F732-E WIZARD™

User's Manual

DATALOGIC

F732-E WIZARD™

USER'S MANUAL

DATALOGIC S.p.A.
Via Candini 2
40012 - Lippo di Calderara di Reno
Bologna - Italy

F732-E Wizard™

Ed.: 11/2003

N2468

822000172 (Rev. B)

CONTENTS

REFERENCES

CONVENTIONS

This manual uses the following conventions:

"User" or "Operator" refers to anyone using a F732-E Terminal.
"Device" refers to the F732-E Terminal.
"You" refers to the System Administrator or Technical Support person using this manual to install, operate, maintain or troubleshoot a F732-E Terminal.

REFERENCE DOCUMENTATION

For further details refer to the Manuals of the various programs provided on CD-ROM.

SERVICE, SUPPORT AND WARRANTY

Datalogic provides several services as well as technical support through its website. Log on to www.datalogic.com/services/support and click on the links indicated for further information including:

Services - Warranty Extensions and Maintenance Agreements

Support - Software Driver Downloads

Contact Us - Listing of Datalogic Subsidiaries and Quality Partners

Authorised Repair Centres

Products >Portable Data Collection Terminals >Software Tools

- **EasyGen™ Demo Version**
  EasyGen™ Demo software allows developers to easily and quickly build personalized applications of average complexity in a Windows environment. This is the same software included on CD-ROM in the package.
- **EasySend™**
  A Windows-based file uploading program.

SAFETY REGULATIONS

NOTE

Read this manual carefully before performing any type of connection or repair on the terminal.

The user is responsible for any damages caused by incorrect use of the equipment or by inobservance of the indication supplied in this manual.

GENERAL SAFETY RULES

Use only the components supplied by the manufacturer for the specific F732-E terminal being used. The use of cradles other than those supplied with the terminal or indicated in the list in par. 1.4 could cause serious damage to the terminal.

Do not attempt to disassemble the F732-E terminal, as it does not contain parts that can be repaired by the user. Any tampering will invalidate the warranty.

When replacing the batteries or at the end of the operative life of the F732-E terminal, disposal must be performed in compliance with the laws in force.

Do not submerge the terminal in liquid products.

LASER SAFETY

The laser light is visible to the human eye and is emitted from the window indicated in the figure.

Figure 1 - F732-E Laser Safety Labels

I	D	F	E
LA LUCE LASER È VISIBILE ALL'OCCHIO UMANO E VIENE EMESSA DALLA FINESTRA INDICATA NELLA FIGURA.	DIE LASER-STRAHLUNG IST FÜR DAS MENSCHLICHE AUGE SICHTBAR UND WIRD AM STRAHLAUS-TRITTSFENTSTER AUSGESENDET (SIEHE BILD)	LE RAYON LASER EST VISIBLE À L'OEIL MU ET IL EST ÉMIS PAR LA FENÊTRE DÉSIGNÉE SUR L'ILLUSTRATION DANS LA FIGURE	A LUZ LÁSER ES VISIBLE AL OJO HUMANO Y ES EMITIDA POR LA VENTANA INDICADA EN LA FIGURA.
LUCE LASER NON FISSARE IL FASCIO APPARECCHIO LASER DI CLASSE 2 MASSIMA POTENZA D'USCITA: LUNGHEZZA D'ONDA EMESSA: CONFORME A EN 60825-1(2001)	LASERSTRAHLUNG NICHT IN DEN STRAHL BLICKEN PRODUKT DER LASERKLASSE 2 MAXIMALE AUSGANGSLEISTUNG: WELLENLÄGE: ENTSPR. EN 60825-1(2001)	RAYON LASER EVITER DE REGARDER LE RAYON APPAREIL LASER DE CLASSE 2 PUISSANCE DE SORTIE: LONGUER D'ONDE EMISE: CONFORME A EN 60825-1 (2001)	RAYO LÁSER NO MIRAR FIJO EL RAYO APARATO LÁSER DE CLASE 2 MÁXIMA POTENCIA DE SALIDA: LONGITUD DE ONDA EMITIDA: CONFORME A EN 60825-1 (2001)

ENGLISH

The following information is provided to comply with the rules imposed by international authorities and refers to the correct use of your terminal.

STANDARD LASER SAFETY REGULATIONS

This product conforms to the applicable requirements of both CDRH 21 CFR 1040 and EN 60825-1 at the date of manufacture.
For installation, use and maintenance, it is not necessary to open the device.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in exposure to hazardous visible laser light.

The product utilizes a low-power laser diode. Although staring directly at the laser beam momentarily causes no known biological damage, avoid staring at the beam as one would with any very strong light source, such as the sun. Avoid that the laser beam hits the eye of an observer, even through reflective surfaces such as mirrors, etc.

ITALIANO

Le seguenti informazioni vengono fornite dietro direttive delle autorità internazionali e si riferiscono all'uso corretto del terminale.

NORMATIVE STANDARD PER LA SICUREZZA LASER

Questo prodotto risulta conforme alle normative vigenti sulla sicurezza laser alla data di produzione: CDRH 21 CFR 1040 e EN 60825-1.

Non si rende mai necessario aprire l'appa-recchio per motivi di installazione, utilizzo o manutenzione.

ATTENZIONE

L'utilizzo di procedure o regolazioni differenti da quelle descritte nella documentazione può provocare un'esposizione pericolosa a luce laser visibile.

Il prodotto utilizza un diodo laser a bassa potenza. Sebbene non siano noti danni riportati dall'occhio umano in seguito ad una esposizione di breve durata, evitare di fissare il raggio laser così come si eviterebbe qualsiasi altra sorgente di luminosità intensa, ad esempio il sole. Evitare inoltre di dirigere il raggio laser negli occhi di un osservatore, anche attraverso superfici riflettenti come gli specchi.

DEUTSCH

Die folgenden Informationen stimmen mit den Sicherheitshinweisen überein, die von internationalen Behörden auferlegt wurden, und sie beziehen sich auf den korrekten Gebrauch vom Terminal.

NORM FÜR DIE LASERSICHERHEIT

Dies Produkt entspricht am Tag der Herstellung den gültigen EN 60825-1 und CDRH 21 CFR 1040 Normen für die Lasersicherheit.

Es ist nicht notwendig, das Gerät wegen Betrieb oder Installations-, und Wartungs-arbeiten zu öffnen.

ACHTUNG

Jegliche Änderungen am Gerät sowie Vorgehensweisen, die nicht in dieser Betriebsanleitung beschreiben werden, können ein gefährliches Laserlicht verursachen.

Das Produkt benutzt eine Laserdiode. Obwohl zur Zeit keine Augenschäden von kurzen Einstrahlungen bekannt sind, sollten Sie es vermeiden für längere Zeit in den Laserstrahl zu schauen, genauso wenig wie in starke Lichtquellen (z.B. die Sonne). Vermeiden Sie es, den Laserstrahl weder gegen die Augen eines Beobachters, noch gegen reflektierende Oberflächen zu richten.

FRANÇAIS

Les informations suivantes sont fournies selon les règles fixées par les autorités internationales et se refèrent à une correcte utilisation du terminal.

NORMES DE SECURITE LASER

Ce produit est conforme aux normes de sécurité laser en vigueur à sa date de fabrication: CDRH 21 CFR 1040 et EN 60825-1.
Il n'est pas nécessaire d'ouvrir l'appareil pour l'installation, l'utilisation ou l'entretien.

ATTENTION

L'utilisation de procédures ou réglages différents de ceux donnés ici peut entrainer une dangereuse exposition à lumière laser visible.

Le produit utilise une diode laser. Aucun dommage aux yeux humains n'a été constaté à la suite d'une exposition au rayon laser. Eviter de regarder fixement le rayon, comme toute autre source lumineuse intense telle que le soleil. Eviter aussi de diriger le rayon vers les yeux d'un observateur, même à travers des surfaces réfléchissantes (miroirs, par example).

ESPAÑOL

Las informaciones siguientes son presentadas en conformidad con las disposiciones de las autoridades internacionales y se refieren al uso correcto del terminal.

NORMATIVAS ESTÁNDAR PARA LA SEGURIDAD LÁSER

Este aparato resulta conforme a las normativas vigentes de seguridad láser a la fecha de producción: CDRH 21 CFR 1040 y EN 60825-1.
No es necesario abrir el aparato para la instalación, la utilización o la manutención.

ATENCIÓN

La utilización de procedimientos o regulaciones diferentes de aquellas describidas en la documentación puede causar una exposición peligrosa a la luz láser visible.

El aparato utiliza un diodo láser a baja potencia. No son notorios daños a los ojos humanos a consecuencia de una exposición de corta duración. Eviten de mirar fijo el rayo láser así como evitarían cualquiera otra fuente de luminosidad intensa, por ejemplo el sol. Además, eviten de dirigir el rayo láser hacia los ojos de un observador, también a través de superficies reflectantes como los espejos.

FCC COMPLIANCE

CAUTION

This device complies with PART 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference which may cause undesired operation.

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.

GENERAL VIEW

Figure 2 - F732-E Terminal Overview

Key:

A) Laser beam output window
B) Reset key (protected)
C) Two color LED
D) Cradle communications window
E) Battery charger contacts

QUICK START

Verify that the F732-E and all the parts supplied with the equipment are present and intact when opening the packaging. Keep this package should it be necessary for shipping to a technical assistance centre.

When using the F732-E terminal for the first time:

1) **Install** the **battery pack** by correctly inserting it into the F732-E terminal (refer to par. 4.2 in this manual).

2) **Connect** the F952 cradle to the power supply and to the PC using the RS232 cable included in the package (refer to par. 2.1 and 2.2 in this manual for further details).

3) **Charge** the batteries by positioning the terminal into the cradle.

4) **Install the EasyGen™ Demo software** from the CD onto your PC.

5) **Load an application program onto the F732-E terminal** through the F952 cradle using either **EasyGen™** or **SysTools™2001** (see par. 1.3 of this manual for descriptions of the various application development programs available).

   Since the EasyGen™ interpreter program is pre-loaded onto the F732-E terminal, you can easily get started by loading one of the example application programs from the EasyGen™ Demo software installation. (see par. 2.4 in the EasyGen™ User's Manual or par. 3.3 in the SysTools™2001 User's Manual).

   The terminal is now ready to collect data. ***Press the Enter key on the terminal to start the example program***.

6) **Download the collected data to the PC** using the **SysTools™2001** utility program. The data will be saved in the specified .DAT Standard ASCII file (see par 4.2.1 under Terminal Properties in the SysTools™2001 User's Manual).

1 INTRODUCTION

1.1 TERMINAL DESCRIPTION

For the vast majority of small businesses and retailers, the complete Formula Wizard™ package represents the simplest and most cost-effective solution for entering the world of barcode data acquisition.

The F732-E Wizard™ portable terminal is at the heart of the Formula Wizard™ solution. It is a lightweight, pocket-sized, fully programmable terminal with an integrated laser scanner. Fast and reliable in reading the most common symbologies, it comes equipped with a handy 25-key alphanumeric keyboard and has a large LCD graphic backlit display with icons.

The display of 16 characters by 4 lines plus a line in the upper part of the display for the programmable icons is shown below:

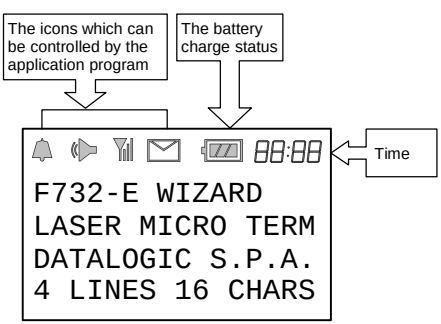


Figure 3 - Terminal Display

F732-E has 512 KB of RAM memory to manage large databases and 512 KB of Flash memory for application programs of large dimensions.

Data transfer to the PC takes place by simply placing the terminal into the Formula 952 Transceiver/Charger, which is equipped with an RS232 serial port, and using SysTools™2001.

1.2 BUNDLED SOFTWARE

The **EasyGen™** Demo Version CD-ROM with five ready-to-use example applications is included in the package. These applications cover the most common operating requirements in data collection, assisted sales, inventory and goods picking, thus making the Formula Wizard™ solution immediately productive. Refer to Appendix A of the EasyGen™ User's Manual for details.

By using the EasyGen™ Demo software, developers can easily and quickly build personalized applications of average complexity in a Windows environment. The following is a list of the programs included on the CD-ROM.

- EasyGen™ Demo (Easy Application Generator)[1]
- SysTools™2001 (efficient utility for data exchange with the F732-E terminal)
- OLE for Formula (useful ActiveX software module for easy integration of Windows applications)
- The most common application examples (data collection, inventory, goods picking, assisted sales) available in 5 languages (English, French, German, Italian, Spanish)
- The complete documentation in PDF format.

1.3 APPLICATION DEVELOPMENT PROGRAMS

By using the optional **EasyGen™** Application Generator or the **DS for Formula™** software packages, developers can easily customize applications according to the end user specific needs, solving the most common data collection applications such as inventory, picking and shipping/receiving.

EasyGen™ is the ideal solution for making the F732-E productive instantly. In a familiar environment, developers have all the instruments at their disposal to reduce programming times (and therefore costs) while maintaining a high standard of quality in the creation of personalized applications whatever their nature, whether simple (e.g. a program for inserting codes/quantities) or more sophisticated.

[1] EasyGen™ is 32-bit software for Microsoft Windows 95/98/2000/ME and NT (PC Pentium processor, 16MB of RAM, 30MB free hard disk space required) The Demo version does not allow saving created applications.

The EasyGen™ package includes Systools™ 2001, the efficient software utility to transfer data to standard ASCII files, and OLE for Formula, the software module ActiveX - OLE Custom Control or OCX - allowing users to easily integrate their data into applications such as Visual Basic, Excel, Access, Delphi, etc.

DS for Formula™ is a software package that provides instruments for fully exploiting F732-E by creating fully-structured and personalized applications.

DS for Formula™ uses a «C» standard ANSI compiler, integrated with special libraries, operating in an MS-DOS environment and developed specifically for the type of terminal processor. The libraries, developed by Datalogic, permit direct management of the terminal functions. For example, the management of barcode reading devices is immediate and rational thanks to interaction with functions that automatically start up the barcode acquisition procedure.

Equally transparent, by using a philosophy of events programming, is the procedure managing the keyboard, display, serial and radio-frequency communication, calendar/clock and, either directly or through a vdisk function, the data memory organized into banks.

DS for Formula™ also offers a series of effective general purpose application examples which represent an excellent starting point while simultaneously providing a practical guide for studying and working on complex or personalized programs. Refer to the "Tools" paragraph in the DS for Formula™ Manual for details.

1.4 PACKAGE CONTENTS

The F732-E terminal package includes:

- n. 1 F732-E terminal complete with batteries
- n. 1 cradle F952 with power supply
- n. 1 cable 94A054000 for serial connection
- n. 1 EasyGen™ Demo Version CD-ROM
- n. 1 user's manual
- n. 1 test chart

CAUTION

Remove all components from their packing and check that they are in good condition and that they correspond to the shipment documents.

Keep the packing and boxes in case it is necessary to send the terminal back for technical assistance. Damage caused by improper packing is not covered by the warranty

NOTE

Rechargeable battery packs are not initially charged.

Therefore the first operation to perform is to charge them in the appropriate cradle (see par. 4.1).

1.5 ACCESSORIES

- **FBK73X-E** - order number 94ACC1110
  Battery kit NiMh F732-E/734-E
- **FBS73X-E** - order number 94ACC1120
  Battery kit NiMh F732-E/734-E (5 pcs pack)
- **Functional Case** - order number 94ACC1266
- **Belt Holster** - order number 94ACC1268
  F732-E Holster with swivel
- **Rubber Cover** - order number 94ACC4650
  Rubber Protection Cover
- **DS for Formula™** - order number 94A104860
  Development system for Formula Basic Line
- **CA51** - order number 94A104890
  "C" Compiler 8051 Compiler kit V7 for F6XX and F7XX
- **EasyGen™** - order number 94A104850
  Easy application generator package for Formula batch terminals: F660-E, F725-E, F732-E Wizard™, F734-E

2 CONNECTIONS

2.1 CRADLE

To make the F732-E terminal operative, it is necessary to insert it in the Formula 952 Transceiver charger cradle which has been previously connected to the power supply and to a host computer with an available RS232 serial line.

The following figure describes the F952 cradle:

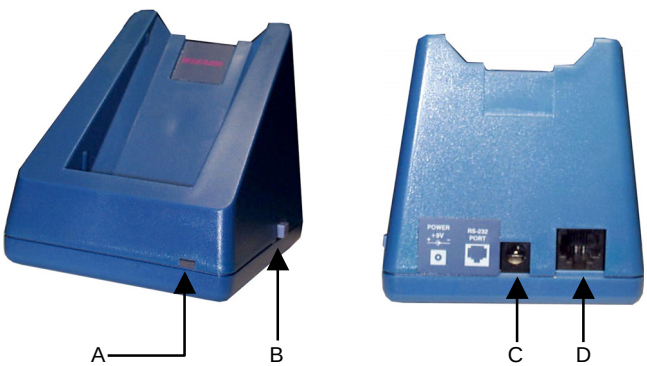


Figure 4 - F952 Cradle Overview

A) Red/Green LED:
Green = terminal not inserted or charge level being maintained
Red = charge in progress

B) Cradle on/off switch

C) Power jack (9 V)

D) RJ connector for connection to the host computer

CAUTION

The use of cradles other than those expressly specified may damage the F732-E terminal.

2.2 CONNECTION TO THE HOST COMPUTER

CAUTION

Before proceeding with this phase, make sure that both the computer and the terminal are switched off.

2.2.1 RS232 Connection

To connect the F952 cradle to the host computer, proceed as indicated below:

1- Connect the cable to the serial port of the host computer.

2- Connect the other end of the same cable (RJ connector) to the RS232 port of the cradle (point D in the previous figure).

3- Insert the power-supply plug into the jack on the base of the cradle (point C in the previous figure).

4- Attach the power supply to a power outlet.

5- Turn on the cradle (point B in the previous figure) and the computer.

6- Put the F732-E terminal into the cradle and, if necessary, wait for battery recharging.

NOTE

For correct communication with the terminal, it is necessary that both the PC and terminal serial communication parameters share the same value. Default parameters are: baud rate = 9600, data bits = 8, parity = none, stop bit = 1.

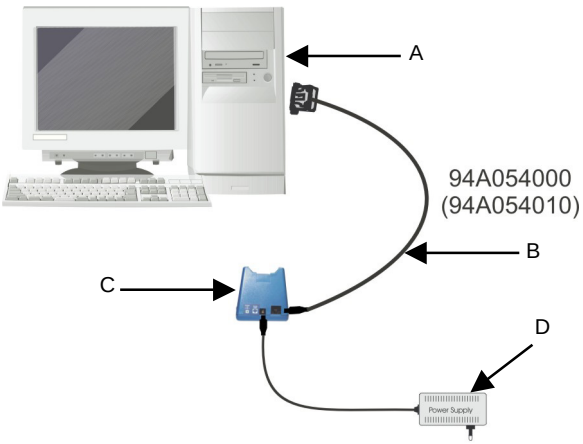


Figure 5 - RS232 Single Cradle Connection

Key:

A) Host computer

B) Serial cable

C) F952 cradle

D) Power supply

2.3 CONNECTION CABLE

The serial cable provided in the F732-E WIZARD™ package has the following characteristics:

- **RS232 Connection with PC/AT or compatible: cable 94A054000 (included with terminal)**

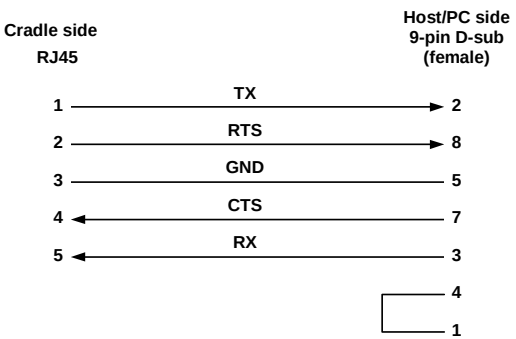


Figure 6 - RS232 Cable Pinout

Other cables are available depending on the type of computer and connection.

3 USE AND OPERATION

The F732-E terminal is fully programmable with 512 KB of RAM memory to manage large databases and 512 KB of Flash memory for application programs of large dimensions.

NOTE

It is necessary to load an application program onto the terminal to exploit its features.

By using the optional EasyGen™ Application Generator or the DS for Formula™ software package, developers can easily customize applications according to the end user specific needs, solving the most common data collection applications such as inventory, picking and shipping/receiving.

The Demo Version of EasyGen™ is included on CD together with 5 ready-to-use example applications in 5 different languages. Refer par. QUICK START of this Manual or to par. 2.4 of the EasyGen™ User's Manual for details on loading these applications.

The following descriptions assume the terminal is loaded with an EasyGen™ application. If however, a custom application is loaded then refer to the specific documentation for terminal operation.

3.1 DESCRIPTION OF KEYS USING EASYGEN™

It is possible to assign customized functions to function keys depending on the application program developed. The functions described below refer to a terminal using an application program developed with the EasyGen™ Application Generator.

CAUTION

Refer to chapter 6 "EasyGen™ Interpreter Program" of the EasyGen™ User's Manual for more details about the key functions.

NOTE

Every time a key is pressed, the F732-E terminal remains turned on for a maximum of 20 seconds.

ARROW KEYS: only available for the application when not in “Select or Data Edit” mode.

SCAN KEY: activates the laser for barcode scanning and turns on the F732-E terminal when it is off.

FUNCTION KEYS: keys <F1>, <F2>, <F3> and <F4> are available for the loaded application. Function F5 activates the “Select” mode and only in this mode you can use F6, F7 and F8 functions:

<SHIFT> followed by <F1> = F5
“Select” mode
<SHIFT> followed by <F2> = F6
Data search
<SHIFT> followed by <F3> = F7
Deletion
<SHIFT> followed by <F4> = F8
Data display

ESC KEY: used in the “Data display” mode.

SHIFT KEY: Enables the entry of alphabetical characters (written in white on the keyboard) when followed by the pressing of a numeric key: for example if you want to enter the alphabetical character “A”, you have to press <SHIFT>+<7>.
The number of times the SHIFT key is pressed determines the choice of alphabetical character: for example if you want to enter the alphabetical character “N”, you have to press <SHIFT>+<SHIFT>+<5>, if you want to enter the alphabetical character “X”, you have to press
<SHIFT>+<SHIFT>+<SHIFT>+<2> and so on.
The fourth time the SHIFT key is pressed, the SHIFT function is disabled. The SHIFT function can also be disabled by waiting for a time-out of 2 seconds after being pressed.

By pressing the <SHIFT> key followed by the <RIGHT ARROW> key, the graphic display's contrast increases to the allowed maximum, and then returns to 0 value.

NUMERIC KEYS: allow the entry and display of the main numeric symbol. If the <SHIFT> has first been pressed, the choice of alternative alphabetic characters will be activated.

BACKSPACE KEY: deletes the last character entered.

SPACE KEY: allows the introduction of a blank space. If the <SHIFT> has been pressed previously, the choice of alternative characters will be activated.

ENTER KEY: allows validation of what has been typed.

PROTECTED RESET KEY:
it is activated by inserting a blunt object in the slot while simultaneously pressing the <SCAN> key.

3.2 BARCODE SCANNING

When reading a barcode point the terminal laser beam at the code from an appropriate distance and simultaneously press the <SCAN> key. The beam emitted by the laser must completely cover the barcode; the LED (and the acoustic signal, if activated) will indicate if the scan was carried out correctly.

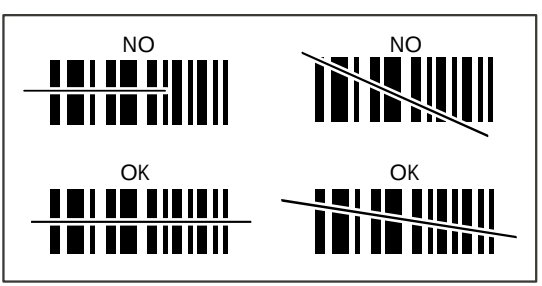


Figure 7 - F732-E Terminal Scanning a Barcode

NOTE

Throughout the operation of the application, the battery icon, and the time icon will always be activated, the latter in accordance with the setting of the terminal internal clock.

3.3 DOWNLOADING DATA TO HOST

Data can be downloaded from the terminal to the host PC in different ways, depending on the application loaded on it.

The application software allows downloading data onto the PC by simply inserting the terminal into the cradle or by direct operator intervention on the terminal or host computer.

For EasyGen Applications, the SysTools™2001 utility program is provided to download data collected from the terminal onto the PC. See the SysTools™2001 User's Manual for more details.

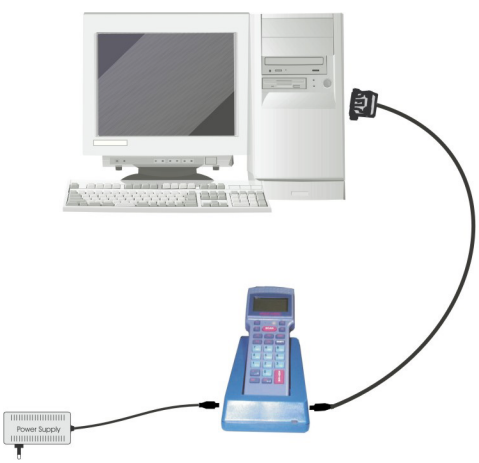


Figure 8 - Downloading Data with F732-E

4 MAINTENANCE

NOTE

Rechargeable battery packs (NiCd/NiMh) are not initially charged. Therefore the first operation to perform is to charge them in the appropriate cradle. See chapter 2 and the following paragraph "Charging the Batteries".

4.1 CHARGING THE BATTERIES

Battery charge life depends on many variables but, under normal conditions, autonomy is more than enough for a day work.

Information on the battery-charge status is provided by the dedicated icon on the display. The information provided by the icon is valid only when the terminal is not inserted in the cradle.
Four different charge levels are given from a maximum value (all the icon segments full) to a minimum one which warns of pre-low-battery (icon empty and intermittently flashing).

Recharging should be made after using the terminal until the batteries are nearly flat.

CAUTION

When the terminal display window shows the message "BATTERY LOW", wait until the it is turned off before inserting it in the cradle.

Recharge the terminal by simply inserting it into its cradle; Datalogic S.p.A. recommends a minimum uninterrupted recharging time of eight hours. When using the NiMh battery a standard recharge does not allow taking fully advantage of the improved battery technology. For this reason, a recharging time of about 60 hours is advised to get the NiMh maximum capacity.

When batteries are new, or have not been recharged for a long time, it is necessary to perform two or three charge and discharge cycles (with complete use) before the batteries are able to reach their maximum capacity.

NOTE

During the battery recharge the color of the LED positioned on the cradle changes from red to green. If using the NiCd battery pack, the LED color changes when 70-80% of the complete charge is reached. If using the NiMh battery pack, the LED color changes when 50-60% of the complete charge is reached due to the battery increased capacity.

CAUTION

If the terminal remains inactive for a prolonged period such as two weeks, it is advisable to download all the stored data onto a computer and extract the battery pack.

4.2 REPLACING THE BATTERIES

CAUTION

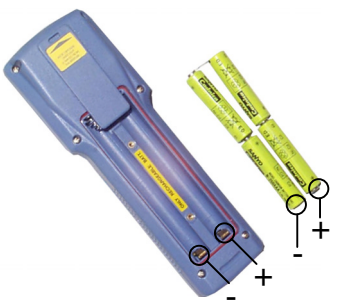
Before proceeding, ensure that the terminal is switched off and that the data it contains has been downloaded onto the host computer.

To replace the batteries correctly, proceed as follows.

1- Turn over the terminal and remove the two battery cover screws.

2- Lift the battery cover as shown in the figure and extract the old battery pack.

3- Replace the battery pack, making sure the batteries are inserted in the right direction as indicated within the case.



CAUTION

Before inserting the battery pack into the terminal, ensure the battery polarity matches with the one indicated within the case.

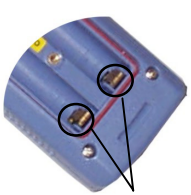


Figure 9

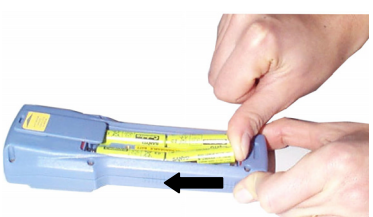


Figure 10

CAUTION

When inserting the battery pack, first slide it towards the springs compressing them until the contacts at the other end are cleared (see Figure 9). Then, push downwards to insert the pack (see Figure 10). Be very careful not to damage the contacts when pushing downwards.

4- Close the battery cover and tighten the screws

NOTE

Dispose of used batteries in accordance with the relevant laws in force.

4.3 CLEANING THE TERMINAL

Clean the terminal from time to time with a slightly damp cloth.
Do not use alcohol, corrosive products or solvents.

5 TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
When the <SCAN> button is pressed the terminal does not come on.	Flat batteries.	Recharge terminal.
	Batteries completely flat or broken.	Replace batteries.
When the <SCAN> button is pressed, the terminal displays the message BATTERY LOW and switches itself off.	Flat batteries.	Recharge terminal.
	Batteries completely flat or broken.	Replace batteries.
The terminal does not load the application program.	There is no power supply to the cradle.	Connect the power supply and switch on the cradle.
	The serial cable is not correctly connected.	Check the connection to the cradle and the serial port of the computer.
	The terminal already contains an application program.	Follow instructions to cancel the application.
The terminal displays an error message FAULT CODE P21CO4.	The application loaded is not suitable for the terminal in use. The terminal displays the message FAULT CODE P21CO4.	Load the correct application program.
	Other faults. The terminal displays an error message other than FAULT CODE P21CO4.	Contact your Datalogic representative for technical assistance.

6 TECHNICAL FEATURES

Optical Features	
Light source	laser scanner, VLD source, 630 - 680 nm
Scan rate	36 ± 3 scan/sec
Minimum resolution	0.15 mm (5.90 mils)
Skew angle	± 65°
Pitch angle	± 55°
Depth of field	3 to 70 cm (1.18 to 27.55 in) (depends on code density)
Electrical Features	
Micro-controller	8-bit CMOS 8 KB bootstrap-loader PROM
Program memory	512 KB Flash-memory
Data RAM	512 KB SRAM
EEPROM	256 Bytes
Calendar/clock	Quartz RTC, programmable date and time with automatic handling of leap years
Power supply	4 NiCd 250 mA/h batteries
Battery charger	Formula 952
Physical Features	
Technology	SMT (Surface Mount Technology)
Dimensions (LxWxH)	165 x 56 x 32 mm (6.5 x 2.2 x 1.26 in)
Weight	184 gr. (6.49 oz.)
Buzzer	Piezoelectric, programmable in frequency and duration
LED	Programmable red/green LED
Display	High contrast, back-lit LCD graphic display with 97 x 32 matrix
Keyboard	25 silicone rubber keys, reset button
Environmental Features	
Working temperature	0 °C to +50 °C (32 °F to +122 °F)
Storage temperature	-20 °C to +70 °C (-4 °F to +158 °F)
Relative humidity	95% without condensation
Degree of protection	Sealed against rain and dust
Electrostatic charges	EN 61000-4-2
Drop resistance	IEC 68-2-32 up to 1 m (39 in) onto concrete
Laser safety	EN 60825-1 class 2 laser product

Programming	
Barcodes decoded	Standard 3/9 Extended 3/9 Italian pharmaceutical Interleaved 2/5 ITF 14 Industrial 2/5 Matrix 2/5 UPC - EAN UPC only UPC/EAN + Addon 2 UPC/EAN + Addon 5 UPC-E only UPC 8 only UPC-A & EAN 13 only Codabar (NW7) Monarch (2/7) PAKO Code 128 EAN 128 Delta A IBM MSI Code 93 Zellweger Storagetek
Operating modes	bootstrap loader; application program
Transmission Features	
F952 interface	via optical transceiver with serial protocol
Cradle-Host interface	RS232
Transmission speed	300 to 19200 bits/sec
Transmission protocol	Program-definable
Transmission modes	Full-duplex
Parity	Mark, space, odd, even

GLOSSARY

Barcode
A pattern of variable-width bars and spaces which represents numeric or alphanumeric data in binary form. The general format of a barcode symbol consists of a leading margin, start character, data or message character, check character (if any), stop character, and trailing margin. Within this framework, each recognizable symbology uses its own unique format.

Baud Rate
A measure for data transmission speed.

Bit
Binary digit. One bit is the basic unit of binary information. Generally, eight consecutive bits compose one byte of data. The pattern of 0 and 1 values within the byte determines its meaning.

Bits per Second (bps)
Number of bits transmitted or received per second.

Byte
On an addressable boundary, eight adjacent binary digits (0 and 1) combined in a pattern to represent a specific character or numeric value. Bits are numbered from the right, 0 through 7, with bit 0 the low-order bit. One byte in memory can be used to store one ASCII character.

Decode
To recognize a barcode symbology *(e.g.,* Codabar, Code 128, Code 3 of 9, UPC/EAN, etc.) and analyze the content of the barcode scanned.

EEPROM
Electrically Erasable Programmable Read-Only Memory. An on-board non-volatile memory chip. Data is maintained when power is not present.

FLASH
is a type of non-volatile memory that can be erased and reprogrammed in units of memory called *blocks*. It is a variation of EEPROM memory which, unlike flash memory, is erased and rewritten at the byte level, and therefore is slower than flash memory updating. Data is maintained when power is not present.

Host
A computer that serves other terminals in a network, providing services such as network control, database access, special programs, supervisory programs, or programming languages.

Liquid Crystal Display (LCD)
A display that uses liquid crystal sealed between two glass plates. The crystals are excited by precise electrical charges, causing them to reflect light outside according to their bias. They use little electricity and react relatively quickly. They require external light to reflect their information to the user.

Light Emitting Diode (LED)
A low power electronic light source commonly used as an indicator light. It uses less power than an incandescent light bulb but more than a Liquid Crystal Display (LCD).

RAM
Random Access Memory. Data in RAM can be accessed in random order, and quickly written and read. This memory is volatile and therefore data is lost when power is not present.

RTC
Real Time Clock.

Terminal
A Datalogic portable computer product.

INDEX

DATALOGIC S.p.A.,
Via Candini, 2
40012 - Lippo di Calderara
Bologna - Italy

CE

dichiara che
declares that the
déclare que le
bescheinigt, daß das Gerät
declare que el

F732-X, Wizard Terminal
F952, Wizard Serial Cradle

e tutti i suoi modelli
and all its models
et tous ses modèles
und seine modelle
y todos sus modelos

sono conformi alle Direttive del Consiglio Europeo sottoelencate:
are in conformity with the requirements of the European Council Directives listed below:
sont conformes aux spécifications des Directives de l'Union Européenne ci-dessous:
den nachstehenden angeführten Direktiven des Europäischen Rats:
cumple con los requisitos de las Directivas del Consejo Europeo, según la lista siguiente:

89/336/EEC EMC Directive e **92/31/EEC, 93/68/EEC** emendamenti successivi
and further amendments
et ses successifs amendements
und späteren Abänderungen
y succesivas enmiendas

Basate sulle legislazioni degli Stati membri in relazione alla compatibilità elettromagnetica ed alla sicurezza dei prodotti.
On the approximation of the laws of Member States relating to electromagnetic compatibility and product safety.
Basées sur la législation des Etates membres relative à la compatibilité électromagnétique et à la sécurité des produits.
Über die Annäherung der Gesetze der Mitgliedsstaaten in bezug auf elektromagnetische Verträglichkeit und Produktsicherheit entsprechen.
Basado en la aproximación de las leyes de los Países Miembros respecto a la compatibilidad electromagnética y las Medidas de seguridad relativas al producto.

Questa dichiarazione è basata sulla conformità dei prodotti alle norme seguenti:
This declaration is based upon compliance of the products to the following standards:
Cette déclaration repose sur la conformité des produits aux normes suivantes:
Diese Erklärung basiert darauf, daß das Produkt den folgenden Normen entspricht:
Esta declaración se basa en el cumplimiento de los productos con las siguientes normas:

EN 55022, August 1994: LIMITS AND METHODS OF MEASUREMENTS OF RADIO DISTURBANCE CHARACTERISTICS OF INFORMATION TECHNOLOGY EQUIPMENT (ITE)

EN 55024, September 1998: INFORMATION TECHNOLOGY EQUIPMENT, IMMUNITY CHARACTERISTICS. LIMITS AND METHODS OF MEASUREMENTS

Lippo di Calderara, 25/06/2001

Ruggero Cacioppo
Ruggero Cacioppo
Quality Assurance Supervisor