possible. During notification, you will be informed of your right to file a complaint to the FCC.

Occasionally, your telephone company may make changes in its facilities, equipment, operation, or procedures that could affect the operation of your equipment. If so, you will be given advance notice of the change to give you an opportunity to maintain uninterrupted service.

Modem

Read these important notes before using your fex21 modem.

- Ensure that the modem is compatible and is approved for use on the telephone network before connecting. If in doubt, contact your system provider.
- Connect the cable to the fex21 before connecting it to the network.
- Where applicable, connect the cable so that the end closest to the ferrite bead is attached to the fex21.
- Use only the supplied telephone cable, which incorporates radio interference suppression.
- Use only as instructed.
- **Do not connect to the telephone network if the fex21 is wet.**
- **Do not attempt to open or modify the fex21. There are hazardous voltages inside, and no user-serviceable parts. Opening the fex21 case will also void the warranty.**

European Modem Only (CTR21)

The equipment has been approved in accordance with Council Decision 98/482/EC for pan-European single terminal connection to the public switched telephone network (PSTN). However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point.

In the event of problems, you should contact your system provider in the first instance.

Read ALL this leaflet before using your Itronix fex21. It contains essential information about setting up your fex21 computer and getting started.

The Other Guides

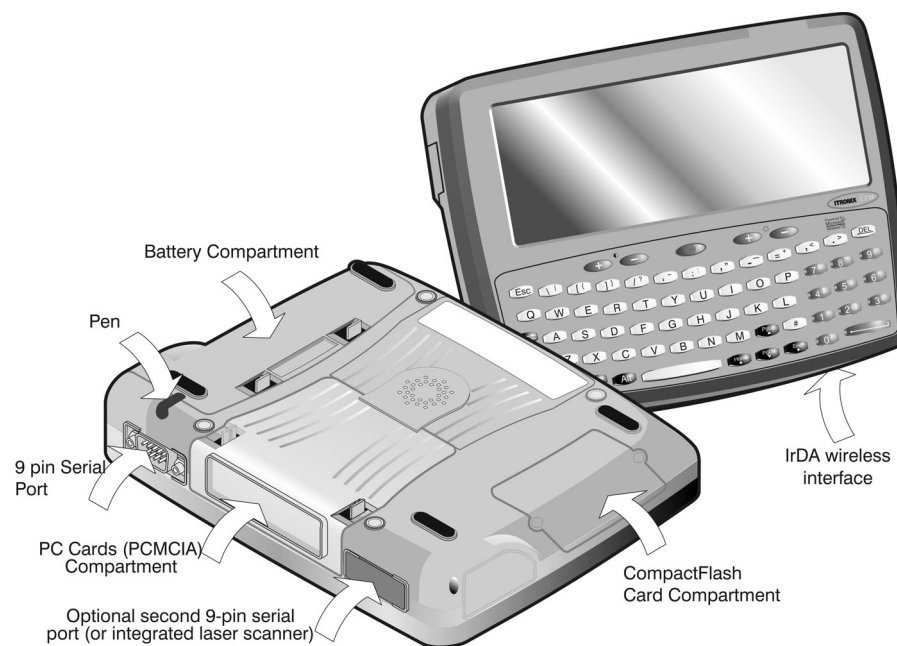
This booklet is not intended as an exhaustive guide to the Itronix fex21 computer, so you may find that you need to refer to some of the other documentation available for your fex21.

Itronix fex21/H206 Desk Mount Manual - This contains instructions for using and installing the fex21/H206 Desk Mount, including notes on how to use USB communications.

Itronix fex21/H206 Vehicle Mount Manual - This contains instructions for using and maintaining the fex21/H206 Vehicle Mount.

Itronix fex21 Developers Guide CD - This provides you with detailed information about the fex21 computer and how to use it.

Integrated SE923 Scanner Manual - this provides end user instructions for the fex21 laser scanner.



Setting Up

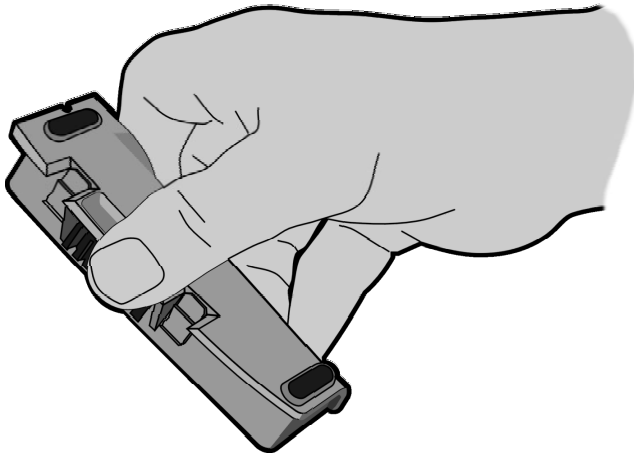
Before using the fex21 for the first time, a few setup procedures should be performed. The following sections cover the basic setup procedure.

Fitting the battery pack

- If your fex21 is supplied for use with Alkaline batteries then they will need to be fitted into the battery pack - you should insert four AA size Alkaline cells into the battery holder, taking care the polarity of each is correct. If in doubt, check the label fitted to the battery holder.

Note: Alkaline batteries are less suitable for use in low temperatures and cannot be recharged.

Note: No harm will be caused if an older NiMH battery pack is fitted, and it is not unsafe. However, the fex21 will not function correctly. (Similarly, no harm will result from fitting a Li-Ion pack to a NiMH version fex21, but the unit will not function correctly.)



- To fit the battery pack, slot it into the fex21 by locating the two small lugs in the side of the fex21 ①. Press the battery pack firmly in place until the two small catches ② click into position.

Additional instructions for the 24V vehicle battery converter

CAUTION: Use the 24 volt vehicle battery converter only after reading and understanding the following instructions. There are no user-serviceable parts inside. Do not attempt to open or modify.

This converter option provides a source of stabilized low voltage for the Itronix fex21 computer. It connects to most vehicle cigar lighter sockets

Only use in negative-earth vehicles.

- Use in the vehicle only.
- Avoid liquid spillage.
- Ensure ventilation is not restricted.
- Do not replace with an alternative unapproved model, as damage may result.
- Do not attempt to use the 24 volt dc power converter to power other equipment.
- Do not use the converter in any vehicle with a battery voltage higher or lower than 24 volts.

NOTE. If neither the 12 volt dc power cable nor the 24 volt battery converter is suitable for your vehicle please contact your system provider for advice.

AC Power Adapter

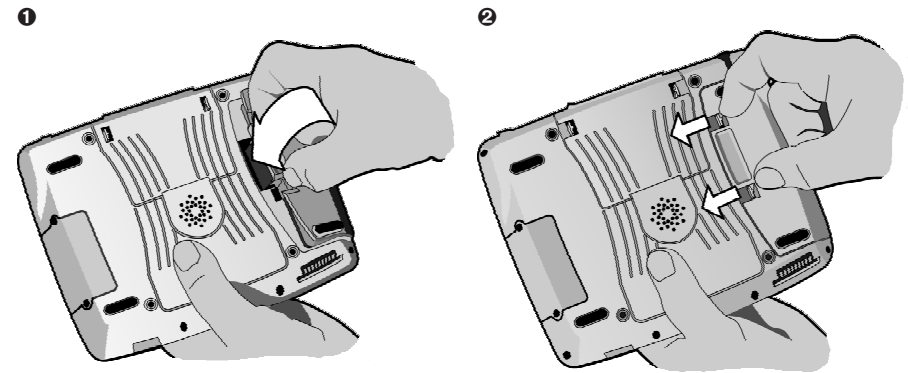
CAUTION: Use the AC Power Adapter only after reading and understanding the following instructions.

- Hazardous voltages inside. No user-serviceable parts inside. Do not attempt to open.
- Use indoors only.
- Avoid liquid spillage. Do not connect if suspected to be damp.
- Ensure ventilation is not restricted.
- Use only the special AC Adapter supplied. Do not replace with an alternative unapproved model, as damage may result.
- Inspect AC Adapter before connecting. Do not use if there are signs of damage or deterioration.
- Ensure connectors are firmly mated.
- Avoid mechanical strain to cables or connectors.
- Switch on or connect mains (line) supply only after making all connections.
- Switch off or disconnect mains (line) supply before disconnecting.
- In the event of overloading due to a fault, the AC Adapter is designed to fail safe and may stop functioning.
- Do not attempt to use the special AC Adapter to power other equipment.
- Avoid use in dusty or contaminated environments.


Additional instructions for the 12V dc power cable


CAUTION: Use the 12 volt dc power cable only after reading and understanding the following instructions. There are no user-serviceable parts in the power cable. Do not attempt to open or modify.

- The 12 volt dc power cable is for use only with the Itronix fex21 and the offline vehicle charger.
- Use only the 12 volt dc power cable supplied. Do not replace with an alternative unapproved model, as damage may result.
- Do not attempt to use the 12 volt dc power cable to power other equipment.
- Use only in vehicles with a nominal 12V electrical supply. In particular, if your vehicle is equipped with a 24V system, use the Itronix 24V Battery Converter. Damage to your fex21 may result from use contrary to these recommendations.
- Use only in negative-earth vehicles.



Switching the unit on

After fitting the battery pack, press the  key at the center of the keyboard to power the fex21 on. It is normal for a few seconds to pass before the screen displays data. If the fex21 does not power on after a few seconds, consult the Troubleshooting section of this manual.



To power the fex21 off again, press the  key once more. If you have not pressed any keys for a few minutes, your fex21 will switch off automatically to conserve power.

Calibrating the touch screen

Use the stylus supplied with your Itronix fex21, and follow these instructions carefully.

NOTE: Ensure that only the tip of the stylus touches the screen during the calibration process.

CAUTION: Do not use a ballpoint pen or sharp-pointed object, as this can damage the surface of the screen.

When the fex21 is powered on for the first time, it will display the Microsoft Windows Welcome screen. To calibrate the touch screen, click the screen or press the  key. The calibration instructions will appear. Read them, then click the screen or press the  key again.

A rectangle with a cross in the center will appear on the screen. Hold the tip of the stylus in the center of this cross until the cross disappears. The cross then moves to each corner of the screen in turn. Touch the stylus to the cross each time it moves. When calibration is successful the cross will vanish and further instructions will appear.

Setting the time and date

When the touch screen calibration is finished, the **World Clock** dialogue box will appear.

If your home city is not already set, click on the **Home City** tab and select your home city from the drop-down list. You can also select it by starting to type it in: “ny” will select New York. If your home city is not listed, select the city nearest your home from the drop-down list for now. You can add your home city to the list using the **World Clock** control panel later.

After you set your home city, click on the **Date & Time** tab. Set the correct date on the calendar, and then set the correct time on the left-hand clock. Drag the hour and minute hands on the clock face with the stylus or type in the time.

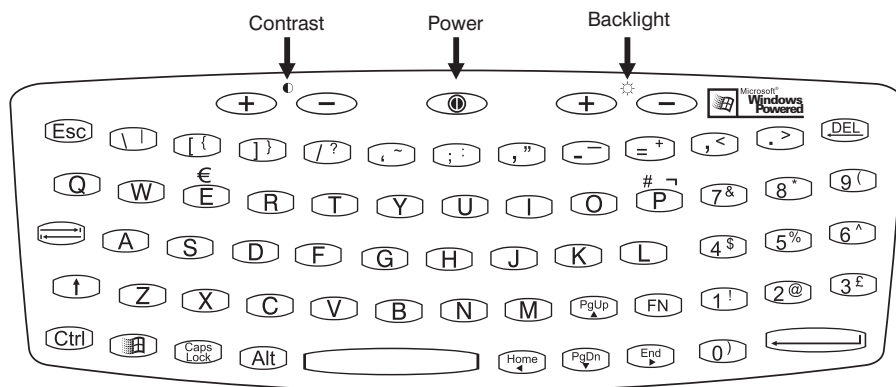
Finally, click on the **Next** tab at the bottom right of the screen. Your fex21 is now set to the correct date and time, and to your home city.

Recording your personal information

Finally, fill in the **Owner Properties** screen. You can, if you wish, enter your name and contact details. If you enter them and check the **Display Owner Identification** checkbox, they will appear each time the fex21 is powered on.

Once you have finished, click on the **Next** tab again. Follow the on-screen instructions and your fex21 will start the resident Microsoft Windows operating system.

Controls



The controls on your Itronix fex21 are simple and, for the most part, self-explanatory. All that you need to remember is how to reset your computer, which is detailed below.

Peripherals

CAUTION: Connect only approved cables and peripherals to your Itronix fex21.

To connect a peripheral:

- Switch off your fex21 and peripheral.
- If fitted, remove the protective cap (or Charger Adapter) from the appropriate connector.
- Fit the peripheral to the connector.
- Use connector locking mechanisms where fitted.
- Switch on the fex21 and peripheral.

NOTE: *the fex21 Charging Adapter does not support host-powered peripherals. If you need to use such a peripheral with COM1, you must remove the Adapter and connect the peripheral directly to the COM1 D-Type.*

To use the infrared (IR) communications option, ensure that the IR window on your fex21 is pointing at the peripheral's IR port and is more than 15cm (six inches), but no more than 1m (39 inches), away from the port. If you have difficulties, try again at a different range.

To disconnect a peripheral:

- Switch off your fex21 and peripheral.
- Disconnect the peripheral from the connector.
- If provided, fit the protective cap to the connector.

Troubleshooting

If you have problems with your Itronix fex21, you should contact your system provider. Before you do so, however, here are a few checks:

- If your fex21 will not switch on, check the battery pack and try using the AC Adapter or fit another charged battery pack.
- If you cannot read the display, try adjusting the screen contrast.
- If you drop your fex21 and it stops working, try switching it off and on, and check that the battery pack is connected correctly.
- Your application may provide a Reset facility. Alternatively, try to Soft Reset your fex21. If that fails, perform a Hard Reset.
- If the fex21 still does not work, contact your system provider.

CAUTION: There are no user-serviceable parts inside your fex21, and high voltages may be present. Do not attempt to open it. Opening the fex21 case will also void your warranty.

Other PC Cards

Many other PC Cards can be used with Windows operating system, supporting a variety of different functions, and many forms of integrated wireless communications. Most of these cards can be used with the Itronix fex21.

NOTE: Some PC Cards require drivers to be loaded onto the fex21. We recommend that you save back-up copies of these drivers to a CompactFlash card, so that they can easily be re-installed after a Hard Reset.

Using Wireless Communications

Your Itronix fex21 can use many different integrated radio modem PC Cards and Itronix CRMA radio modules. If your application uses wireless communications, the appropriate cards or modules will already have been installed, and your system provider will tell you how to use them.

The radio variant of the PC Card hatch contains an integrated antenna, and protects the cabling between the antenna and the PC Card (or CRMA module). There may also be other connections between the PC Card and the fex21.

Observe these precautions for reliable wireless communications:

- Do not remove the PC Card hatch unless your system provider tells you to. Removing it may damage your fex21 and void your warranty. Consult the labeling on the hatch for details.
- When you are not using the antenna, always fold it away carefully to prevent it being damaged.
- Read the section on FCC RF compliance in this manual for information on safe use and other requirements.
- If you experience problems with wireless communications, contact your system provider for advice.

When you turn off your fex21, you may see a green LED flashing regularly behind the IR window at the lower right-hand side of the fex21 case. This shows that the fex21 will automatically turn on again when data arrives at the PC Card port.

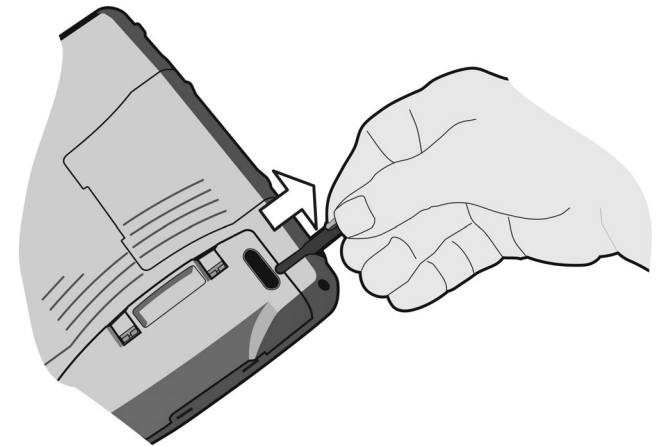
Radio transmitters can drain large amounts of current from your fex21 batteries. Your fex21 may be fitted with Advanced Power Management, which can be set to warn you when your battery is so discharged that powering-up the transmitter might cause the fex21 to turn off. Your system provider should have configured the APM system ready for you.

The following warning applies to all fex21 units with FCC-approved radio transmitters:

In order to comply with FCC RF exposure requirements, this device must be operated with a minimum separation distance of 4 cm between the user/nearby persons and the antenna in its intended operating position.

How to use the pen

Your Itronix fex21 is supplied with a special pen or stylus with which to click on the display screen. You can also use your finger instead of the pen to tap the screen. The pen is stored in the bottom of the computer, alongside the standard serial port (COM1).







The stylus tip is soft and spring-loaded to protect the screen coating. Fingernails are soft enough to use if the stylus gets lost, but a stylus is generally more convenient.

CAUTION: Do not use a ballpoint pen or sharp pointed object, as this can damage the surface of the screen.





NOTE: As has already been mentioned, the fex21 stylus is stored in a channel alongside the battery pack. The stylus must be removed from the channel before removing the battery pack. Trying to remove the battery pack while the stylus is in its channel may damage the battery pack or the stylus.

How to adjust the screen contrast



To the left of the  switch, below the  symbol, are two keys, one marked  and the other marked . These increase and decrease the screen contrast.

The fex21 also has a default contrast setting. To reset the contrast, press both contrast keys at the same time.

How to use the screen backlight



To the right of the  switch, below the  symbol, are two keys, one marked  and the other marked . These control the backlight and function slightly differently for color and mono units.

EL Backlight - for units with a monochrome display


Press the  key to switch on the screen backlight and the  key to switch it off.


Because the backlight drains more power from the batteries we suggest you use it only when necessary. The backlight switches off automatically after a few minutes if no keys have been pressed.


CCFL Backlight - for use with a color display


Press the  key to increase the backlight intensity by one step and the  key to decrease the intensity by one step. For units with a transreflective display the backlight can be turned off completely. For units with the STN (transmissive) display the backlight can be reduced to low level intensity but cannot be turned off.



How to enter data


To type numbers or letters, press the appropriate keys. To type a space, press the large  key at the bottom center of the keyboard.


To delete characters you have just typed, press the  key.

To type capital letters or to select the characters or functions above each key, hold down the  (SHIFT) key and press the appropriate key.





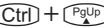
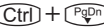
To select the characters or functions printed on the keyboard overlay, hold down the  key and press the appropriate key.

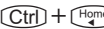
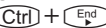
If you want to type several capital letters, press the  key and then press the appropriate letter keys. When you have finished, press the  key again.

To start a new paragraph, or to enter data when you have finished typing it, press the large  (ENTER) key.

To open the Microsoft Windows **Start** menu without using the stylus, press the  key.

How to move the cursor

Within Microsoft Pocket Word and most other text-based Windows applications, you can move the cursor a character or a line at a time with the four arrow keys (, ,  and ). To move the cursor up or down several lines, use  to move to the start of the current paragraph, or  to move to the start of the next paragraph.

To move the cursor to the beginning of the current word, use . To move to the start of the next word, press .

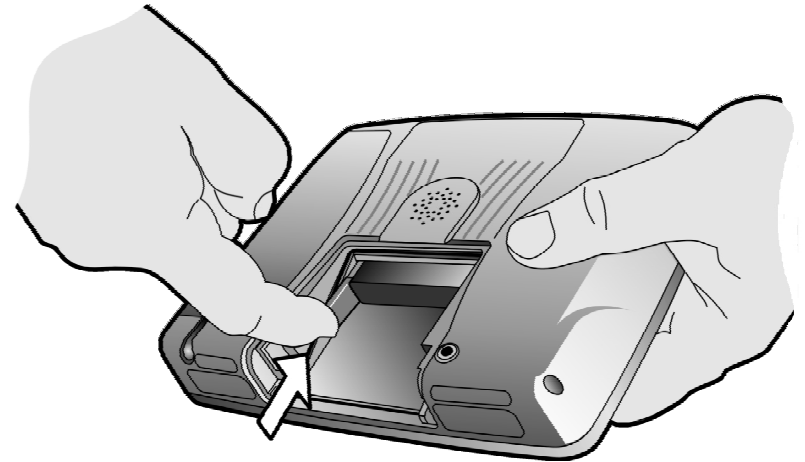
may require new software drivers. If in doubt, consult the documentation supplied with the PC Card.

Fitting a Type III PC Card

- Type III cards must be fitted into the outside slot, with the front of the card facing inwards, towards the front of the fex21. Type III cards are keyed to the slot, so they cannot be fitted into the inside slot.
- With this in mind, follow the procedure for fitting a Type II PC Card.

Removing a PC Card

- Remove the PC Card hatch as detailed above.
- Press the ejector button, either with a finger or with the tip of the stylus. The card should be left loose in the carriage, and can be pulled out by hand.



Note: The ejector button will eject PC Cards from both slots. Cards cannot be removed individually.

- Replace the PC Card hatch as previously described.

Accessing files on a storage PC Card

From the Windows desktop, double-click on the **My Handheld PC** icon. A window will open. If a storage PC Card is currently fitted, one of the icons in the window will be a folder called **Storage Card**. Double-click on the folder to list the contents of the storage PC Card.

If two storage cards are fitted, there will be two folders: **Storage Card** and **Storage Card2**.

Note: The **Storage Card2** name is assigned to the second card inserted, whichever slot it is located in.

Accessing files on a CompactFlash card

- From the Windows desktop, double-click on the **My Handheld PC** icon. A window will open. If a CompactFlash card is currently fitted, one of the icons in the window will be a folder called **Compact Flash**. Double-click on the folder to list the contents of the CompactFlash card.

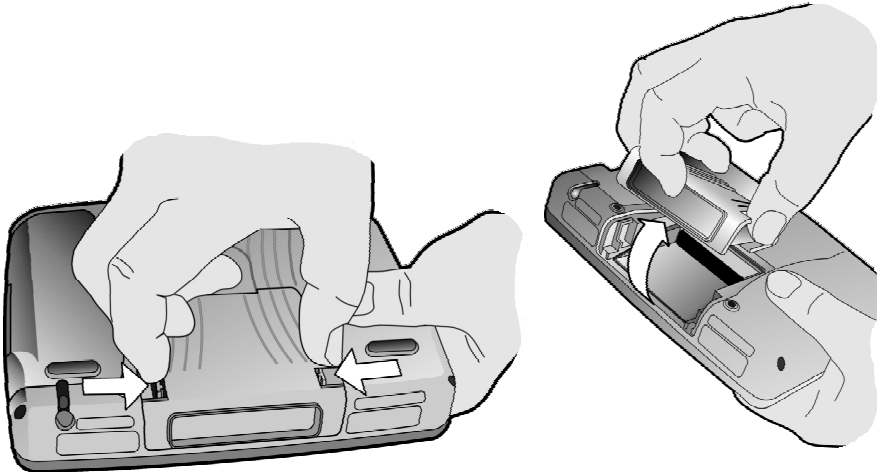
Using Type II and Type III PC Cards

The PC Card slots can be used to hold storage cards or to expand the fex21 system with other application-specific cards.

NOTE: The two PC Card slots are hot-swappable. PC Cards can be fitted or removed while the fex21 is switched on.

Fitting a Type II PC Card

- Remove the PC Card hatch by pushing the two tabs inwards (as shown in the diagram) until they click. Lift the hatch away from the fex21.



- Push the PC Card into the slot. The front of the card should face inwards, towards the front of the fex21. PC Cards are keyed to fit the slot, so a card cannot easily be inserted upside down.

CAUTION: Never attempt to force a PC Card into a slot, as this may damage the card and the fex21.



- Replace the hatch. Holding it at 30° to the computer, slot the angled tabs at the end under the speaker molding. Push the two tabs inwards, and press the hatch down until it clicks into place.

The Windows operating system will recognize a storage card automatically once it has been installed. Some other cards may not be recognized automatically and

How to reset your Itronix fex21






If your Itronix fex21 locks up or fails to operate, you may need to reset it in one of two ways.

Soft Reset

Hold down both the  and  keys. After several seconds the screen will go blank and your fex21 will perform a Soft Reset. A Soft Reset does not affect the Windows operating system registry and therefore your data is safe.

NOTE: For the Soft Reset to work correctly, the fex21 must be switched on while the contrast keys are held down.

Hard Reset

Hold down the following four keys for about six seconds: , , , and . The fex21 will perform a Hard Reset, and will switch off. Press the  key to restart the unit.

The Hard Reset function will work whether or not the fex21 unit is switched on.

CAUTION: When you use Hard Reset, you lose the Windows operating system registry and all data stored in RAM. You also have to re-calibrate your fex21. For this reason, treat the Hard Reset as an emergency procedure only, and use Soft Reset whenever possible.

NOTE: Data stored on PC Cards and CompactFlash is not affected by Soft and Hard Reset.

Batteries

The Itronix fex21 is designed for use with either a rechargeable Lithium-Ion (Li-Ion) battery pack or the optional 4 AA-size Alkaline cells. Both types are contained in an appropriate battery holder for ease of removal and replacement.

You should use only these fex21 Lithium-Ion battery packs with your fex21. If you try to use fex21 Nickel Metal Hydride (NiMH) battery packs, your fex21 will not work correctly or the battery pack will discharge very quickly. Nor should you use the Li-Ion battery packs with earlier fex21 units that were designed to use NiMH battery packs; your fex21 will not work correctly. Your fex21 will not be damaged in either case.

After you fit a new Li-Ion battery pack, you should charge your fex21 battery to 100% charge before using it. This ensures that the battery pack power calculations will be correct. Frequent incomplete charges will lead to progressively larger errors in the calculations, which only a full charge will remedy. Charging for 48 hours will ensure that the backup battery is also fully charged.

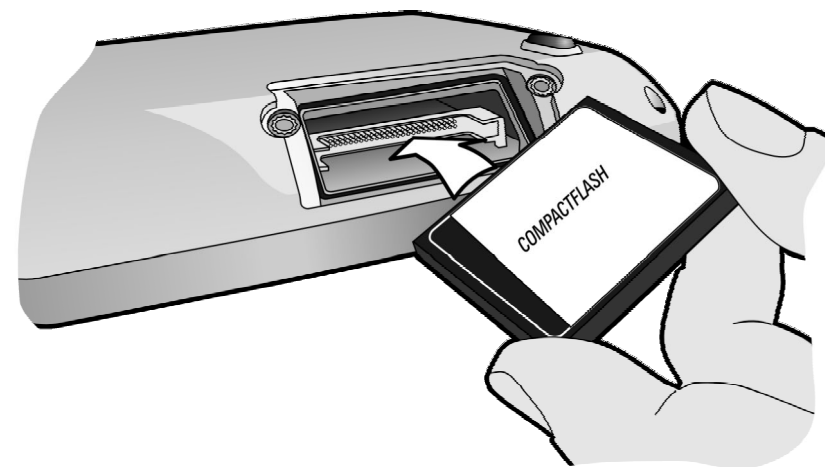
The fex21 has a rechargeable backup battery to retain data for up to 48 hours if the battery pack is removed or discharges fully. It is topped up from the main battery pack whenever the fex21 is idle. The backup battery is not user accessible. You should not rely on the backup battery to maintain your data, but should keep the main battery pack correctly charged if possible. It is always safer to store important data in non-volatile memory, such as a CompactFlash card.

Whenever you are working near an AC power outlet, use your fex21 with the AC Adapter to conserve the battery pack. The AC Adapter will keep the battery pack topped up and will also supply a maintenance charge to the backup battery. If you can, charge your battery pack after each working day. Proper charging practice will also keep the backup battery in good condition.

If the backup battery is fully discharged, it may take up to 48 hours to recharge fully when the fex21 is next connected to a battery pack or to the AC Adapter. In extremes of heat or cold, it may take even longer.

Note: If you do not intend to use your fex21 for long periods, you should store any important data in non-volatile memory, such as a CompactFlash card, and remove the battery pack. Alkaline batteries will discharge (and rechargeable batteries may degrade) if left inside an unused fex21 for this length of time. You should then read the "Battery storage" section of this manual.

- Push the CompactFlash card into the slot. As shown, the front face of the card should be towards the underside of the fex21.



- A pull-tag should be attached to the card, so that it can be easily removed again. These are available from your system provider (part number DLB7000-455).
- Note that CompactFlash cards are keyed to the slot, so that they cannot easily be inserted upside down.

CAUTION: Never attempt to force a CompactFlash card into the slot, as this may damage the card and/or the fex21.

- Replace the hatch and fit the screws, using a torque driver to tighten them to 10cNm (.88 lbf.in).

CAUTION: The CompactFlash hatch provides direct access to the interior of the fex21. If the hatch screws are not tightened to the correct torque setting (as detailed above), the fex21 computer will no longer be sealed to the IP65 standard.

- Switch on your fex21 and carry out a Soft Reset. The Windows operating system will then recognize the card.

Removing a CompactFlash card

- Switch off the fex21, open the hatch, remove the card, and reseal the hatch as detailed above.
- Finally, switch on your fex21 and carry out a Soft Reset.

NOTE: A Soft Reset is needed when one CompactFlash card is exchanged for another.

CompactFlash and PC Cards

The standard model Itronix fex21 has two user-accessible PC Card slots, which can hold two Type II cards or one Type III card, and a single (Type I) CompactFlash slot for secure data storage.

Files kept on CompactFlash and storage PC Cards can be created, deleted, moved and amended in exactly the same manner as files stored in memory.

NOTE: Microsoft Windows for Handheld PC uses the ActiveSync software to convert Microsoft Office documents into the Pocket Office format. If Microsoft Office files are saved from a desktop PC onto a PC Card and then opened directly by an fex21, they may not be understood.

Using CompactFlash cards

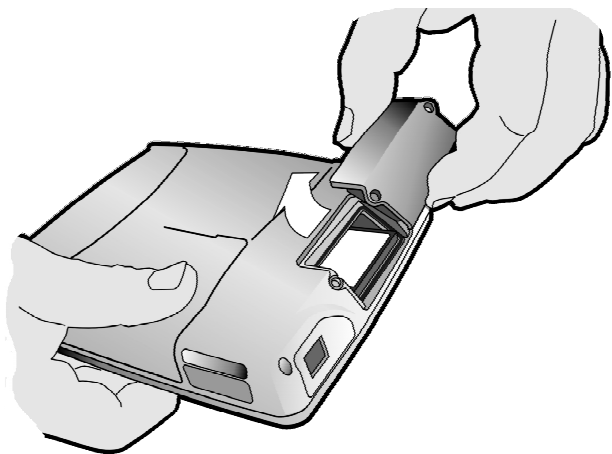
The Itronix fex21 can use Type I CompactFlash cards for secure data storage. If you store any user-installed fex21 application software and any associated data on CompactFlash, it will not be lost after a Hard Reset.

The CompactFlash slot is accessed through the access hatch on the side of the fex21. This hatch is waterproof and is secured by screws—it should **not** be opened in the field.

CAUTION: CompactFlash cards are not hot-swappable. Switch off your fex21 computer before fitting or removing them.

Fitting a CompactFlash card

- Switch off your fex21 computer and unscrew the CompactFlash hatch, using a Pozi No. 1 screwdriver.



How to check the charge level of Li-Ion batteries

Note: The following facility is not available for Alkaline batteries.

- Double-click on the **My Handheld PC** icon.
- Double-click on the **Control Panel** icon.
- Double-click on the **Itronix fex21** icon. This will open the **Itronix fex21 Configuration Options** box, which has four tabs.
- Click on the **Power** tab. This will display information about the batteries.

Main battery status

If the main battery status is shown as **High**, your battery should not need charging in the next few hours. If the status is shown as **Low**, you should consider changing or recharging the battery within the next hour or so. However, if the status is shown as **Critical**, you should change or re-charge the battery immediately.

You will not lose the Windows registry or any data held in memory while you change or recharge the battery.

The backup battery is constantly being charged, and so its charge status is not shown.

Battery conservation

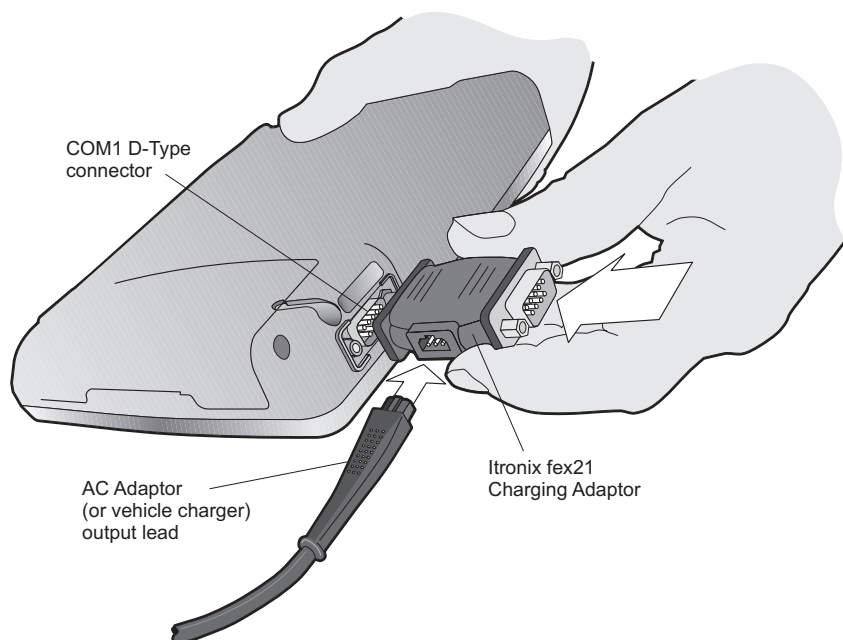
To conserve the batteries in your fex21 you can set it to switch itself off (suspend) while it is not being used.

From the **Start** menu, select **Settings**, then **Control Panel**. When the control panel box opens, double-click on the **Power** icon to open the **Power Properties** box. Select the **Power Off** tab and set the length of time you would like the computer to remain idle before switching off. Do this by clicking on the down arrow alongside the **Time** box and selecting the time from the drop list that will then appear.

How to charge the battery

Use only the AC Adapter or vehicle charger supplied with your Itronix fex21.

Plug the fex21 Charging Adapter into the COM1 D-type connector, as shown in the diagram. Plug the output lead into the power port of the Charging Adapter and then connect the AC Adapter to a suitable AC mains power supply.



The battery pack may take up to three hours to recharge. Make sure that the battery pack is fully recharged to 100% capacity, so that the battery power calculations will be accurate.

The charging status is shown by an orange LED in the IR window on the lower right-hand side of the fex21 case. The LED will flash regularly while charging is in progress. The LED will light continuously when charging is complete. If the LED flashes irregularly, a charging error has occurred, and you should seek advice from your system provider.

NOTE: The fex21 battery will not recharge when the computer is in suspend mode. Switch the fex21 on before connecting the AC Adapter.

Using the Itronix fex21 Offline Battery Charger is an ideal way to recharge your fex21 battery packs without using your fex21. Refer to the **Offline Battery Charger** manual for details.

Using your fex21 safely

Your Itronix fex21 has been ergonomically designed for comfortable and safe use. However, as with all equipment, you should pay attention to good working practices while using it.

Some people may experience discomfort while using computers. If ignored, this discomfort may sometimes lead to *Repetitive Strain Injury* (RSI), which is also known as *cumulative trauma disorder* or *repetitive motion injury*. You can minimize the risk by following these guidelines:

- Pay attention to your posture. Keep your fingers and body relaxed whenever possible.
- Avoid keeping your muscles tense for long periods. Change your tasks often to avoid prolonging muscle strain. Support the fex21 while you are using it.
- Reduce eyestrain by adjusting the backlight and contrast settings properly for your working environment. Look away from the screen periodically and focus your eyes on distant objects. Have your eyes checked regularly.
- Take frequent short breaks. Use these breaks to exercise the muscles in your hands, arms, shoulders, neck and back.

If your fex21 is fitted with a radio transmitter, you should also read the radio safety statements in the “Using Wireless Communications” section of this manual.

Backstrap

The Itronix fex21 is supplied pre-fitted with a backstrap, allowing it to be carried easily and securely with one hand. This low-profile strap is designed so that you can exchange battery packs without removing it.

By default, the strap is fitted for holding the fex21 in your left hand and operating it with your right. If you wish to use your fex21 left-handed, remove the securing screws, then replace the backstrap in the new position, using the other pair of screw-holes.

Replacement backstraps and securing screws are available from your system provider.

CAUTION: Only fit the supplied securing screws into the backstrap screw-holes. Itronix does not recommend the use of other screws, or the use of these holes to secure the fex21 to any fixed object, as the screw-hole threads and fex21 may be damaged.

Looking after your fex21

Your Itronix fex21 computer is rugged and water-resistant. However, we recommend the following precautions to ensure that your fex21 will give you many years of reliable service.

- Avoid unnecessarily subjecting the unit to extreme temperatures, such as bright sunlight in a vehicle.
- Avoid leaving it in extremely damp or dusty conditions.
- Do not use hard or sharp objects to touch the display screen. In order to provide the best display clarity, the fex21 uses a **glass touch panel** (display screen). The screen is well protected against falls onto flat surfaces, but can still be damaged if it is directly struck or scratched by a hard object.
- Avoid dropping your fex21 or subjecting it to severe impacts.
- Do not use hard or sharp objects to touch the display screen, only use the pen supplied with your fex21.
- Do not apply excessive pressure to the display screen.
- If you carry your fex21 in your briefcase or with other items, make sure the display screen is protected against scratching and other damage.
- Use only a soft, dry cloth to remove dust and dirt.

NEVER use solvents of any kind on the case, the keyboard or the display screen.

Cleaning your fex21

If the screen of your Itronix fex21 should become dirty, clean it with a dry, clean cloth. If the computer gets very dirty, clean it as follows:

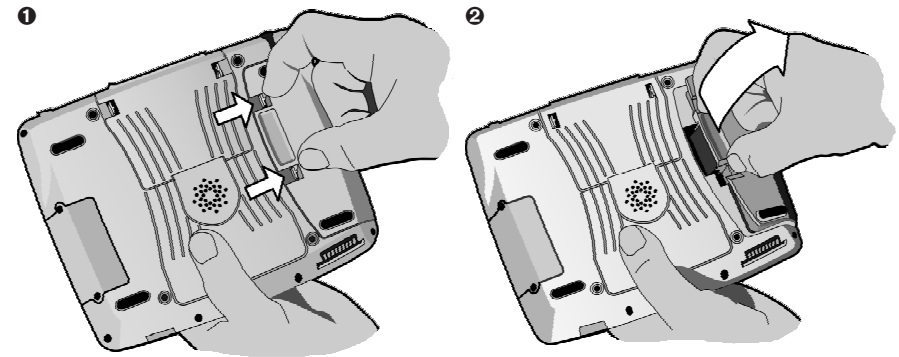
- Make sure the battery is correctly fitted. If you have dropped your fex21, check that the case is intact.
- Wipe the fex21 case and screen with a damp cloth.
- To remove stubborn deposits, use a soft bristle brush. **TREAT THE SCREEN AND KEYBOARD GENTLY.**
- Blow any water out of the connectors, then leave the computer to drain and air-dry. **DO NOT EXPOSE THE UNIT TO TEMPERATURES ABOVE 50°C (122°F).**
- Polish the screen with a clean dry cloth.

CAUTION: Do not use organic solvents or harsh detergents, as they may damage the case and screen.

How to replace the battery pack

CAUTION: Do not attempt to open, puncture or dispose of the battery pack in fire. The battery pack can burst or explode releasing hazardous chemicals.

- Switch off your fex21.
- Remove the stylus from its storage channel.
- Pull the two small catches ❶ forward until they click open.



- Remove the old battery pack ❷, using a small coin as a lever if necessary.
- Fit a new battery pack into your fex21 by locating the two small lugs in the side of the computer and pressing the battery pack firmly in place until the two small catches click into position.

CAUTION: Only use Itronix Li-Ion battery packs with your fex21. Use of non-approved batteries may be hazardous and also cause damage to your fex21.

Observe the safety instructions printed on the battery.

- Replace battery pack only with the approved Itronix part.
- Dispose of, or recycle, used batteries in accordance with the manufacturer's recommendations and local customs.
- Do not abuse, deliberately pierce, or subject the battery pack to excessive impact.
- Immediately discontinue use of the battery if it appears abnormal in any way, and consult your system provider for advice.
- Do not immerse the battery pack in liquid.
- Do not subject the battery pack to temperatures higher than 60°C (140°F).

- Do not short together the battery connections. Do not store the battery pack with metallic objects, due to the risk of short circuit.
- Battery chemical leakage is harmful. In the unlikely event of battery leakage, **DO NOT TOUCH**. In case of accidental contact, wash immediately with running water and seek medical advice. In case of accidental ingestion, seek immediate medical attention.
- Keep batteries out of reach of children.

How to replace Alkaline batteries

- Switch off your fex21 and remove the battery pack by pulling forward the two small catches and levering the pack out, using a small coin if necessary.
- Remove the four AA-size Alkaline cells from the pack.
- Insert four new cells, checking that the polarity is correct.
- Replace the battery pack.

NOTE: *Alkaline batteries are not recommended for use with peripheral loads or some PCCards, and are less suited to low temperature operation.*

CAUTION!

- **Keep batteries out of children's reach.**
- **Replace batteries with the same or equivalent type as recommended.**
- **Dispose of or recycle used batteries in accordance with the manufacturer's recommendations and local regulations.**
- **Take care to replace batteries correctly; there is a danger of explosion if batteries are replaced incorrectly.**
- **Battery chemical leakage is corrosive. In the unlikely event of battery leakage, DO NOT TOUCH. In case of accidental contact, wash immediately with running water.**

Distribution and Battery management

Customers preparing fex21 units for distribution to a field population should follow these recommendations to avoid problems on delivery of the units and on use in the field:

- Ensure users are aware of the advice contained in the fex21 Getting Started booklet. All fex21 users should be provided with a copy of the booklet for reference.
- Charge the units for 48 hours before deployment to ensure a full charge of both the main battery and the standby battery. Deploy the units within two weeks of charging.

- Advise users on proper battery maintenance, taking into account inactive periods such as weekends and vacations.
- If you do not intend to use your fex21 for longer periods, store important data in non-volatile memory and remove the battery pack for separate storage.

Battery Storage

Stored Li-Ion battery packs will gradually deteriorate, particularly if they are not stored in ideal conditions, and their life expectancy will decrease.

When storing Li-Ion battery packs, you should consider these factors:

- Fully-charged packs deteriorate faster than partly-discharged ones. For ideal storage, charge the packs to 100% and then discharge them to 50% charge before storing (this can be easily done using the "preparation for storage" function of the fex21 Offline Battery Charger).
- Do not allow stored packs to discharge completely, as this may permanently damage them. Follow a regular maintenance-charge policy for stored packs.
- Avoid storing packs at temperatures greater than 30°C (86°F), as this hastens self-discharge and battery ageing.
- Storing packs at temperatures near 0°C (32°F) retards self-discharge and battery ageing, so packs that are to be stored for a long period are best kept at these temperatures.

If you store battery packs at normal ambient temperatures, use this charging policy to maintain battery pack condition:

- Charge installed packs every 21 days to maintain their charge capacity.
- Charge uninstalled packs every 6 months.

When you bring an fex21 out of storage, you should charge it for at least 48 hours so that both the main battery pack and the standby battery are fully charged.