

Easy-Load Desktop-Thermal Printer

GPT-4378-FLASH-70-iBT

GeBE-FLASH® for iOS

Bluetooth® wireless technology

GeBE®

**Elektronik und
Feinwerktechnik GmbH**

Modules and devices for input,
analysis, display and printing of
analog and digital data.

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Operating Instructions

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Technology and configuration of the product described in this manual comply with the latest national and international standards regarding both functionality and safety. Advancements and improvements are incorporated regularly, and, therefore, illustrations, measurements, technical data, and general contents mentioned below are subject to change without notice.

These operating instructions will help you to operate our product, which has been developed and manufactured in accordance with the latest technology, optimally and safely. Please read this manual carefully before operating the product for the first time, and keep it available in order to reference it when needed.

1 Service

If you have any further questions, please contact our staff. Here you can find all necessary phone numbers and email addresses:



Service (GeBE Technical Support)

For service or questions, please contact:

GeBE Elektronik und Feinwerktechnik GmbH, Beethovenstr. 15, 82110 Germering/Germany

www.oem-printer.com, Phone: +49 (0) 89/894141-31, Fax: +49 (0) 89/8402168, Email: sales.ef@gebe.net



Further Information

The software manual SoMAN-E-695 in English resp. -D-696 in German, as well as the short information KI-703-D/E about the Apple regulations for creating its own App when using accessories, are available from GeBE via email (sales.ef@gebe.net).

Further information on the GeBE-FLASH® for iOS is available at www.oem-printer.com/flash.

At this address, you can also find a personal consultant who you can turn to with your questions.

Or simply send an **email** to the GeBE **sales team: sales.ef@gebe.net**.

For orders, you can use the **fax number: +49 (0)89/894141-33**, which is located in the sales department.

2 Warranty

We guarantee that all goods supplied by GeBE possess the warranted features. The guarantee period for OEM's is 12 months unless other terms have been agreed upon in writing, and is calculated from the date of shipment. The warranty is null and void, if the customer fails to claim an occurring defect without delay and in writing.

Detailed information on our warranty is part of our terms of delivery and payment, which can be seen and downloaded at www.oem-printer.com/lzb.

3 Specification

GeBE-FLASH® for iOS is a mobile printer system.

GeBE-FLASH® for iOS is compatible with iPod touch (2nd generation), iPhone 3G, iPhone 3GS, iPhone 4 and iPad.



iPod touch
2nd generation
8GB 16GB 32GB



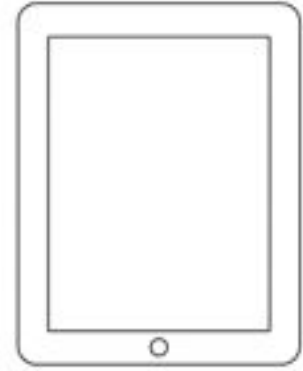
iPhone 3G
8GB 16GB



iPhone 3GS
8GB 16GB 32GB





iPhone 4
16GB 32GB



iPad
16GB 32GB 64GB

4 Safety Instructions

4.1 Symbols and their Meaning

Please read all safety instructions, marked with a , and important information, marked with a , very carefully!

Safety instructions regard your **personal safety**, and are to **be adhered to at all times**.

It is essential to forward these instructions to all other personal using this device.

Important information  refers to equipment safety, **preventing you from damaging your device**.


The adherence of all instructions, as well as the appropriate application and use in accordance with the operating instructions are binding for the product liability and the product warranty.

Attempts by the customer to repair the device make all warranty claims null and void.

If you have technical questions, please contact GeBE Technical Support.

Instructions marked with a  require consultation with GeBE Technical Support.


Tips are marked with a  and will help you to utilize your printer to its fullest.

Documents or Internet links are marked with a , referring to more detailed or additional information.



Safe operation of this device is only warranted, if the instructions in this operating manual have been complied with. For installation: Always disconnect system power supplies!
Only use manufacturer's parts and accessories!

4.2 Safety Instructions

- The device may only be opened or repaired by authorized personal. Never open the device or carry out repairs yourself. Always contact an authorized technical servicer. You can find all necessary service information in the chapters "Service".
- Before the device is turned on, make sure that the system voltage of your installation matches the supply voltage of the device.
The device characteristics are printed on the name plate which is located on the underside of the device. For the technical data of the device, refer to the chapter "Technical Data".
- The peripheral devices that are connected to the interfaces and the DC circuits of this device have to meet the requirements for safety extra-low voltage (SELV) in accordance with EN/IEC 60950.
- Switching off the device does not completely disconnect it from the power supply. Your device is only disconnected completely, when the power plug is unplugged.
- Please make sure that the power supply cable is run in a way that nobody trips over it, and it cannot be damaged by other devices.
- Only use spare parts and accessories supplied or authorized by GeBE. The use of unauthorized parts or accessories may affect the function and safety of the device. All parts included are listed in the chapter "Packing List", while the original accessories are listed in the chapter "Accessories and Spare Parts".
-  It is no longer possible to safely operate the device, if:
 - the housing has been damaged.
 - moisture reached the inside of the device.
 - smoke is coming from the inside of the device.
 - the power supply cord is damaged.
 - the device stopped working properly.



Turn off the device immediately, when a failure occurs, as mentioned above, and contact GeBE customer service. See chapter "Service".



- We explicitly state that all product liability and guarantee claims are null and void, if the device has not been used in accordance with the instructions in this operating manual or on the device itself!
- Risk of explosion in case of incorrect battery exchange.
- Please read how to safely exchange batteries in the chapter "Exchanging batteries".



- During operation, surfaces in the surrounding area of the print head may heat up. Therefore, direct contact with the print head must be avoided to prevent burning accidents.
Do not put heat sensitive objects close to this heat source.
- Avoid constant high humidity and condensation. Protect the device from being splashed and from getting in contact with chemicals.

5 Description

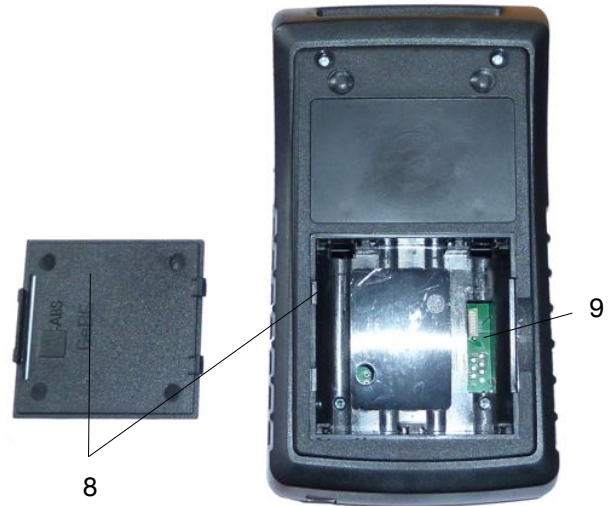
The GeBE-FLASH® for iOS is a portable, battery operated industrial printer in a robust plastic housing. The GeBE-FLASH® for iOS is optimally applicable under normal ambient condition.

Inserting the paper is easy due to Easy Paper Loading Technology. The paper supply lid will always snap securely shut (tested in accordance with DIN EN60068-2-6 vibrations and -29 constant shock).

The GeBE-FLASH® for iOS has a Bluetooth® interface for data transfer.

The cost efficient LC standard charge through the Direct Plug-In Wall-Mount Adapter is part of the standard package.

The charging will take about 3 or 4 hours. With the standard NiMH battery pack, having a capacity of 1,600 mAh, up to 5 paper rolls can be printed.



Parts and Functions of the Printer *)

- 1 Opening lever for paper compartment lid
- 2 Paper compartment lid
- 3 Key {OFF/NEXT}
- 4 LED "BT Communication" (blue)
- 5 Power charge supply connector
- 6 Key {FEED/ENTER}
- 7 LED "STATUS" (green/red)
- 8 Battery compartment lid - spring-bolt lock
- 9 Battery connection - connector pair, 7pin

*) In this document, features are specific to printer version: GPT-4378-FLASH-70-iBT

5.1 Available Printer Configuration for OEM

No. (see below)	Article No.	The printer GeBE FLASH® for iOS is equipped with the Controller GCT-4370 (different options possible)	Power				Functions						Interfaces				Options									
			EEPROM KB	Fixed Voltage 4.5 - 6.5 V	External Charging of battery	battery Pack 4x NiMH	Charging battery through GeBE Power Supply	Charging through Fixed Voltage	Number of Keys	DUO LEDs	IR Communications LED	Charging Voltage Display LED	OPD Menu	Batch Files TINIT/LOGO's	Clock with Timer Function	Buzzer	RS232	TTL	IrDA	HP-IR-Protocol	GeBE- IR-Protocol	Bluetooth®	USB	Paper Rewinder	Magnetic Card Reader	IR-Booster LED
1	13150	GPT-4378-FLASH-70-iBT	32	-	-	x	x	-	-	-	-	x	-	-	-	-	-	-	-	x	-	-	-	-	-	x

6 Packing List

While unpacking, make sure that all parts are present and undamaged, and that you remove everything from the packaging. Claims for compensation due to transport damages can only be accepted, if the delivery agent is notified immediately. Please write a damage report and send it back to the supplier with the defective part(s).



The standard versions of the thermal printers are available in various packages.

The table below shows the parts contained in each printer set.

The GeBE-FLASH® for iOS is not supplied as part of a set (OEM versions) can ONLY be ordered in sets of 10 units, accessories not included!

Please order the accessories separately.

GeBE-FLASH® for iOS set in a cardboard box

Article No	Printer Sets	5 paper rolls GPR-T01-057-031-007-060A	German manual SMAN-D-688 English manual SMAN-E-689	Cable	Charger
13150	GPT-4378-FLASH-70-iBT	X	X	-	GNG-9V-0.6A-CC-EU-AC



- Before the initial operation, please familiarize yourself with the chapter "Safety Instructions".
- The characteristics of your supply voltage must match the device characteristics.

6.1 Accessories and Spare Parts

Art. No.	Nomenclature	Description
11937	GMT-437x-Flash-Tasche	Belt holster
11542	GMT-4392-LEVER-tr	Opening lid / lever transparent
11901	GNA-4.8V-1.6Ah-NiMH-Pack-070	NiMH battery pack 4 cells 1,600 mAh
13339	GNG-9V-0.6A-CC-EU-AC	Charger with EU plug
11347	GPR-T01-057-031-007-060A	Thermal roll paper
11555	GPR-T01-057-031-007-060A-(Maxi)	Thermal roll paper in maxi letter - ready for shipment
	on request	Thermal roll paper - labels
11471	GPR-T01-057-30-000-060	Thermal roll paper - High Temp.

OEM Options on request:

- Custom housing color, design foil
- Program versions and special character sets
- Operation with externally charged batteries or non-rechargeable batteries



7 Connecting the Printer



Before Installation:

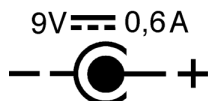
Always disconnect the power in the system !

7.1 Voltage Supply

Internal Battery Pack, Charging

The battery pack includes 4 NiMH Mignon (AA) cells with 1,600 mAh. A temperature sensor monitors the battery temperature during the charging process. A bimetal circuit-breaker is integrated to protect against short circuits and overheating.

The battery is connected with a 7 pin connector (9) through the window in the battery compartment. The battery charging voltage is connected through the polarity protected socket (5). The plug-in power supply for charging is part of the supplied set. It has a connection cable with the matching connector plug attached.



A fully charged 1,600 mAh battery will print up to app. 50 m of thermal paper with normal text.



Inserted rechargeable batteries require at least 3 complete charging and discharging cycles in order to reach their full capacity. Incomplete charging and discharging cycles during operation will reduce the life span of the battery.

7.2 Options

Power Management

Whenever the printer does not have data to process, it will automatically switch to idle mode. In this mode, it appears to be 100% active and is ready to accept data.

Power Off

The printer is switched off by holding down the "OFF/NEXT" button for >3 seconds. It is turned on by pressing the FEED/ENTER button or by connecting the charger.

7.3 Charging

The GeBE-FLASH® for iOS is equipped with an intelligent charging circuit without charging current limiting. The current limiting is ensured through the use of the power supply that is supplied with the printer.



The use of a charger different from the one supplied can cause damage to the printer.

The optimum temperature range for charging the battery is between 20°C and 25°C, allowed range: 0°C to 30°C.

The charging process is divided into three steps:

Formatting Charge

If the battery is over-discharged, it is first charged with a low-current formatting charge in order to prevent damage to the battery. The formatting charge is not signaled externally. Depending on the status of the battery, the formatting process can take about 1 to 5 minutes.

Fast Charge

As soon as the battery voltage has exceeded the operating voltage of the printer, the printer will start a fast charge. This is signaled through a slow flashing STATUS LED and a message through the interface.

For empty batteries, the charging process takes about 4 hours.

Trickle Charge

As soon as one of the criteria for disconnecting has been reached, the printer will switch to a trickle charge. In this mode, the formatting current flows permanently. In addition, the fast charge is activated every 8 minutes for 20 seconds. This is signaled through permanent lighting of the STATUS LED and a message through the interface.



Fully discharged batteries can disturb the charging in such a way that it breaks in at less than 30 minutes and switches to preservation charge. In this case please start to charge again by reputting.

8 Interface

8.1 Bluetooth® wireless technology

The GeBE-FLASH® for iOS meets the BT specification V1.1 class 2, attaining a transmission range of about 10-15 m. If you require a longer transmission range, please contact us.

Operation

The printer responds to an inquiry scan with its name "GeBE-FLASH" and its BT address. The online power consumption of the printer with an active BT link is about 33 mA.

The BT-Modul supports the BT sniff mode. In this mode, the printer scans its environment for possible calls every 1.25 seconds. During these inquiry scans, it remains visible and responsive.

The power consumption in this mode is about 21 mA.

When the printer is reactivated through the feed button, the BT tranceiver will remain in sniff mode. The power consumption in this mode is about 8 mA.

If you are not planning to operate the printer for several days, switch it off with the OFF/NEXT key. After the power is turned on, it will take a minimum of 10 seconds for the printer to become ready to receive data.

Should your transmitter require a PIN number, type in "0000".

iOS-Framework

- **GeBE-Framework** from GeBE
- **EA-DEMO** from Apple Development Center



Please ask us.



This printer contains a 2.4 GHz radio transmitter. For health reasons, a distance of at least 1.0 cm must be kept between the printer surface and the body of the user, except hands, fists, feet, and joints. As a precaution, any body contact during operation should be kept to a minimum.

Bluetooth® specification	V1.1		
radio transmission level	4 dBm (class 2)		
range	app. 10 -15 m		
profile	SPP serial port profile		
printer power consumption	no printing	I (mean)	I (peak)
	active link / data traffic at 115 kbit/s - closed range (slave)	33 mA	61 mA
	active link / no data traffic - closed range (slave)	10 mA	56 mA
	Idle / no active link / page&inquiry scan interval 1.28 sec.	8 mA	56 mA
	Sniff mode / 1.25 sec. scan interval	21 mA	78 mA
	Power off	0.3 µA	0.7 µA

CE statement:

The BlueRS+I complies with the European safety regulations EN 60950, and EMV regulations EN 300 328 V1.7.1 and EN 301 489 -1 and -17.

FCC statement:

The printer contains a BlueRS+I OEM serial adapter with the FCCID: T7V-BC06 / IC: 216Q-BC06.

The BlueRS+I complies with part 15 of the FCC rules and with RSS-210 of Industry Canada.

The BlueRS+I has been qualified as a product in accordance with the Bluetooth® Qualification Program (BQP).

9 Maintenance



The closed printer is protected against static discharges in accordance with the EMC guidelines. Since the user may come in contact with parts that are electrically sensitive, when the printer is open (like the print head during cleaning, or the electronics during a battery exchange), the user should make sure that all possible static charges are discharged through sufficient grounding of the body before touching the printer (e.g. by touching grounded objects like radiators), in order to safely avoid damage to the printer.

9.1 Replacing the Paper

Inserting the Paper Roll

1.+2. Unwind about 10 cm of paper from the roll. Hold the layers tightly wound, and open the lid of the printer by slightly pulling the LEVER inside it upward.

3. Put the paper roll in the paper compartment making sure that the outside is turned toward the printer mechanism.

4. Close the lid by pressing on it. It will audibly snap into place, so that the paper can be torn off at the tear-off edge without the lid opening up, and without the paper sliding through the print head.



Which side of the thermal paper can be printed on?

Usually, the printable side of a thermal paper roll is on the outside.
See chapter "Error Detection and Recovery".

Which thermal paper can be used?

The printer is specified for a paper width of 57.0 ± 0.5 mm, a roll diameter of 31 mm and a paper thickness of 60 g/m^2 . The matching paper rolls GPR-T01-057-031-007-060A (quality: 5 years) are available from GeBE. Other papers might cause failure.

Other Paper Available from GeBE:

High Temperature Paper

is a paper that will not start to turn black before 100°C (standard app. 70°C).

This makes it ideal for applications like parking tickets.

Adhesive Labels

are connected through perforation. There is a black mark between the labels for correct positioning. This is the only type of labels that can be printed with the GeBE-FLASH® for iOS.

Long preservation Paper for Documents

is a paper that preserves its printed image for at least 5 years or max. 25 years, if stored dark and dry.

1.



2.



3.



4.



9.2 Exchanging Batteries

1. The lid of the battery compartment on the bottom of the printer can be easily opened by pressing a coin against the spring latch.



For operations with a clock, you have max. one minute to exchange batteries before the clock loses its setting.

2. Exchanging Battery Packs



Only order the battery type given in this manual. Before inserting it, check for the correct part number, to ensure you are using the correct type.

The 7pin battery connector (9) is accessible through the window in the bottom of the battery compartment. By pulling at the connection cable of the battery pack with force, connector (9) is unplugged from the socket. The connector of the new battery pack can be plugged in using taper-nose pliers (tweezers).



The GeBE-FLASH® for iOS is secured against usual maloperations. An explosion risk due to the insertion of a wrong battery type, a short circuit, manipulations at the battery or temperatures above 80°C can not be excluded.

Please dispose batteries only in accordance with your local environmental regulations, or send them on your costs (DDP) back to us. Never throw batteries in the garbage.

9.3 Cleaning

After larger print efforts, depending on the paper quality and adverse environmental conditions, it may be necessary to clean the print head, sensor, and the platen roll, especially, if some areas are no longer printed properly.

- Open paper supply lid and remove paper roll.
- Loosen dirt particles at the paper sensor and the tear-off bar with a small brush.
- Blow forcefully into the paper supply compartment in order to remove the coarse dust.
- Soak Q-tip in isopropanol (IPA) and clean the print head, or use print head cleaning pin/cleaning card.
- Other stubborn debris can also be removed with a Q-tip (IPA).

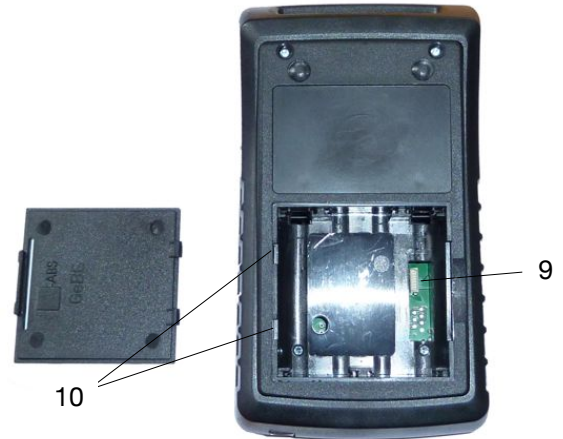


Never use sharp objects for cleaning. This might cause damage to the print head.

1.



2.



- 9 Battery plug connection, 7pin
- 10 Battery compartment lid with spring catch

11

12

13



- 11 Paper tear-off bar
- 12 Print head
- 13 Paper sensor

10 Key Functions

Description of the Key Functions

The keys can have different functions depending on the status – normal operation or print settings menu. The time for which the button is held down is also an issue.

FEED / Enter (6)

Through this key, the printer can be reactivated from sleep mode, and the paper can be transported forward. When the feed key is pressed, the printer will first feed one line of the set font. If the key is held down for more than 2 seconds, it will feed continuously.

Self Test

With a self test, the inner function of the printer is tested by starting a printout. For this, the paper feed button (6) {FEED} is held down for at least 3 seconds, while the printer is being reactivated from power-off. The interfaces are not checked at this time. The software version and the character set are printed. For OEM, special printouts can be activated during a self test.

OFF / NEXT Key (3)

By holding down the OFF/NEXT key for more than 3 seconds during operation, the processing of batch file T2 is initiated. In μ -P flash, the command for power-off (after 1 second) is filed in batch file T2. This way, this key is programmed as an OFF button for the printer (controller with power-off mode).

Key FEED/ENTER	Key OFF/NEXT	Action
pressed	not pressed	paper feed by one line
held down > 2s	not pressed	continuous paper feed
pressed during power-on < 1s	not pressed	reactivation, no paper feed
held down during power-on paper inserted > 2s	not pressed	call T0 (self test)
not pressed	key held down > 3s	call T2 (default = power-off after one second)
not pressed	key released after < 1s in normal paper mode	call T1 performing 104 hex zero (termination of interrupted graphic print)

11 Status Messages through LEDs

LED "STATUS" (red/green) (7)

The STATUS LED will flash green slowly, when everything is in order. It will flash red in regular intervals in case of a failure. During fast charging, the STATUS LED will flash green in regular intervals, while it will permanently glow green during trickle charge.

LED "BT Communication" (blue) (4)

During the BT-Module hold a connection, the LED will be blue. It will be slowly flashing blue during no connection.

Status Messages of the Printer through the interfaces:

Besides the optical status messages displayed by the three LEDs on the control panel of the printer, messages are also transmitted through the BT interface. Most of the time, they are sent as single ASCII characters that can be analyzed by the host.

The following table shows all status messages.

Status Messages	Serial Interface			Comments	
	Feedback through the serial interface	on:off /flash frequency fast: "S" app. 0.66Hz medium: "M" app. 0.33Hz slow: "L" app. 0.16Hz			
		Status LED			
Faultless operation:		1:31 / M	green		
Error end	"X"			also after hardware, software, and watchdog resets	
Synchronous feed-back	all characters			Processing of synchronizing commands; each transmitted character	
Battery charging:					
Formatting	"L"	off		L := charge start l := end of charge	
Fast charge	"I"	"L"	LED flashes (1:3)	L := charge start l := end of charge	
Trickle charge	"f"	"F"	LED permanently on	F := charge start f := end of charge	
Errors:	start	error end			
Paper end	"P"	"p"	1:1 / S	red	After paper has been inserted, the printer waits for about 2s before printing in order to allow for enough time for the mechanism to be closed.
Temp. low	"K"	"k"			print head temperature too low
Temp. high	"T"	"t"			print head temperature too high
Vp too high	"M"	"m"			
Parity error	"?"		1:31 / M	green	Parity or framing error / no interruption of printing

12 Character Sets

The flash memory of a standard controller contains four character sets that can be selected by command. Other character sets available on request. The Euro character is located at 16 hex.

GeBE Standard Character Set: Similar to IBM II Code Table 850



Optional Character Set: ASCII+UTF-8

Font Sizes of the Character Sets

Font No.	Dots (horiz./vert.)	Characters/Line
1	16 / 24	24
2	9 / 22	42
3	7 / 16	54
4	12 / 24	32

Optionally Available Character Sets

The following character sets are currently available and can be programmed into the Flash memory of the μ -processor in exchange for other character sets. Please contact us with your inquiry.

On request, GeBE can also create other character sets.

	Dots (horiz. x vert.)	Characters/Line
IBM II	16x24	24
IBM II	14x22	27
IBM II	11x22	34
IBM II	9x22	42
IBM II	7x16	54
IBM II 90°	16x11	
Kyr	16x24	24
Kyr	14x22	27
Kyr	11x22	34
ASCII+UTF-8	16x24	24



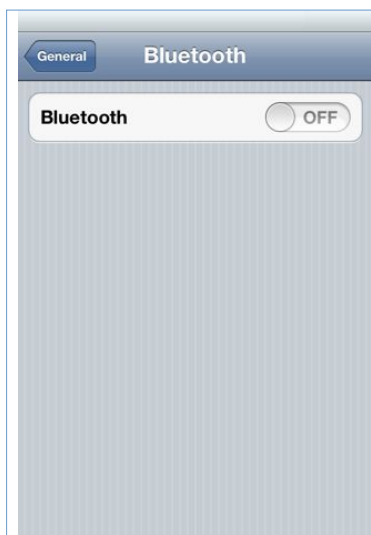
13 App for iPod / iPhone / iPad

Before connecting the printer GeBE-FLASH® for iOS as accessory with your iPod / iPhone / iPad please ensure that batteries and paper are inserted. Turn "ON" the printer accessory by pressing the "Feed/Enter" key (6), see chapter "Key Functions" on page 12.

13.1 Connect with iPod / iPhone / iPad

For connecting an accessory with iPod / iPhone / iPad please proceed as follows:

- Go to menu "Bluetooth".
 - Select Settings -> General -> Bluetooth.
 - Switch Bluetooth function "ON" if "OFF".
- Printer device found and paired.
 - Touch "GeBE-FLASH".
 - Type in Pin number: 0000 to connect.
- GeBE-FLASH® for iOS is connected.



13.2 Setup App: GeBE Printer

To change the setup for a GeBE Printer, proceed as follows:

- Go to menu "GeBE Printer Setup".
 - Select Settings -> GeBE Printer

Following settings are accessible:

a) **Auto Data Channel on Start (on/off):**

- If "on" is selected, "Session Open" will automatically start with starting up the App.

b) **Print to file (on/off):**

- Generating a data file instead of starting a printout. The data file will be stored under sub menu "Imported PRN Files".

c) **String encoding:**

- With the GeBE-FLASH® for iOS, the "GBDefaultString" = GeBE standard character set is activated only. Optional character sets (exemplary UTF-8) can be implemented, see chapter "Character Sets", page 14. Please ask us.

d) **Font (1 - 5):**

- Maximum 5 different fonts are available. For font description and number of fonts, please refer to chapter "Font Sizes of the Character Sets" page 14.

e) **Font width (0 - 1):**

- 2 different font widths NORMAL or DOUBLE are available for the printout.

f) **Font height (0 - 7):**

- Change of the character height from NORMAL up to 7 times higher.

g) Current software version of the App.



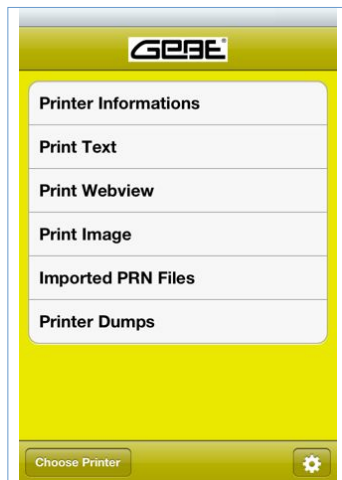
HINT:

Settings described under c) to f) are active for "Print Text" only!

13.3 Function of App: GeBE Printer

Menu GeBE Printer Tool

contains 6 sub menus. Touch the menu name to enter one of the sub menus. Touch "Back" to return from a sub menu to the main menu.



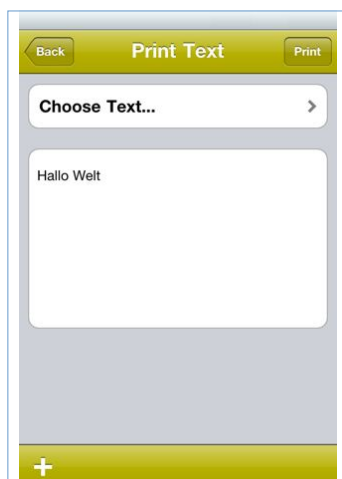
1. Sub menu "Printer Informations"

shows information about the connected printer.



2. Sub menu "Print Text"

serves to edit, save and print out a text.



3. Sub menu "Print Webview"

serves to select and print out a selected website.



4. Sub menu "Print Image"

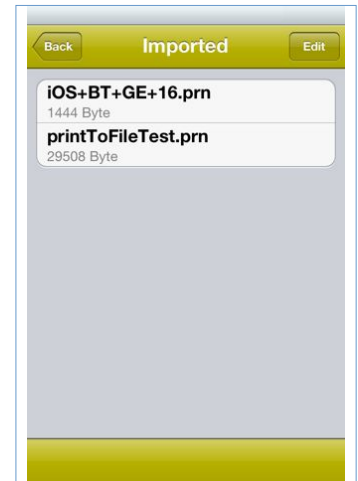
serves to select and print out a stored image.



5. Sub menu "Imported PRN Files"

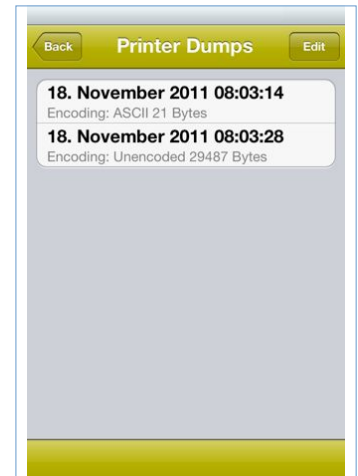
serves to edit and print out a imported files.

These files have to be generated on an external PC system and can only be imported via email. The App can only import files saved as *.prn file.



6. Sub menu "Printer Dumps"

serves to show the latest 10 printouts of "Print Webview". "Print Text" and "Print Image" dumps can be sent via email.



7. "Printer Options"

serves to optimize the printout and is available from the menus "Print Webview", "Print Text" and "Print Image".

- a) **Copy** (1-10)
 - Up to 10 copies can be print out with one print job.
- b) **Image**
 - Print optimization serves to change the decoding: "Unencoded", "TIFF", "Delta Row" or "Optimal"
 - Dithering improves the grey scale of the printout.
- c) **Density** (20 - 50)
 - Changing the blackness level of the printout.
- d) **Power Management**
 - is also used to improve a printout (blackening) through current increase.
- e) **Page Start / Page End** (2 - 30 mm)
 - Defines a paper feed before and after a printout.

HINT:

A printer option will be activated by setting its switch to "ON" position.

HINT:

Some of the settings will be stored in the printer GPT-4378-FLASH-70-iBT until restart. Restart the printer by switching off/on.



14 Error Detection and Recovery

Not every error means that there is a printer error that cannot be cleared by the user. Users will save time and money by recognizing and clearing simple errors on their own.

Symptom	Possible Cause	Remedy
Paper		
The printer seems to be printing. Paper is transported, but is not blackened.	Paper: Wrong side toward print head. Only one side of the paper can be printed on.	Insert paper correctly. The thermosensitive side should be turned to the outside of the roll (most of the time). Try the finger nail test: Drag the tip of a finger nail across the paper, pressing down. The friction heat causes the thermosensitive side to blacken.
Power Supply		
Printer can not be reactivated by pressing the FEED key.	No power. Rechargeable battery: not inserted or not charged	Check power supply. Recharge battery. The green LED should light up no later than after 1 minute.
At the beginning of printing, the LED goes out just briefly.	The power supply is not optimal. Rechargeable battery: not inserted or not charged.	Recharge battery. The green LED should light up no later than after 1 minute.
The printer only prints a few dots in one line.		
The paper feed works, but the self test does not.		
The printer only prints a few characters in one line. If more is entered, it stops printing completely.		
The printer loaded over night however it prints only few or not.	The rechargeable battery is used up or was not correctly loaded. Each over-discharging damages the battery strongly and leads to a loss of capacity.	Fully discharged batteries can disturb the charging in such a way that it breaks in at less than 30 minutes and switches to preservation charge. In this case please start to charge again by reputting. Please always switch off the printers if they lengthen are not used and please load them every 3 months.
Bluetooth®		
The printer cannot be found in the BT network.	<ul style="list-style-type: none"> - Possible undervoltage at the BT transmitter or the printer. - Wrong entry of pin code 	<ul style="list-style-type: none"> - Restart transmitter/printer, recharge battery. Turn off printer and wait for app. 5 seconds. Switch printer on and wait for app. 10 seconds. Then search again. - Restart printer and Apple Device and type in right pin code (0000).
The printer is connected over BT but doesn't print.	<ul style="list-style-type: none"> - A second accessory is connected. - "Data Session" not open (App) - Apple identification and authentication failure (no paper feed after BT connect) 	<ul style="list-style-type: none"> - Only one accessory is allowed to be connected at a Apple device. Therefore switch off other accessories and reconnect the printer. - Open "Data Session" according to Framework manual. - Switch ON/OFF Bluetooth® of Apple device to cancel BT connection or switch off the printer and reconnect the printer again.
Data		
The printer does not react on pressing the FEED button.	Incompleted graphic line stuck in printer buffer.	Push OFF/NEXT button to complete the graphic line.
Printer can not be switched off.		
Character		
The printer prints wrong characters.	Wrong character set selected.	Select character set "GBDefaultString" under menue GeBE Printer Setup.

The following tips are meant helping you to find/eliminate a fault:

Hardware RESET: Triggered by holding down the OFF/NEXT key for more than 3 seconds. This causes the printer to be set to the parameters in the batch file TINIT-F or TINIT-E.

Test printout: Is triggered by holding down the FEED feed key for more than 3 seconds after reactivation from power OFF (switching off with the OFF/NEXT key).

15 CE Certification

DECLARATION OF COMFORMITY
in compliance with EN45014

KONFORMITÄTSERKLÄRUNG
in Übereinstimmung mit EN45014

Supplier: **GeBE Elektronik und Feinwerktechnik GmbH**
Anbieter:

Address: **Beethovenstr.15**
Anschrift: **82110 Germering**
Germany

Products: beginning with Serial Number: **0406xxxx**
Produkte: beginnend mit Seriennummer: **0406xxxx**
GPT-4378-Flash-V.24-Ir
GPT-4378-Flash-BT
GPT-4378-Flash-70-iBT
GPT-4378-Flash-USB
GPT-4378-Flash-HP
GPT-4379-Flash-V.24-Ir
GPT-4379-Flash-BT

The Products described above are in conformity with:
Die oben beschriebenen Produkte ist konform mit:

EMC Directive / EMV Richtlinie89/336/EWG
Information technology equipment
Einrichtungen der Informationstechnik
Radio disturbance characteristicsEN 55022 1998
Funkstöreigenschaften
Immunity characteristics.....EN 55024 2003
Störfestigkeitseigenschaften

Germering, the 11/04/2011, den 04.11.2011


Klaus Baldig Head of R&D/ Leiter der Entwicklung

GeBE Elektronik und Feinwerktechnik GmbH GKV 027-1

Component	CE	in particular
Printer	CE	see declaration of conformity
GNG-9V-0.6A-CC-EU-AC	CE	EN 55022 / EN 61000-3-2, -3, -4
Bluetooth® transmitter (RS+I)	CE	EN 60950 / EN 300 328-2 V1.7.1 / EN 301 489 -1 and -17 / FCC Rules Part 15 / RSS-210

The failure-free operation of the printer (assessment criterion A) is achieved, when all printed information remains recognizable in case of a short-time failure, and the printer, on the other hand, returns to its normal functional status afterwards.

16 Technical Data

	GPT-4378-FLASH-70-iBT
Print procedure	Complete fixed thermal line
Paper / print width / diameter	Thermal paper: 57.0 ± 0.5 mm / 48 mm / max. 31 mm / app. 12 m at 60 g/m ²
Resolution	8 dots/mm (203 dpi), 384 dots/print line
Print speed	up to 50 mm/s
Layout options	text, graphics, text/data mode, bar code, gray on white, inverted white on black, characters spread in height and width
Character sets, cpl	24 (32, 42 and 54) select by control command or menu
Bar code	Code39, 2 of 5 int, EAN13, EAN8
Printer Incoming Buffer	128 Byte
Data compression	(PCL) factor app. 3:1 (for graphics commands)
Batteries	Battery pack 4x NiMH cells, 1,600 mAh
Temp. range during charging	0 - 30°C (optimum: 20 - 25°C)
Charger	plug-in current source: 9 V, 0.6 A
Max. current during printing	Can be limited by command to max. 0.7 A - 6 A (adjustment to operating voltage)
Power consumption BT	Online Idle-Mode: typ. 30 mA; Power-Off-Mode: < 1 µA
Environment	0°C to 40°C (extended temperature range on request) 10% to 80% relative humidity, no moisture condensation
MTBF	50 km printed paper (with thermal paper specified by GeBE)
Dimensions in mm	76.8 x 77.4 x 39.3
Weight	app. 350 g incl. paper roll
Housing	PC-ABS, similiar RAL 9011
Norms	CE: see declaration of conformity

17 Mechanical Dimensions

