ITRONIX ®

HUSKY fex21

Desk Mount User Guide

Please read this guide before using your
Husky fex21 Desk Mount

The other guides

In addition to this manual, you may wish to refer to some of the other documentation available for the fex21 computer.

Getting Started With Your Husky fex21 - This booklet provides basic information for the care and use of your fex21 computer.

The Husky fex21 Developers CD - This provides more detailed information about installing and maintaining a fex21 system.

Microsoft Windows CE Manual - this manual includes detailed information about using Windows CE and the applications supplied with it.

INTRODUCTION

The fex21 Desk Mount allows the Husky fex21 computer to be easily recharged and connected to a desktop PC. Desk Mounts can also be connected together without additional cabling and, when combined with the fex21 USB hub cable, provide an easy way to connect multiple fex21 units to a single PC.

The Desk Mount replicates RS232, IrDA infrared, and USB (Universal Serial Bus) ports. USB in particular allows data to be exchanged at very high speed - up to 12Mb/second. A LED indicator for monitoring USB communication is located at the front of the unit.

The standard AC Adapter supplied with the fex21 unit is used for charging the fex21 through the Desk Mount, while Desk Mount RS232 communication is via the standard serial cable provided with the fex21.

NOTE: Please refer to the sections on AC Adapter precautions and Electromagnetic Compatibility, later in this guide, for important safety and statutory information.
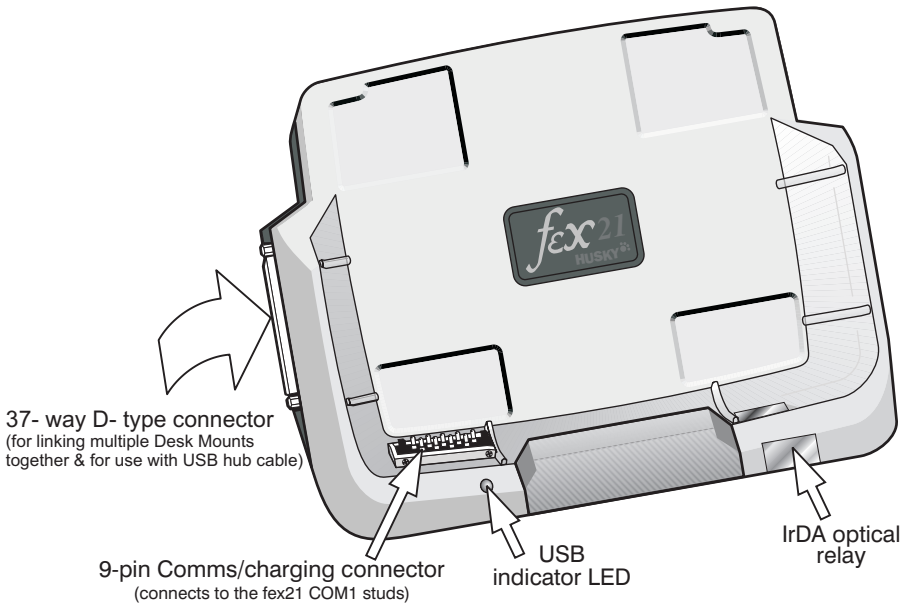
WHAT'S IN THE BOX

When you first unpack a new Desk Mount, the contents of the box should include:

- The fex21 Desk Mount unit.
- This User Guide.

Wall mounting kits, USB hubs, cables and power supplies will normally be supplied separately.

37- way D- type connector
(for linking multiple Desk Mounts
together & for use with USB hub cable)

IrDA optical
relay

9-pin Comms/charging connector
(connects to the fex21 COM1 studs)

USB
indicator LED

Power

To power the desk mount, you will need to use the AC Adapter supplied with your fex21 computer. A separate AC Adapter is needed to power each Desk Mount, even when they are linked together.

Cables

To connect your Desk Mount direct to a desktop PC you will need the special serial cable which is supplied with the fex21 computer (this cable is Husky part number P-1970-0001).

Other cables will be required if you wish to connect your Desk Mount to a desktop PC via USB - see the "Desk Mount Communication via USB" section of this manual for full details.

Wall mounting kit

The wall mounting kit consists of a bracket and a set of screws. It fixes the Desk Mount to a wall or other vertical surface so that the fex21 computer can be easily inserted and removed. Full details can be found in the **Wall Mount Installation Leaflet**, supplied with the wall mounting kit.

Where to install your Desk Mount

The main thing to bear in mind is that the chosen location for your Desk Mount must comply with the environmental details shown in the Desk Mount Specification (included later in this manual).

The fex21 Desk Mount is designed to be used on a flat, stable surface, or wall-mounted on a sturdy vertical surface. Try to select a place where the Desk Mount is unlikely to be accidentally knocked in normal use, and ensure that the chosen location allows easy access to the Desk Mount (for connecting cables and AC adapters as well as inserting and removing the fex21).

For multi-unit installations using USB, ensure that there is space for the right-hand Desk Mount in each chain to connect to a USB Hub cable, and that there is sufficient space nearby for any USB Hubs that you require (refer to the USB section of this manual for further details about this).

If you intend to expand the installation at a later date, ensure that there is sufficient space to add extra Desk Mounts as they become necessary.
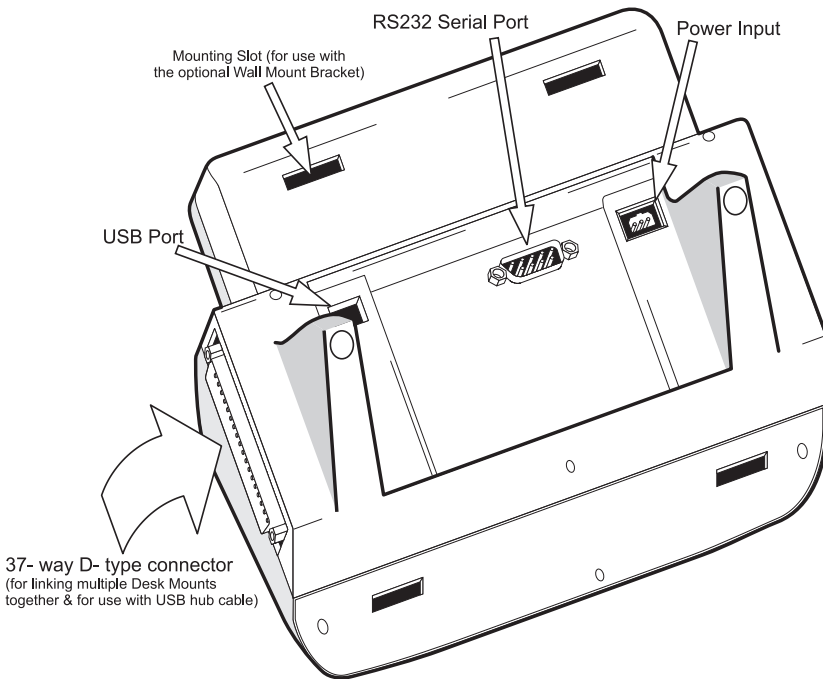
EMC and FCC legislation

To ensure that your fex21 Desk Mount installation complies with EMC legislation:

- Be aware that any changes or modifications made to the Desk Mount could void your authority to operate the equipment.
- Only use the AC Adapter supplied with your fex21 computer to power the Desk Mount. A separate AC Adapter is needed for each Desk Mount. There is no provision for powering multiple Desk Mounts from a single power supply.
- Use approved communications cables and ensure that they are shielded, with the shield grounded.
- The maximum system configuration may be limited by local EMC regulations.
- Use the fex21 Desk Mount only with approved peripherals and approved power supplies.

For further information about EMC and FCC legislation, please refer to the Electromagnetic Compatibility section of this guide.

Checking Desk Mount Operation

RS232 Serial Port

Power Input

Mounting Slot (for use with
the optional Wall Mount Bracket)

USB Port

37- way D- type connector
(for linking multiple Desk Mounts
together & for use with USB hub cable)

First turn on your fex21 and place it in the Desk Mount, then connect the AC Adapter to the Desk Mount power input socket and switch on the adapter. Once this is done, check that the fex21 power indicator LED (visible through the Desk Mount IrDA optical relay) is switched on.

- If rechargeable batteries are fitted into the fex21, the LED should normally flash in a slow regular pattern. This shows that the fex21 is receiving power and the battery is recharging.

- If an alkaline battery pack is fitted into the fex21, or if it contains fully charged rechargeable batteries, the LED should be constantly on. This shows that the fex21 is running on external power.

If the LED does not light, or flashes in an irregular pattern, there may be a problem. Check that the AC Adapter is firmly plugged in, and that the fex21 is correctly fitted into the Desk Mount. If this does not solve the problem, you should refer to the **Getting Started With Your Husky fex2**1 booklet, which contains a full explanation of the power LED codes.

Microsoft ActiveSync

Unless you intend to use USB, you will need to install Microsoft ActiveSync before your fex21 Desk Mount can communicate with a desktop PC. A copy of ActiveSync will have been supplied on CD with your fex21 computer.

If you have not already installed ActiveSync, do so now. You will find installation instructions in the booklet accompanying the ActiveSync CD.

ActiveSync enables you to compare the information held on your fex21 with that held on your desktop PC and update both computers with the latest data. This process is called synchronisation.

You can, for example, keep the information in Pocket Outlook on your fex21 up to date by synchronising it with Microsoft Outlook on your PC. Or you can synchronise Word and Excel documents, or Access databases, between your fex21 and your desktop PC. Microsoft ActiveSync automatically converts these files to the correct format when they are synchronised.

Where to find out more about ActiveSync

Full details on using and installing Microsoft ActiveSync are provided in the booklet supplied with the ActiveSync CD .

How to use the infrared port for file transfer
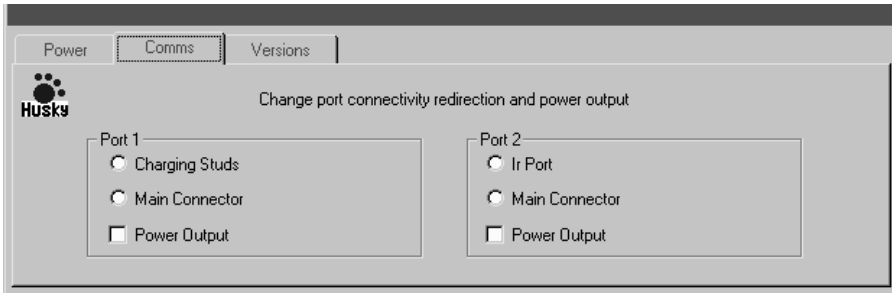
In addition to a serial port, the fex21 Desk Mount is equipped with an IrDA optical relay that allows you to transfer files from the fex21 to any other device fitted with a similar infrared window compliant with IrDA industry standards. This includes other handheld PCs and printers.

Full details on using the infrared port are included in the fex21 **Microsoft Windows CE Manual**.

How to use the COM1 serial port

Before you can use the COM1 port on the back of the Desk Mount, you must configure the Comms options on the fex21 Utilities Applet (which is accessed via the Husky fex21 icon located in the Control Panel of your fex21 computer). This applet allows you to switch communications port COM1 between Main Connector and Charging Studs.

For use with the Desk Mount, COM1 should normally have the Charging Studs (located at the bottom left of the fex21 unit) selected. These studs connect through to the 9-way D-type connector on the rear of the Desk Mount and support the Desk Mount RS232 DTE communications port.

The Desk Mount connector supports a sub-set of the port 1 signals: transmit (TXD), receive (RXD), request to send (RTS) and clear to send (CTS). Refer to the pin-out diagram in the 'Specification' section of this manual for further details.

How to use the serial cable for file transfer

Connect one end of the standard fex21 serial cable into the 9-pin serial port (COM1) on the back of the Desk Mount, then plug the other end into the serial port of your PC.

It is important to note that certain pins of the Desk Mount serial port are not connected - see the pinout diagram in the Specification section of this booklet. This in no way impedes the ability of the serial port to transmit and receive data using ActiveSync, so long as the fex21 serial cable is used.

DESK MOUNT COMMUNICATION VIA USB

What is USB?

USB is the acronym for Universal Serial Bus, a high speed data link that can be used to connect USB-compatible devices. Full speed USB devices can signal at up to 12Mb/s, much faster than most other connection methods - and more than 100 times faster than a standard serial port, which signals at a maximum of only 115kbits/sec.

USB also uses hubs, which can enable several USB devices to be linked together and connected to one desktop PC through a single USB port. In theory, you can connect up to 127 individual USB devices simultaneously in this way, although in practice it is likely to be less than this number.

Be aware that the USB specification limits the maximum length of USB cables to 5 metres. As USB is intended primarily for use on the desktop, this range limitation should cause no problems. If you do need to extend the system more than 5m from your PC, you can connect up to 5 commercial USB Hubs together with 5m cables. With a 5m cable from the last hub to your PC, this will give you a total of 30m of cable.

Software Requirements

Desk Mount USB communication requires that:

- The PC communicating with the Desk Mount must be running either the Windows 98 or the Windows 2000 operating system.

- The fex21 USB drivers (supplied on the **Husky fex21 Developers CD** and also available from the Husky web page) must be loaded onto the PC.

- All of the fex21 units involved must be running Microsoft Windows CE Professional Edition v3.01. If your fex21 units are running CE Professional v3.00, USB will not function - you should contact your system provider to determine how an upgrade can be arranged.

- Your software application(s) (running on both the fex21 and the PC) must support USB communication.

NOTE: Operating systems other than those mentioned here may also offer some USB support. However, they may not always function correctly (if at all) with the fex21 USB driver software. Please contact your system provider, or Husky customer support, if you require further details.

REQUIRED CABLES & ACCESSORIES

You can connect your fex21 Desk Mount to a PC by USB in several different ways.

Connecting To A PC Via A Single USB Cable

A single USB socket is fitted to the rear of the Desk Mount, allowing it to be directly connected to any USB-compatible PC.

To connect a single Desk Mount directly to a PC using USB you will need a standard A-B USB cable (Husky part number *P-1970-0399*, also available from most IT product retailers).

Simply plug the downstream ('B') end of the A-B USB cable (the end with the square connector) into the USB port on the back of the Desk Mount, then plug the upstream ('A') end of the cable (the end with the flat rectangular connector) into the USB port of your PC.

When you have made a USB connection to the host PC, the indicator at the left-hand side of the Desk Mount should be switched on, to show that the USB connection is 'talking'. If this LED is not on, there is a problem of some sort with the USB connection. Check all cables and connectors carefully to isolate the problem.

Connecting To A PC Via A Single USB Chain

To connect a chain of Desk Mounts to a PC you will need a Husky USB Hub cable (this cable is Husky part number *P-1970-0400*).

Up to four Desk Mount units can be connected in a single chain. To connect them, simply align the mating male and female 37-pin D-type connectors on the side of each Desk Mount unit, then push the units together. Remember that you will still require a separate AC Adapter for each Desk Mount in the chain.

Connect the downstream (D-Type) end of the Husky USB Hub cable to the D-Type plug at the right-hand end of the Desk Mount chain. Then plug the upstream end of the USB hub cable directly into the USB port of your PC.

As with a single unit connection, the indicator at the left-hand side of the Desk Mount should switch on once a connection is established, to show that the USB connection is 'talking'.

If fex21 units are added to (or removed from) Desk Mounts in the chain after the USB connection is established, communication with other units in the chain is not disrupted. Any empty desk mounts within a chain are ignored, and do not prevent the rest of the chain from communicating with the PC.

If more than four Desk Mounts are chained together, the USB indicator LEDs of the additional units (the ones at the left hand side of the chain, furthest away from the USB hub) will not light, and they will not function. The first four, however, will still function normally.

NOTE: Do not connect a Desk Mount to both a single USB cable and a Husky USB Hub cable at the same time. This will do no harm, but will prevent the unit from functioning.

Connecting Multiple USB Chains To A PC

To connect multiple chains of Desk Mounts to a single PC you will need a Husky USB Hub Cable for each chain, as well as at least one A-B USB cable and one or more commercial USB Hub units (Husky part number P-0900-0750, also available from most IT product retailers).

Set up each chain as described in the previous 'single USB chain' section, connecting a Husky USB Hub Cable to each chain. However, instead of connecting the upstream ends of the hub cables directly to your PC, plug them into the commercial USB hub. An A-B cable from the commercial hub then connects to the PC USB socket, allowing the PC to communicate with all of the Desk Mounts in the connected USB chains.

The number of Desk Mount units supported can be increased by adding another layer of commercial hub units, each one connected to the first commercial hub, which can each be connected to several Desk Mount chains.

Up to five levels of hubs (four levels of commercial hubs, plus one level of Husky USB Hub Cables) can be connected in this way. This can allow a single PC to support dozens of fex21 Desk Mount units.

NOTE: The EMC statements elsewhere in this manual refer to a single Desk Mount chain. The EMC performance of multi-chain Desk Mount installations involving commercial USB hubs (not supplied by Husky) may vary depending upon the make and model of the hub(s) used.

HOW TO LOOK AFTER THE DESK MOUNT

Although the fex21 computer is rugged, waterproof and sealed against rain, dirt and dust, **the fex21 Desk Mount is not**.

We recommend the following precautions to ensure that your fex21 Desk Mount provides you with many years of reliable service.

- Avoid subjecting the Desk Mount to extremely damp or dusty conditions.
- Use only a soft, dry cloth to remove dust or dirt
- NEVER use solvents or abrasive cleaners of any kind
- Avoid dropping the Desk Mount. Do not subject it to severe impacts or other physical mistreatment.

TROUBLESHOOTING

If you encounter problems with your Husky fex21 Desk Mount, you should contact your System Provider for help. However, here are a few checks that might help:

- If the screen of the fex21 is blank, check that the unit is seated correctly in the Desk Mount. If this does not solve the problem, adjust the fex21 display contrast. If the screen is still blank, soft reset your fex21 (reset instructions can be found in the **Getting Started With Your fex21** booklet).

- If the LED indicator light is not switched on but the A-B USB cable is plugged in, first check that the A-B cable is firmly connected at both ends. If you are using multiple Desk Mounts, chained together with Husky USB Hub cables, ensure that there are no more than four Desk Mounts in each chain.

- If you encounter problems when trying to communicate via the serial cable, first ensure that both ends of the serial cable are connected correctly. Then check your fex21 to ensure that you have the correct serial port selected (in the **Comms** section of the **Husky fex21** utility screen, accessed via the **Control Panel** of your fex21 computer). If this does not solve the problem, disconnect and reconnect the cable to your fex21 computer. If the problem persists, switch your fex21 off then on again.

- If you have problems when transferring data via the infrared port, check that nothing is obstructing the infrared window on either unit. If this does not solve the problem, you may need to adjust the room lighting (some types of lighting may interfere with IR communication). Try transferring one file at a time.

CAUTION: There are no user serviceable parts inside the fex21 computer or the Desk Mount, and high voltages may be present. Do not attempt to open either unit.

HOW TO OBTAIN FURTHER INFORMATION
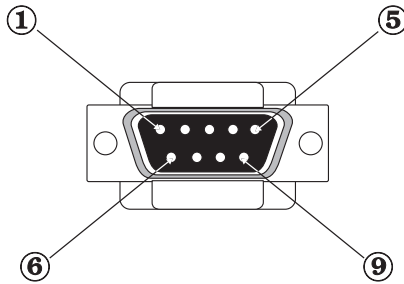
For further information about the fex21, or for information about other Husky products, refer to the Husky Web Site: http://www.itronix.co.uk. Full contact details for Husky offices around the world are provided on the back cover of this manual.

SPECIFICATION

Case:	ABS/PC
Size:	258mm x 115mm x 120mm
Environmental standards:	Designed to the appropriate IEC68, EN60068, BS2011 & MIL-STD-810E standards.
Service Temperature:	-40EC to +70EC (stand alone)
Shock:	1.3 metre drop onto plywood, to MIL-STD-810E
Keyboard and Screen:	fex21 is accessible while in desk mount
Communications:	EIA RS-232 serial port (9-pin 'D' connector) IrDA optical relay
EMC:	Compliant when tested in fex21 system. Class B for a single desk mount unit (with a shielded USB cable + ferrite), Class A for single chain installations.
Mains Power supplies:	available for most countries (supplied with the fex21 computer). A flying lead option is also available.
Optional accessories:	USB hub cable (for chain installations) and wall mounting kit are available.

9-Way D-type socket Serial Port

The pin connections for the RS232 DTE serial port on the rear of the fex21 Desk Mount are:

Pin	Description	Pin	Description
1	Not connected	6	Not connected
2	Received Data I/P (RXD)	7	Request to Send O/P (RTS)
3	Transmitted Data O/P (TXD)	8	Clear to Send I/P (CTS)
4	Not connected	9	Not connected
5	Signal Ground		

AC 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 damp.

- Ensure ventilation is not restricted.

- Use only the special adapter supplied. Do not replace with an alternative unapproved model, as damage may result.

- Inspect 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 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.

ELECTROMAGNETIC COMPATIBILITY

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 metres in length.

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

IMPORTANT NOTE- Radio Interference

This product has been designed and tested for use in commercial and industrial environments.

Use in a residential environment could cause local interference unless additional countermeasures are taken. A typical system has been tested and found compliant with residential EMC standards if such additional measures are in place. Contact your supplier for further details.

Europe

This product complies with the European EMC Directive 89/336.

USA & Canada

Refer to the approval statements in the fex21 manual.

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