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# **GRYPHON™ BT**

## **CORDLESS READING SYSTEMS**



**Reference Manual**

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# GENERAL VIEW

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## GRYPHON™ BT READER



Figure A – Gryphon™ BT Series Reader

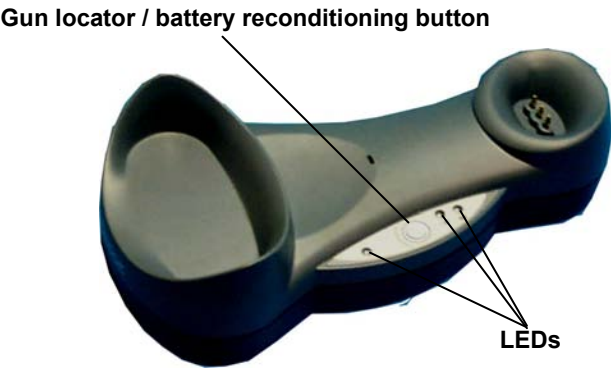


Figure B – OM-Gryphon™ BT/C-Gryphon



# COMPLIANCE

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**This device must be opened by qualified personnel only.**

**The batteries must be removed from the Gryphon™ BT before opening the device.**

## FCC COMPLIANCE

Modifications or changes to this equipment without the expressed written approval of Datalogic could void the authority to use the equipment.

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 received, including interference which may cause undesired operation.

## OM-Gryphon™ BT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## RADIO COMPLIANCE

Contact the competent authority responsible for the management of radio frequency devices of your country to verify the eventual necessity of a user license.

Refer to the web site <http://europa.eu.int/comm/enterprise/rtte/spectr.htm> for further information.

## LED CLASS



## BLUETOOTH® APPROVAL

This product is equipped with the following certified Bluetooth module:

Product Name: Panasonic Serial Port Module  
Bluetooth ID: B01839  
Product ID: PAN1440, PAN1450, PAN1540, PAN1550

## POWER SUPPLY

### For OM-Gryphon™ BT and C-Gryphon

This device is intended to be supplied by a UL Listed or CSA Certified Power Unit marked "Class 2" or "LPS" output rated 9-28 V, minimum 0.9 A which supplies power directly to the unit via the jack connector.

## PATENTS

This product is licensed under the following U.S. patent 6,158,661

This product is covered by one or more of the following patents:

U.S. patents: 5,992,740; 6,305,606 B1; 6,517,003 B2; 6,631,846 B2; 6,712,271 B2; 6,808,114 B1; 6,817,525 B2; and 6,834,806 B2

European patents: 851,378 B1; 895,175 B1; 962,880 B1; 997,760 B1; 1,128,315 B1; and 1,164,536 B1.

Additional patents pending.

## WEEE COMPLIANCE



# 1 INTRODUCTION

---

The Gryphon™ BT (Gryphon™ Bluetooth®) reader is a CCD wireless barcode scanner which is part of one of the Cordless Reading Systems described below:

## **CSR Kit**

When paired with the OM-Gryphon™ BT cradle, Gryphon™ BT builds a Cordless Reading System for the collection, decoding and transmission of barcoded data. OM-Gryphon™ BT can be connected to a Host PC through a USB, RS232, Wedge or Pen emulation cable. The OM-Gryphon™ BT cradle also serves as battery charger for Gryphon™ BT.

## **CS Kit**

Gryphon™ BT can also be used together with a Bluetooth® compatible remote device, to build a Cordless Reading System. The Bluetooth® compatible remote device can be a PC, PDA, printer, etc with a built-in Bluetooth® device or with external Bluetooth® adapter (i.e. Bluetooth® dongle). In this case the C-Gryphon cradle serves as battery charger for Gryphon™ BT.

Datalogic has moved a step ahead in the concept of “instinctive reading”. The new **Gryphon™ BT** reader series has been developed to provide optimised reading performance through excellent ergonomic design, a natural instinctive reading approach and innovative good reading feedback.

The “INSTINCTIVE READING DISTANCE,” a concept introduced by Datalogic a few years ago based on in-depth ergonomic studies, represents the natural position of the user while reading a code. The Gryphon™ BT series takes this concept one step further. It allows wireless operations at the desk/POS within a 10 meter range. The new “blue spot,” (Datalogic patent application) produced by the Gryphon™ BT provides “good reading” feedback directly on the code, where the user usually tends to be looking. Correct pointing becomes quick and easy thanks to the sharp and bright illumination line. All these characteristics are coupled with outstanding performance in terms of reading quickness and decoding capability thanks to state-of-the-art optics and a decode rate of 270 scans/sec, making the Gryphon™ BT very user friendly, intuitive and fast.

Specially optimised optics allow reading of the most popular standard codes with superior depths of field from near contact to over 40 cm. High resolution codes, which can reach 3 mils are also easily read. The Gryphon™ BT reader is paving the road for innovative barcode reading.

Thanks to the batch mode (see par. 5.9.1) Gryphon™ BT continues to collect codes even when out of radio range.

This manual can be used for complete setup and configuration of your reader (see chapters 3 and 4).

## 1.1 BLUETOOTH® DEFINITIONS

<b>Bluetooth® address:</b>	a unique 12-character hexadecimal, IEEE 48-bit address (BT_ADDR) that represents a Bluetooth® device.
<b>Bluetooth® controller:</b>	A sub-system containing Bluetooth® RF, baseband, resource controller, link manager, device manager, and Bluetooth® HCI.
<b>Bluetooth® device:</b>	a device that is capable of short-range wireless communication using the Bluetooth® system.
<b>BT:</b>	abbreviation for Bluetooth®. Bluetooth® protocol is a predefined rule that sets out a specific system for devices to communicate with each other and a protocol stack is the layering of the protocols that are used in a specific technology. The Bluetooth® Radio protocol operates in the 2.4GHz ISM band.
<b>Remote Bluetooth® device:</b>	any Bluetooth® device the reader can communicate with.
<b>SPP:</b>	Serial Port Profile. Bluetooth® profile creating an RS232 cable replacement.
<b>Master:</b>	the first Bluetooth® device initiating the radio connection (Discovery procedure).
<b>Slave:</b>	a Bluetooth® device which can only wait for a Bluetooth® Master device to initiate a connection with it.
<b>User-Friendly name:</b>	a human-readable name to set for a Gryphon™ BT to make it easily recognizable when operating together with other Bluetooth® devices.
<b>Piconet:</b>	Bluetooth® device network where a Master can communicate with up to 7 Slaves.

For further information about Bluetooth technology see the website:

<https://www.bluetooth.org/>

## 2 GRYPHON™ BT POWER

---

To begin using your Gryphon™ BT reader you must charge the Gryphon™ BT battery using OM-Gryphon™ BT as described in par. 2.3. A full charge takes less than 5 hours with NiMh batteries.

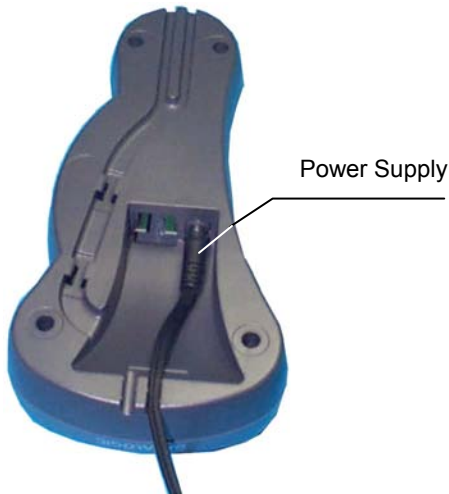
### 2.1 POWERING THE OM-GRYPHON™ BT



**CAUTION**

*Connections should always be made with power off!*

Apply power to OM-Gryphon™ BT by connecting a power supply unit to the connector on the base of the cradle.



**OM-Gryphon™ BT Power Supply Connector**

## 2.2 BATTERY TYPE

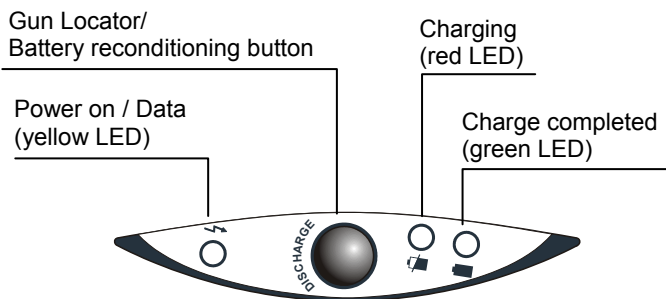
Gryphon™ BT is designed to be used with NiMh batteries.

## 2.3 BATTERY CHARGING

Once the system is connected and powered, you can place the Gryphon™ BT onto the cradle to charge the battery.








**Charging the Batteries**



When the reader is correctly placed onto the cradle, the red LED on the cradle goes on to indicate that the battery is charging. The green LED on the cradle goes on when the battery is completely charged.

The LEDs positioned on the cradle signal the charge status, as described in the following table:

	LED	STATUS
	Power on / Data	Yellow On = OM-Gryphon™ is powered.
	Charging	Red On = the battery charge is in progress. Red Blinking = the battery reconditioning is in progress.
	Charging completed	Green On = the battery is completely charged.
 	Charging + Charging completed	Red and Green Blinking together = The reader is not correctly placed onto the cradle.

## Gun Locator/ Battery Reconditioning Button

This button has two different functions.

When the Gryphon™ BT reader is not placed on the OM-Gryphon™ BT cradle, this button activates the gun locator function similar to that of a cordless telephone. By pressing the button the Gryphon™ BT reader will emit an audible tone which allows it to be located. This function works only when the reader has an active radio connection and is within the 10 m radio operating range.

When the Gryphon™ BT reader is placed on the OM-Gryphon™ BT cradle, this button activates the battery reconditioning function which restores the operating autonomy. that can be lost after many recharging cycles of NiMh batteries. It does this by starting a deep discharge cycle. The battery is automatically recharged after the discharge cycle is completed. This process may require several hours.

## 2.4 REPLACING GRYPHON™ BT BATTERIES

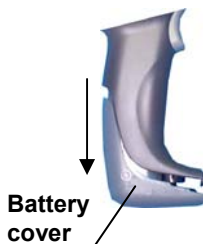
To change the batteries in your GRYPHON™ BT scanner, proceed as follows:

1. Unscrew the battery cover screw.

**Battery  
cover screw**



2. Open the battery cover.



3. Replace the old battery pack with new one, then screw the battery cover back into place.



**NiMh Batteries**



**WARNING**

*Do not incinerate, disassemble, short terminals or expose to high temperature. Risk of fire, explosion. Use specified charger only. Risk of explosion if the battery is replaced by an incorrect type. Dispose of the batteries as required by the relevant laws in force.*



## 3 INITIAL SETUP

---

This procedure allows setting up the reader to operate with the default settings.

Two different procedures are available according to the type of application you are working with:

- Gryphon™ BT paired to the OM-Gryphon™ BT (follow procedure in par. 3.2);
- Gryphon™ BT communicating with a Bluetooth® device (follow procedure in par. 3.3).

Whenever you need to change the default values refer to par. 4.3.

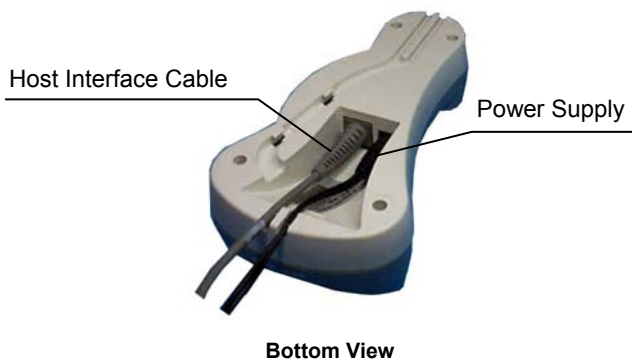
### 3.1 OM-GRYPHON™ BT CABLE CONNECTIONS

The OM-Gryphon™ BT incorporates a multi-standard interface which can be connected to a Host by simply plugging a USB, RS232, Wedge emulation or Pen emulation cable into the Host connector, placed on the base of the cradle.

In addition the cradle must be connected to an external power supply.

To connect the OM-Gryphon™ BT:

1. Connect the OM-Gryphon™ BT to the appropriate interface cable which must be simply plugged into the Host connector on the base of the cradle.
2. Connect the cradle to an external power supply, see the figure below.



To disconnect the Host Interface cable, insert a paper clip or other similar object into the hole corresponding to the Host connector on the body of the cradle. Push down on the clip while unplugging the cable. Refer to the following figure:



Disconnecting the Cable

### 3.2 SETTING UP GRYPHON™ BT WITH OM-GRYPHON™ BT

Follow the given procedure to set communication between Gryphon™ BT and OM-Gryphon™ BT.

Read the restore default parameters code below.

1.

Restore Gryphon™ BT Default



2. Read the **Bind** code to pair the Gryphon™ BT to the OM-Gryphon™ BT cradle.

*The cradle will refuse connection to any previously bound reader. It is however, advised to unbind any previously bound reader.*

Bind



The blue LED on the Gryphon™ BT will blink; the reader is ready to be positioned onto the cradle.

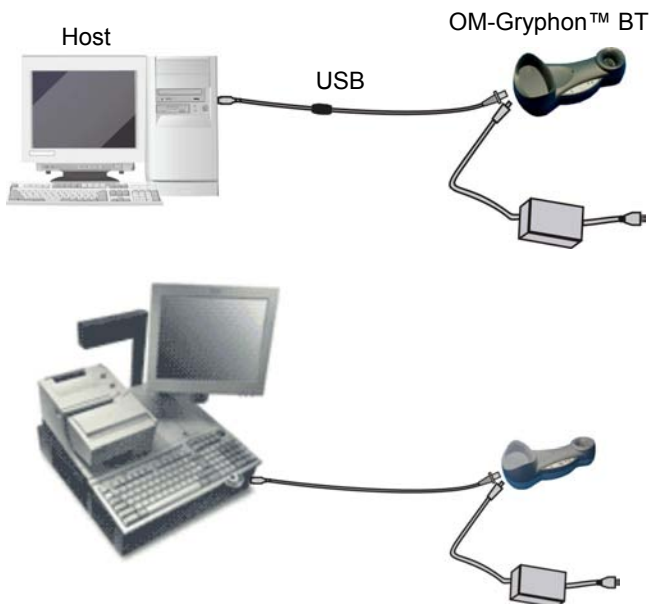
3. Firmly position the reader onto the OM-Gryphon™ BT cradle within 4 seconds, a beep will be emitted, signaling that the OM-Gryphon™ BT cradle has been paired to the Gryphon™ BT.



Wait for a series of beeps (three sequences of tones separated by a pause) indicating Bluetooth connection.

4. Configure the OM-Gryphon™ BT cradle. Refer to par. 3.2.1, par. 3.2.2, par. 3.2.3, or par. 3.2.4 depending on the interface selection code required for your application.

### 3.2.1 USB Interface Selection



The USB interface is compatible with:

Windows 98 (and later)  
Mac OS 8.0 (and later)

IBM POS for Windows  
4690 Operating System

## USB START-UP

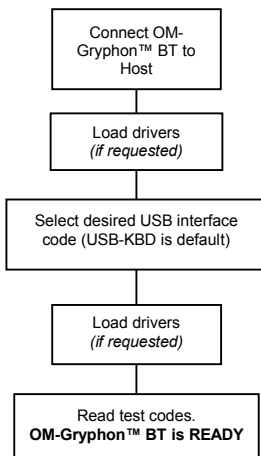
As with all USB devices, upon connection, the Host performs several checks by communicating with the OM-Gryphon™ BT. Before the OM-Gryphon™ BT is ready, the correct USB driver must be loaded.

For all systems, the correct USB driver for the default USB-KBD interface is included in the Host Operating System and will either be loaded automatically or will be suggested by the O.S. and should therefore be selected from the dialog box (the first time only).

You can now read codes with the associated Gryphon™ BT reader. At this point you can read the USB interface configuration code according to your application. Load drivers from the O.S. (if requested). When configuring the USB-COM interface, the relevant files and drivers must be installed from the USB Device Installation software which is available on the CD-ROM and can also be downloaded from the web site: <http://www.scanning.datalogic.com>.

The OM-Gryphon™ BT is ready.

### First Start-Up



Successive start-ups will automatically recognize the previously loaded drivers.

**USB**

USB-KBD (default)



USB-KBD-ALT-MODE



USB-KBD-APPLE



USB-COM\*



USB-IBM-Table Top



USB-IBM-Hand Held



\* When configuring USB-COM, the relevant files and drivers must be installed from the USB Device Installation software which is available on the CD-ROM and can also be downloaded from the web site (see <http://www.scanning.datalogic.com>).

3.2.2 RS232 Interface Selection



- 1. Read the OM-Gryphon™ BT restore default code:



- 2. Read the interface selection code for your application:

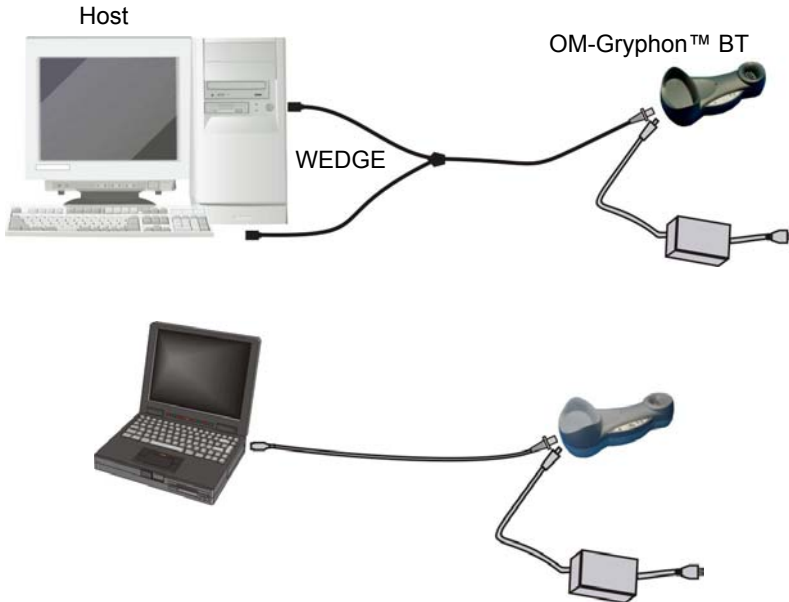


POS TERMINALS



For POS terminal default settings refer to par. 5.10.

### 3.2.3 WEDGE Interface Selection



1. Read the OM-Gryphon™ BT restore default code:

**Restore OM-Gryphon™ BT Default**



2. Read the interface selection code for your application:

**WEDGE**

IBM AT or PS/2 PCs



IBM XT



PC Notebook



IBM SURE1



IBM Terminal 3153



IBM Terminals 31xx, 32xx, 34xx, 37xx:

To select the interface for these IBM Terminals, read the correct key transmission code. Select the keyboard type if necessary (default = advanced keyboard).

#### **KEY TRANSMISSION MODE**

make-only keyboard



make-break keyboard



#### **KEYBOARD TYPE**

advanced keyboard



typewriter keyboard





## ALT MODE

The following interface selection allows barcodes sent to the PC to be interpreted correctly independently from the Keyboard Nationality used.

**You do not need to make a Keyboard Nationality selection.**

(default = Num Lock Unchanged)

**Make sure the Num Lock key on your keyboard is ON.**

IBM AT - ALT mode



PC Notebook - ALT mode



## WYSE TERMINALS

ANSI Keyboard



PC Keyboard



ASCII Keyboard



VT220 style Keyboard



**DIGITAL TERMINALS**

VT2xx/VT3xx/VT4xx

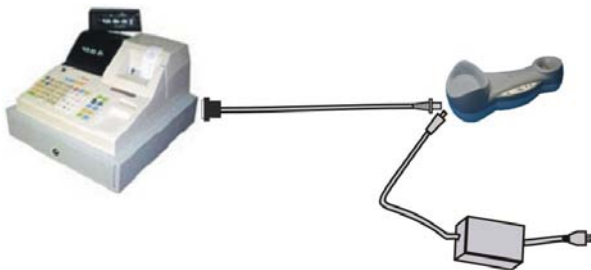


**APPLE**

APPLE ADB Bus



**3.2.4 PEN Emulation Interface Selection**



1. Read the OM-Gryphon™ BT restore default code:

Restore OM-Gryphon™ BT Default



2. Read the interface selection code for your application:

**PEN EMULATION**

Pen Emulation



### 3.3 SETTING UP GRYPHON™ BT WITH BLUETOOTH® DEVICE

During typical operation a physical radio channel is shared by a group of devices that are synchronized to a common clock and frequency hopping pattern. One device provides the synchronization reference and is known as the Master. All other devices are known as Slaves. A group of devices synchronized in this fashion form a piconet.

Most Bluetooth® devices can be both Master or Slave. The Master will be the first unit to initiate the connection (page procedure).

Some devices can only be Slaves (i.e. printers). They can only wait for a Bluetooth® Master device to initiate a connection with them.

Gryphon™ BT can be either Master or Slave. As Master it can initiate a connection with only one Slave device.

**NOTE**

*Gryphon™ BT uses the Serial Port Profile (SPP) for communication, creating an RS232 cable replacement. It is also possible to emulate a Wedge connection by means of the Wedge Emulation Utility provided on the CD-ROM. When using the Wedge Emulation Utility, it is advised to correctly set the terminators depending on the expected format for the program in which the data will be collected.*

Follow one of the following two procedures to set up Gryphon™ BT as Slave or as Master according to your application.

The blue LED and / or the beeper always indicate the reader radio connection status (see also the Reader Status table, at page 163):

- the radio connection is signaled by the blue LED through a single blink at regular intervals, while if the reader radio is disconnected the LED emits two short blinks at regular intervals;
- during the initialization procedure, if the radio connection attempt is successful, the reader emits four ascending tones;
- the radio disconnection is signaled by four descending tones.

### 3.3.1 Setup for Gryphon™ BT as Slave

Once set as Slave, a Gryphon™ BT reader requires no particular configuration for communication, however some radio parameters can be set to increase system performance and data transmission security. At startup the reader can only wait for the Master to initialize the radio communication.

The following is a general procedure recommended for Gryphon™ BT Slave applications:

1. Power up the remote Bluetooth® Master device (example Laptop or PC).
2. Power up the Gryphon™ BT reader within radio range (10 meters).  
*Any modifications to the radio configuration should be made at this time before the radio connection takes place.*
3. From the remote Bluetooth® Master device, execute the Discovery procedure, (according to the procedure given in the documentation of the Bluetooth® Master device), to recognize the Gryphon™ BT reader(s) within radio range.
4. Check that "**Gryphon BTx00** " is shown among the discovered devices.
5. Request to open an SPP connection with Gryphon™ BT, making sure to disable any required PIN and/or pairing parameters. Gryphon™ BT is always discoverable and connectable without any required PIN.

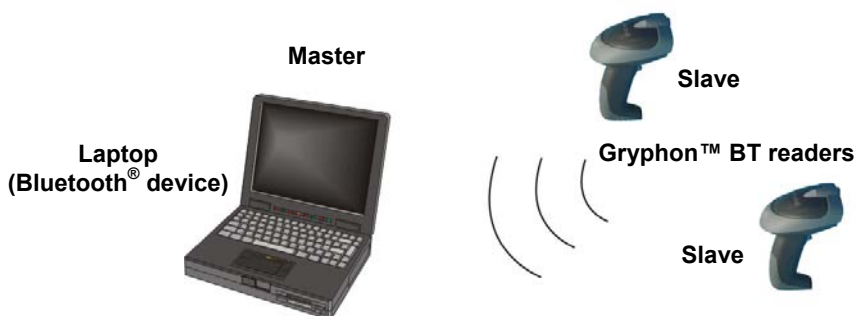


#### NOTE

*If the PIN of the Bluetooth® Master device cannot be disabled, use the PIN "1234". The Gryphon™ BT Slave will emit four ascending tones indicating radio connection.*

After the Gryphon™ BT reader(s) indicate radio connection (see also the Reader Status Table, at page 163), you can start sending barcodes.

The following figure shows an example Gryphon™ BT Slave application.



**Figure 1 - Gryphon™ BT Slave Application**

If the Master Bluetooth® device can support a **piconet**, the communication can be established with up to **7 seven Slave** readers at the same time.

To configure the Gryphon™ BT as Slave follow the given procedure.

**1.**

Restore Gryphon™ BT Default



**2.**

Set Gryphon™ BT as Slave



**YOUR READER IS NOW READY TO BE DISCOVERED (CONNECTED VIA RADIO) BY A BLUETOOTH® MASTER DEVICE AND READ BARCODES.**

### 3.3.2 Setup for Gryphon™ BT as Master

Once set as Master, a Gryphon™ BT reader must be configured with the address of the Slave device to which it wants to communicate.

By default, at startup the reader initializes the communication with the Slave. If the connection is successful, the reader can send barcodes to the Slave device. Radio connections can also be managed manually by disabling the automatic connection parameters (described in pars. 5.8.3, 5.8.4) and reading the connection barcodes in par. 6.1.

During the request of radio connection or disconnection with a remote Bluetooth® Slave device, the reader emits a series of ticks and short blinks of the blue LED.

The following figure shows an example Gryphon™ BT Master application.



Figure 2 - Gryphon™ BT Master Application

To configure the Gryphon™ BT as Master follow the given procedure.

**Note:** for the hexadecimal character selection of step 4, use the Hex/Numeric table in appendix C.

1. **Restore Gryphon™ BT Default**  

  
2. **Set Gryphon™ BT as Master**  


**3.**

Enter Configuration

**4.**

Set Remote Bluetooth® Device Address (slave)



+

12 characters (in HEX format)  
for the remote Bluetooth® device address  
specified in each Bluetooth® device.

**5.**

Exit and Save Configuration

**6.**

Request Radio Connection with Slave



If the connection is not successful, you can attempt a connection manually by double-clicking the reader trigger.

**YOUR READER IS NOW CONFIGURED TO READ BARCODES USING THE DEFAULT VALUES.**

## 4 CONFIGURATION

---

### 4.1 CONFIGURATION METHODS

#### 4.1.1 Reading Configuration Barcodes

If you wish to change the default settings, this manual provides complete configuration of your reader in an easy way.

**To configure your reader:**

- 1) Read the **Enter Configuration** code ONCE, available at the top of each page of configuration.
- 2) Modify the desired parameters in one or more sections following the procedures given for each group. If arguments are required with a command, you can read additional barcode labels (typically digits) from Appendix C.
- 3) Read the **Exit and Save Configuration** code ONCE, available at the top of each page of configuration.

Reference notes describing the operation of the more complex parameters are given in chapter 5.

#### 4.1.2 Sending Configuration Strings from Host

An alternative configuration method is provided in Appendix A using the OM-Gryphon™ BT or C-Gryphon connected to the Host via the RS232 interface. Batch files containing the desired parameter settings can be prepared to configure devices quickly and easily. This method is particularly useful when many devices need to be configured with the same settings.



## 4.2 DEFAULT SETTINGS

### USB

DATA FORMAT: code identifier disabled, no field adjustment, code length not transmitted, character replacement disabled, address stamping = disabled, address delimiter = disabled.

**USB KEYBOARD:** USA keyboard, inter-character and inter-code delays disabled.

**USB COM:** no handshaking, delay disabled, rx timeout 5 sec., ack/nack disabled, serial trigger lock disabled.

Default Headers and Terminators for each USB mode:

- USB-KBD: no header, terminator = ENTER
- USB-KBD-ALT-MODE: no header, terminator = CR
- USB-COM: no header, terminator = CR-LF
- USB-IBM-TABLE TOP: not applicable
- USB-IBM-HAND HELD: not applicable

### RS232

#### Standard

9600 baud, no parity, 8 data bits, 1 stop bit, no handshaking, delay disabled, rx timeout 5 sec., ack/nack disabled, serial trigger lock disabled;

DATA FORMAT: code identifier disabled, no field adjustment, code length not transmitted, *no header, terminator = CR-LF*, character replacement disabled, address stamping = disabled, address delimiter = disabled

#### Nixdorf Mode A

9600 baud, parity odd, 8 data bits, 1 stop bit, handshaking hardware (RTS/CTS), delay disabled, rx timeout 9.9 sec., ack/nack disabled, serial trigger lock disabled;

DATA FORMAT: code identifier enabled, no field adjustment, code length not transmitted, *no header, terminator = CR*, character replacement disabled, address stamping = disabled, address delimiter = disabled

#### Fujitsu

9600 baud, no parity, 8 data bits, 1 stop bit, no handshaking, delay disabled, rx timeout 2 sec., ack/nack disabled, serial trigger lock disabled;

DATA FORMAT: code identifier enabled, no field adjustment, code length not transmitted, *no header, terminator = CR*, character replacement disabled, address stamping = disabled, address delimiter = disabled

#### ICL

9600 baud, parity even, 8 data bits, 1 stop bit, handshaking RTS always on, delay disabled, rx timeout 9.9 sec., ack/nack disabled, serial trigger lock disabled;

DATA FORMAT: code identifier enabled, no field adjustment, code length not transmitted, *no header, terminator = CR*, character replacement disabled, address stamping = disabled, address delimiter = disabled

**WEDGE**

USA keyboard, caps lock off, caps lock auto-recognition enabled, num lock unchanged, inter-character and inter-code delays disabled,

DATA FORMAT: code identifier disabled, no field adjustment, code length not transmitted, *no header*, *terminator* = *ENTER*, character replacement disabled, address stamping = disabled, address delimiter = disabled

**PEN EMULATION**

interpret mode, conversion to code 39 disabled, output level normal, idle level normal, minimum output pulse 600  $\mu$ s, overflow medium, inter-block delay disabled

**DATA FORMAT for BT DEVICE**

code identifier disabled, field adjustment disabled, code length tx not transmitted, character replacement disabled, address stamping = disabled, address delimiter = disabled, *no header*, *terminator* = *CR-LF*.

**POWER SAVE**

maximum scan rate

**READING PARAMETERS**

hardware trigger, trigger active level, no timeout, Flash On = 1 sec, Flash Off = 0.6 sec, one read per cycle, safety time 0.5 sec, beeper intensity high, tone 2, beeper type monotone, beeper length short, good read spot duration medium.

**DECODING PARAMETERS**

ink spread enabled, overflow control enabled, interdigit control enabled, Puzzle Solver™ disabled, decoding safety = one read.

**CODE SELECTION**

<u>enabled codes</u>	
BT200	Code PDF417
BT100	EAN 8/EAN 13 / UPC A/UPC E without ADD ON
BT200	check digit transmitted, no conversions
	Interleaved 2/5
	check digit control and transmission, variable length code; 4-99 characters
	Standard Code 39
	no check digit control, variable length code; 1-99 characters
	Code 128, variable length code; 1-99 characters
<u>disabled codes</u>	
BT100	<i>EAN 128, ISBT128, Code 93, Codabar, pharmaceutical codes, MSI, Plessey, Telepen, Delta IBM, Code 11, Code 16K, Code 49, RSS family.</i>
BT200	<i>EAN 128, ISBT128, Code 93, Codabar, pharmaceutical codes, RSS family</i>

**ADVANCED FORMATTING PARAMETERS**

concatenation disabled, no advanced formats defined, Zebra printer formatting = disabled.

**RADIO PARAMETERS**

ALL CONFIGURATIONS: radio protocol timeout = 3 seconds, transmission retry = none, power-off timeout = 4 hours, beeper control for radio response = good decode and good reception.

GRYPHON™ BT WITH OM-GRYPHON™ BT: encryption disabled, batch mode disabled.

GRYPHON™ BT WITH BT DEVICE: no ACK/NACK protocol nor frame packing, user-friendly name = "Gryphon BTx00", auto-connection enabled, auto-reconnection enabled.

### 4.3 CHANGING DEFAULT SETTINGS

Once your reader is setup, you can change the default parameters to meet your application needs. Refer to the preceding chapter for initial configuration in order to set the default values and select the interface for your application.

In this manual, the configuration parameters are divided into logical groups making it easy to find the desired function based on its reference group.

The first four groups are for Standard Interface parameter configuration when using the OM-Gryphon™ BT cradle:

- **USB**
- **RS232**
- **WEDGE**
- **PEN EMULATION**

The following parameter groups are common to all applications:

**DATA FORMAT** parameters regard the messages sent to the Host system for all interfaces except Pen Emulation.

**POWER SAVE** manages overall current consumption in the reading device.

**READING PARAMETERS** control various operating modes and indicator status functioning.

**DECODING PARAMETERS** maintain correct barcode decoding in certain special reading conditions.

**CODE SELECTION** parameters allow configuration of a personalized mix of codes, code families and their options.

**ADVANCED FORMATTING PARAMETERS** allow code concatenation and advanced formatting of messages towards the Host. It cannot be used with Pen Emulation.

**RADIO PARAMETERS** allow configuration of radio control parameters.

# USB PARAMETERS

---

## ***USB-COM***

- |   |  |   |
|---|--|---|
| ⊙ | Handshaking, ACK/NACK Protocol, Inter-character Delay, Rx Timeout, Serial Trigger Lock | ⊙ |
|---|--|---|

---

## ***USB-KBD***

- |   |  |   |
|---|--|---|
| ⊙ | Keyboard Nationality, Inter-character Delay, Inter-code Delay, Keyboard Character Assignment | ⊙ |
|---|--|---|

1. Read the **Enter Configuration** code ONCE, available at the top of each page.
2. Read configuration codes from the desired groups.

= Read the code and follow the procedure given

◆ = Default value

- 3.** Read the **Exit and Save Configuration** code ONCE, available at the top of each page.



---

## *HANDSHAKING*

◆ disable



hardware (RTS/CTS)



software (XON/XOFF)



RTS always ON



See par. 5.1.1 for details.

---

## *ACK/NACK PROTOCOL*

◆ disable



enable



See par. 5.1.2 for details.



---

## *INTER-CHARACTER DELAY*

delay between characters transmitted to Host



**Read 2 numbers from the table where:**

00 = DELAY disabled

01-99 = DELAY from **1** to **99** milliseconds

◆ delay disabled

---

## *RX TIMEOUT*

timeout control in reception from Host



**Read 2 numbers from the table where:**

00 = TIMEOUT disabled

01-99 = TIMEOUT from **.1** to **9.9** seconds

◆ rx timeout 5 seconds

See par. 5.1.3 for details.





---

## ***SERIAL TRIGGER LOCK***

◆ disabled



enable and select characters



**Read 2 characters from the Hex/Numeric table in the range 00-FE where:**

- First Character enables device trigger
- Second Character inhibits device trigger until the first character is received again.



---

***KEYBOARD NATIONALITY*****Not Available for USB-KBD-ALT-MODE Interface**

This parameter default value is restored through the Interface Selection code and not Restore Default.

Belgian



English



French



German



Italian



Japanese



Spanish



Swedish



◆ USA





## ***INTER-CHARACTER DELAY***

delay between characters transmitted to Host



**Read 2 numbers from the table where:**

00 = DELAY disabled  
01-99 = DELAY from **1** to **99** milliseconds

◆ delay disabled

## ***INTER-CODE DELAY***

delay between codes transmitted to Host



**Read 2 numbers from the table where:**

00 = DELAY disabled  
01-99 = DELAY from **1** to **99** seconds

◆ delay disabled



---

**KEYBOARD CHARACTER ASSIGNMENT**

---

Character Assignment



- ① Read the character assignment code above:
- ② Read the Hex value of the ASCII character you want to assign, (the character in the barcode), from the codes in the **Hex/Numeric Table**. Valid values are from **00** to **FD**. See the **Character to Hex Conversion Table** for reference in appendix C.
- ③ Read one of the Assignment codes below:



cancel code assignment

(read the Exit &amp; Save Configuration code at the top of this page)



assign character to single key or 2-key sequence  
(go to step 4)



assign character to 4-key sequence  
(go to step 4)



---

④ Select the key modifier:



none (single key)



shift key



ctrl key



alt key

- ⑤ Read the three numeric values for the scancode of the key to associate with the new character. Repeat steps 4 and 5 for a 4-key sequence.
- ⑥ Read the Exit & Save Configuration barcode at the top of this page.



## Examples

1. To transmit the **¿** character to the host as the sequence of keys **Shift 0**.

The scancode for the **0** key = 045

Therefore the command:

	<b>BF</b>	
Character Assignment	hex value of character in barcode to be transmitted to Host	assign character to 2-key sequence

	<b>045</b>	
<b>Shift</b> key modifier	<b>¿</b> key scancode	

2. To transmit the **À** character to the host as the sequence of keys **Ctrl ' Shift A**.

The scancode for the **'** key = 00E

The scancode for the **A** key = 01C

Therefore the command:

	<b>C0</b>	
Character Assignment	hex value of character in barcode to be transmitted to Host	assign character to 4-key sequence

	<b>00E</b>	
<b>Ctrl</b> key modifier	<b>'</b> key scancode	

	<b>01C</b>	
<b>Shift</b> key modifier	<b>A</b> key scancode	

# RS232 PARAMETERS

⊙	<i><b>BAUD RATE</b></i>	⊙
⊙	<i><b>PARITY</b></i>	⊙
⊙	<i><b>DATA BITS</b></i>	⊙
⊙	<i><b>STOP BITS</b></i>	⊙
⊙	<i><b>HANDSHAKING</b></i>	⊙
⊙	<i><b>ACK/NACK PROTOCOL</b></i>	⊙
⊙	<i><b>INTER-CHARACTER DELAY</b></i>	⊙
⊙	<i><b>RX TIMEOUT</b></i>	⊙
⊙	<i><b>SERIAL TRIGGER LOCK</b></i>	⊙

1. Read the **Enter Configuration** code ONCE, available at the top of each page.
2. Read configuration codes from the desired groups.

= Read the code and follow the procedure given

◆ = Default value

- 3.** Read the **Exit and Save Configuration** code ONCE, available at the top of each page.





---

***BAUD RATE***

300 baud



600 baud



1200 baud



2400 baud



4800 baud



◆ 9600 baud



19200 baud



38400 baud





---

***PARITY***

◆ none



even parity



odd parity



---

***DATA BITS***

7 bits



◆ 8 bits



9 bits





---

### ***STOP BITS***

◆ 1 stop bit



2 stop bits



---

### ***HANDSHAKING***

◆ disable



hardware (RTS/CTS)



software (XON/XOFF)



RTS always ON



See par. 5.1.1 for details.




---

## *ACK/NACK PROTOCOL*

◆ disable



enable



See par. 5.1.2 for details.

---

## *INTER-CHARACTER DELAY*

delay between characters transmitted to Host



**Read 2 numbers from the table where:**

00 = DELAY disabled

01-99 = DELAY from 1 to 99 milliseconds

◆ delay disabled



## ***RX TIMEOUT***

timeout control in reception from Host



**Read 2 numbers from the table where:**

00 = TIMEOUT disabled

01-99 = TIMEOUT from .1 to 9.9 seconds

◆ rx timeout 5 seconds

See par. 5.1.3 for details.

## ***SERIAL TRIGGER LOCK***

◆ disabled



enable and select characters



**Read 2 characters from the Hex/Numeric table in the range 00-FE where:**

- First Character enables device trigger
- Second Character inhibits device trigger until the first character is received again.

# WEDGE PARAMETERS

⊙	<i>KEYBOARD NATIONALITY</i>	⊙
⊙	<i>CAPS LOCK</i>	⊙
⊙	<i>CAPS LOCK</i>	⊙
	<i>AUTO-RECOGNITION</i>	
⊙	<i>NUM LOCK</i>	⊙
⊙	<i>INTER-CHARACTER DELAY</i>	⊙
⊙	<i>INTER-CODE DELAY</i>	⊙
⊙	<i>KEYBOARD CHARACTER ASSIGNMENT</i>	⊙

1. Read the **Enter Configuration** code ONCE, available at the top of each page.
2. Read configuration codes from the desired groups.

= Read the code and follow the procedure given

◆ = Default value

- 3.** Read the **Exit and Save Configuration** code ONCE, available at the top of each page.



---

***KEYBOARD NATIONALITY***

This parameter default value is restored through the Interface Selection code and not Restore Default.

Belgian



English



French



German



Italian



Spanish



Swedish



◆ USA



The Japanese Keyboard Nationality selection is valid only for IBM AT compatible PCs.

Japanese







---

***CAPS LOCK***

◆ caps lock OFF



caps lock ON



Select the appropriate code to match your keyboard caps lock status.

**Note:** Caps lock manual configuration is ignored when Caps Lock Auto-Recognition is enabled.

For **PC Notebook** interface selections, the caps lock status is automatically recognized, therefore this command is not necessary.

---

***CAPS LOCK AUTO-RECOGNITION (IBM AT COMPATIBLE ONLY)***

disable



◆ enable





## *NUM LOCK*

toggle num lock



◆ num lock unchanged



This selection is used together with the Alt Mode interface selection for AT or Notebook PCs.

It changes the way the Alt Mode procedure is executed, therefore it should be set as follows:

- if your keyboard Num Lock is normally on use **num lock unchanged**
- if your keyboard Num Lock is normally off use **toggle num lock**

In this way the device will execute the Alt Mode procedure correctly for your application.

## *INTER-CHARACTER DELAY*

delay between characters transmitted to Host



**Read 2 numbers from the table where:**

00 = DELAY disabled  
01-99 = DELAY from **1** to **99** milliseconds

◆ delay disabled



---

***INTER-CODE DELAY***

delay between codes transmitted to Host



**Read 2 numbers from the table where:**

00 = DELAY disabled

01-99 = DELAY from **1** to **99** seconds

◆ delay disabled




---

## ***KEYBOARD CHARACTER ASSIGNMENT***

Character Assignment



- ① Read the character assignment code above:
- ② Read the Hex value of the ASCII character you want to assign, (the character in the barcode), from the codes in the **Hex/Numeric Table**. Valid values are from **00** to **FD**. See the **Character to Hex Conversion Table** for reference in appendix C.
- ③ Read one of the Assignment codes below:



cancel code assignment

(read the Exit & Save Configuration code at the top of this page)



assign character to single key or 2-key sequence  
(go to step 4)



assign character to 4-key sequence  
(go to step 4)



- ④ Select the key modifier:



none (single key)



shift key



ctrl key



alt key

- ⑤ Read the three numeric values for the scancode of the key to associate with the new character. Repeat steps 4 and 5 for a 4-key sequence.
- ⑥ Read the Exit & Save Configuration barcode at the top of this page.

### Determining a Key's Scancode (for Wedge interface only)

Since scancode keymaps are not readily available for all the different supported keyboards, a Return Scancode command is provided. To determine the scancode of the desired character for your keyboard; connect and configure your barcode reader to the desired host device, read the code below and press the key. The scancode of the pressed key will be sent to the host and the reader exits this mode. Repeat the procedure to determine other scancodes.



Return Scancode



#### NOTE

*The reader will signal an incomplete read tone. This is normal and not an error. Proceed to press a keyboard key to determine the scancode.*



## Examples

1. To transmit the **¿** character to the host as the sequence of keys **Shift 0**.

The scancode for the **0** key = 045

Therefore the command:

	 <b>BF</b> 	
Character Assignment	hex value of character in barcode to be transmitted to Host	assign character to 2-key sequence





	 <b>045</b> 	
<b>Shift</b> key modifier	<b>¿</b> key scancode	

2. To transmit the **À** character to the host as the sequence of keys **Ctrl ' Shift A**.





The scancode for the **'** key = 00E

The scancode for the **A** key = 01C





Therefore the command:

	 <b>C0</b> 	
Character Assignment	hex value of character in barcode to be transmitted to Host	assign character to 4-key sequence

	 <b>00E</b> 	
<b>Ctrl</b> key modifier	<b>'</b> key scancode	

	 <b>01C</b> 	
<b>Shift</b> key modifier	<b>A</b> key scancode	

# PEN EMULATION

⊙	<b><i>OPERATING MODE</i></b>	⊙
⊙	<b><i>MINIMUM OUTPUT PULSE</i></b>	⊙
⊙	<b><i>CONVERSION TO CODE 39</i></b>	⊙
⊙	<b><i>OVERFLOW</i></b>	⊙
⊙	<b><i>OUTPUT LEVEL</i></b>	⊙
⊙	<b><i>IDLE LEVEL</i></b>	⊙
⊙	<b><i>INTER-BLOCK DELAY</i></b>	⊙

1. Read the **Enter Configuration** code ONCE, available at the top of each page.
2. Read configuration codes from the desired groups.

= Read the code and follow the procedure given

◆ = Default value

3. Read the **Exit and Save Configuration** code ONCE, available at the top of each page.

## PEN EMULATION

---

The operating mode parameters are complete commands and do not require reading the Enter and Exit configuration codes.

---

---

### *OPERATING MODE*

◆ interpret mode



Interprets commands without sending them to the decoder.

transparent mode

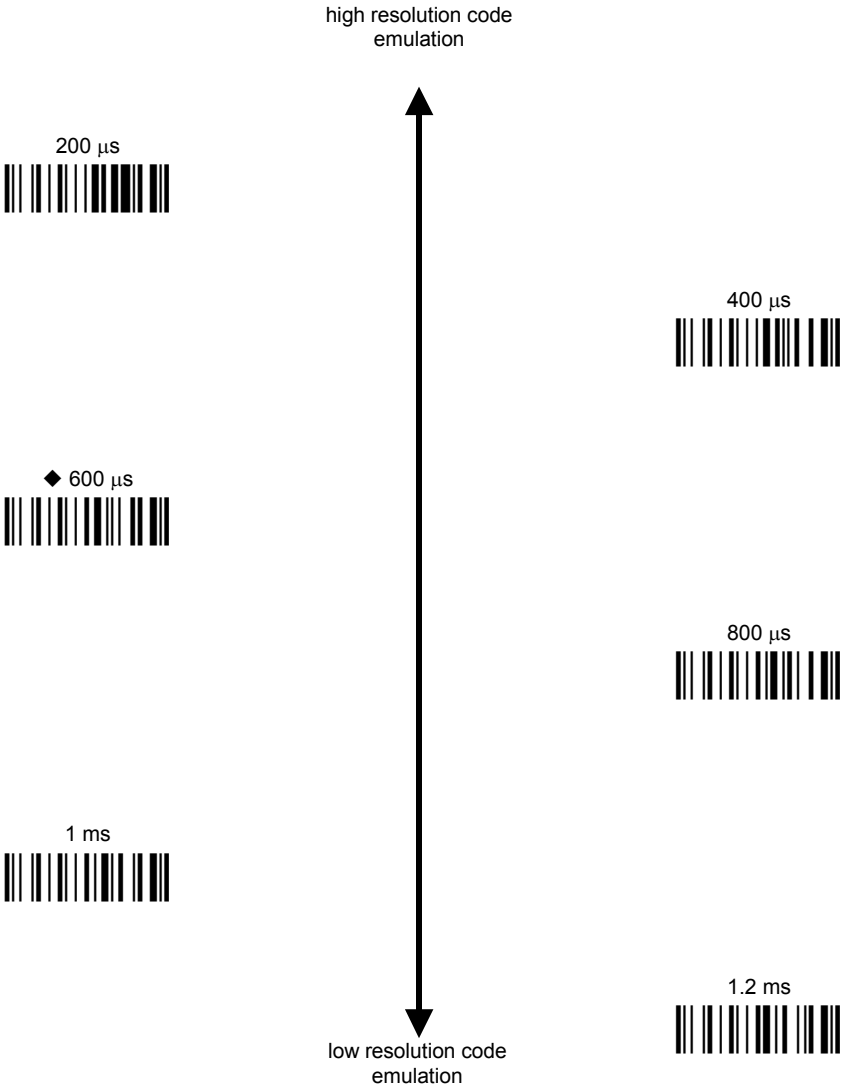


Sends commands to the decoder without interpreting them.





*MINIMUM OUTPUT PULSE*



See par. 5.2.1 for details.



---

## *CONVERSION TO CODE 39*

◆ disable conversion to Code 39



Transmits codes in their original format.

enable conversion to Code 39



Converts codes read into Code 39 format.

See par. 5.2.2 for details.

---

## *OVERFLOW*

narrow



◆ medium



wide



See par. 5.2.3 for details.



---

### *OUTPUT LEVEL*

◆ normal  
(white = logic level 0)



inverted  
(white = logic level 1)



See par. 5.2.4 for details.

---

### *IDLE LEVEL*

◆ normal  
(black level)



inverted  
(white level)



See par. 5.2.4 for details.



---

***INTER-BLOCK DELAY***

delay between character blocks transmitted to Host



**Read 2 numbers from the table where:**

00 = DELAY disabled

01-99 = DELAY from .1 to **9.9** seconds

◆ delay disabled

See par. 5.2.5 for details.

# DATA FORMAT

NOT FOR PEN INTERFACES

⊙	<i>CODE IDENTIFIER</i>	⊙
⊙	<i>CUSTOM CODE IDENTIFIER</i>	⊙
⊙	<i>HEADER</i>	⊙
⊙	<i>TERMINATOR</i>	⊙
⊙	<i>FIELD ADJUSTMENT</i>	⊙
⊙	<i>FIELD ADJ. CHARACTER</i>	⊙
⊙	<i>CODE LENGTH TX</i>	⊙
⊙	<i>CHARACTER REPLACEMENT</i>	⊙
⊙	<i>ADDRESS STAMPING</i>	⊙
⊙	<i>ADDRESS DELIMITER</i>	⊙

1. Read the **Enter Configuration** code ONCE, available at the top of each page.
2. Read configuration codes from the desired groups.

= Read the code and follow the procedure given

◆ = Default value

3. Read the **Exit and Save Configuration** code ONCE, available at the top of each page.

## DATA FORMAT

CODE IDENTIFIER TABLE			
CODE	AIM STANDARD	DATALOGIC STANDARD	Custom
2/5 interleaved	] I y	N	
2/5 industrial	] X y	P	
2/5 normal 5 bars	] S y	O	
2/5 matrix 3 bars	] X y	Q	
EAN 8	] E 4	A	
EAN 13	] E 0	B	
UPC A	] X y	C	
UPC E	] X y	D	
EAN 8 with 2 ADD ON	] E 5	J	
EAN 8 with 5 ADD ON	] E 6	K	
EAN 13 with 2 ADD ON	] E 1	L	
EAN 13 with 5 ADD ON	] E 2	M	
UPC A with 2 ADD ON	] X y	F	
UPC A with 5 ADD ON	] X y	G	
UPC E with 2 ADD ON	] X y	H	
UPC E with 5 ADD ON	] X y	I	
Code 39	] A y	V	
Code 39 Full ASCII	] A y	W	
CODABAR	] F y	R	
ABC CODABAR	] X y	S	
Code 128	] C y	T	
EAN 128	] C y	k	
ISBT 128	] C4	f	
Code 93	] G y	U	
CIP/39	] X y	Y	
CIP/HR	] X y	e	
Code 32	] X y	X	
MSI	] M y	Z	
Plessey Standard	] P 0	a	
Plessey Anker	] P 1	o	
Telepen	] X 0	d	
Delta IBM	] X 0	c	
Code 11	] H y	b	
Code 16K	] K 0	p	
Code 49	] T y	q	
RSS Expanded Linear and Stacked	] e 0	t	
RSS Limited	] e 0	v	
RSS 14 Linear and Stacked	] e 0	u	
PDF417	] L 0	r	

## DATA FORMAT

---

- AIM standard identifiers are not defined for all codes: the X identifier is assigned to the code for which the standard is not defined. The y value depends on the selected options (check digit tested or not, check digit tx or not, etc.).
- When customizing the Datalogic Standard code identifiers, 1 or 2 identifier characters can be defined for each code type. If only 1 identifier character is required, the second character must be selected as **FF** (disabled).
- The code identifier can be singly disabled for any code by simply selecting **FF** as the first identifier character.
- Write in the Custom character identifiers in the table above for your records.



## DATA FORMAT



---

### *CODE IDENTIFIER*

◆ disable



Datalogic standard



AIM standard



custom







---

***CUSTOM CODE IDENTIFIER***


define custom code identifier(s)



- ① Read the above code.  
(Code Identifiers default to Datalogic standard, see table on previous page).
- ② Select the code type from the code table in Appendix B for the identifier you want to change.
- ③ You can define 1 or 2 identifier characters for each code type. If only 1 identifier character is required, the second character must be selected as **FF** (disabled). Read the hexadecimal value corresponding to the character(s) you want to define as identifiers for the code selected in step ②: valid characters are in the range **00-FD**.

**Example:** To define Code 39 Code Identifier = @

Read      define custom code identifier(s)      +      Code 39      +      40      +      FF



# DATA FORMAT



---

## HEADER

no header



one character header



two character header



three character header



four character header



five character header



six character header



seven character header



eight character header



After selecting **one** of the desired Header codes, read the character(s) from the HEX table. Valid characters are in the range **00-FE**.

**Example:**

four character header



+ 41 + 42 + 43 + 44 = Header ABCD



## DATA FORMAT



For more details see par. 5.3.1.

### *TERMINATOR*

no terminator



one character terminator



two character terminator



three character terminator



four character terminator



five character terminator



six character terminator



seven character terminator



eight character terminator



After selecting **one** of the desired Header codes, read the character(s) from the HEX table. Valid characters are in the range **00-FE**.

**Example:**



## DATA FORMAT

two character terminator



+ 0D + 0A = Terminator CR LF

For more details see par. 5.3.1.

### FIELD ADJUSTMENT

◆ disable field adjustment



Field adjustment allows a number of characters  $n$ , to be added to or subtracted from the barcode read. The adjustment can be different for each enabled code type. To define the field adjustment:

- ① Read the enable field adjustment code:

enable field adjustment



- ② Select the code type from the Code Identifier Table in Appendix B.

- ③ Select the type of adjustment to perform:

right addition



left addition



right deletion



left deletion



- ④ Read a number in the range **01 - 32** from the Hex/Numeric Table to define how many characters to add or delete:

#### Conditions:

- Adjustment is only performed on the barcode data, the Code Identifier and Code Length Transmission fields are not modified by the field adjustment parameter.
- If the field setting would subtract more characters than exist in the barcode, the subtraction will take place only to code length 0.
- You can set up to a maximum of 10 different field adjustments on the same barcode family or on different barcode families.

**DATA FORMAT**

**Example:** To add 4 characters to the right of Standard Code 39 Codes:



- ① Read the field adjustment character code:

field adjustment character



- ② Read the hexadecimal value corresponding to the character you want to use for field adjustment. Valid characters are in the range **00-FE**.

**Example:**

To define the field adjustment character = **A**:

***CODE LENGTH TX***

- ◆ code length not transmitted



code length transmitted in variable-digit format



code length transmitted in fixed 4-digit format





## DATA FORMAT



The code length is transmitted in the message after the Headers and Code Identifier characters.  
The code length is calculated after performing any field adjustment operations.




---

## *CHARACTER REPLACEMENT*

◆ disable character replacement



This parameter allows up to three characters to be replaced from the barcode read. These substitutions are stored in memory. To define each character replacement:

- ① Read one of the following character replacement codes:

first character replacement



second character replacement



third character replacement



- ② From the Code Identifier Table in Appendix B, read the Code Identifier for the desired code family.  
**0** = character replacement will be effective for all code families.
- ③ From the Hex/Numeric Table read two characters corresponding to the Hex value (**00-FE**) which identifies the character to be replaced.
- ④ From the Hex/Numeric Table read two characters corresponding to the Hex value (**00-FE**) which identifies the new character.

**FF** = the character to be replaced will be substituted with no character, that is, it will be removed from the code.

**Example:**

The following strings define:

1. *First Character Replacement:* substitution in *Code 39 barcodes* of all occurrences of the **0** character with the **1** character.
2. *Second Character Replacement:* substitution in *Code 39 barcodes* of all occurrences of the **A** character with the **B** character.

first character replacement		Code 39		ASCII characters corresponding to the HEX value for character <b>0</b>		ASCII characters corresponding to the HEX value for character <b>1</b>
	+		+	<b>30</b>	+	<b>31</b>

For Code 39 codes containing the string "**0123**", the contents transmitted will be "**1123**".

second character replacement		Code 39		ASCII characters corresponding to the HEX value for character <b>A</b>		ASCII characters corresponding to the HEX value for character <b>B</b>
	+		+	<b>41</b>	+	<b>42</b>

For Code 39 codes containing the string "**ABCD**", the contents transmitted will be "**BBCD**".






---

### *ADDRESS STAMPING*

◆ disable reader address stamping



enable reader address stamping



See par. 5.3.2 for details.

---

### *ADDRESS DELIMITER*

◆ disable reader address delimiter



enable reader address delimiter and select characters



Read 2 HEX characters in the range **00-FE**.

See par. 5.3.3 for details.

# POWER SAVE



***SCAN RATE***



1. Read the **Enter Configuration** code ONCE, available at the top of each page.
2. Read configuration codes from the desired groups.  
◆ = Default value
3. Read the **Exit and Save Configuration** code ONCE, available at the top of each page.



---

***SCAN RATE***

quarter



half



◆ maximum



A lower scan rate reduces power consumption but can lengthen reading response time.

# READING PARAMETERS

⊙	<b><i>HAND-HELD OPERATION</i></b>	⊙
⊙	<b><i>STAND OPERATION</i></b>	⊙
⊙	<b><i>TRIGGER SIGNAL</i></b>	⊙
⊙	<b><i>TRIGGER-OFF TIMEOUT</i></b>	⊙
⊙	<b><i>FLASH MODE</i></b>	⊙
⊙	<b><i>READS PER CYCLE</i></b>	⊙
⊙	<b><i>SAFETY TIME</i></b>	⊙
⊙	<b><i>BEEPER INTENSITY</i></b>	⊙
⊙	<b><i>BEEPER TONE</i></b>	⊙
⊙	<b><i>BEEPER TYPE</i></b>	⊙
⊙	<b><i>BEEPER LENGTH</i></b>	⊙
⊙	<b><i>GOOD READ SPOT DURATION</i></b>	⊙

1. Read the **Enter Configuration** code ONCE, available at the top of each page.
2. Read configuration codes from the desired groups.
  - = Read the code and follow the procedure given

◆ = Default value

- 3.** Read the **Exit and Save Configuration** code ONCE, available at the top of each page.



## READING PARAMETERS




---

### *HAND-HELD OPERATION*

◆ hardware trigger



software trigger



hardware trigger ready



automatic



Selections other than *Hardware Trigger* constantly consume battery power.

For *Automatic* operation, the Safety Time parameter is forced to no code consecutive reading (00).

See par. 5.4.1 for details

---

### *STAND OPERATION*

hardware trigger



software trigger



◆ automatic



Selections other than *Hardware Trigger* constantly consume battery power.

For *Automatic* operation, the Safety Time parameter is forced to no code consecutive reading (00).

See par. 5.4.1 for details




---

## *HARDWARE TRIGGER SIGNAL*

◆ trigger active level



trigger active pulse



See par. 5.4.2 for details

---

## *TRIGGER-OFF TIMEOUT*

trigger-off timeout



**Read 2 numbers in the range 00-99:**

00 = disables the trigger-off timeout

01-99 = corresponds to a max. 99-sec. delay after the trigger press to allow the reader to turn off automatically.

◆ trigger-off timeout disabled

See par. 5.4.3 for details.



## READING PARAMETERS



### *FLASH MODE*

"FLASH" ON duration



"FLASH" OFF duration



**Read 2 numbers in the range 01-99:**

01 to 99 = from .1 to 9.9 seconds.

◆ Flash-ON = 1 sec. Flash-OFF = 0.6 sec

### *READS PER CYCLE*

◆ one read per cycle



multiple reads per cycle



See par. 5.4.4 for details.





## READING PARAMETERS

---

### ***SAFETY TIME***

safety time



Limits same code consecutive reading.

#### **Read 2 numbers in the range 00-99:**

00 = no same code consecutive reading until reader is removed (no decoding) for at least 400 ms.

01-99 = timeout from .1 to 9.9 seconds before a consecutive read on same code.

◆ safety time = 0.5 sec

See par. 5.4.5 for details.

---

### ***BEEPER INTENSITY***

beeper off \*



low intensity



medium intensity



◆ high intensity





READING PARAMETERS

\* This sets the beeper OFF for data entry, while for all other beeper signals it has the meaning “very low intensity”. The Beeper Intensity parameter is effective for all operating conditions described in par. 8.3.

**BEEPER TONE**

tone 1



◆ tone 2



tone 3



tone 4



**BEEPER TYPE**

◆ monotone



bitonal



**BEEPER LENGTH**

long

Enter Configuration



READING PARAMETERS

Exit and Save Configuration



◆ short



---

*PDF DECODING RECOGNITION INTENSITY*

◆ low



high



---

*GOOD READ SPOT DURATION*

disable



short



◆ medium



long



# DECODING PARAMETERS

⊙	<b><i>INK SPREAD</i></b>	⊙
⊙	<b><i>OVERFLOW CONTROL</i></b>	⊙
⊙	<b><i>INTERDIGIT CONTROL</i></b>	⊙
⊙	<b><i>DECODING SAFETY</i></b>	⊙
⊙	<b><i>PUZZLE SOLVER™</i></b>	⊙



**CAUTION**

*Before changing these parameter values read the descriptions in par. 5.5.*

1. Read the **Enter Configuration** code ONCE, available at the top of each page.
2. Read configuration codes from the desired groups.  
  
◆ = Default value
3. Read the **Exit and Save Configuration** code ONCE, available at the top of each page.



## DECODING PARAMETERS



---

### *INK SPREAD*

disable



◆ enable



See par. 5.5.1 for details.

---

### *OVERFLOW CONTROL*

disable



◆ enable



See par. 5.5.2 for details.



## DECODING PARAMETERS



### *INTERDIGIT CONTROL*

disable



◆ enable



See par. 5.5.3 for details.

### *DECODING SAFETY*

◆ one read



(decoding safety disabled)

two reads



three reads



four reads



Required number of good reads before accepting code.



## DECODING PARAMETERS



### *PUZZLE SOLVER™*

◆ disable



enable



In the case of damaged or poorly printed codes, this parameter allows reading multiple parts of the single code to reconstruct it.

To read codes using this technology, simply move the reader over the code so that each line of the code is scanned.

#### Conditions:

- This parameter is only valid for the following codes:

<b>EAN 8 without Add-on</b>	<b>EAN 13 without Add-on</b>	<b>UPC A without Add-on</b>
<b>Code 128</b>	<b>Code 39</b>	

- For Code 39, Check digit control without transmission is forced.
- PuzzleSolver™ is disabled when code ISBT 128 is enabled.

# CODE SELECTION

⊙	<b><i>EAN/UPC FAMILY</i></b>	⊙
⊙	<b><i>2/5 FAMILY</i></b>	⊙
⊙	<b><i>CODE 39 FAMILY</i></b>	⊙
⊙	<b><i>CODE 128 FAMILY</i></b>	⊙
⊙	<b><i>CODABAR FAMILY</i></b>	⊙
⊙	<b><i>CODE 93</i></b>	⊙
⊙	<b><i>MSI</i></b>	⊙
⊙	<b><i>PLESSEY</i></b>	⊙
⊙	<b><i>TELEPEN</i></b>	⊙
⊙	<b><i>DELTA IBM</i></b>	⊙
⊙	<b><i>CODE 11</i></b>	⊙
⊙	<b><i>CODE 16K</i></b>	⊙
⊙	<b><i>CODE 49</i></b>	⊙
⊙	<b><i>RSS CODES</i></b>	⊙
⊙	<b><i>PDF417</i></b>	⊙
	<b><i>PDF READERS ONLY</i></b>	

**1.** Read the **Enter Configuration** code ONCE, available at the top of each page.

**2.** Read configuration codes from the desired groups.

= Read the code and follow the procedure given

◆ = Default value

**3.** Read the **Exit and Save Configuration** code ONCE, available at the top of each page.





## CODE SELECTION



DISABLES ALL CODE FAMILIES



### NOTE

*The reader allows up to 5 code selections. This does not limit the number of CODES enabled to 5, as it depends on the code family.*

### SINGLE SELECTIONS =

- ONE combination code from the EAN family
- ONE code from the 2/5 family

### Example

5 code selections:

1. **2/5 Interleaved**
2. **2/5 Industrial**
3. Code 128 + EAN 128
4. Code 39 Full ASCII + Code 32
5. **UPC A/UPC E**

In this section all SINGLE code selections are underlined and in bold.



## CODE SELECTION




---

### ***EAN/UPC FAMILY***

disable the family



- ① Read the desired family code

**Note:**

Since the EAN/UPC without ADD ON code selection is enabled by default, to correctly enable another selection, first disable the family.

#### **EAN 8/EAN 13/UPC A/UPC E with and without ADD ON**




---

#### **WITHOUT ADD ON**

##### ◆ **EAN 8/EAN 13/UPC A/UPC E**



##### **EAN 8/EAN 13**



##### **UPC A/UPC E**



**CODE SELECTION**

---

WITH ADD ON 2 AND 5

EAN 8/EAN 13/UPC A/UPC E



EAN 8/EAN 13



UPC A/UPC E



---

WITH ADD ON 2 ONLY

EAN 8/EAN 13



UPC A/UPC E



---

WITH ADD ON 5 ONLY

EAN 8/EAN 13



UPC A/UPC E





## CODE SELECTION



### EAN/UPC CHECK DIGIT TX SELECTIONS

For each code type in this family you can choose to transmit the check digit or not

#### CHECK DIGIT TRANSMISSION

◆ EAN 8



◆ EAN 13



◆ UPC A



◆ UPC E



#### NO CHECK DIGIT TRANSMISSION

EAN 8



EAN 13



UPC A



UPC E





## CODE SELECTION



---

### CONVERSION OPTIONS

UPC E to UPC A conversion



UPC E to EAN 13 conversion



UPC A to EAN 13 conversion



EAN 8 to EAN 13 conversion



Enable only ISBN conversion



Enable only ISSN conversion



Enable both ISBN and ISSN conversion



Disable both ISBN and ISSN conversion





## CODE SELECTION

### 2/5 FAMILY

disables the family



① Read the desired family code

◆ **Interleaved 2/5**



**Normal 2/5 (5 Bars)**



**Industrial 2/5 (IATA)**



**Matrix 2/5 (3 Bars)**



The pharmaceutical code below is part of the 2/5 family but has no check digit or code length selections.

**Code CIP/HR**



French pharmaceutical code

② Read a check digit selection

#### CHECK DIGIT TABLE

no check digit control



◆ check digit control and transmission



check digit control without transmission



③ Read **4** numbers for the code length where:

- **First 2 digits** = minimum code length.
- **Second 2 digits** = maximum code length.

The maximum code length is **99** characters.

The minimum code length must always be less than or equal to the maximum.

Examples:

**0199** = variable from 1 to 99 digits in the code.

**1010** = 10 digit code length only.



# CODE SELECTION

---

## CODE 39 FAMILY

disables the family



① Read the desired family code

◆ **Standard Code 39**



**Full ASCII Code 39**



② Read a check digit selection

### CHECK DIGIT TABLE

◆ **no check digit control**



check digit control  
and transmission



check digit control  
without transmission





## CODE SELECTION

The pharmaceutical codes below are part of the Code 39 family but have no check digit selections.

### Code CIP39



French pharmaceutical code

### Code 32



Italian pharmaceutical code

## CODE LENGTH (optional)

The code length selection is valid for the entire Code 39 family

Read the code + 4 numbers for the code length where:

**First 2 digits** = minimum code length.

**Second 2 digits** = maximum code length.

set code length



The maximum code length is **99** characters.

The minimum code length must always be less than or equal to the maximum.

Examples: **0199** = variable from 1 to 99 digits in the code. **1010** = 10 digit code length only.





## CODE SELECTION

---

### *CODE 128 FAMILY*

disables the family



- ① Read the desired family code

#### ◆ Code 128



control without transmission  
of check digit

---

#### EAN 128



control without transmission  
of check digit

---

### Transmit GS Before Code

Code EAN 128 uses the ASCII <GS> character to separate a variable length code field from the next code field. This character can also be transmitted before the code.

#### ◆ disable



enable



If the <GS> character has been modified in the Character Replacement parameter, the new character is affected by this command.



## CODE SELECTION

### ISBT 128



Enabling ISBT 128 automatically disables Puzzle Solver™.

### CODE LENGTH (optional)

The code length selection is valid for the entire Code 128 family.

Read the code + 4 numbers for the code length where:

set code length

**First 2 digits** = minimum code length

**Second 2 digits** = maximum code length



The maximum code length is 99 characters. The minimum code length must always be less than or equal to the maximum.

Examples: **0199** = variable from 1 to 99 digits in the code. **1010** = 10 digit code length only.

The length is calculated on the output string.

## CODE 93

◆ disables the code



### Code 93



control without transmission  
of check digit



## CODE SELECTION

### *CODABAR FAMILY*

◆ disables the family



① Read the desired equality control code

② Read a start/stop transmission selection

#### Standard Codabar



no start/stop character equality control

#### START/STOP CHARACTER TRANSMISSION

no transmission



#### Standard Codabar



start/stop character equality control

transmission



The Codabar ABC code below uses a fixed start/stop character transmission selection.

#### Codabar ABC



no start/stop character equality control but transmission.



## CODE SELECTION

### Codabar ABC Forced Concatenation

enable Codabar ABC with forced concatenation



non start/stop character equality control but transmission

### CODE LENGTH (optional)

The code length selection is valid for the entire Codabar family

Read the code + 4 numbers for the code length where:

**First 2 digits** = minimum code length.

**Second 2 digits** = maximum code length.

set code length



The maximum code length is **99** characters.

The minimum code length must always be less than or equal to the maximum.

Examples: **0199** = variable from 1 to 99 digits in the code. **1010** = 10 digit code length only.

### START/STOP CHARACTER CASE IN TRANSMISSION

The start/stop character case selections below are valid for the entire Codabar family:

transmit start/stop characters in lower case



transmit start/stop characters in upper case





# CODE SELECTION




---

**MSI**

◆ disables the family



Enable the code by selecting one of the check digit selections.

no check digit control



MOD10 check digit control  
no check digit transmission



MOD10 check digit control  
check digit transmission



MOD11 - MOD10 check digit control  
no check digit transmission



MOD11 - MOD10 check digit control  
check digit transmission



MOD10 - MOD10 check digit control  
no check digit transmission



MOD10 - MOD10 check digit control  
check digit transmission





## CODE SELECTION

### *PLESSEY*

◆ disables the family



Enable the code by selecting one of the check digit selections.

### Standard Plessey

no check digit control



check digit control  
check digit transmitted



check digit control  
check digit not transmitted



### Anker Plessey

no check digit control



check digit control  
check digit transmitted



check digit control  
check digit not transmitted





## CODE SELECTION

### *TELEPEN*

◆ disables the family



Enable the code by selecting one of the check digit selections.

### Numeric Telepen

no check digit control



check digit control  
check digit transmitted



check digit control  
check digit not transmitted



### Alphanumeric Telepen

no check digit control



check digit control  
check digit transmitted



check digit control  
check digit not transmitted





## CODE SELECTION



---

### *DELTA IBM*

◆ disables the family



Enable the code by selecting one of the check digit selections.

no check digit control



Type 1 check digit control



Type 2 check digit control







## CODE SELECTION

### *CODE 11*

◆ disables the family



Enable the code by selecting one of the check digit selections.

no check digit control



Type C check digit control  
check digit transmitted



Type C check digit control  
check digit not transmitted



Type K check digit control  
check digit transmitted



Type K check digit control  
check digit not transmitted



Type C and Type K  
check digit control  
check digits transmitted



Type C and Type K  
check digit control  
check digits not transmitted





## CODE SELECTION

---

### *CODE 16K*

◆ disables the code



#### Code 16K



To read stacked codes, simply move the reader over the code so that each line of the code is scanned. During this process a series of brief "ticks" indicates that reading is proceeding correctly.

---

### *CODE 49*

◆ disables the code



#### Code 49



To read stacked codes, simply move the reader over the code so that each line of the code is scanned. During this process a series of brief "ticks" indicates that reading is proceeding correctly.



# CODE SELECTION



## *RSS CODES*

◆ disables the family



### DISABLE CODE

disable RSS Expanded Linear and Stacked



disable RSS Limited



disable RSS 14 Linear and Stacked



### ENABLE CODE

enable RSS Expanded Linear and Stacked



enable RSS Limited



enable RSS 14 Linear and Stacked



To read the stacked version of these codes, simply move the reader over the code so that each line of the code is scanned. During this process a series of brief "ticks" indicates that reading is proceeding correctly.

**CODE SELECTION**

---

***PDF417*****PDF417 Readers Only**

disables the code

◆ **PDF417**

To read stacked codes, simply move the reader over the code so that each line of the code is scanned. During this process a series of brief "ticks" indicates that reading is proceeding correctly.

# ADVANCED FORMATTING

⦿	<i>CONCATENATION</i>	⦿
⦿	<i>ADVANCED FORMATTING</i>	⦿
⦿	<i>ZEBRA PRINTER FORMATTING</i>	⦿
⦿	<i>ZEBRA PRINTER FORMAT FILE SELECTION</i>	⦿



## NOTE

*Please follow the setup procedure carefully for these parameters.*

1. Read the **Enter Configuration** code ONCE, available at the top of page .
2. Read configuration codes precisely following the numbered procedure given.

= Read the code and follow the procedure given



= Default value

- 3.** Read the **Exit and Save Configuration** code ONCE, available at the top of page.




---

## CONCATENATION

◆ disable



enable



Permits the concatenation of two codes defined by code type and length. It is possible to set a timeout for the second code reading and to define code transmission if the timeout expires.

**The order of transmission is CODE 1-CODE 2.**

### Define Concatenation

---

**1**

#### Code 1

code ID



Read the code type from the Code Identifier Table beginning in Appendix B.

code length



Read a number in the range **01-99** from the Hex/Numeric Table.

## ADVANCED FORMATTING



2

### Code 2

code ID



Read the code type from the Code Identifier Table beginning in Appendix B.

code length



Read a number in the range **01-99** from the Hex/Numeric Table.

3

### Concatenation Result Code ID

use code 1 ID



use code 2 ID



Since you can concatenate codes from different families, you must select the Code ID character of the resulting code. The Code ID character will be sent in the output message only if it is enabled according to the Code Identifier selection (Datalogic, AIM, or Custom).

4

### Concatenation Timeout

timeout



Read two numbers in the range **00 to 99**

00= no timeout

01-99 = timeout from 1 to 99 seconds



## ADVANCED FORMATTING



Define the timeout, which determines the valid waiting period between the two codes, in order to accept concatenation. If the timeout expires, the resulting action will be based on the following selection.

---

**5**

### Transmission after Timeout

no code transmitted  
after timeout



only code 1 transmitted  
(if read) after timeout



only code 2 transmitted  
(if read) after timeout



either code 1 or code 2 transmitted  
after timeout

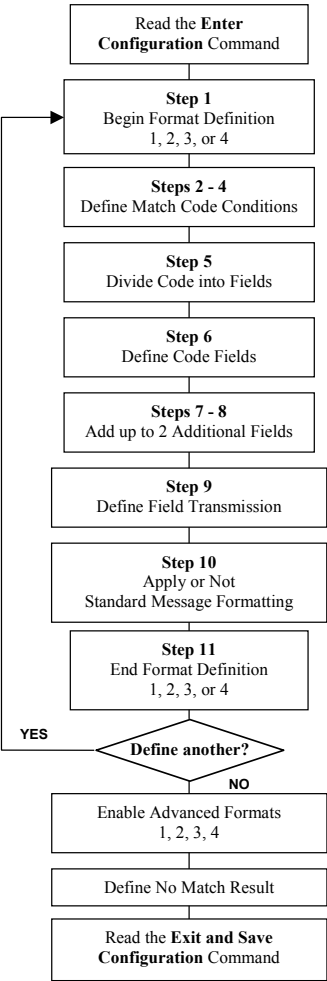


# ADVANCED FORMATTING

## ADVANCED FORMATTING

Advanced formatting has been designed to offer you complete flexibility in changing the format of barcode data before transmitting it to the host system. This formatting will be performed when the barcode data meets certain criteria which you will define in the following procedure.

Up to 4 advanced code management formats can be defined and saved in memory. For each format you must complete the entire configuration procedure:





## ADVANCED FORMATTING



1

### Begin Format Definition

begin Format 1 definition



begin Format 2 definition



begin Format 3 definition



begin Format 4 definition



2

### Match Code Type

match code type



Read the above code + the code type to match from the Code Identifier Table in Appendix B.

**OR**

any code type



3

### Match Code Length

match code length



Read the above code + two numbers in the range **01** to **99** for the exact code length.

Enter Configuration



OR

# ADVANCED FORMATTING

any code length



Exit and Save Configuration



# ADVANCED FORMATTING



4

## Match with Predefined Characters

no match



OR

match with 1 character



match with a 2-character string



match with a 3-character string



match with a 4-character string



After selecting the predefined match code, read the character(s) from the HEX table. Range of characters = **01-FE**.

**Example:**

Match code with the 2-character predefined string = "@@".

Read      Match with a 2-character string      + 40 + 40



AND

position of first character in predefined string



## ADVANCED FORMATTING



Read the above code + two numbers in the range **01** to **99** representing the character position in the code where the first character of the predefined string must be found.

Read **00** if the match string can be found in any character position.

---

5

### Divide Code into Fields

divide code into fields



Read one number in the range **1** to **5** to divide the code into fields.

---

6

### Define Code Fields

define code fields

Each code field length can be set by either:

- a) defining a field separator character to be found in the code itself. In this case you can choose to **discard** the code separator character or **include** it as the last character of the field.

**OR BY**

- b) specifying a specific character length up to the maximum of 99 characters.

**OR BY**

- c) selecting the last field as variable length (if any).

**You must define the same number of fields as selected in step 5, including fields that will not be transmitted.**

## ADVANCED FORMATTING



### DEFINE FIELD 1 BY: EITHER

a)

field separator



Read the field separator character from the HEX table. Range of characters = **01-FE**.

discard separator



include separator



OR

b)

field length



Read two numbers in the range **01** to **99** to define the field length.

OR

c)

this is the last field (variable length)



AND

### Field 1 Terminators

no field terminators



1 field terminator



2 field terminators



Read the field terminator character(s) from the HEX table.

Valid range of characters for all readers = **01-FE**.

# ADVANCED FORMATTING



For readers using Wedge interface, all values from **9C** to **FE** send the Space character.

## DEFINE FIELD 2 BY: EITHER

a)

field separator



Read the field separator character from the HEX table. Range of characters = **01-FE**.

discard separator



include separator



OR

b)

field length



Read two numbers in the range **01** to **99** to define the field length.

OR

c)

this is the last field (variable length)



AND

## Field 2 Terminators

no field terminators



1 field terminator



2 field terminators



Read the field terminator character(s) from the HEX table.



## ADVANCED FORMATTING



Valid range of characters for all readers = **01-FE**.

For readers using Wedge interface, all values from **9C** to **FE** send the Space character.

### DEFINE FIELD 3 BY: EITHER

a)

field separator



Read the field separator character from the HEX table. Range of characters = **01-FE**.

discard separator



include separator



OR

b)

field length



Read two numbers in the range **01** to **99** to define the field length.

OR

c)

this is the last field (variable length)



AND

### Field 3 Terminators

no field terminators



1 field terminator



2 field terminators



## ADVANCED FORMATTING



Read the field terminator character(s) from the HEX table.

Valid range of characters for all readers = **01-FE**.

For readers using Wedge interface, all values from **9C** to **FE** send the Space character.

### DEFINE FIELD 4 BY: EITHER

a)

field separator



Read the field separator character from the HEX table. Range of characters = **01-FE**.

discard separator



include separator



OR

b)

field length



Read two numbers in the range **01** to **99** to define the field length.

OR

c)

this is the last field (variable length)



AND

### Field 4 Terminators

no field terminators



1 field terminator

2 field terminators

## ADVANCED FORMATTING



Read the field terminator character(s) from the HEX table.

Valid range of characters for all readers = **01-FE**.

For readers using Wedge interface, all values from **9C** to **FE** send the Space character.

### DEFINE FIELD 5 BY: EITHER

a)

field separator



Read the field separator character from the HEX table. Range of characters = **01-FE**.

discard separator



include separator



OR

b)

field length



Read two numbers in the range **01** to **99** to define the field length.

OR

c)

this is the last field (variable length)



AND

### Field 5 Terminators

no field terminators



# ADVANCED FORMATTING

Exit and Save Configuration



1 field terminator



2 field terminators



Read the field terminator character(s) from the HEX table.  
Valid range of characters for all readers = **01-FE**.

For readers using Wedge interface, all values from **9C** to **FE** send the Space character.

7

## First Additional Fixed Field

no fixed field



1 character fixed field



2 character fixed field



3 character fixed field



4 character fixed field



5 character fixed field



6 character fixed field

## ADVANCED FORMATTING



After selecting **one** of the Additional Fixed Field codes, read the corresponding character(s) from the HEX table. Range of characters = **01-FE**. For readers using Wedge interface, all values from **9C** to **FE** send the Space character.

### Example:

4 Character Fixed Field



+ 4D + 41 + 49 + 4E = MAIN

## 8

### Second Additional Fixed Field

no fixed field



1 character fixed field



2 character fixed field



3 character fixed field



4 character fixed field



5 character fixed field

## ADVANCED FORMATTING



6 character fixed field



After selecting **one** of the Additional Fixed Field codes, read the corresponding character(s) from the HEX table. Range of characters = **01-FE**. For readers using Wedge interface, all values from **9C** to **FE** send the Space character.

### Example:

3 Character Fixed Field



+ 53 + 45 + 54 = SET

## 9

### Field Transmission

number of fields to transmit



Read one number in the range **1** to **7** for the number of fields to transmit. **Include only fields to be transmitted.**

### Field Order Transmission

Read the codes corresponding to the fields to transmit in the order in which they are to be transmitted. A field can be transmitted more than once. See example.

field 1



field 2



field 3



field 4



field 5

# ADVANCED FORMATTING

Exit and Save Configuration



additional field 2



additional field 1



**Example:**

The barcode is divided into 3 defined fields plus 1 additional fixed field.  
Transmit in the order: Field 2, Additional Field 1, Field 1, Field 2.

Number of Fields



10

## Standard Formatting

do not apply standard formatting



apply standard formatting



After performing Advanced Formatting on the barcode read, Standard Formatting (Headers, Code Length, Code ID, Terminators) can be applied to the message to be transmitted.

11

## End Format Definition

end Format 1 definition



# ADVANCED FORMATTING

Exit and Save Configuration



end Format 2 definition



end Format 3 definition



end Format 4 definition







# ADVANCED FORMATTING



---

## Enable Advanced Format

◆ no Advanced Formats enabled



---

### Advanced Format 1

enable



disable



---

### Advanced Format 2

enable



disable



---

### Advanced Format 3

enable



disable



---

### Advanced Format 4

enable



disable





## ADVANCED FORMATTING



---

### No Match Result

- ◆ clear data - no transmission



transmit data using standard format



This selection determines the action to be taken when codes read do not conform to the advanced format requisites (no match).

- Codes not matching can be ignored, cleared from memory and not transmitted.
- Codes not matching can be transmitted using the Standard formatting (Headers, Code Length, Code ID, Terminators).



## ADVANCED FORMATTING




---

### *ZEBRA PRINTER FORMATTING*

◆ disable



enable



1

#### Disable Headers and Terminators

no header



no terminator



This step is necessary if **CR** and / or **LF** characters are used in either the Header or Terminator since the Zebra printer interprets these characters as field separators. **CR** and **LF** are the default Terminators.

2

#### Define the Number of Zebra Printer Parameters and Relative Values

define 0 parameters



(continues on the next page)



# ADVANCED FORMATTING



Number of Parameters

Parameter Values

define 1 parameter



barcode



define 2 parameters



define 3 parameters



code ID



define 4 parameters



See par. 5.6.1 for details.

**ADVANCED FORMATTING**

---

***ZEBRA PRINTER FORMAT FILE SELECTION***

◆ File 00



File 01



File 02



File 03



File 04



File 05



File 06



File 07





---

File 08



File 09



File 10



File 11



File 12



File 13



File 14



File 15



See par. 5.6.2 for details.

# RADIO PARAMETERS

<hr/>		
<b>COMMON</b>		
⊙	<b>RADIO PROTOCOL TIMEOUT</b>	⊙
⊙	<b>TRANSMISSION RETRY</b>	⊙
⊙	<b>POWER-OFF TIMEOUT</b>	⊙
⊙	<b>BEEPER CONTROL FOR RADIO RESPONSE</b>	⊙
<hr/>		
<b>BT DEVICE</b>		
⊙	<b>ACK/NACK PROTOCOL AND FRAME PACKING</b>	⊙
⊙	<b>USER-FRIENDLY NAME</b>	⊙
⊙	<b>AUTO-CONNECTION</b> (FOR MASTER ONLY)	⊙
⊙	<b>AUTO-RECONNECTION</b> (FOR MASTER ONLY)	⊙
<hr/>		
<b>OM-GRYPHON™ BT</b>		
⊙	<b>ENCRYPTION</b>	⊙
⊙	<b>BATCH MODE</b>	⊙

**1.** Read the **Enter Configuration** code ONCE, available at the top of each page.

**2.** Read configuration codes from the desired groups.

= Read the code and follow the procedure given

◆ = Default value

- 3.** Read the **Exit and Save Configuration** code ONCE, available at the top of each page.



**RADIO PARAMETERS**

---

***RADIO PROTOCOL TIMEOUT***

radio protocol timeout

**Read a number from the table where:**

03-19 = timeout from 3 to 19 seconds

◆ 3 seconds

See par. 5.7.1 for details.

---

***TRANSMISSION RETRY***

set transmission retry period

**Read 2 numbers in the range 00-60:**

00 = No Transmission Retry;

01-60 = corresponds to a max. 60 sec. period for automatic retry transmission.

◆ 00 (No Retry)

See par. 5.7.2 for details.



## RADIO PARAMETERS



### *POWER-OFF TIMEOUT*

power-off timeout



#### **Read 2 numbers in the range 00-99:**

00 = Power-off disabled; reader always ready

01-99 = corresponds to a max. 99 hour delay before power-off.

◆ power-off after 4 hours.

See par. 5.7.3 for details.

### *BEEPER CONTROL FOR RADIO RESPONSE*

◆ good decode and  
good reception



only good decode



only good reception



off



See par. 5.7.4 for details.

**RADIO PARAMETERS**

---

***ACK/NACK PROTOCOL AND FRAME PACKING***

- ◆ no ACK/NACK protocol  
nor frame packing



ACK/NACK protocol only



frame packing only

ACK/NACK protocol  
and frame packing

See par. 5.8.1 for details.

---

***USER-FRIENDLY NAME***

change user-friendly name

**Read 20 hexadecimal characters (in the range 00-7E) to define the user-friendly name:**

restore factory user-friendly name



- ◆ "Gryphon BTx00 "

See par. 5.8.2 for details.

**RADIO PARAMETERS**

---

***AUTO-CONNECTION (FOR MASTER ONLY)***

disable



◆ enable



See par. 5.8.3 for details.

---

***AUTO RECONNECTION (FOR MASTER ONLY)***

disable



◆ enable



See par. 5.8.4 for details.

**RADIO PARAMETRIS**

---

***ENCRYPTION***

◆ disable



enable



---

***BATCH MODE***

◆ disable



enable



See par. 5.9.1 for details.

## 5 REFERENCES

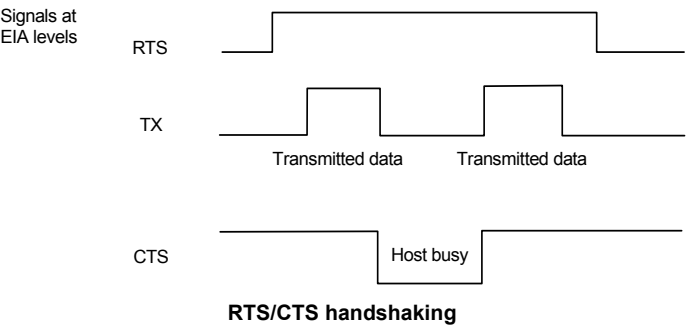
---

### 5.1 USB-COM AND RS232 PARAMETERS

#### 5.1.1 Handshaking

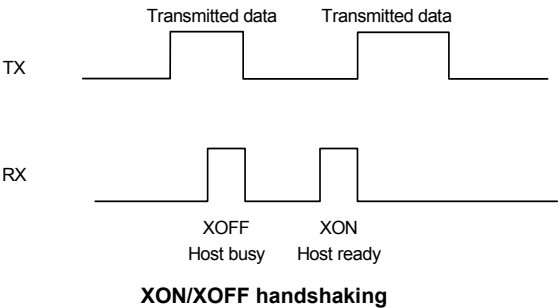
Hardware handshaking: (RTS/CTS)

The RTS line is activated by the cradle before transmitting a character. Transmission is possible only if the CTS line (controlled by the Host) is active.



Software handshaking: (XON/XOFF)

During transmission, if the Host sends the XOFF character (13 Hex), the cradle interrupts the transmission with a maximum delay of one character and only resumes when the XON character (11 Hex) is received.

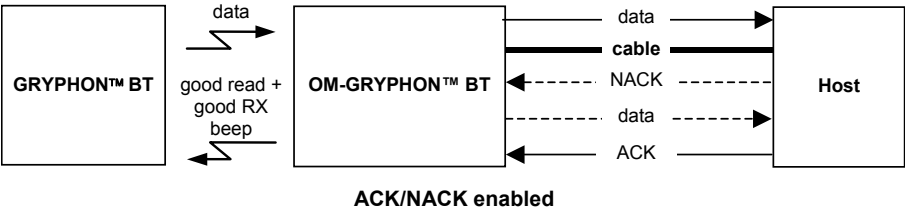
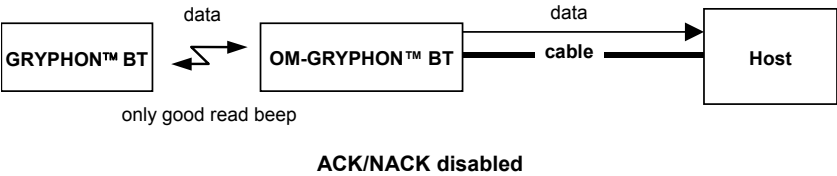


5.1.2 ACK/NACK Protocol

The transmission protocol takes place between reader, cradle and Host. The reader passes its data (code read) to the cradle which sends it to the Host.

In the following descriptions the completed transmission is indicated by the Beeper Control for Radio Response parameter with its default setting to "Good Decode and Good Reception" beep, see par. 5.7.4.

When ACK/NACK is disabled, there is no control from cradle to Host transmission, the reader responds only with the good read tone.



When ACK/NACK is enabled, the Host sends an ACK character (06 HEX) in the case of good reception or the NACK character (15 HEX) requesting re-transmission, in the case of bad reception. Only after the ACK character is received by the OM-GRYPHON™ BT does the reader respond with the good reception tone.

If the reader does not receive an ACK or NACK, transmission is ended after the RX Timeout (see par. 5.1.3). See also Radio Protocol Timeout, par. 5.7.1.

### 5.1.3 RX Timeout

For OM-Gryphon™ BT, when the USB COM or RS232 interfaces are selected, or for C-Gryphon™, (fixed RS232 interface), the Host can be used to configure the devices by sending command strings (see appendix A).

This parameter can be used to automatically end data reception from the Host after the specified period of time.

If no character is received from the Host, after the timeout expires, any incomplete string (any string not terminated by <CR>) is flushed from the device buffer.

## 5.2 PEN PARAMETERS

### 5.2.1 Minimum Output Pulse

This parameter sets the duration of the output pulse corresponding to the narrowest element in the barcode. In this way the code resolution is controlled by the signal sent to the decoder, independently of the physical resolution of the code read.

The shortest pulse (200  $\mu$ s) corresponds to high-resolution code emulation and therefore a shorter transfer speed to the decoder (for decoders able to work on high-resolution codes). Likewise, longer pulses correspond to low-resolution code emulation and therefore a longer transfer time to the decoder.

### 5.2.2 Conversion to Code 39

For the Pen Emulation interface it is possible to convert all codes to Code 39. By disabling this option the decoded codes will be transmitted in their original format; except for the following codes which are ALWAYS converted into Code 39 format: MSI, Plessey, Telepen, Delta IBM, Code 11, Code 16K, Code 49 and RSS Codes.

### 5.2.3 Overflow

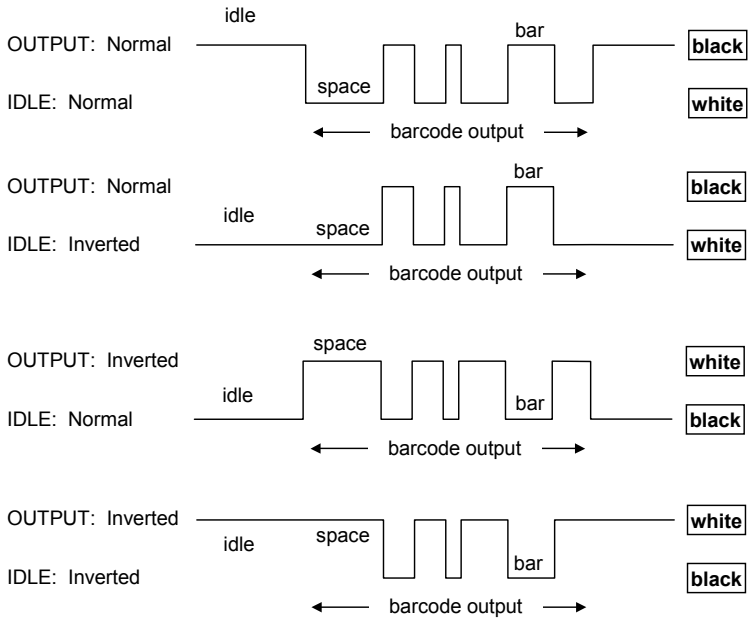
This parameter generates a white space before the first bar and after the last bar of the code. The selections are as follows:

narrow	=	space 10 times the minimum output pulse.
medium	=	space 20 times the minimum output pulse.
wide	=	space 30 times the minimum output pulse.



5.2.4     **Output and Idle Levels**

The following state diagrams describe the different output and idle level combinations for Pen Emulation:



**Output and Idle Levels**

5.2.5     **Inter-Block Delay**

For the Pen Emulation interface, data are sent to the Host in fixed size blocks of 20 characters each. The inter-block delay parameter allows setting a delay between each block sent to the Host.

5.3     **DATA FORMAT**

The output message from Gryphon™ BT towards the Host uses the following format:

**[Bluetooth® Reader Addr] [Reader Addr Delimiter] [Header]  
[Code ID] [Code Length] CODE [Terminator]**

[Items in square brackets are optional.]

### 5.3.1 Header/Terminator Selection

The header/terminator selection is not effected by the reading of the restore default code. In fact, header and terminator default values depend on the interface selection:

RS232 and USB-COM: no header, terminator CR-LF  
 WEDGE and USB-KBD: no header, terminator ENTER  
 WEDGE ALT-MODE and USB-KBD-ALT-MODE: no header, terminator CR

These default values are always restored through the reading of the relative interface selection code, see sub-paragraphs under 3.2.

For the USB KBD and WEDGE interfaces, the extended keyboard values in appendix C can also be configured.

For the Wedge Interfaces indicated in the table below, only the extended keyboard values shown in the table can be configured:

EXTENDED KEYBOARD TO HEX CONVERSION TABLE			
	IBM XT	IBM 31xx, 32xx, 34xx, 37xx	Wyse, Digital
HEX	KEY	KEY	KEY
83	ENTER	FIELD EXIT	RETURN
84	TAB	TAB	TAB
85	F1	F1	F1
86	F2	F2	F2
87	F3	F3	F3
88	F4	F4	F4
89	F5	F5	F5
8A	F6	F6	F6
8B	F7	F7	F7
8C	F8	F8	F8
8D	F9	F9	F9
8E	F10	F10	F10
8F	ESC	F11	F11
90	BACKSPACE	F12	F12
91	HOME	ENTER	F13
92	END	RESET	F14
93	PG UP	INSERT	F15
94	PG DOWN	DELETE	F16
95	↑	FIELD -	UP
96	↓	FIELD +	DOWN
97	←	ENTER (Paddle)	LEFT
98	→	PRINT	RIGHT
99	ESC		ESC
9A	CTRL (Right)		CTRL (Right)

For these Wedge interfaces, all values from **9B** to **FE** send the Space character.

### 5.3.2 Address Stamping

It is possible to include the reader's Bluetooth® address in the message sent to the host. This address is a 12-character hexadecimal string that is unique to every Bluetooth® device. For message output format, refer to par. 5.3.

### 5.3.3 Address Delimiter

The Address Delimiter allows a character to be included to separate the reader's Bluetooth® address stamping field from the next field in the message. Any character can be included in the hexadecimal range from 00 to FE. For message output format, refer to par. 5.3.

## 5.4 READING PARAMETERS

### 5.4.1 Hand-Held and Stand Operation

Hand-Held Operation refers to using the reader by positioning it in your hand, aiming it at codes to be read and usually pressing the trigger to read them.

Stand Operation allows the reader to be positioned in the stand where it can automatically read codes placed under its reading zone.

These parameter groups allow setting different reading modes for Hand-Held Operation and Stand Operation:

- **SoftwareTrigger:** the reader is set in FLASH MODE. Code reading takes place during the *flash on* time;
- **Hardware Trigger:** the code reading is started with a trigger press (ON);
- **Hardware Trigger Ready:** the illuminator is switched ON when the reader sees a code. It functions as a pointer aiming at the code to be read. The reading phase starts only when the trigger is pressed. In this mode the reader is automatically set to **trigger active level** and **one read per cycle** parameters. (Only for Hand-Held Operation).
- **Automatic:** the illuminator is switched ON when the reader sees a code. The reading phase starts automatically.

Selections other than *Hardware Trigger* constantly consume battery power.

### 5.4.2 Hardware Trigger Signal

This parameter determines how the reader ON state is controlled for readers with button/trigger when *Hardware Trigger* is selected:

- Trigger Level: the reader goes ON when the trigger is pressed and goes OFF when it is released
- Trigger Pulse: the reader goes ON at the first trigger press and goes OFF only at a second press

### 5.4.3 Trigger-Off Timeout

When this timeout is selected, the reader turns OFF automatically after the desired period of time.

### 5.4.4 Reads per Cycle

In general, a **reading cycle** corresponds to the ON + OFF times of a device. The resulting effects of this parameter on code reading depend on other related configuration conditions. Here are the definitions of ON and OFF times.

- For readers using the software trigger parameter (FLASH MODE), a reading cycle corresponds to the flash on + flash off times. Code reading takes place during the flash on time.
- For readers using the hardware trigger parameter, a reading cycle corresponds to a trigger press (ON) + one of the following OFF events:
  - trigger release (for *trigger active level*)
  - a second trigger press (for *trigger active pulse*)
  - trigger-off timeout* (see par. 5.4.3).

When **one read per cycle** is selected, the device decodes only one code during the ON period and immediately turns the reader OFF. It is only possible to read another code when the next ON time occurs.

In **multiple reads per cycle**, the ON period is extended so that the device can continue decoding codes until an OFF event occurs. For software trigger mode, the *flash on* period is immediately reset after each read and therefore extended. If another code is decoded before the reset *flash on* period expires, it is again reset and the effect is that the device remains ON, decoding codes until the *flash on* or *timeout* period expires.

The Safety Time parameter should be used in this case to avoid unwanted multiple reading of the same code, see par. 5.4.5.

### 5.4.5 Safety Time

Safety time prevents the device from immediately decoding the same code more than once. Same code consecutive reading can be disabled requiring the reader to be removed from the code (no decoding) for at least 400 ms, or a timeout can be set up to 9.9 seconds before the decoder will accept the same code. Reading is immediate if the code changes.

For *Automatic* Hand-Held or Stand Operation, the Safety Time parameter is forced to no code consecutive reading (00).

The safety time parameter is not applicable when reading stacked codes or when setting one read per cycle in hardware trigger operating mode, since these settings require voluntary action by the user.

## 5.5 DECODING PARAMETERS



**CAUTION**

*These parameters are intended to enhance the decoding capability of the reader for particular applications. Used incorrectly, they can degrade the reading performance or increase the possibility of a decoding error.*

### 5.5.1 Ink-Spread

The ink-spread parameter allows the decoding of codes which are not perfectly printed because the page texture tends to absorb the ink.

### 5.5.2 Overflow Control

The overflow control parameter can be disabled when decoding codes printed on small surfaces, which don't allow the use of an overflow space.

This command does not effect code families 2/5, Code 128 and Code 93.

### 5.5.3 Interdigit Control

The interdigit control parameter verifies the interdigit spacing for code families Code 39 and Codabar.

## 5.6 ADVANCED FORMATTING

### 5.6.1 Zebra Printer Formatting

Some Zebra Bluetooth® Printers (example: Cameo 3 BT or similar type) allow format files (pre-loaded in its memory) to be selected for printing labels with different formatting. These files can be preloaded onto the Zebra printer using the "Label Vista™" program.

Gryphon™ BT as Master provides the possibility to define a number of formatting parameters and their relative values (type), which can be passed to the printer format files globally, (one setting is valid for all 16 possible pre-defined printer format files). You can set between 0 and 4 parameters, which can be of two types, barcode data or code ID.

Setting 0 parameters means printing a label with no barcode or code ID information.

Setting between 1 and 4 parameters allows printing barcode labels with barcode and/or code ID information. The number of barcode/code ID values selected must match the number of printer parameters selected.

The Gryphon™ BT default setting is:

"! UF DLFMT00.FMT[CR][LF]barcoderead[CR][LF]barcoderead[CR][LF]"

where Gryphon™ BT sends two parameters (both barcode data) to file 00. The assumption is that one barcode is used to print the actual barcode and the other is used to print the human readable numbers of the barcode all on the same label.

Not all barcode symbologies read by Gryphon™ BT are managed by the printer, see your printer documentation for a list of printable barcode symbologies.

**Note:** "barcoderead" can also be a barcode formatted with headers and terminators.

### 5.6.2 Zebra Printer Format File Selection

Select the number of the Zebra printer format file which is pre-loaded in the printer memory and contains the graphic and parameter value information for printing a label. These files must be programmed correctly to accept the data passed to them from the Gryphon™ BT reader.

## 5.7 COMMON RADIO PARAMETERS

### 5.7.1 Radio Protocol Timeout

This parameter sets the valid time to wait before transmission between the Gryphon™ BT reader and the OM-Gryphon™ BT or remote Bluetooth® device is considered failed.

This parameter should be set taking into consideration the radio traffic or cradle transmission speed. It can be set between 3 and 19 seconds.

### 5.7.2 Transmission Retry

This parameter allows setting a period of time in which transmission of the previously read barcode will automatically be retried. If not disabled (00), this value must be at least equal to double the Radio Protocol Timeout value (see par. 5.7.1).

Each time transmission is retried, the reader emits a beep tone lower than the "Good Decode" beep tone.

Transmission retry is always valid for communication with OM-Gryphon™ BT. It is valid for communication with BT devices only if ACK/NACK Protocol is enabled (see par. 5.8.1).

### 5.7.3 Power-Off Timeout

If this command is enabled, after the desired timeout in hours, the Gryphon™ BT batteries are disconnected and all power consumption ceases. To restore power, press the trigger once. The reader will now be ready to read codes. Power-off does not effect configuration parameters.

### 5.7.4 Beeper Control for Radio Response

The data entry good read tone normally results in two beeps; the first indicates that the reader has decoded the code, the second indicates whether the remote Bluetooth® device has received the data.

This can be changed according to the following selections:

- ◆ Good Decode and Good Reception: both good decode and good reception are signaled (two beeps).
- ◆ Only Good Decode: only the first beep indicating a good read is signaled.

- ◆ Only Good Reception: only the second beep indicating a good reception is signaled.
- ◆ Off: Neither good read nor good reception beeps are signaled.

**For all configurations, any transmission errors will always be signaled.**

## 5.8 RADIO PARAMETERS FOR BT DEVICE CONFIGURATIONS

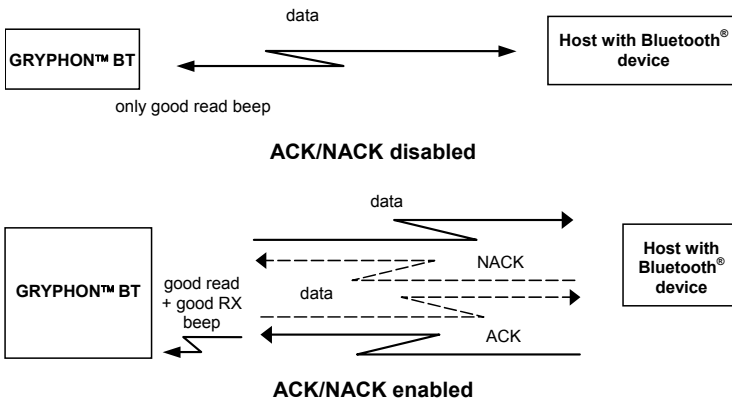
### 5.8.1 ACK/NACK Protocol and Frame Packing

#### ACK/NACK Protocol

The transmission protocol takes place between the reader and the Host. The reader passes its data (code read) to the remote Bluetooth® device (Host).

In the following descriptions the completed transmission is indicated by the Beeper Control for Radio Response parameter with its default setting to "Good Decode and Good Reception" beep, see par. 5.7.4.

When ACK/NACK is disabled, there is no control from reader to Host transmission, therefore the reader responds only with the good read tone.



When ACK/NACK is enabled, the Host sends an ACK character (06 HEX) in the case of good reception or the NACK character (15 HEX) requesting re-transmission, in the case of bad reception. Only after the ACK character is received by Gryphon™ BT does the reader respond with the good reception tone.

If the reader does not receive an ACK or NACK, transmission is ended after the Radio Protocol Timeout, par. 5.7.1, or retried if transmission retry is enabled, par. 5.7.2.



### Frame Packing

When Frame Packing is disabled, the Output Message from the Gryphon™ BT reader is sent to the Host as is, see par. 5.3.

If instead, Frame Packing is enabled, the Output Message is "packed" into a Frame with the following format:

**STX   Length   Control   Counter   Output Message   CRC-16   CR**

where:

**STX** = Frame Start character (02 Hex).

**Length** = 2 bytes; indicates frame length of the remaining fields (including CR).

**Control** = 1 byte; indicates message fragmentation. For further details see the DL Security Protocol documentation on the CD-ROM.

**Counter** = a loop counter for the Output Message characters (bytes) that cycles from 0 to 255 and then restarts.

**Output Message** = complete text message from the Gryphon™ BT reader including optional fields as shown in par. 5.3. The maximum length of this field is 304 bytes.

**CRC-16** = 2 bytes; 16-bit Cyclic Redundancy Check based on the hex 1021 polynomial and performed on all bytes from Length up to the CRC itself. The MSB is sent first. For further details see the DL Security Protocol documentation on the CD-ROM.

**CR** = Frame Stop character (0D Hex).

To simplify the management of this frame packing, and to avoid having to develop a special proprietary software program, included on the CD-ROM are: the DL Security Protocol example program, (written in Visual Basic), the Windlbt.dll, and the source code of the example. The example program allows extraction of the data from the frame, verification of the CRC, discarding any duplicate data (with the same counter value), and automatic management of Frame Packing and ACK/NACK protocol in response to each frame.

## 5.8.2 User Friendly Name

This parameter provides a way to identify the Gryphon™ BT reader in a human readable (user-friendly), format. This name is returned with the reader configuration parameters (see par. 6.2). The name is made up of a fixed 20-character field. If you choose to use a name that is less than 20 characters, you must fill in the blanks with a valid character (i.e. space character). Valid characters are in the range 00 - 7E and must be entered in hex format.

### **5.8.3 Auto-Connection (Master only)**

Upon power-up, the Gryphon™ BT reader makes attempts to connect with the remote Bluetooth® device (Slave). If the connection is not successful, the reader remains on, but not connected.

In this case reconnection can be requested by double clicking the reader trigger or by reading the "Request Radio Connection" command in par. 6.1.

### **5.8.4 Auto-Reconnection (Master only)**

If a radio connection is interrupted, the Gryphon™ BT reader makes attempts to reconnect with the remote Bluetooth® device (Slave). If the connection is not successful, the reader remains on, but not connected.

In this case reconnection can be requested by double clicking the reader trigger or by reading the "Request Radio Connection" command in par. 6.1.

## **5.9 RADIO PARAMETERS FOR OM-GRYPHON™ BT CONFIGURATIONS**

### **5.9.1 Batch Mode**

Batch mode allows codes to be stored in the gun on a FIFO basis whenever the gun is out of range. If transmission cannot be successfully completed, then the code is added to the list. When the gun returns in range, transmission of the codes to the cradle resumes automatically by successfully reading a new code.

## 5.10 DEFAULT PARAMETERS FOR POS TERMINALS

The default values of the RS232 and Data Format parameters for POS terminals are listed in the following table:

	NIXDORF Mode A	FUJITSU	ICL Mode
<b>RS232 Group</b>			
Baud Rate	9600	9600	9600
Parity	Odd	None	Even
Data Bits	8	8	8
Stop Bits	1	1	1
Handshaking	Hardware (RTS/CTS)	None	RTS always ON
ACK/NACK Protocol	Disabled	Disabled	Disabled
FIFO	Enabled	Enabled	Enabled
Inter-Character Delay	Disabled	Disabled	Disabled
RX Timeout	9.9 sec	2 sec	9.9 sec
Serial Trigger Lock	Disabled	Disabled	Disabled
<b>Data Format Group</b>			
Code Identifier	Custom	Custom	Custom
Header	No Header	No Header	No Header
Terminator	CR	CR	CR
Field Adjustment	Disabled	Disabled	Disabled
Code Length TX	Not Transmitted	Not Transmitted	Not Transmitted
Character Replacement	Disabled	Disabled	Disabled
Address Stamping	Disabled	Disabled	Disabled
Address Delimiter	Disabled	Disabled	Disabled

The table below lists all the Code Identifiers available for the POS terminals:





CODE	NIXDORF Mode A	FUJITSU	ICL Mode
UPC-A	A0	A	A
UPC-E	C	E	E
EAN-8	B	FF	FF
EAN-13	A	F	F
Code 39	M	None	C [code length]
Codabar	N	None	N [code length]
Code 128	K	None	L [code length]
Interleaved 2 of 5	I	None	I [code length]
Code 93	L	None	None
Industrial 2 of 5	H	None	H [code length]
Normal 2 of 5	H	None	H [code length]
UCC/EAN 128	P	None	L [code length]
MSI/Plessey	O	None	None
RSS	E	None	None
PDF417	Q	None	None
Other	None	None	None

## 6 SYSTEM MANAGEMENT COMMANDS

---

### 6.1 RADIO MANAGEMENT COMMANDS

The following commands carry out their specific function and then exit the configuration environment.

Command	Description
	Unbind the reader preventing the connection to a cradle to which it was previously bound.
	Power the reader off. At power-on, auto-connection is attempted only if enabled.
	Request Radio Disconnection ( <i>Master only</i> )
	Request Radio Connection ( <i>Master only</i> ) This request can also be performed by double clicking the reader trigger.

## 6.2 GRYPHON™ BT MANAGEMENT COMMANDS

The following commands carry out their specific function and then exit the configuration environment.



Restore the Gryphon™ BT reader default configuration.

This command does not reset:

- role (Master /Slave)
  - remote Bluetooth® address
  - user-friendly name
  - header/terminator
- 



Transmit the Gryphon™ BT Software release to Host via radio.

---



Transmit Gryphon™ BT reader configuration in ASCII format to Host via radio.

---



Transmit Gryphon™ BT reader configuration in ASCII format to Host via cradle (OM-Gryphon™ BT or C-Gryphon). Gryphon™ BT reader must be placed onto the cradle.

---



Transmit Gryphon™ BT address (BT\_ADDR) to Host via cradle (OM-Gryphon™ BT or C-Gryphon). Gryphon™ BT reader must be placed onto the cradle.

---

### 6.3 OM-GRYPHON™ BT MANAGEMENT COMMANDS

The following commands carry out their specific function and then exit the configuration environment.



Restore the OM-Gryphon™ BT cradle default configuration.

This command does not reset:

- remote Bluetooth® gun address
  - header/terminator
  - keyboard character assignment
- 



Transmit the OM-Gryphon™ BT Software release to Host.

---



Transmit OM-Gryphon™ BT configuration in ASCII format to Host.

---

## 6.4 CRADLE CHARGING MANAGEMENT

Battery selection is required only when the Gryphon™ BT reader has an Alkaline battery and you want to use the OM-Gryphon™ BT or C-Gryphon either for serial configuration, software upgrades or to hold Gryphon™ BT. Since this type of battery must not be charged it is necessary to disable the cradle charge function by following the procedure:

1. With the Gryphon™ BT read the following code:



The blue LED on the Gryphon™ BT will blink, signaling the reader has accepted the command.

2. Place the reader onto the charger within 4 seconds. The blue LED turns off and a short beep is emitted

To enable the charge function repeat step 1 and 2 substituting the "Alkaline" code with the following one:



**CAUTION**

*Attempts to charge Alkaline batteries could cause leakage of liquid, generation of heat or, in extreme cases, explosion. If using Alkaline batteries, carefully follow the procedure above to avoid damage.*

## 7 TROUBLESHOOTING

Problem	Solution
The beeper and LED signal radio disconnection from the remote Bluetooth® device.	The distance between the remote device and Gryphon™ BT may be too far or there may be obstacles to radio transmission between them. Reconnect.
The requested radio connection by Gryphon™ BT Master does not activate.	Reduce the distance between the devices.  Check that Gryphon™ BT is powered (batteries are charged), that the radio protocol software version is compatible with Gryphon™ BT, that there is not already another BT device connected using the same SPP profile.  Insert the remote device address again to Gryphon™ BT.  Check the Gryphon™ BT configuration using the Transmit configuration command via C-Gryphon cradle.
The remote Bluetooth® device recognizes Gryphon™ BT but cannot connect to it.	Check that there are no limits set to the connection such as a password.  Check that the radio protocol software version is compatible with Gryphon™ BT.
The radio range seems reduced.	Check that there are no obstacles to radio transmission between the devices.
A Gryphon™ BT Master fails to make an automatic connection.	Double-click the trigger to force an immediate retry of the radio connection or read the "Request Radio Connection" code in par. 6.1.
A Gryphon™ BT Master remains connected to a Slave device.	Read the "Request Radio Disconnection" code in par. 6.1 or power off the Bluetooth® Slave device.
A Gryphon™ BT gun continuously connects and disconnects from its OM-Gryphon™ BT cradle	A second gun has erroneously remained connected to the cradle. Unbind the second gun using the command in par. 6.1.  The OM-Gryphon™ BT has lost the Bind address, for example after a software upgrade, and therefore refuses any connection. Repeat the Bind procedure.



## 8 TECHNICAL FEATURES

### 8.1 GRYPHON™ BT

<b>Electrical Features</b>	
Battery Type	2 AA NiMh batteries* 1.2 V – 1850 mAh or 2100 mAh
Time of recharge	max. 5 hours
Operating autonomy (typ. continuous reading)	>14 hours
Max scan rate	270 scans/sec
Indicators	LED, Good Read Spot, Beeper
<b>Optical Features</b>	
Sensor	CCD solid state (3648 pixels)
Illuminator	LED array
Wavelength	630 ~ 670 nm
Max. LED Output Power	0.33 mW
LED Safety Class	Class 1 EN 60825-1
Reading field	see reading diagram (par. 8.5)
Max. resolution	0.076 mm, 3 mils
PCS minimum	15% (Datalogic Test Chart)
Reading Pitch angle	65°
Reading Skew angle	80°
Reading Tilt angle	35°
<b>Radio Features</b>	
Bluetooth® version	Bluetooth® 1.2
Profiles supported	Serial Port Profile
Class	IEEE 802.15 class 2
<b>Environmental Features</b>	
Working Temperature	0° to + 40 °C / 32° to 104 °F
Storage Temperature (without battery)	-20°to + 70 °C / - 4° to 158 °F
Humidity	90% non condensing
Drop resistance	IEC 68-2-32 Test Ed; 1.8 m on concrete
Ambient light immunity	100000 lux (sunlight) / 4000 lux (artificial light)
Protection class	IP30

\* It is possible to employ also NiCd or non-chargeable Alkaline AA batteries.

<b>Mechanical Features</b>	
Weight (with batteries)	about 280 g. / 9.87 oz
Dimensions	179 x 81 x 98 mm / 7.04 x 3.18 x 3.85 in
Material	ABS and Polycarbonate molded with rubber
<b>Decoding Capability</b>	
Readable codes	EAN/UPC, ISBN/ISSN, 2/5 family (IATA), Code 39 (plus Code 32, Cip 39), Codabar, Code 93, MSI, Plessey, Telepen, Delta IBM, Code 11, EAN 128, Code 128, ISBT 128, Code 16K, Code 49, RSS family, PDF417 (PDF models only)
Other features	Encryption, Batch mode

## 8.2 OM-GRYPHON™ BT

<b>Electrical Features</b>	
Supply voltage	9..28 Vdc
Power consumption	max. 8 W (charging) *
Indicators	Battery charging (red) Charge completed (green) Power/Data (yellow)
Time of recharge	max. 5 hours
<b>Environmental Features</b>	
Working temperature	0° to +40 °C / 32° to 104 °F
Storage temperature	-20° to +70 °C / - 4° to 158 °F
Humidity	90 % non condensing
Protection class	IP30
<b>Communications</b>	
Interface	USB, RS232, Wedge, Pen emulation
<b>Mechanical Features</b>	
Weight	about 250 g. / 8.81 oz
Dimensions	208 x 107 x 55.5 mm / 8.1 x 4.2 x 2.18 in
Material	ABS

- \* Having a switching regulator inside, the OM-Gryphon™ draws the same power, regardless of the supply voltage, i.e. as the input voltage increases the current drawn decreases.

### 8.3 C-GRYPHON™

<b>Electrical Features</b>	
Supply voltage	9..28 Vdc
Power consumption	max. 8 W (charging) *
Indicators	Battery charging (red) Charge completed (green) Power (yellow)
Time of recharge	max. 5 hours
<b>Environmental Features</b>	
Working temperature	0° to +40 °C / 32° to 104 °F
Storage temperature	-20° to +70 °C / - 4° to 158 °F
Humidity	90 % non condensing
Protection class	IP30
<b>Communications</b>	
Interface	RS232
Baud Rate	9600
Data Bits	8
Stop Bit	1
Parity	None
<b>Mechanical Features</b>	
Weight	about 250 g. / 8.81 oz
Dimensions	208 x 107 x 55.5 mm / 8.1 x 4.2 x 2.18 in
Material	ABS

- \* Having a switching regulator inside, the OM-Gryphon™ draws the same power, regardless of the supply voltage, i.e. as the input voltage increases the current drawn decreases.

## 8.4 STATUS INDICATORS

The reader has three indicators, LED, Beeper and Good Read Spot. They signal several operating conditions which are described in the tables below.

**H** = high tone

**M** = medium tone

**L** = low tone

### GRYPHON™ BT READER START-UP

Beeper <sup>1</sup>	Meaning
L L L L H	Parameters loaded correctly, radio OK
L L L L H L H L	Parameters loaded correctly, no answer from radio
H H H H long tones	Parameter loading error, reading or writing error in the non volatile memory
H L H L	Hardware error in EEPROM

### GRYPHON™ BT READER CONFIGURATION

Beeper <sup>1</sup>	Meaning
H H H H	Correct entry or exit from Configuration mode
L	Good read of a command
L L L	Command read error

### GRYPHON™ BT POWER

Beeper	LED	Meaning
10 short H	10 short blinks	Low Battery

<sup>1</sup> Only the Beeper Intensity command can modify these signals.

## GRYPHON™ BT READER DATA ENTRY

Beeper <sup>1</sup>	LED	Good Read Spot	Meaning
one beep <sup>2</sup>	ON	ON	Correct read of a code in normal mode
muffled and long sound			Batch mode entered upon transmission failure
H L long			TX error between Gryphon™ BT and remote Bluetooth® device
H H H			Timeout expired – operation not completed
	OFF	OFF	Ready to read a code

## GRYPHON™ BT READER STATUS

Beeper <sup>1</sup>	LED	Meaning
L M M H		Radio connection
H M M L		Radio disconnection
	1 blink / 2 sec.	Radio connected
	2 blinks / 2 sec.	Radio not connected
ticks	Short blinks (Master only)	Connection / re-connection attempts

<sup>1</sup> Only the Beeper Intensity command can modify these signals.

<sup>2</sup> The data entry good read tone is user-configurable with all the Beeper commands in the Reading Parameters section.

Normally this results in two beeps; the first indicates that the reader has decoded the code, the second indicates whether the remote Bluetooth® device has received the data.

The OM-Gryphon™ BT and C-Gryphon cradles have three LEDs. They signal several operating conditions which are described in the tables below.

**OM-GRYPHON™ BT / C-GRYPHON CHARGE STATUS**

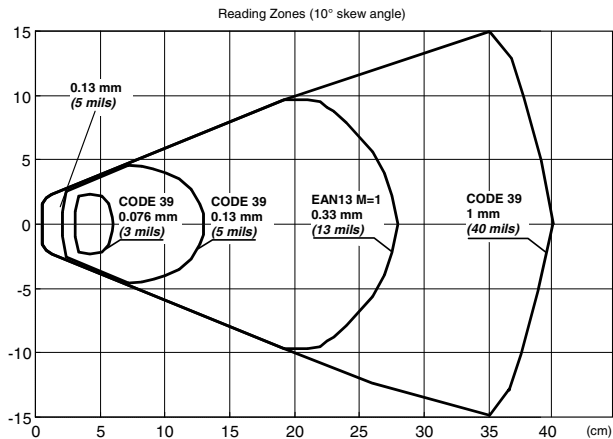
Red LED	Green LED	Meaning
ON	OFF	Charging
OFF	ON	End of charge
OFF	OFF	No gun inserted
Flashing	Flashing	Reader not correctly placed onto the charger; shorted or open battery

**OM-GRYPHON™ BT / C-GRYPHON POWER/COMMUNICATION**

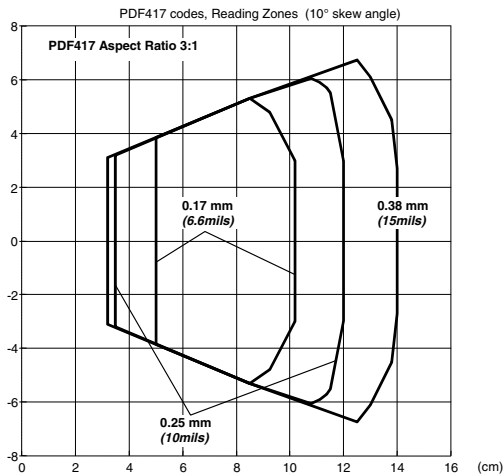
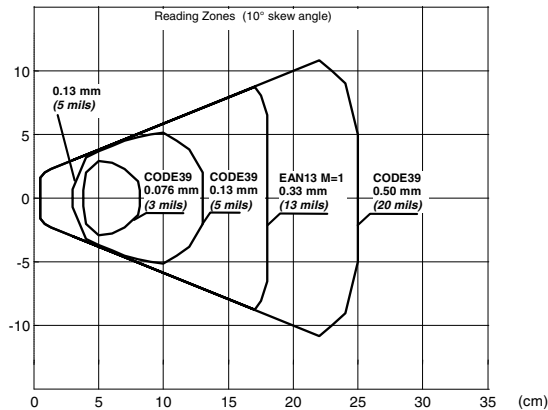
Yellow LED	Meaning
ON	Power applied
OFF	Error in reading EEPROM parameters / Insufficient Voltage
Blinking	receives commands from the Host

**8.5 READING DIAGRAMS**

**GRYPHON™ BT100**



GRYPHON™ BT200



# A     HOST CONFIGURATION STRINGS

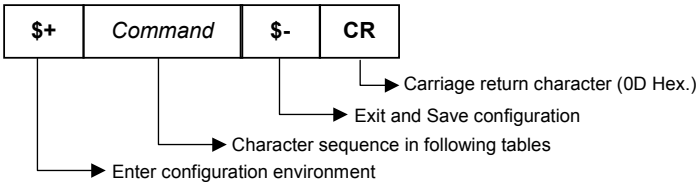
---

In this section we provide a description of how to modify the Gryphon™ BT and OM-Gryphon™ BT configuration using serial strings sent from the Host.

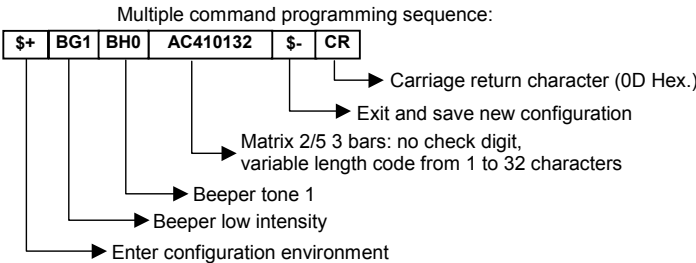
The configuration must be performed in different ways according to the device to be configured:

- **OM-Gryphon™ BT**  
the configuration strings are sent from the Host directly to the device through the RS232/USB COM interface;
- **Gryphon™ BT connected with OM-Gryphon™ BT or C-Gryphon**  
the configuration of the reader **when placed onto a cradle** is sent from the Host through the RS232/USB COM interface (RS232 only for C-Gryphon).

When this method is used, the programming sequence format is the following:



**Example:**



Each configuration parameter setting removes the condition previously active for that parameter.



**NOTE**

*The device buffer can contain about 400 characters. If your programming string goes over this value, you must split it into separate groups and send each group after a delay of at least 3 seconds to give the reader time to empty the buffer and interpret the commands.*



**SERIAL CONFIGURATION STRINGS**

<b>ENTER/EXIT CONFIGURATION COMMANDS</b>	
<b>DESCRIPTION</b>	<b>STRING</b>
Enter Configuration	\$+
Exit and Save Configuration	\$-
Restore Gryphon™ BT Default	+\$RX0\$-
Transmit Gryphon™ BT Software Release	+\$RX1\$-
Transmit Gryphon™ BT Configuration in ASCII <sup>1</sup>	+\$RX2\$-
Transmit Gryphon™ BT address	+\$QX1\$-
Restore OM-Gryphon™ BT Default	+\$+\$*
Transmit OM-Gryphon™ BT Software Release	+\$+\$!
Transmit OM-Gryphon™ BT Configuration in ASCII <sup>1</sup>	+\$+\$&

<sup>1</sup> For Gryphon™ BT200, this command transmits only the Bluetooth® radio configuration.

INTERFACE SELECTION			
DESCRIPTION		STRING	
USB	USB-KBD	UA03	
	USB-KBD-ALT-MODE	UA04	
	USB-KBD-APPLE	UA05	
	USB-COM	UA02	
	USB-IBM-Table Top	UA00	
	USB-IBM-Hand Held	UA01	
RS232	Standard	CP0	
	ICL Mode	CM0	
	Fujitsu	CM1	
	Nixdorf Mode A	CM2EC0	
WEDGE	for IBM AT		CP500
	for IBM Terminals: 31xx, 32xx, 34xx, 37xx; make-break keyboard		CP501
	for IBM Terminals: 31xx, 32xx, 34xx, 37xx; make-only keyboard		CP502
	Keyboard Type for IBM Terminals	typewriter	FK0
	31xx, 32xx, 34xx, 37xx	advanced	FK1
	for IBM XT		CP503
	for IBM Terminal 3153		CP504
	for IBM PC Notebook		CP505
	for IBM SURE1		CP506
	for IBM AT - ALT mode		CP507
	for IBM PC Notebook - ALT mode		CP508
	for Wyse Terminal - ANSI Keyboard		CP509
	for Wyse Terminal - PC Keyboard		CP510
	for Wyse Terminal - ASCII Keyboard		CP511
	for Wyse Terminal - VT220 style Keyboard		CP514
for Digital Terminals VT2xx/3xx/4xx		CP512	
for Apple ADB Bus		CP513	
PEN EMULATION		CP6	

USB		
DESCRIPTION		STRING
<b>USB-COM</b>		
Handshaking	disable	<b>CE0</b>
	RTS/CTS	<b>CE1</b>
	XON/XOFF	<b>CE2</b>
	RTS always ON	<b>CE3</b>
ACK/NACK Protocol	disable	<b>ER0</b>
	enable	<b>ER1</b>
Inter-character delay ( <i>ms</i> )		<b>CK00 - CK99</b>
RX Timeout ( <i>100 ms</i> )		<b>CL00 - CL99</b>
Serial Trigger Lock	disable	<b>CR0</b>
	enable	<b>CR1<math>ab</math></b>
<b>USB-KBD</b>		
Keyboard nationality (not for USB-KBD-ALT-MODE)	Belgian	<b>FJ7</b>
	English	<b>FJ4</b>
	French	<b>FJ2</b>
	German	<b>FJ3</b>
	Italian	<b>FJ1</b>
	Spanish	<b>FJ6</b>
	Swedish	<b>FJ5</b>
	USA	<b>FJ0</b>
Delays	Japanese	<b>FJ8</b>
	Inter-Character ( <i>ms</i> )	<b>CK00 - CK99</b>
	Inter-Code ( <i>s</i> )	<b>FG00 - FG99</b>

**$a$**  = Hex value of the ASCII character from **00** to **FE** enabling the device trigger;

**$b$**  = Hex value of the ASCII character from **00** to **FE** disabling the device trigger;

RS232		
DESCRIPTION		STRING
Baud rate	300	CD1
	600	CD2
	1200	CD3
	2400	CD4
	4800	CD5
	9600	CD6
	19200	CD7
	38400	CD8
Parity	none	CC0
	even	CC1
	odd	CC2
Data bits	7	CA0
	8	CA1
	9	CA2
Stop bits	1	CB0
	2	CB1
Handshaking	disable	CE0
	RTS/CTS	CE1
	XON/XOFF	CE2
	RTS always ON	CE3
ACK/NACK Protocol	disable	ER0
	enable	ER1
Inter-character delay ( <i>ms</i> )		CK00 - CK99
RX Timeout ( <i>100 ms</i> )		CL00 - CL99
Serial Trigger Lock	disable	CR0
	enable	CR1 $ab$

$a$  = Hex value of the ASCII character from **00** to **FE** enabling the device trigger;

$b$  = Hex value of the ASCII character from **00** to **FE** disabling the device trigger;

WEDGE		
DESCRIPTION		STRING
Keyboard nationality	Belgian	FJ7
	English	FJ4
	French	FJ2
	German	FJ3
	Italian	FJ1
	Spanish	FJ6
	Swedish	FJ5
	USA	FJ0
	Japanese (IBM AT compatible only)	FJ8
Caps Lock	caps Lock ON	FE1
	caps Lock OFF	FE0
Caps Lock Auto-Recognition (IBM AT compatible only)	disable	FP0
	enable	FP1
Num Lock	Toggle Num Lock	FL1
	Num Lock Unchanged	FL0
Delays	Inter-Character ( <i>ms</i> )	CK00 - CK99
	Inter-Code ( <i>s</i> )	FG00 - FG99

PEN		
DESCRIPTION		STRING
Operating mode	interpret (does not require \$+ or \$-)	\$]
	transparent (does not require \$+ or \$-)	\${
Minimum output pulse	200µs	DG0
	400µs	DG1
	600µs	DG2
	800µs	DG3
	1 ms	DG4
	1.2 ms	DG5
Conversion to Code 39	disable conversion to Code 39	DA0
	enable conversion to Code 39	DA1
Output level	normal	DD0
	inverted	DD1
Idle level	normal	DE0
	inverted	DE1
Overflow	narrow overflow	DH0
	medium overflow	DH1
	wide overflow	DH2
Inter-Block Delay (100 ms)		CK00-CK99

DATA FORMAT		
DESCRIPTION		STRING
Code Identifier	disable	EB0
	Datalogic standard	EB1
	AIM standard	EB2
	Custom	EB3
Custom Code Identifier		EH <i>abc</i>
Headers	no header	EA00
	one character	EA01 <i>x</i>
	two characters	EA02 <i>xx</i>
	three characters	EA03 <i>xxx</i>
	four characters	EA04 <i>xxxx</i>
	five characters	EA05 <i>xxxxx</i>
	six characters	EA06 <i>xxxxxx</i>
	seven characters	EA07 <i>xxxxxxx</i>
	eight characters	EA08 <i>xxxxxxxx</i>
Terminators	No terminator	EA10
	one character	EA11 <i>x</i>
	two characters	EA12 <i>xx</i>
	three characters	EA13 <i>xxx</i>
	four characters	EA14 <i>xxxx</i>
	five characters	EA15 <i>xxxxx</i>
	six characters	EA16 <i>xxxxxx</i>
	seven characters	EA17 <i>xxxxxxx</i>
	eight characters	EA18 <i>xxxxxxxx</i>

*a* = ASCII character.

*b, c, x* = HEX values representing an ASCII character.

*a* = ASCII character of the DATALOGIC STANDARD Code Identifier from the table on p. 60.

*b* = Hex value of the first Custom Code Identifier character from 00 to FD;

FF = disable Code Identifier

*c* = Hex value of the second Custom Code Identifier character from 00 to FD;

FF = disable second character of Custom Code Identifier

*x* = Hex value from 00 to FE

DATA FORMAT (continued)		
DESCRIPTION		STRING
Code Length Tx	not transmitted	EE0
	transmitted in variable-digit format	EE1
	transmitted in fixed 4-digit format	EE2
Field Adjustment	disable	EF0
	right addition	EFa0d
	left addition	EFa1d
	right deletion	EFa2d
	left deletion	EFa3d
Field Adjustment Character		EGe
Character Replacement	disable character replacement	EO0
	first character replacement	EO1afg
	second character replacement	EO2afg
	third character replacement	EO3afg
Address Stamping	disable reader address stamping	QU0
	enable reader address stamping	QU1
Address Delimiter	disable reader address delimiter	QV0
	enable reader address delimiter and select character	QV1h

**a** = ASCII character.

**d** = a number from the Hex/Numeric Table

**e, f, g, h** = HEX values representing an ASCII character

**a** = ASCII character of the DATALOGIC STANDARD Code Identifier from the table on p. 60.

**d** = a number in the range **01-32** from the Hex/Numeric Table

**e** = Hex value from **00** to **FE**

**f** = Hex value of the character to be replaced from **00** to **FE**

**g** = Hex value of the new character to insert from **00** to **FE**

**FF** = replace with no new character (remove character)

**h** = a HEX value in the range from **00** - **FE** representing the ASCII character.

POWER SAVE		
DESCRIPTION		STRING
Scan Rate	quarter	BT0
	half	BT1
	maximum	BT2

READING PARAMETERS		
DESCRIPTION		STRING
Hand-Held Operation	software trigger	BK0
	hardware trigger	BK1
	automatic	BK2
	hardware trigger ready	BK4
Stand Operation	software trigger	BU1
	hardware trigger	BU3
	automatic	BU0
Hardware Trigger Mode	trigger active level	BA0
	trigger active pulse	BA1
Trigger-off Timeout (s)		BD00 - BD99
FLASH ON (100 ms)		BB001 - BB099
FLASH OFF (100 ms)		BB101 - BB199
Reads per Cycle	one read	BC0
	multiple reads	BC1
Safety Time (100 ms)		BE00 - BE99
Beeper Intensity	very low intensity	BG0
	low intensity	BG1
	medium intensity	BG2
	high intensity	BG3
Beeper Tone	tone 1	BH0
	tone 2	BH1
	tone 3	BH2
	tone 4	BH3
Beeper Type	monotone	BJ0
	bitonal	BJ1
Beeper Length	long	BI0
	short	BI1
PDF Decoding Recognition Intensity	low	BW0
	high	BW1
Good Read Spot - Duration	disabled	BV0
	short	BV1
	medium	BV2
	long	BV3

DECODING PARAMETERS		
DESCRIPTION		STRING
Ink-spread	disable	AX0
	enable	AX1
Overflow control	disable	AW1
	enable	AW0
Interdigit control	disable	AV0
	enable	AV1
Puzzle Solver™	disable	AU0
	enable	AU1
Decoding Safety	one read	ED0
	two reads	ED1
	three reads	ED2
	four reads	ED3

CODE SELECTION			
DESCRIPTION			STRING
DISABLE ALL FAMILY CODES			AZ0
EAN/UPC	disable EAN/UPC family		AA0
	EAN 8/EAN 13/UPC A/UPC E	without ADD ON	AA1
		with ADD ON	AA5
		with and without ADD ON	AA8
	EAN 8/EAN 13	without ADD ON	AA3
		with ADD ON 2 ONLY	AAK
		with ADD ON 5 ONLY	AAL
		with ADD ON 2 AND 5	AA6
	UPC A/UPC E	without ADD ON	AA4
		with ADD ON 2 ONLY	AAM
		with ADD ON 5 ONLY	AAN
		with ADD ON 2 AND 5	AA7
	EAN 8 check digit transmission	disable	AAG0
		enable	AAG1
	EAN 13 check digit transmission	disable	AAH0
		enable	AAH1
	UPC A check digit transmission	disable	AAI0
		enable	AAI1
	UPC E check digit transmission	disable	AAJ0
		enable	AAJ1
	conversions	UPC E to UPC A	AAA
		UPC E to EAN 13	AAB
		UPC A to EAN 13	AAC
		EAN 8 to EAN 13	AAD



CODE SELECTION (continued)			
DESCRIPTION			STRING
	ISBN Conversion codes	enable ISBN	AP1
		enable ISSN	AP2
		enable ISBN and ISSN	AP3
		disable ISBN and ISSN	AP0
Code 39	disable Code 39 family		AB0
	Standard	no check digit control	AB11
		check digit control and transmission	AB12
		check digit control without transmission	AB13
	Full ASCII	no check digit control	AB21
		check digit control and transmission	AB22
		check digit control without transmission	AB23
	CIP 39		AB3
	Code 32		AB4
	code length		AB*xxxx
2/5	disable Code 2/5 family		AC0
	Interleaved 2/5	no check digit control	AC11xxxx
		check digit control and transmission	AC12xxxx
		check digit control without transmission	AC13xxxx
	Normal 2/5 5 bars	no check digit control	AC21xxxx
		check digit control and transmission	AC22xxxx
		check digit control without transmission	AC23xxxx
	Industrial 2/5 (IATA)	no check digit control	AC31xxxx
		check digit control and transmission	AC32xxxx
		check digit control without transmission	AC33xxxx
	Matrix 2/5 3 bars	no check digit control	AC41xxxx
		check digit control and transmission	AC42xxxx
		check digit control without transmission	AC43xxxx
	CIP/HR		AC5

**xxxx** = ASCII numbers that define the code length where:

- First 2 digits = minimum acceptable code length.
- Second 2 digits = maximum acceptable code length.

The minimum code length must always be less than or equal to the maximum.

The maximum code length for all codes is 99 characters:

**Examples:**

0132 = variable length from 1 to 32 digits in the code.

1010 = 10 digit code length only.

CODE SELECTION (continued)			
DESCRIPTION			STRING
Codabar	disable Codabar family		<b>AD0</b>
	Standard	no start/stop character equality control nor transmission	<b>AD111</b>
		no start/stop character equality control but transmission	<b>AD112</b>
		start/stop character equality control but no transmission	<b>AD121</b>
		start/stop character equality control and transmission	<b>AD122</b>
	ABC Codabar	no start/stop character equality control but transmission	<b>AD212</b>
	Codabar ABC forced concatenation		<b>AD232</b>
	code length		<b>AD*xxxx</b>
	start/stop character case in transmission	lower case	<b>ADA0</b>
		upper case	<b>ADA1</b>
Code 128	disable Code 128 family		<b>A10</b>
	enable Code 128 - control without transmission of check digit		<b>A111</b>
	enable EAN 128 - control without transmission of check digit		<b>A121</b>
	transmit GS before Code	disable	<b>EQ0</b>
		enable	<b>EQ1</b>
	ISBT 128	enable ISBT 128	<b>A131</b>
	code length		<b>A1Lxxxx</b>
Code 93	disable Code 93 family		<b>AK0</b>
	enable Code 93 - control without transmission of check digit		<b>AK1</b>

**xxxx** = ASCII numbers that define the code length where:

- First 2 digits = minimum acceptable code length.
- Second 2 digits = maximum acceptable code length.

The minimum code length must always be less than or equal to the maximum.

The maximum code length for all codes is 99 characters:

#### EXAMPLES:

0132 = variable length from 1 to 32 digits in the code.

1010 = 10 digit code length only.

CODE SELECTION (continued)		
DESCRIPTION		STRING
MSI	disable the family	AE0
	no check	AE1
	MOD10 no tx	AE2
	MOD10 with tx	AE3
	MOD11-MOD10 no tx	AE4
	MOD11-MOD10 with tx	AE5
	MOD10-MOD10 no tx	AE6
	MOD10-MOD10 with tx	AE7
Plessey	disable the family	AF0
	Standard no check	AF11
	Standard check - with tx	AF12
	Standard check - no tx	AF13
	Anker no check	AF21
	Anker check - with tx	AF22
	Anker check - no tx	AF23
Telepen	disable the family	AL0
	Numeric no check	AL11
	Numeric check - with tx	AL12
	Numeric check - no tx	AL13
	Alpha no check	AL21
	Alpha check - with tx	AL22
	Alpha check - no tx	AL23
Delta IBM	disable the family	AH0
	no check	AH1
	Type 1 check	AH2
	Type 2 check	AH3
Code 11	disable the family	AG0
	no check	AG1
	Type C with tx	AG21
	Type C no tx	AG22
	Type K with tx	AG31
	Type K no tx	AG32
	Type C and K with tx	AG41
	Type C and K no tx	AG42
Code 16K	disable	AJ0
	enable	AJ1
Code 49	disable	AM0
	enable	AM1

CODE SELECTION (continued)		
DESCRIPTION		STRING
RSS	disable the family	AQ0
	disable RSS Expanded Linear and Stacked	AQ10
	enable RSS Expanded Linear and Stacked	AQ11
	disable RSS Limited	AQ20
	enable RSS Limited	AQ21
	disable RSS 14 Linear and Stacked	AQ30
	enable RSS 14 Linear and Stacked	AQ31
PDF417	disable	AR0
	enable	AR1

RADIO PARAMETERS		
DESCRIPTION		STRING
Radio Protocol Timeout	enable (seconds)	RH03-RH19
Power-Off Timeout		RP00-RP99
User-Friendly Name	change user-friendly name	QN <i>a</i>
	restore factory user-friendly name	QK
Beeper Control For Radio Response	good decode + good reception	BF0
	only good decode	BF1
	only good reception	BF2
	off	BF3
Transmission Retry (s)		QO00 - QO60
ACK/NACK Protocol and Frame Packing	No ACK/NACK nor Frame Packing	QL0
	ACK/NACK only	QL1
	Frame Packing only	QL2
	ACK/NACK and Frame Packing	QL3
Auto-Connection (Master only)	disable	QA0
	enable	QA1
Auto-Reconnection (Master only)	disable	QM0
	enable	QM1
Encryption	disable	QB0
	enable	QB1
Batch Mode	disable	QE0
	enable	QE1

*a* = 20 ASCII characters represented as Hex values in the range **00** to **7E**

**B CODE IDENTIFIER TABLE**

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**2/5 Interleaved**



**2/5 Industrial**



**2/5 normal 5 bars**



**2/5 matrix 3 bars**



**EAN 8**



**EAN 13**



**UPC A**



**UPC E**



**EAN 8 with 2 ADD ON**



**EAN 8 with 5 ADD ON**



**EAN 13 with 2 ADD ON**



**EAN 13 with 5 ADD ON**



**UPC A with 2 ADD ON**



**UPC A with 5 ADD ON**



**UPC E with 2 ADD ON**



**UPC E with 5 ADD ON**



**Code 39**



**Code 39 Full ASCII**



**CODABAR**



**ABC CODABAR**



**Code 128**



**EAN 128**



**ISBT 128**



**CIP/HR**



**CIP/39**



**Code 32**



**Code 93**



**MSI**



**Plessey Standard**



**Plessey Anker**



**Delta IBM**



**Telepen**



**Code 16K**



**Code 11**



**Code 49**



**RSS Expanded Linear and Stacked**



**RSS Limited**



**RSS 14 Linear and Stacked**



**PDF417**



# C     HEX AND NUMERIC TABLE

CHARACTER TO HEX CONVERSION TABLE					
char	hex	char	hex	char	hex
NUL	00	*	2A	U	55
SOH	01	+	2B	V	56
STX	02	,	2C	W	57
ETX	03	-	2D	X	58
EOT	04	.	2E	Y	59
ENQ	05	/	2F	Z	5A
ACK	06	0	30	[	5B
BEL	07	1	31	\	5C
BS	08	2	32	]	5D
HT	09	3	33	^	5E
LF	0A	4	34	`	5F
VT	0B	5	35		60
FF	0C	6	36	a	61
CR	0D	7	37	b	62
SO	0E	8	38	c	63
SI	0F	9	39	d	64
DLE	10	:	3A	e	65
DC1	11	;	3B	f	66
DC2	12	<	3C	g	67
DC3	13	=	3D	h	68
DC4	14	>	3E	i	69
NAK	15	?	3F	j	6A
SYN	16	@	40	k	6B
ETB	17	A	41	l	6C
CAN	18	B	42	m	6D
EM	19	C	43	n	6E
SUB	1A	D	44	o	6F
ESC	1B	E	45	p	70
FS	1C	F	46	q	71
GS	1D	G	47	r	72
RS	1E	H	48	s	73
US	1F	I	49	t	74
SPACE	20	J	4A	u	75
!	21	K	4B	v	76
"	22	L	4C	w	77
#	23	M	4D	x	78
\$	24	N	4E	y	79
%	25	O	4F	z	7A
&	26	P	50	{	7B
'	27	Q	51		7C
(	28	R	52	}	7D
)	29	S	53	~	7E
		T	54	DEL	7F



CHARACTER TO HEX CONVERSION TABLE					
char	hex	char	hex	char	hex
€	80	ª	AA	Õ	D5
□	81	«	AB	Ö	D6
,	82	¬	AC	×	D7
ENTER	83	-	AD	Ø	D8
TAB	84	®	AE	Ù	D9
F1	85	—	AF	Ú	DA
F2	86	°	B0	Û	DB
F3	87	±	B1	Ü	DC
F4	88	²	B2	Ý	DD
F5	89	³	B3	þ	DE
F6	8A	´	B4	ß	DF
F7	8B	µ	B5	à	E0
F8	8C	¶	B6	á	E1
F9	8D	·	B7	â	E2
F10	8E	¸	B8	ã	E3
F11	8F	¹	B9	ä	E4
F12	90	º	BA	å	E5
HOME	91	»	BB	æ	E6
END	92	¼	BC	ç	E7
Pg UP	93	½	BD	è	E8
Pg Down	94	¾	BE	é	E9
↑	95	¿	BF	ê	EA
↓	96	À	C0	ë	EB
←	97	Á	C1	ì	EC
→	98	Â	C2	í	ED
ESC	99	Ã	C3	î	EE
CTRL(Right)	9A	Ä	C4	ï	EF
€	9B	Å	C5	ð	F0
œ	9C	Æ	C6	ñ	F1
□	9D	Ç	C7	ò	F2
ž	9E	È	C8	ó	F3
ÿ	9F	É	C9	ô	F4
NBSP	A0	Ê	CA	õ	F5
ı	A1	Ë	CB	ö	F6
¢	A2	Ì	CC	÷	F7
£	A3	Í	CD	ø	F8
¤	A4	Î	CE	ù	F9
¥	A5	Ï	CF	ú	FA
¦	A6	Ð	D0	û	FB
§	A7	Ñ	D1	ü	FC
¨	A8	Ò	D2	ý	FD
©	A9	Ó	D3	Reserved	FE
		Ô	D4	Reserved	FF



0



2



4



6



8



A



C



E



1



3



5



7



9



B



D



F

Backspace



Cancels an incomplete configuration sequence

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

**Gryphon BT100-CSR CORDLESS SYSTEM**

**Gryphon BT200-CSR CORDLESS SYSTEM**

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 conforme aux spécifications des Directives de l'Union Européenne ci-dessous:  
der nachstehend angeführten Direktiven des Europäischen Rats:  
cumple con los requisitos de las Directivas del Consejo Europeo, según la lista siguiente:*

**1999/5/EEC R&TTE**

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*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 la siguientes normas:*

**ETSI EN 301 489-17 V1.2.1,  
AUGUST 2002 :**

ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM  
MATTERS (ERM); ELECTROMAGNETIC COMPATIBILITY (EMC)  
STANDARD FOR RADIO EQUIPMENT AND SERVICES; PART 17:  
SPECIFIC CONDITIONS FOR 2,4GHZ WIDEBAND TRANSMISSION  
SYSTEMS AND 5GHZ HIGH PERFORMANCE RLAN EQUIPMENT

**ETSI EN 300 328 V1.6.1,  
NOVEMBER 2004 :**

ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM  
MATTERS (ERM); WIDEBAND TRANSMISSION SYSTEMS; DATA  
TRANSMISSION EQUIPMENT OPERATING IN THE 2,4GHZ ISM  
BAND AND USING WIDE BAND MODULATION TECHNIQUES;  
HARMONIZED EN COVERING ESSENTIAL REQUIREMENTS UNDER  
ARTICLE 3.2 OF THE R&TTE DIRECTIVE

**EN 60950-1, DECEMBER 2001 :**

INFORMATION TECHNOLOGY EQUIPMENT - SAFETY -  
PART 1 : GENERAL REQUIREMENTS

March 1st, 2007

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