



DactyScan84c

Operator's Manual

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1 Introduction

This manual is intended to provide instructions for correct installation and use of the Green Bit DACTYSCAN84C device.




This manual is considered to be updated at the date of publication and is valid only for the devices to which it is attached and must not be used for any other similar models.

Green Bit reserves the right to modify, integrate or improve the manual without implying that this publication is inadequate.

Operators who use the device must have access to the manual and know its contents. The manual must be carefully preserved and must always accompany the device in the case of any change of destination or ownership.






1.1 Warnings

The following graphic symbols have been used to highlight certain parts of the text considered to be particularly important:

	<p>DANGER:</p> <p>This symbol indicates dangerous situations that, if proper precautions are not taken, may cause serious risks to personal health and safety.</p>
	<p>WARNING:</p> <p>This symbol indicates dangerous situations which, if proper precautions are not taken, may cause serious damage to the DACTYSCAN84C device or to the equipment connected to this.</p>
	<p>NOTE:</p> <p>This symbol indicates suggestions or particularly important technical information which must not be neglected.</p>

1.2 Acronyms and Abbreviations


The following acronyms or abbreviations have been used in this manual:


-  IAFIS Integrated Automated Fingerprint Identification System
-  IQS Image Quality Specifications
-  P/N Part Number
-  S/N Serial Number of each device
-  PC Personal Computer

2 Safety Regulations

Read the following notes carefully and comply with the recommendations indicated, thereby helping us to guarantee your safety and to prevent damage to the equipment.

2.1 General rules

	<p style="text-align: center;">DANGER:</p> <ul style="list-style-type: none"> ➤ To avoid electric shocks or dispersion, always insert the power cable of PC in outlets with a ground connection. Never tamper with the ground connection. Always use a three-pole cable if an extension is to be used. ➤ To avoid the risk of electric shock, never carry out maintenance or configuration operations during a storm. ➤ Check that the connection cables do not impede or obstruct the transit of persons.
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	<p style="text-align: center;">WARNING:</p> <ul style="list-style-type: none"> ➤ Never attempt to operate on the device if you are not a trained maintenance engineer. Always consult the manual ➤ All device cleaning operations must be carried out with the device OFF and disconnected from the PC ➤ Never insert any object in the outlets of the device. This may cause damage to the appliance as result of internal short-circuits. ➤ The DACTYSCAN84C device is designed for indoor use and must be protected against water and other liquids. ➤ Green Bit shall not be held responsible for any damage caused by improper use of the DACTYSCAN84C device.
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2.2 Electromagnetic emissions

All electronic devices generate free-space radiated electromagnetic emissions due to the electric or magnetic activity of the device.

These electromagnetic emissions may interfere with other appliances, such as personal computers or radiofrequency systems, causing loss of data or downgrading of performance.

This disturbance is known as electromagnetic interference (EMI), while electromagnetic compatibility (EMC) defines the ability of electronic devices to operate correctly in the presence of electromagnetic fields, tolerating and limiting electromagnetic interference.

Although the DACTYSCAN84C device has been designed in full compliance with current regulations, in particular cases, electromagnetic interference may be caused mainly by two phenomena: closeness to other appliances and electrical interference in power lines.

If this happens, the phenomenon can be corrected as follows:

- **Insulation**
 Devices characterized by strong radiation of electromagnetic waves must be kept at reasonable distance from the DACTYSCAN84C device.
- **Radiation**
 If the DACTYSCAN84C device is close to receivers/transmitters, modify the direction of the antenna.
- **Dedicated circuits**
 Connect the DACTYSCAN84C device on separate power lines from other devices with high electric noise such as, for example, conditioners.

2.3 Environmental protection (European Union)




This symbol, applied to the product or packaging, indicates that the product belongs to the category of electric and electronic equipment.


The product contains potentially hazardous substances for the environment and health and must never be disposed of together with ordinary solid waste. In compliance with current legislation and the WEEE Directive 2002/96/CE, waste electric and electronic equipment must be managed according to the procedures established.

The user is responsible for disposal of this product which must be sent to collection centers specialized in the recycling of electric and electronic equipment, thus contributing to re-use of equipment that could have dangerous effects on the environment and on health.

For further information regarding collection and recycling points in your area, contact the authorities of your city or the Green Bit customer assistance service or your retailer for information on withdrawal of the device.

2.4 Compliance with Directives and Regulations

Electrical safety	Low-Voltage Directive 2006/95/EC EN 60950 IEC 60950-1
EMC/EMI	Electromagnetic Compatibility Directive 2004/108/CE EN 55022, EN 55024 EN 61000-4-2 EN 61000-4-3 EN 61000-4-5 EN 61000-4-6 EN 61000-4-11
Marking	
Fingerprint image	Compliant with IAFIS- IQS regulations (FBI CJIS-RS-0010, appendix F)

	<p>NOTE: <i>FCC Regulations</i></p> <p><i>NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.</i></p>
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3 Warranty

Green Bit S.p.A. warrants the devices for a period of 12 (twelve) months from the date of delivery. Such warranty covers only free supply of parts that, after checking at our offices, are found to be faulty.

The warranty, with exclusion of any liability for direct or indirect damages, is restricted only to material defects and is no longer valid if the parts returned have been disassembled, tampered with or repaired by third parties not authorized by Green Bit S.p.A.

Replacement of parts under warranty shall not in any case extend the terms thereof.

Alterations, modifications of performance or the application of new equipment to the device to which this manual refers without the written authorization of Green Bit S.p.A. are absolutely forbidden.

Damage caused by negligence, neglect, misuse or improper use of the device or by improper operation by the user is excluded from this warranty. In the case of tampering with the safety elements of the device, the warranty is automatically forfeited and Green Bit S.p.A. shall no longer be held responsible.

4 Description and Characteristics

4.1 Description of the product

The DACTYSCAN84C device is a portable appliance consisting of one optical live fingerprint scanner without any mechanical movements:

To operate, the DACTYSCAN84C must be connected to a Personal Computer (application station) via a USB 2.0 interface.

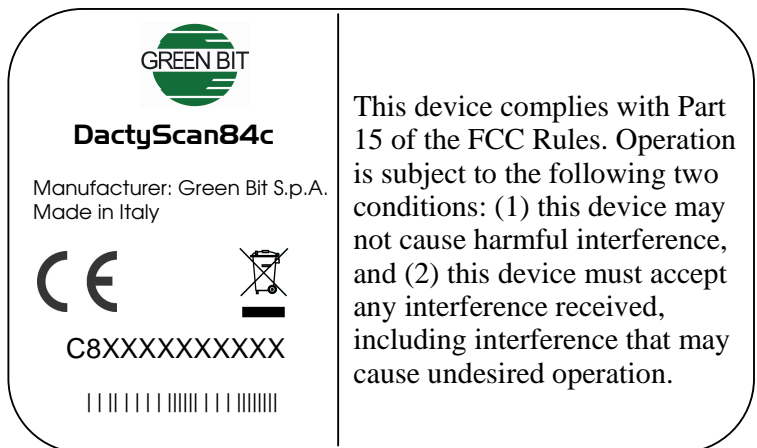
Via the USB interface and the function selected, the following images can be acquired:

- The two four slaps and the two thumbs (4-4-2 acquisition)
- Single flat and rolled fingerprint

The fingerprint images comply with IAFIS IQS regulations (FBI CJIS-RS-0010, appendix F).

4.2 Identification

Product identification data are indicated on an adhesive label applied to the back of the device; the label is shown in the figure below:

	<i>Description of label</i>
	Green Bit logo
	Name of the product
	Manufacturer
	Place of construction
	The PNSN, serial number of the product and bar-code format
FCC note	

This data must be indicated in the case of requests for assistance or the supply of spare parts.

4.3 Technical characteristics

4.3.1 Power supply

- The DACTYSCAN84C device is powered through the USB 2.0 interface

4.3.2 Operating and storage conditions

Parameter	Description	Min.	Max.
Tst	Storage temperature (°C)	-20	60
Top	Operating temperature (°C)	0	50
RH	Relative humidity (without condensation)	10%	90%

4.3.3 Physical characteristics

Dimensions	Width: 148 mm
	Height: 148 mm
	Depth: 152 mm
Color	Computer Gray: RAL-9018
Weight	1400 g

4.3.4 Four slaps and two thumbs acquisition

Quality Standard of the image	Compliant with IAFIS- IQS regulations (FBI CJIS-RS-0010, appendix F)
Resolution	500 dpi \pm 1%
Dynamics	8-bit, 256 shades of gray
Image area	3.2" x 3" (81.2 mm x 76.2 mm)
Size of image	1600 x 1500 pixels
Scanning speed	8,6 fps (27 fps preview mode)
Display	Real time
Contrast and brightness adjustment	Automatic
Elimination of latent print	Automatic

4.3.5 Rolled finger acquisition

Quality Standard of the image	Compliant with IAFIS- IQS regulations (FBI CJIS-RS-0010, appendix F)
Resolution	500 dpi \pm 1%
Dynamics	8-bit, 256 shades of gray
Image area	1.6" x 1.6" (40.6 x 40.6 mm)
Size of image	800 x 800 pixels
Scanning speed	25 fps
Capture of rolled fingerprint	Automatic
Max. speed rolled fingerprint	10 mm/s
Max. time for rotation (time out from start of acquisition)	Automatic stop at end of acquisition
Display	Real time
Contrast and brightness adjustment	Automatic
Elimination of latent print	Automatic

5 Installation

This chapter explains how to install the Green Bit DACTYSCAN84C device.



NOTE:

Before connecting the DACTYSCAN84C device to the Personal Computer, the software driver must be installed. Consult the *MultiScan SDK* software manual.

5.1 PC Requirements

Prior to installation, check that the Personal Computer is suitable for the device. For the characteristics of the Personal Computer, refer to the table below:

	Minimum requirements	Recommended
Processor	Pentium IV @2,8 GHz or equivalent	Intel ® Core 2 Duo @1.8GHz or equivalent
RAM	256 MByte	512 Mbyte
Interface	USB 2.0	USB 2.0
Operating system	Windows 2000 ® SP3 Windows XP ® SP1 (32 bit) Windows XP ® SP1 (64 bit) Windows 2003® Server SP1 (64 bit) Windows Vista (32 bit)	Windows XP ® SP2 (32 bit) Windows 7 ® (32 bit)



NOTE:

The requirements indicated above are valid for desktop PCs. For portable PCs, correct functioning is not guaranteed as their performance level is lower than that of desktop PCs with the same characteristics. Therefore, before using the device with a portable computer, it is advisable to run tests.

5.2 Packaging

Check that the packaging of the DACTYSCAN84C is undamaged, without evident signs of impacts, tears or traces of damp. If one or more of these conditions is not complied with, contact the assistance service. The supply includes the following parts:

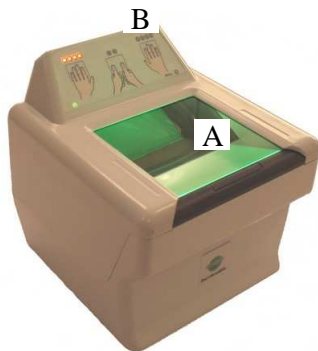
- Green Bit DACTYSCAN84C electronic device.
- Green Bit USB 2.0 High Speed cable with disturbance suppression ferrite

**WARNING:**

Use of accessory components other than those furnished by Green Bit does not guarantee compliance with current Directives and legislation.

5.3 External appearance

The device is housed in an ergonomically-designed case with, on the surface, one optical, as shown in the photos:



A) Optical scanner
(3.2" x 3")

B) Graphical user interface



C) USB 2.0 connector

6 Use


After installation, the DACTYSCAN84C device is ready for use.

**NOTE:**

Image acquisition and quality control is carried out and checked by specific application software; for further information, refer to the *MultiScan SDK* software documentation and the user manual of the application for installation and use.


7 Maintenance

The DACTYSCAN84C device does not require any particular maintenance. However, particular attention must be dedicated to cleaning the unit and surface scanners.

	<p>WARNING: Cleaning must be carried out with the device OFF and disconnected from the Personal Computer.</p>
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7.1 Cleaning of the casing

Clean with a soft cloth moistened with water and dry any excess water.

	<p>WARNING: Do not use solvents, alcohol, ammonia or domestic cleaning products as they contain substances that could damage the acquisition surface of the device.</p>
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7.2 Cleaning of the scanner

For normal functioning, the acquisition surface of the scanner need not be perfectly clean as a slight film of dust, grease or moisture is compensated electronically; it is advisable to clean the acquisition surface of the scanner only in the case of evident signs of dirt or if highlighted by the diagnostics of the device.

For routine cleaning of the scanner, use the specific Cleaning Accessories Kit provided.

Proceed as follows:

1. Take a tissue for cleaning the acquisition surface of the scanner.
2. Check the acquisition surface of the scanner for any particles of dust or other substances that could scratch the acquisition surface during cleaning. Remove the particles by blowing on the scanner or using the dry tissue, delicately cleaning the glass surface.
3. Moisten the tissue with the acquisition surface cleaning solution, clean without rubbing too hard, removing all traces of dust and grease.
4. Dry any excess liquid.



BIOMETRIC SYSTEMS

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