Scantech ID
a Champtek company

V-1020BT
VEGA BT C1/C2 Area Image Barcode Scanner with

User's Installation and Configuration Manual

Scantech-ID VEGA

Limited Warranty

Under all circumstances this manual should be read attentively, before installing and/or using the product. In no event shall Scantech-ID BV be liable for any direct, indirect, special, consequential or incidental damages arising out of the use or inability to use this documentation or product, even if advised of the possibility of such damages. In particular, Scantech-ID BV shall not be liable for any hardware, software, or data that is stored or used with the product, including the cost of repairing, replacing or recovering the above. Scantech-ID BV reserves the right to change parts of the device at any time without preceding or direct announcement to the client.

Scantech-ID BV reserves the right to revise this manual, and to make changes in the contents without obligation to notify any person or entity of the revision or change. A serial number appears on the product. Make sure that this official registration number has not been removed. It should be used whenever servicing by Scantech-ID BV or an authorised Scantech dealer is necessary.

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.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

FCC RF Radiation Exposure Statement:
1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

FCC RF Radiation Exposure Statement:
1. This Transmitter has been demonstrated co-location compliance requirements with (key in : the type of transmitter, eg. Bluetooth / Model No:V-1020BT)).This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

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Introduction

VEGA is a cutting-edge gun-type barcode scanner which is designed specifically for retail market. To the brand new series of **VEGA**, we add on more user-friendly functions with detachable cable that makes it more easily to be operated by the customers.

Speaking of the performance, this scanner supports middle to long range mode. For specification of **VEGA** which supports the reading depth up to 44 centimeters, scan rate is up to 200 scans / per second in linear emulation or 56 images / per second in 2D mode.

The new **VEGA** scanner has most modern design with the decorative cover display on the top of the scanner that will enhance the looks of the checkout counter in the retail market. This magnificent design allowed end-users to display their product information or any relevant commercial message in the cover display. This advanced mechanical design truly creates a win-win solution for both POS retail systems and consumers.

In short, **VEGA** is absolutely a high performance gun-type scanner, which provides the customer with the most cost-effective solution in the market. It is perfectly suitable and definitely the best choice for any retailers using POS environment.

Quality and Durability
The **VEGA** comes with the same top quality as all other Scantech-ID products. So at a very competitive price the same quality and performance of more expensive products is available. Due to the high MTBF times of every component a long and service free operation time is secured.

Connectivity
The **VEGA** is available in the interface types: RS-232 and USB, as well as with Bluetooth technology, so there is always a solution to connect the Vega to your POS system.

Chapter 1 Product Safety

1.1   SAFETY & CAUTION

1.   Please read the following safety statement carefully.
2.   Please preserve this user manual for reference sometime.
3.   Before cleaning the **VEGA**, the users must cut off all AC power. Do not use liquid or spray type of detersive to clean the **VEGA**.
     Please use dampish cotton cloth to clean the **VEGA**.
4.   The outlet must set nearby the **VEGA** for connecting power easily.
5.   Keep the **VEGA** dry to avoid short circuit.
6.   During installation you must fix the equipment at solid table to avoid damage caused by falling.
7.   Before inserting power please ensure the voltage is healthy to the equipment.
8.   For safety please tie wire well and don't put anything on the wire.
9.   If you don't use this equipment for long time, please cut off the power to avoid damage from surge power.
10. Don't spray any liquid on this scanner because it may cause a fire or short circuit.
11. Please do not open the equipment. For safety only the qualified serviceman can open the equipment.
12. If there are the following situations please contact with the qualified serviceman to check this equipment.
     (a) The damage of wire or pin of power supply.
     (b) Some Liquid infiltrate into the equipment.
     (c) The equipment has been exposed to wet environment.
     (d) The equipment can't work well.
     (e) The equipment has any obvious damage, making the **VEGA** working abnormally.
13. Don't storage the **VEGA** at the temperature lower than -20°C (-4°F) or higher than +70°C (158°F) to avoid any damage.

1.2   FCC WARNING

This equipment complies with the requirements in Part 15 of FCC.

Any operation must complies with the conditions below:
(a)   The equipment will not cause any severe interference.
(b)   The equipment can avoid any interference from environment.
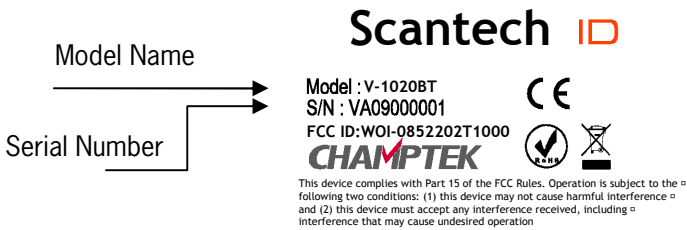
Warning!   *Statement:*
This product is classified as A class product.
In environment this product may cause some interference. In this situation the user may do something to avoid interference.

1.3   SCANNER LABELLING

Model Name

Serial Number

Scantech ID

Model : V-1020BT
S/N : VA09000001
FCC ID:WOI-0852202T1000

CHAMPTEK

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 that may cause undesired operation

Model Name   :

V-1020BT

Serial Number: Product Serial No. (VA……..)

See Appendix I for more information in detail.

Chapter 2 General Description

2.1   USE OF THE VEGA

The **VEGA** is very ergonomic and modern designed and very user friendly. It can be connected to your POS or Host system trough a RS-232 cable, USB cable or with Bluetooth..

To read or bar code, you simply press the red trigger button and aim the beam to the bar code or image. If you us the Area Imager version of the **VEGA,** it allows you to position the hand held scanner beam in any direction, regardless of the orientation of the bar code, and perform a good read on 1D and 2D bar codes. You will hear one beep and the green LED indicator will lights on after scan successfully.

The **VEGA** can also function as a camera by capturing images or image portions of labels and other items. To control this function you can use **VEGA** Utility tool

The programming of the **VEGA** is very easy, you can set-up the **VEGA** by scan all necessary programming codes one time that meet applications, the settings are directly saved permanently, and all settings can be disabled after scan reset factory default. Thanks to the powerful decoding processor, the VEGA can decode all major 1D and 2D codes, 2D matrix symbols and postal codes.

Beeper

Led indicator

Trigger button

Scan window
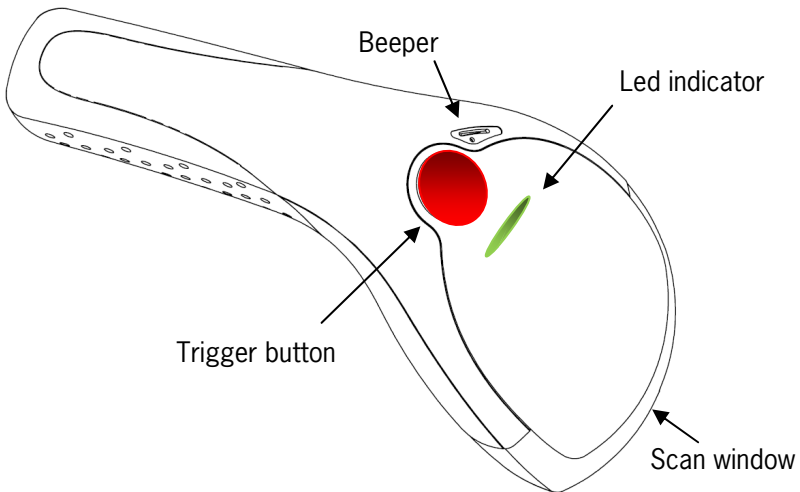
Chapter 3 Installation of the VEGA V-1020

3.1   UNPACKING

Unpack the **VEGA** as follows:

1.   Take the **VEGA** and its accessories out of the box.

2.   Remove the packing material.

3.   Check the packing list to make sure you have received all of the items ordered.

   Standard Shipment Package

   a.   **VEGA** Area Imager Handheld Bar code Scanner
   b.   Communication Cable (RS-232 or USB)
   c.   Power Supply (if applicable)
   d.   Quick Start Guide
   e.   Stand
   f.   Transparent Cover Plate

4.   Visually inspect the **VEGA** and accessories for any evidence of physical damage.

5.   If anything is missing or appears to be damaged, immediately contact your dealer.

   ATTENTION
   Store the packing material and boxes: it should be used whenever the **VEGA** is transported for servicing.

3.2   MOUNTING

Once you have unpacked all components, you can start installing the **VEGA**. Installing the **VEGA** is divided in different steps:

1.   Connect the **VEGA** to the supplied communication cable (RJ45 side).

2.   Connect the **VEGA** communication cable to the POS or HOST system.

3.   Connect the Power supply (if needed) to Power cable inlet.

4.   Plug the power supply into the AC outlet.

RJ 45 10 pin
Connector
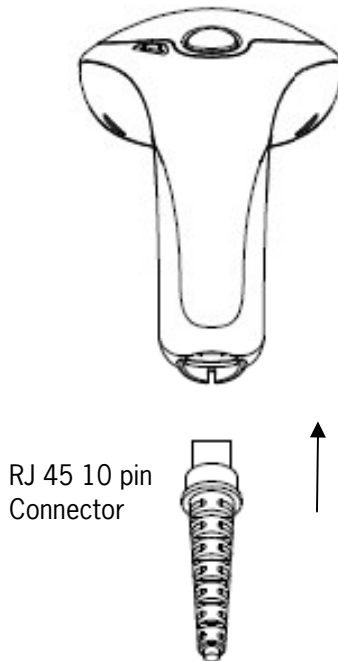
3.3   USB DRIVER

In case you will use the **VEGA** with USB virtual com port emulation, it is necessary to install the correct USB driver on your POS or Host system, needed for correct operation between your system and the **VEGA** scanner.

You can download this USB driver from the Scantech-ID web site:

www. Scantech-ID.com / Support / Downloads

Chapter 4 Installation of the VEGA V-1020BT

4.1   UNPACKING

Unpack the **VEGA** as follows:

1. Take the **VEGA** and its accessories out of the box.

2. Remove the packing material.

3. Check the packing list to make sure you have received all of the items
    ordered.

    Standard Shipment Package

    a. **VEGA** Area Imager Handheld Bar code Scanner Bluetooth
    b. Communication Cable (RS-232, KBW or USB)
    c. Power Supply
    d. Quick Start Guide
    e. Cradle
    f. Transparent Cover Plate

4. Visually inspect the **VEGA** and accessories for any evidence of physical
    damage.

5. If anything is missing or appears to be damaged, immediately contact your
    dealer.

> **ATTENTION**
> Store the packing material and boxes: it should be used whenever
> the **VEGA** is transported for servicing.

4.2   CRADLE INSTALLATION

To set up your **VEGA** scanner with Bluetooth technology, please follow the next steps.

1. Connect the supplied communication cable at the bottom side of the cradle.

2. Connect the other side of the communication cable to the right connector of your POS or HOST system.

3. Plug the external power supply into the power jack on the bottom of the cradle.

4. Plug the power supply into the AC outlet.

5. Turn on your POS or HOST system.

6. Set up communication between the **VEGA** scanner and cradle.
    To set up communication between **VEGA** scanner and cradle, see chapter 4.3 Set up Bluetooth Communication.

Interface port

Power jack

Charge pin connector

LEDs indicator
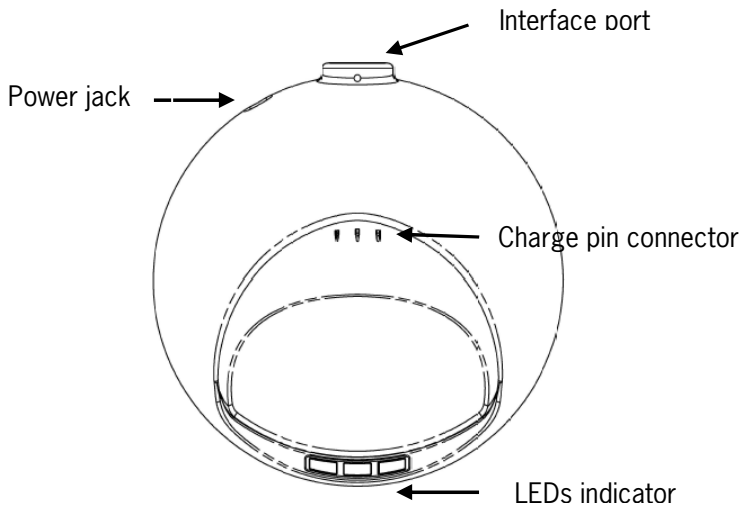
4.3   SET UP BLUETOOTH COMMUNICATION

Before the **VEGA** scanner can be used for normal operation, Bluetooth
communication must be set up between the **VEGA** scanner and cradle.

4.3.1 Pairing

Pairing refers to when a **VEGA** scanner has been linked or paired to a specific
cradle by scanning that cradle's Bluetooth MAC address code, this Bluetooth MAC
address code is unique for each cradle. This address code is located on the
bottom side of the cradle. The pairing of a **VEGA** scanner to a cradle is one to
one. Only one **VEGA** scanner can be paired to a cradle at any point in time.

4.3.2 Set up Client Mode Communication

To set-up the communication between the **VEGA** scanner and the cradle follow
the next steps:

1.   The **VEGA** scanner must scan "Scanner Client Mode ON/Scanner Server
     mode Off" barcode. To set the **VEGA** scanner in client mode.

2.   Scan the Bluetooth MAC address code located on the bottom of the
     cradle.

3.   When the Bluetooth MAC was successfully scanned, scanner will initiate
     with short beep sounds. Blue and red led will also blink followed by a long
     beep sound. Blue led will turn off to finish the set up.

4.   Wait approximately five seconds, for completing the connection process.

5.   If successful, the blue led on the cradle will be on.

6.   If the connections failed the scanner indicates with shot beep sounds and
     the cradle with blinking blue led.

ATTENTION

The *VEGA* scanner must be charged for a minimum of 8 hours before the scanner can be placed in full operation for the first time. The cradle red led will indicate in red when the scanner is charged. After the battery is full, the red light will be off.
If the battery power of the *VEGA* is too low, the *VEGA* will indicate this with red led and beeper warning.

MAC Address barcode
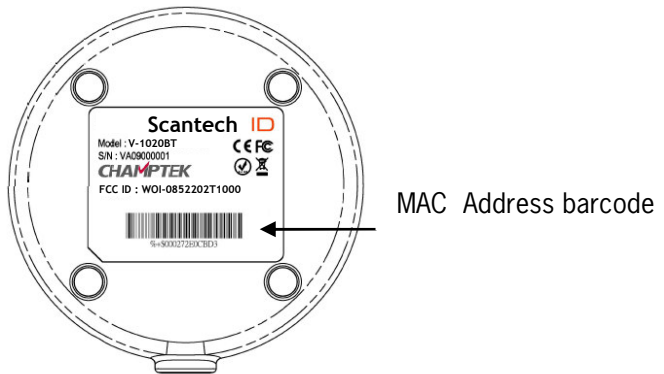
It is important to know that the *VEGA* scanner will only communicate with the cradle whose unique Bluetooth MAC address was the last address scanned.
If a cradle is paired with the *VEGA* scanner, another *VEGA* scanner can't be paired with that cradle until the original connection is broken.

If you pair a second *VEGA* scanner to an in use cradle, the cradle's connection to the first *VEGA* scanner will be broken and the connection re-established with the second *VEGA* scanner.

4.3.3 **Set up Server Mode Communication**

To set-up the communication between the *VEGA* scanner and Bluetooth
application device follow the next steps.

1.   The *VEGA* scanner must scan "Scanner Server Mode ON/Scanner Client
      Mode Off" barcode , to set the *VEGA* scanner in server mode.

2.   When control the Bluetooth device to search the scanner, enter pin code
      (default 00:00:00:00) to setup comport.

3.   When *VEGA* scanner is successful connected, scanner will initiate with
      short beep sounds. Blue and red led will also blink followed by a long
      beep sound. Blue led will turn off to finish the set up.

4.3.4 **Sleep mode**

The *VEGA* scanner is equipped with sleep mode function to save battery energy,
when the *VEGA* scanner is not used for a specified time. During sleep mode all
the functions and connection will be halted, After press the red trigger button
the scanner can be wake up and reconnect the communication with the cradle.
The waiting time to go into sleep mode can be set into 1 minute or 10 minutes by
scanning the according programming code, see chapter 7.

4.3.5 **Memory mode**

This memory mode function is enabled when the Bluetooth connection fail and you
have scanned data. This data is stored in the memory of the *VEGA* scanner.
When scan barcode "memory read" stored data will be immediately transmit to
the cradle after reconnection, when scan barcode "memory clear" all stored
memory data will be erased.
The capacity of this memory depends on the scanned data size, approximately 50
sets of data.

This function is not operational when there is successful Bluetooth connection.

Chapter 5 Cover Display

5.1   SETUP COVER DISPLAY

The **VEGA** scanner has the possibility to change the decorative cover display on
the top of the scanner into a display that can show your own commercial
message.

5.1.1 Message format

Create your own commercial message with the following outline format,
use thicker paper
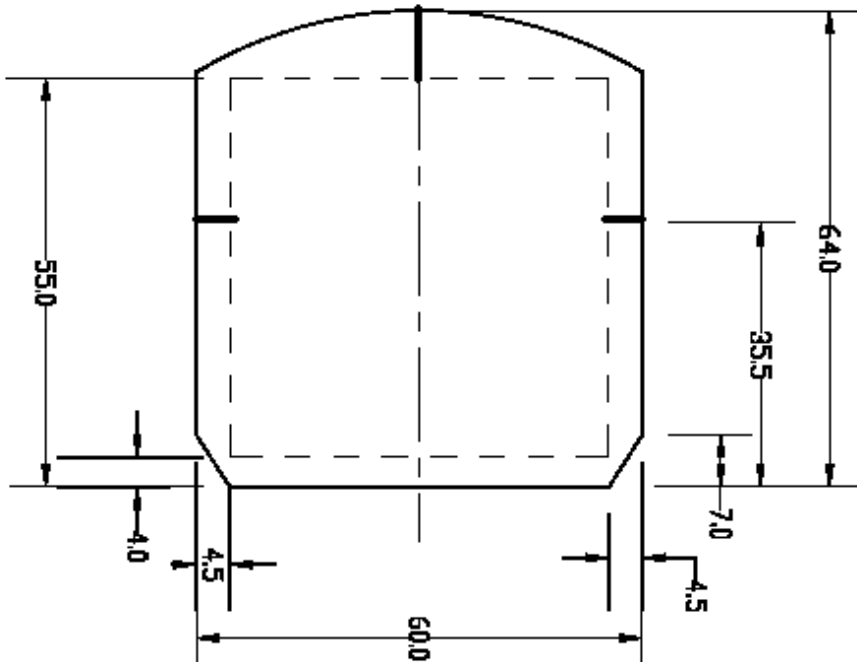
5.1.1 Change Cover Display

Follow the next instruction steps to change the black Cover Display into the transparent Cover Display, so that your customers can read your own commercial massage.

Step 1: Press out the front rubber lid toward the arrow	
Step 2: Pull out the front rubber lid off the main unit	
Step 3: Press out top cover rim from the inner lock	

Step 4:	
Press out the other side of inner lock and remove the complete cover	
Step 5	
Assemble transparent top cover rim into inner lock.	
Step 6	
Assemble another side transparent top cover rim into the inner lock	

Step 7 Insert your commercial message card into the top cover toward the arrow.	
Step 8 Assemble the front rubber lid into the main unit toward the arrow.	
Step 9 Complete change top cover.	

Chapter 6 Configuring the VEGA

6.1   PREFACE

How to configure the **VEGA**:

The Barcode Programming Feature gives the possibility to change the **VEGA** scanner settings with use programming codes or with the Utility Tool.

6.1.1 Changing Scanner Settings with programming codes

You can set-up your **VEGA** by scan all necessary programming codes for parameters that meet applications. After these scans the **VEGA** is direct permanently saved. To go back to the factory default settings, just scan only programming code factory default.

In order to change the scanner settings please follow the sequence below:

1. Power-up the scanner.
2. Change scanner settings by scanning any of the programming code that meet applications.

An Example:
For changing the Baudrate to 38400 only scan the programming code that represents this.

After reading a valid programming code the scanner will give a double High beep and the green led indicator will lights on.

At any moment you can stop your programming, and if needed read programming code factory default setting for set your scanner back to default.

6.1.2 **Changing Scanner Settings with Utility Tool**

Scantech-ID has setup this user manual with the most common used programming codes, it could be possible that you need more advanced settings to use the *VEGA* without any problems into your application.

In this case you can set-up your *VEGA* by using the advanced Utility Tool. This tool can be used with the following operation systems: Windows98, Windows2000, Windows XP en Windows Vista.

This Utility Tool can be delivered on request. Please contact Scantech-ID Technical Support Department.

6.2   FACTORY DEFAULT SETTING

The **VEGA** is set default with the following settings:

RS-232 COMMUNICATION	DEFAULT
Baudrate	57600
Parity	None
Data bits	8
Stop bits	1
RTS/CTS	Off
Postamble	<CR+LF>
DECODER SELECTION	**DEFAULT**
Aztec	Off
Codabar	Off
Code 11	Off
Code 39	On
Code 93	Off
Code128	On
Datamatrix	On
EAN8 / EAN13	On (AddOn Off)
EAN128 / UCC	On
Interleaved 2/5	Off
ISBN	Off
ISSN	Off
GS1 Databar	Off
GS1 Databar Expanded	Off
GS1 Databar Limited	Off
MSI / Plessey	Off
PDF417 / MicroPDF417	On / Off
UPCA / UPCE	On
CODE IDENTIFIERS	**DEFAULT**
Code identifiers	Off

The factory default settings are shown with <> and bold in the followings sections

Chapter 7 Programming Codes

7.1   RETURN TO DEFAULT

Scan this programming code to set the scanner parameters to factory default:

Set factory default

- Reset all configuration parameters to their factory default setting.

- After this reset you must select all required parameters that meet applications.

- For operation with USB interface select programming code USB mode.

7.2   RS-232 PARAMETERS

7.2.1   Baudrate

9600

19200

38400

<57600>

115200

7.2.2 **Data bits**

Data bits 7

<Data bits 8>

7.2.3 **Stop bits**

<Stop bits 1>

Stop bits 2

7.2.4 **Parity**

\<None\>

Even

Odd

7.2.5   **Handshaking**

RTS/CTS Enable

RTS is idle after each character

\<RTS/CTS disable\>

7.3   USB MODE

Scan these programming code to set the scanner into USB mode.

USB mode

7.4 BLUETOOTH SCANNER SETUP

7.4.1 Preface

How to configure the Bluetooth function:

The Barcode programming feature gives the possibility to change the *VEGA* scanner settings with use programming labels.

7.4.2 Changing Scanner Settings with programming codes

You can set-up Bluetooth function by direct scan all necessary programming codes for Bluetooth parameters.

After reading a valid programming code the scanner will give a High-low beep and the Blue-Red led indicator will lights on.

By scanning "Set All Default" label, the settings will go back to the factory default settings.

7.4.3 Bluetooth Default Setting

Default Setting

7.4.4 **Scanner Server/Client Mode**

Scanner Server Mode

Scanner Client Mode

7.4.5 **Memory Mode**

Memory Mode ON

Memory Mode **<OFF>**

Memory Read

Memory Clear

7.4.6 **Sleep Mode**

Sleep Mode 1 minute **<ON>**

Sleep mode 10 minutes

Sleep Mode OFF
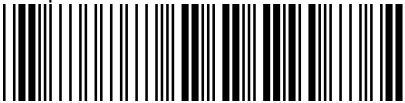
7.4.7 **Set Scanner Pin Code Mode**

Set Default Security Code
(PINCODE = 000000)

Set Security Code ON

Set Security OFF

7.4.8 Set Pin Code Character

PINCODE max. 6 digits, 0-9and A-Z ASCII CODE
1) Begin to Set PINCODE

2) Go to the ASCII Tables in Appendix A, scan 6 labels that represents the PINCODE.

3) Complete to Set PINCODE

7.5   BLUETOOTH CRADLE SETUP

You can set-up Bluetooth function by direct scan all necessary programming codes for Bluetooth parameters.

7.5.1   Cradle Default Setting

Set Cradle Interface Default
Default RS232, 19200, N-8-1

7.5.2 Cradle Interface

Set Cradle KB Interface

Set Cradle RS232 Interface

Set Cradle USB HID Interface

7.5.3 **Set Cradle Pin Code Mode**

Set Default Security Code
(PINCODE = 000000)

||||||||||||||||||||||||||||||||||||||

Set Security ON

||||||||||||||||||||||||||||||||||||||

Set Security OFF

||||||||||||||||||||||||||||||||||||||

7.5.4 **Set Pin Code**

(PINCODE max. 6 digits ,0-9,A-Z ASCII CODE)
1) Begin to Set PINCODE

||||||||||||||||||||||||||||||||||||||

 2) Go to the ASCII Tables in Appendix A, scan 6 labels
that represents the PINCODE.

3) Complete to Set Scanner BT PINCODE

||||||||||||||||||||||||||||||||||||||

7.6   DECODING SELECTION

7.6.1   Symbologies selection

AZTEC ON
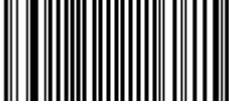
AZTEC **<OFF>**
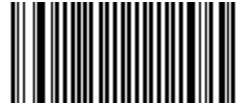
CODABAR ON

CODABAR **<OFF>**
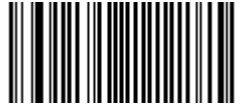
CODE 11 ON

CODE 11 **<OFF>**

CODE 39 **<ON>**

CODE 39 OFF

CODE 93 ON

CODE 93 **<OFF>**

CODE 128 **<ON >**

CODE 128 OFF

DATAMATRIX **<ON>**

DATAMATRIX OFF
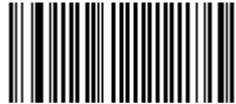
EAN-8 **<ON>**

EAN-8 OFF
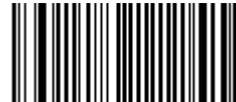
EAN-13 **<ON>**

EAN-13 OFF

EAN 128 **<ON>**

EAN 128 OFF

INTERLEAVED 2/5 ON

INTERLEAVED 2/5 **<OFF>**

GS1 DATABAR ON

GS1 DATABAR **<OFF>**

GS1 DATABAR
EXPANDED ON

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

GS1 DATABAR
EXPANDED **<OFF>**

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

GS1 DATABAR
LIMITED ON

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

GS1 DATABAR
LIMITED **<OFF>**

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
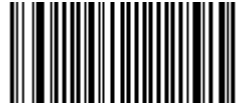
MSI ON

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

MSI **<OFF>**

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
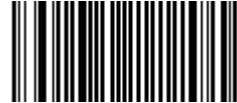
PLESSEY ON

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

PLESSEY **<OFF>**

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

PDF417 **<ON>**

PDF417 OFF

MicroPDF417 On

MicroPDF417 **<OFF>**

UPC-A **<ON>**

UPC-A OFF
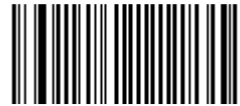
UPC-E **<ON>**

UPC-E OFF

Note: This step does not include codes for all support Bar code symbologies. For a complete overview of support symbologies see appendix.

If you need programming codes for symbologies which are not available in this chapter, please contact Scantech-ID Technical Support department or use **VEGA** utility tool.

7.6.2 Disable all Symbologies.

Disable all Symbologies

- Disabled all Symbologies.
- Use the "OFF" option to disable individual symbologies.
- Does not reset individual parameters settings for each symbology.
(When you enable a symbology, you recover the parameter settings stored in memory for that symbology when it was disabled – use reset factory defaults to reset all the symbology parameters to their factory default settings).

7.7 EAN /UPC PARAMETERS

7.7.1 Reading Type

UPC-A=EAN-13 **<ON>**

UPC-A=EAN-13 OFF
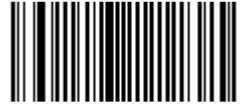
UPC-E=UPC-A ON

UPC-E=UPC-A **<OFF>**
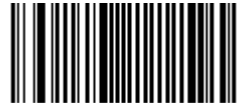
EAN-8=EAN-13 ON

EAN-8=EAN-13 **<OFF>**

ISBN ON

ISBN **<OFF>**

ISSN ON

ISSN **<OFF>**
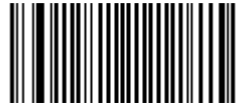
7.7.2 **Supplemental Set Up**

ADD-ON digits
<Not required but transmitted if read>

ADD-ON digits required
and transmitted
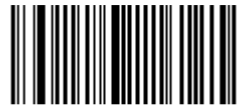
ADD-ON 2 ON

ADD-ON 2 **<OFF>**

ADD-ON 5 ON

ADD-ON 5 **<OFF>**

7.7.3 **Check Digit Transmission**

UPC-A Check Digit
Transmission **<ON>**

UPC-A Check Digit
Transmission OFF

UPC-E Check Digit
Transmission **<ON>**

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

UPC-E Check Digit
Transmission OFF

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

EAN-8 Check Digit
Transmitted **<ON>**

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

EAN-8 Check Digit
Transmission OFF

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

EAN-13 Check Digit
Transmitted **<ON>**

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

EAN-8 Check Digit
Transmission OFF

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

7.8   CODE 11 PARAMETERS

7.8.1 Check Digit Transmission

<1 Digit>

Calculate Check Digit
and Transmit

2 Digits

Calculate Check Digit
but not Transmit

7.8.2 Set up Code length

To set the minimum length:
1. Scan programming code minimum length
2. Go to the Decimal Value scan programming code that represents the
   minimum length to be read.

Minimum length
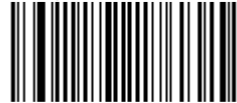
Length=4
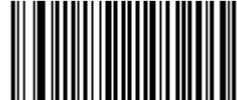
Length=6

Length=8

Length=10

Length=12

Length=14

7.9 CODE 39 PARAMETERS

7.9.1 Type of Code

<Standard>

Full ASCII
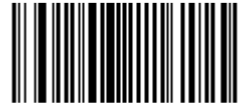
7.9.2 Check Digit Transmission

<Check Digit not used>

Calculate Check Digit
and Transmit

Calculate Check Digit
But not Transmit
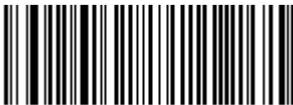
Italian Pharmacy /Code 32
Checked and transmitted

Italian Pharmacy /Code 32
Checked but not transmitted

7.9.3 Set Up Code Length

To set the minimum length:
1. Scan programming code minimum length
2. Go to the Decimal Value scan programming code that represents the
   minimum length to be read.

Minimum length

Length=4

Length=6

Length=8

Length=10

||||||||||||||||||||||||
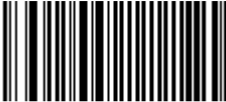
Length=12

||||||||||||||||||||||||

Length=14

||||||||||||||||||||||||
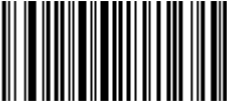
7.10 CODE 93 PARAMETERS

7.10.1 Set Up Code Length

To set the minimum length:
1. Scan programming code minimum length
2. Go to the Decimal Value scan programming code that represents the minimum length to be read.

Minimum length

Length=4

Length=6

Length=8

Length=10

Length=12

Length=14

7.11 CODE 128 / EAN 128 PARAMETERS

7.11.1 Set up Code Length

To set the minimum length:
1. Scan programming code minimum length
2. Go to the Decimal Value scan programming code that represents the minimum length to be read.

Minimum length
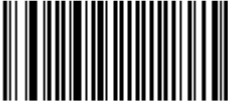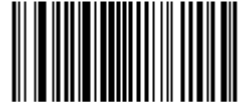
Length=4

Length=8

Length=8

Length=10

Length=12

Length=14

7.11.2 EAN 128 identifier

The]C1 aim identifier for EAN128 is automatically added by default in front of the EAN 128 bar codes.

\<Include]C1 identifier>

Remove]C1 identifier

7.12 INTERLEAVED 2 OF 5 PARAMETERS

7.12.1 Check Digit Transmission

\<Check Digit not used\>

Calculate Check Digit
and Transmit

Calculate Check Digit
But not Transmit

7.12.2 Set up Code Length

To set the minimum length:
1. Scan programming code minimum length
2. Go to the Decimal Value scan programming code that represents the
   minimum length to be read.

Minimum length

Length=4

Length=6

Length=8

Length=10

Length=12

Length=14

7.13 MSI CODE PARAMETERS

7.13.1 Check Digit Transmission

**<Calculate Check Digit
And Transmit MOD 10>**

Calculate Check Digit
But not Transmit MOD 10

Calculate Check Digit
And Transmit
Double MOD 10>

Calculate Check Digit
But not Transmit
Double MOD 10

7.13.2 **Set up Code Length**

To set the minimum length:
1. Scan programming code minimum length
2. Go to the Decimal Value scan programming code that represents the
   minimum length to be read.

Minimum length
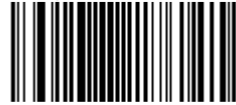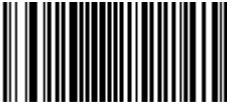
Length=4
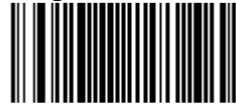
Length=6

Length=8

Length=10

Length=12

Length=14

7.14 PLESSEY CODE PARAMETERS

7.14.1 Check Digit Transmission

Check Digit Transmitted

**<Check digit
not transmitted>**
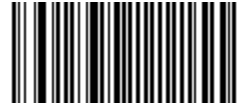
7.14.2 Set up Code Length

To set the minimum length:
1. Scan programming code minimum length
2. Go to the Decimal Value scan programming code that represents the minimum length to be read.

Minimum Length

Length=6

Length=8

Length=10

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

Length=12

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

Length=14

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

7.15 MISCELLANEOUS PARAMETERS

7.15.1 Symbology Identifier

Symbology Identifier transmitted

<Symbology Identifier not transmitted>

With this function ON, a leading character will be added to the output string while scanning code, user may refer to the following table to know what kind of bar code is being scanned.

Please refer to the table below for matching code Symbology Identifier of codes read in.

Code Type	ID	Code Type	ID
Aztec	*	Interleaved 2 of 5	I
Codabar	D	GS1 DataBar	*
Code 11	*	GS1 DataBar Expanded	*
Code 39	*	GS1 DataBar Limited	*
Code 93	D	MSI code	*
Code 128	D	Plessey Code	D
DataMatrix	*	PDF417	*
EAN-8	FF	MicroPDF417	*
EAN-13	F	UPC-A	A
EAN-128	D	UPC-E	E

7.16 PREAMBLES AND POSTAMBLES

7.16.1 Preamble

The scanner can be programmed to output Bar code data according the following format: [PREAMBLE STRING] [BAR CODE DATA]

Example:
To send a <STX> in front of the bar code, scan only programming code <STX>.

As a result, the scanner will give the following bar code output:
[<STX>] [BAR CODE DATA]

Preamble **<None>**

<STX>
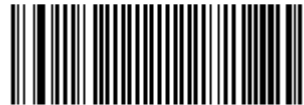
It could be possible that you need other Preambles, in that case please use **VEGA** Utility tool or contact Scantech-ID Technical Support Department.

7.16.2 **Postamble**

The scanner can be programmed to output Bar code data According the following format: [BAR CODE DATA] [POSTAMBLE STRING]

Example:
To send a <ETX> after of the Bar code, scan only programming code <ETX>.

As a result, the scanner will give the following bar code data output:
[BAR CODE DATA] [<ETX>]

Postamble None
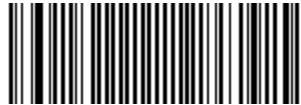
CR

<ETX>

<CR+LF>
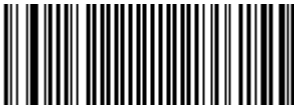
LF
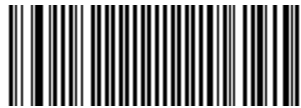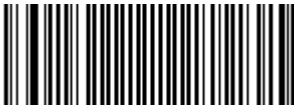
It could be possible that you need other Postambles, in that case use ***VEGA*** utility Tool or contact Scantech-ID Technical Support Department.

7.17 OPERATING SETTINGS

7.17.1 Imager mode

You can set the best reading performance of your **VEGA** by adjusting certain imager parameters. To choose the best reading performance, depends on the environment, your used application and type of bar codes.

- Area mode for decode 1D and 2D bar codes.
- Linear mode for decode 1D Bar codes.

Area mode allows you to set the position of the **VEGA** in any direction regardless of the orientation of the bar code, and perform a good read on 1D and 2D bar codes.

Linear mode allows you to increase your decoding speed while scanning 1D bar codes. But, you need to position the beam so that it falls across all bars in the 1D bar code.

<Area mode>

Linear mode

7.17.2 Scanning Triggering

<Level>

A reading session begins (lighting and decode processing on) when beam is activated and stops when beam is deactivated.

Continuous scanning
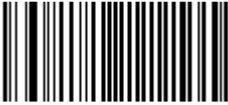
When the scanner is turned on a continuous reading session begins (lighting and decode processing on).

Pulse

A reading session begins when beam is activated and stays on until a period of inactivity lasting the time specified by the timeout. After the timeout, the scan engine turns off.

Continuous + Flashing

When the scan engine is turned on, a reading session begins (no need to activate the beam).
After a period of inactivity lasting the time specified by the timeout, the scan engine starts flashing, checking for a bar code to be read. When a bar code is detected, the lighting automatically turns on and stays on until another period of inactivity (timeout).
After the timeout the scan engine starts flashing again.

Level + Flashing

This mode allows you the switch between level and flashing mode.
When the scanner is turned on it is in flashing mode (see flashing
mode for explanation).
You can automatically switch to level mode by activating the beam line.
After a period of inactivity lasting the time specified by the timeout
the scan engine switches back to flashing mode.

7.17.3 Time out

\<2 sec\>

4 sec
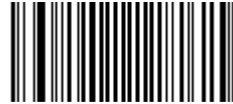
6 sec

7.17.4 **Good Read Mode**

When active, the scan engine stops the reading session after a successful decoding.
 - NOTE: this parameter is NOT used with continuous and continuous
   + flashing modes.

<Active>

Not Active

7.17.5 **Buzzer Beep Tone**

<High>

Medium

Low

7.17.6 Good Read Beeps

\<One beep\>

Two Beeps

None
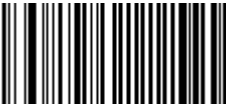
7.17.7 Beep Duration

60 msec

\<80 msec\>

200 msec

Off

7.17.8 **Good Read Led Duration**

<80 msec>

0.5 sec

1 sec

Off

7.17.9 **Firmware version**

Display the loaded firmware version of the scanner

Firmware version

Appendices

A ASCII TABLE

0 **Number Zero**	
1 **Number One**	
2	
3	
4	
5	
6	
7	
8	
9	

A		B		C	
D		E		F	
G		H		I	
J		K		L	
M		N		O	
P		Q		R	
S		T		U	
V		W		X	
Y		Z			

B READABLE SYMBOLOGIES

1D Symbologies

Symbology	Default Enable	Note
Codabar	Off	
Code 11	Off	
Code 39	On	
Code 93 / 93i	Off	
Code 128	On	
EAN 8 / EAN 13	On	
EAN 128 / UCC	On	
GS1 DataBar (RSS)	Off	Omni, Expanded, limited
Interleaved 2 of 5	Off	
Industrial	Off	
ISBN	Off	
ISSN	Off	
Matrix	Off	
MSI Code	Off	
Plessey	Off	
Postal codes	Off	
Standard 2 of 5	Off	
Telepen	Off	
UPC A / UPC E	On	

2D Symbologies

Symbology	Default Enable
Aztec	Off
Datamatrix	On
PDF417	On
MicroPDF417	Off
Maxicode	Off
QR	Off
UCC/ EAN Composite	Off

C   TECHNICAL SPECIFICATIONS

Physical Characteristics

Weight (V-1020)	Approx. 240 gr. (incl. cable)
Weight (V-1020BT)	Approx. 195 gr. (incl. batteries)
Material	ABS Plastic
Connector	RJ 45C 10Pins
Dimension	186.8 mm x 81.6 mm x 63.9 mm

Physical Characteristics Bluetooth Cradle

Weight	Approx 150 gr.
Material	ABS Plastic
Connector	RJ 45C 10Pins
Dimension	129.9 mm x 120 mm x 71.4 mm

Operational

Light source	Visible Red light 650nm + 10nm
Scan rate	200scans/sec auto adaptive in linear mode.
	56 images/sec auto adaptive in 2D mode.
Optical resolution	752 Horizontal x 480 Vertical pixels, 256 gray levels.
Scan angle	38° Horizontal, 25° Vertical
Interface	RS-232 and USB
Indicators (led)	Green = good read

Electrical Characteristics (V-1020 wired model)

Operation Voltage	5 VDC ±5%
Current Operating	450 mA (max) @ 5 VDC
Current Standby	37 mA typical @ 5 VDC
AC transformers	5.2 VDC @ 650 mA / Input AC 100-240V

Electrical Characteristics (V-1020BT wireless model)

Battery	Li-ion 3.7V / 1400 mA
Charge time	4.5 hours
Reads per charge	10,000
Cradle LED indicators	battery charging: red
	Charge Completed: off
	Communication: blue
Operating Current	500 mA
Input Voltage	5 VDC @ 2A / input AC 110-240V

Bluetooth Characteristics

Bluetooth Module	Bluetooth V2.0 Standard
Frequency Band	2400MHz~2483.5MHz
Modulation Technique	FHSS, GFSK, TT/4-DOPSK, 8DPSK
RF Output Power	6.97 dBm (4.977 mW)
Bluetooth Range	Class 2 up to 10 M / 33 ft (open Air)

Environmental

Operating Temp.	0°C to 50°C (32°F to 122°F)
Storage Temp.	-20°C to 70°C (-4°F to 158°F)
Relative Humidity	0 to 95% non-condensing
Ambient light	Works in lighting conditions from 0 to 100,000 lux

Regulatory of Compliance

FCC
CE
RoHs

D   SCAN MAP

Typical Reading Distances
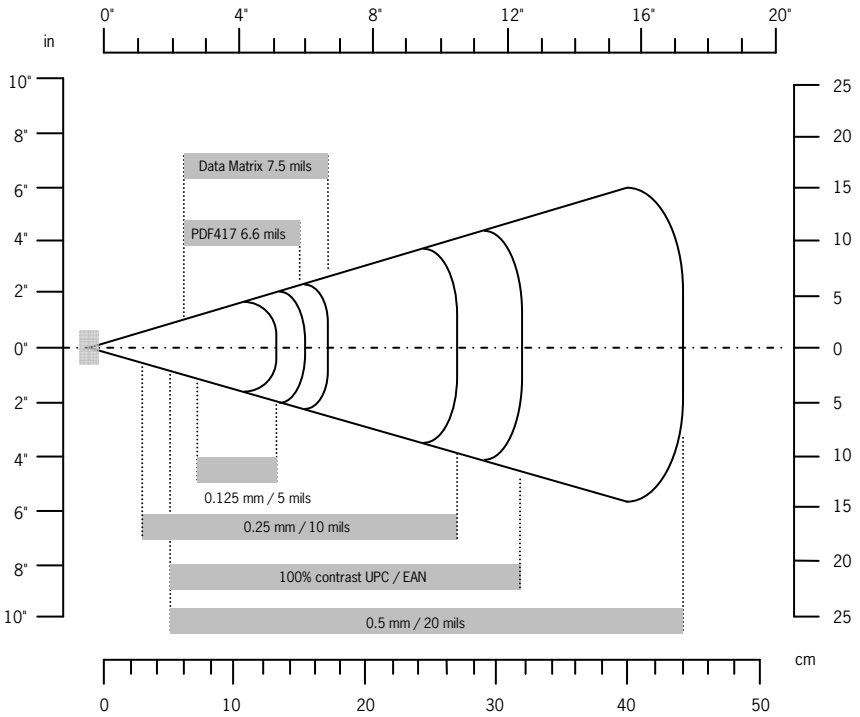
VEGA Typical Reading Distance: These distances are measured in an office environment (250 lux).

VEGA Typical Reading Distances (centimeters)

Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.125 mm	7.2 cm	13.1 cm
	0.20 mm	3.8 cm	22.5 cm
	0.25 mm	3.4 cm	27 cm
	0.5 mm	5 cm	44 cm
	1 mm	8 cm	83 cm
UPC / EAN	0.33 mm	5 cm	32 cm
Data matrix	0.191 mm	6.3 cm	17.2 cm
	0.254 mm	4.8	22 cm
	0.381 mm	*	29 cm
PDF417	0.16 mm	6.2 cm	15.4 cm
	0.254 mm	4.5 cm	23 cm
	0.381 mm	4 cm	37 cm

*Minimum distance depends on symbology length and scan angle.

VEGA Typical Reading Distances (inches)

Symbology	Density	Minimum Distance	Maximum Distance
Code 39	5 mils	2.8 inch	5.1 inch
	8 mils	1.5 inch	8.8 inch
	10 mils	1.3 inch	10.5 inch
	20 mils	2 inch	17.2 inch
	40 mils	3.1 inch	2.4 inch
UPC / EAN	13 mils	2 inch	12.5 inch
Data matrix	7.5 mils	2.5 inch	6.7 inch
	10 mils	1.9 inch	8.6 Inch
	15 mils	*	11.3 inch
PDF417	6.6 mils	2.4 inch	6 inch
	10 mils	1.8 inch	9 inch
	15 mils	1.6 inch	14.4 inch

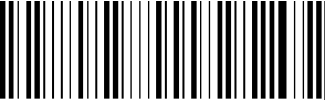*Minimum distance depends on symbology length and scan angle.
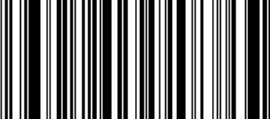
E   TEST SYMBOLOGIES

Scan one or more of these labels to test bar code symbologies you enabled.

1D Symbology

Codabar	CODE 11
CODE 39	CODE 93
CODE 128	EAN 8 1234 5670
EAN 13 1 234567 890128	EAN 128/UCC

Interleaved 2 of 5	ISBN
	12121
	8 712345 123451
ISSN	GS1 DataBar
ISSN 1234-5679	
9 771234 567003 >	
GS1 DataBar Stacked	GS1 DataBar Expanded
GS1 DataBar Expanded Stacked	GS1 Databar Limited
MSI	Plessey

UPC A	UPC E
 0 12345 67890 5	 0 123456 5

2D Symbologies

AZTEC	Datamatrix
PDF417	**MicroPDF417**

F   OVERVIEW PART NUMBERS

***VEGA* with Area Imager**
Version with RS232 interface: 1. A273002 VEGA V-1020-02 2. A274002 VEGA V-1020BT-02 *Version with USB (HID KBW) interface:* 3. A273004 VEGA V-1020-04 4. A274003 VEGA V-1020BT-03 *Version with USB (virtual com port) interface:* 5. A273003 VEGA V-1020-03 *Version with KBW (VEGA BT version only)* 6. A274004 VEGA V-1020BT-04

SCANTECH ID
a Champtek company