4150 Pager

User Manual

(Manual Revision 4.10)

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NOTICE

All information provided in this document is carefully prepared and offered in good faith as a guide in the installation, use and servicing of our products. Installers must ensure that the final installation operates satisfactorily within the relevant regulatory requirements. Commtech Wireless accepts no responsibility for incorrect installation. Commtech Wireless reserves the right to change products, specifications, and installation data at any time, without notice.

Commtech Wireless makes certain limited warranties with respect to defective diskettes, documentation and electronic circuitry. Please see the associated information contained on this page.

SOFTWARE LICENSE STATEMENT

LIMITED WARRANTY

With respect to the physical documentation and physical electronic circuitry enclosed herein, Commtech Wireless warrants the same to be free of defects in materials and workmanship for a period of one year from the date of purchase. In the event of notification within the warranty period of defects in material or workmanship, Commtech Wireless will replace the defective diskettes, documentation and electronic circuitry. The remedy for breach of this warranty shall be limited to replacement and shall not encompass any other damages, including but not limited to loss of profit, and special, incidental, consequential, or other similar claims.

Commtech Wireless specifically disclaims all other warranties, expressed or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose with respect to defects in the documentation and electronic circuitry, and the program license granted herein, in particular, and without limiting operation of the program license with respect to any particular application, use, or purpose.

COMPLIANCE NOTICES

AUSTRALIA: Where applicable, to ensure compliance with ACA Technical Standards, this equipment is labeled with a Telecommunications Compliance Label. For safety reasons, this equipment should only be connected to compliant telecommunications equipment in accordance with the manufacturer's instructions.

NORTH AMERICA: Where applicable, this equipment has been tested and found to comply with FCC Rules and Regulations, Part 15 with the limits of a Class B digital device, designed to provide reasonable protection against harmful interference. This equipment generates, uses and can radiate frequency energy and if not installed and used in accordance with the instructions, may cause interference harmful to radio communications. On the base of the equipment is a label containing an FCC Registration Number, if applicable.

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1. ABOUT THE 4150 PAGER

About

Commtech's 4150 Pager is a lightweight, super-compact, tone-only pager. Easy to operate and packed with extra features, Commtech's 4150 is the smartest tone-only pager around.

Reliability

Reliability is one of the key factors when considering a pager. Not only does this determine how reliably the pager receives the message but it also determines the expected life span of the pager. That's why the 4150 is backed by a full 12 month warranty and is available in over 30 countries across the globe. Coupled with this, all repairs and warranty claims are conducted locally, by Commtech.

Ease of Use

Plain and simple. That was the specification for the design of the 'user interface'. The 4150 tone-only pager has only one button which serves as the on/off button as well as the acknowledge button to cancel an active page.

Features

One of the great features of the 4150 is the low purchase price, and the low cost for spare parts. We believe that you won't find a better pager for your money! Commtech has ensured that the 4150 meets many requirements, including capital budgets!

Synthesized

Do you have multiple frequencies and require one pager to solve all your problems? The Commtech 4150 provides the solution. The 4150 is a fully synthesized pager - simply program in the frequency you require any time you need to change the frequency. This translates to less stock and much faster supply times.

1.1 About This Handbook

This handbook is designed to assist users to setup and operate the 4150 pager.

This handbook is set out in a series of easy to follow step by step instructions followed by a checklist to confirm the steps as outlined. Following the steps and checklists correctly will ensure that there will be no problems when using the 4150 pager. Some additional special elements in the handbook's text are designed to make the installation process easier.

NOTE: A note preceded with this symbol indicates secondary information pertaining to the topic under discussion.

IMPORTANT: A Right-pointing arrow followed by text in this manner presents important information.

WARNING: Warnings like this alert you to the fact that you might damage your equipment or lose data if you don't follow instructions carefully.

2. THE 4150 TONE-ONLY PAGER

2.1 Case Layout

The 4150 tone-only pager has one button on its case.

------ **OK Key**

2.2 Replacing the Battery

The pager will warn you when the battery is getting low within the unit by emitting a special vibration pattern (b-pattern) every 30 minutes if low battery indication is enabled. The pager is powered by a single alkaline battery. Follow these directions to replace the battery:

WARNING: Before removing the battery, make sure the pager is turned OFF. Removing the battery while the power is ON can corrupt or delete data. If you do not wish to use the pager for a long time, write down any important data or configuration settings stored in the pager and remove the battery.

- Turn the pager off. (see the directions on this later on in this manual)
- Remove the battery compartment cover by sliding it in the direction of the marked arrow.
- Remove the exhausted battery and replace it with a fresh alkaline battery.
- Re-attach the battery compartment.

2.3 Turning the Pager "ON"

To turn the pager ON, follow these steps:

- Inserting the battery into the pager. If the battery is already in the pager, press and the hold the *OK Key* until the pager beeps.
- You can check that the pager is turned on at any time by briefly pressing the *OK Key*. If the pager emits a short beep and flashes its red LED, the pager is turned on.

2.4 Turning the Pager "OFF"

- Press the *OK Key* until the pager emits a long beep. You can confirm the pager is off by tapping the *OK Key*. The pager will not beep and the led will not flash, if the pager is off.

2.5 Normal Operation

- When the pager gets a message it will beep, flash or vibrate depending on the setting programmed into it.
- To stop the pager alerting, simply press the *OK Key*. The pager will stop alerting and await the next page.

3. APPENDIX

3.1 Precautions

1. This pager contains precision electronic components. Avoid temperature extremes during use and storage and do not subject it to strong impact.
2. Avoid using the pager in an area where it might come into contact with liquids or very high humidity.
3. Never try to take the pager apart. Doing so can lead to serious damage and malfunction.
4. Replace the battery as soon as possible after you notice it getting low. Leaving a dead battery in the pager can result in damage caused by leaking fluids. The battery should be removed from the pager if you do not plan to use it for a long time.
5. Clean the pager by wiping it with a soft dry cloth. You can also use a cloth moistened with a weak solution of mild neutral detergent and water. Wring as much liquid as possible from the cloth before wiping the pager. Never use thinner, benzene, alcohol or other volatile agents to clean the pager.
6. Do not allow the pager to be exposed to direct sunlight, heat from heaters or other sources of heat (greater than 60°C). Do not leave the pager in a motor vehicle that is parked in the sun.
7. Never expose batteries to direct sunlight or incinerate them. Doing so may cause the batteries to explode.
8. Never try to charge batteries or take them apart. Doing so can cause them to leak fluid.

3.2 Glossary

Term	Definition
Capcode	Seven-digit capacity code number used to identify a pager.
LED	Light Emitting Diode
POCSAG	RF Protocol used to communicate to pagers written by the Post Office Code Standardization Advisory Group.

3.3 Further Help and Support

3.3.1 Contact your Place of Purchase

A Commtech Wireless Authorized Distributor or Dealer sets up most systems. Contact your place of purchase with inquiries beyond the scope of this manual.

3.3.2 This Product is Not Field Serviceable

Should a fault develop with the hardware or software, contact your place of purchase for the most appropriate form of action. Do not attempt to open or repair any of the products as this may void any warranty.

4. SPECIFICATIONS

Note: Specifications subject to change without any notice

4.1 Electrical Specification

Rx Frequency (MHz) 135-175, 276-284, 406-414, 429-437, 439-470, 929-932
Nominal Battery Life ..... around 60 days ('AAA' alkaline battery)
Operating Voltage ..... 1.5 volts
Power Supply ..... 1 x AAA battery
Current Consumption ..... RF <8mA, Standby <1mA, Vibrate <100mA, Buzzer <80mA
Low Voltage Detection ..... RF cut @ 1.1volts ± 0.05volts
Logic Off Voltage 0.8volts
Keys ..... 1 Key (Enter)

4.2 Technical Specification

Code Format ..... POCSAG
Cap codes 4
Message Capacity ..... 20 messages
Memory backup ..... more than 10 minutes
Vibrator ..... Low noise core less motor
Buzzer ..... 80dBc SPL @ 30cm
Alert Types ..... Beep, Vibrate, Beep& Vibrate
Approvals ..... CE / FCC / ACA C-tick / DOC

4.3 Mechanical Specification

Unit size ..... 64 x 43 x 18 mm without holster
..... 2.5 x 1.7 x 0.7 inches without holster
Weight ..... 40 grams
..... 1.4 oz
Casing Standards ..... Dust Proof
Working Temperature ..... -10 to +50°C
Storage Temperature ..... -20 to +60°C
Working Humidity ..... Up to 95% @ 50°C (non condensing
ESD ..... Better than ± 12kV
Programming ..... Via 7 x pads in battery compartment

4.4 RF Specification

Local frequency ..... 1st Local 21.4 MHz, 2nd Local 455 kHz
Local oscillation ..... 1st Local PLL synthesized, 2nd local crystal controlled
Non Tuning Frequency Spread ..... ±4MHz (8Mhz total)
Sensitivity 512bps 5uV/m, 1200bps 7uV/m
Pass Bandwidth ..... ± 3.0kHz
Modulation ..... ± 4.5kHz DC modulation @ NRZ
Selectivity ..... Better than 60dB @ ±25kHz
Spurious Rejection ..... Better than 50dB
Image Rejection ..... Better than 50dB
Inter-modulation ..... Better than 50dB
Co-channel Rejection ..... Better than 6dB at 300Hz
Frequency Stability ..... VHF ± 10ppm, UHF ± 5ppm, 930Mhz ± 3ppm