# USER MANUAL

**Elo Touch Solutions**
Elo Kit, 2D Barcode Scanner, Edge Connect
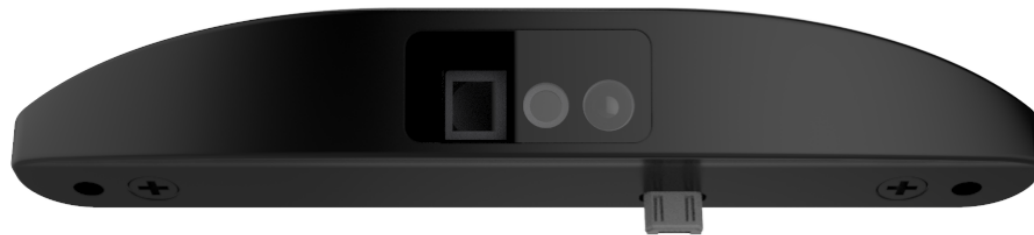
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# Section 1: Introduction

## Product Description

The Elo 2D Barcode reader kit is an optional attachment for Elo monitors, Android All-in-one computers, and Windows All-in-one computers. The device is USB based and capable of reading most common types of barcodes. The reader is configurable to work with most applications.

- The SE2707 contains the SE4710 engine and decoder with USB interface.
- The SE4720 is with companion with PL5000 decoder with USB interface.

## Precautions

Follow all warnings, precautions and maintenance as recommended in this user manual to maximize the life of your unit and prevent risks to user safety. See Section 7 for more information on safety.

This manual contains information that is important for the proper setup of the scanner. Before setting up and powering on your new scanner, read through this manual, especially the Installation, configuration, and Operation chapters.

On this user manual only the most common parameters settings will be covered. For additional parameter and symbologies settings, please download the User Guide (**SE2707 & PL5000 Decoder for SE4720**) from the Zebra website.

# Features

| Sensor | CMOS |
|---|---|
| Resolution | • SE2707 - 600 x 400<br>• SE4720 - 1280 x 800 |
| Illumination and Aimer | White LED illumination / Red LED aimer |
| Typical frame rate | 60 frames per second |
| Motion Tolerance | Up to 600 cm/s (236in/s) maximum<br>400 cm/s (157in/s) typical |
| Field of View | Horizontal: 43.8°, Vertical: 31° |
| Scan Angles | Tilt: 360°, Pitch: ± 60°, Skew: ± 60° |
| Symbol Contrast | 20% minimum print contrast ratio |
| Interface | Micro USB |
| Beeper | Beep at every successful scan. |
| OCR Programming | • SE2707 **Not supported**<br>• SE4720 with PL50000 **Supported** |

# Supported Symbolgies

For symbologies settings, please download the User Guide (**SE2707 & PL5000 Decoder for SE4720**) from the Zebra website.

| Linear | Codabar, Code 11, Code 128, Code 2 of 5, Code 39, Code 93 and 93i, EAN/JAN-13, EAN/JAN 8, IATA Code 2 of 5, Interleaved 2 of 5, Matrix 2 of 5, MSI, GS1 Databar, UPC-A, UPC E, UPC-A/EAN-13 with Extended Coupon Code, Coupon GS1 Code 32(PARAF), EAN-UCC Emulation, GS1 Data Bar |
|---|---|
| 2D Stacked | Codablock A, Codablock F, PDF417, MicroPDF417 |
| 2D Matrix | Aztec Code, Data Matrix, MaxiCode, QR Code, Chinese Sensible (Han Xin), Grid Matrix, Dot Code |
| Postal: | AustralianPost, British Post, Canadian Post, China Post, Japanese Post, Korea Post, Netherlands Post, Planet Code, Postnet |

# Imager Aiming Element specifications

**Skew, Roll, and Pitch**
Measured on a 20 mil Code 39 symbol at distance of 5 inches. Tolerance for skew and pitch is reduced at extreme ends of the working range.
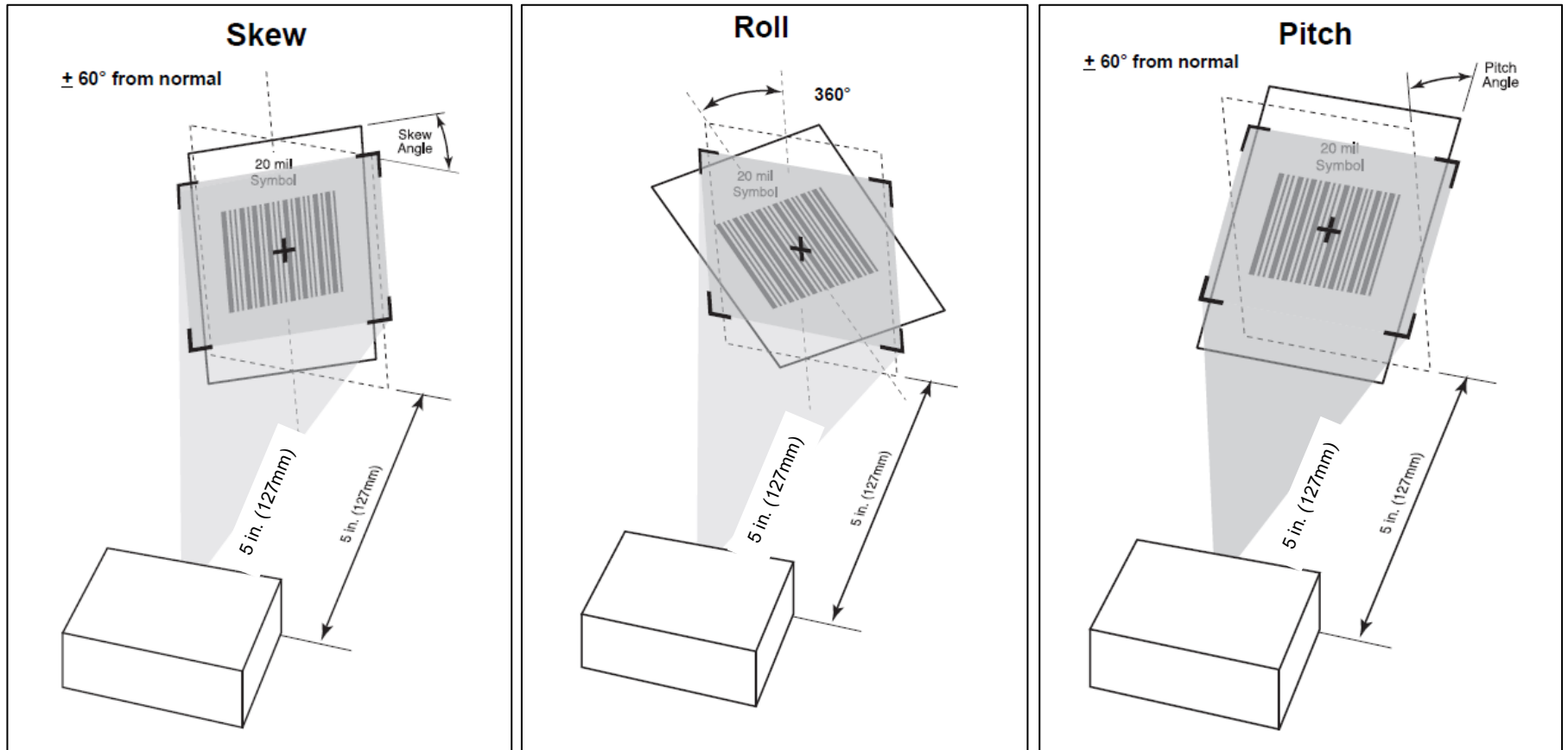
# Trigger Level Mode Working Decode Ranges

Note: Photographic quality bar code at 15° tilt pitch angle under 30fcd ambient illumination.
( * ) Limited by width of bar code in field of view.

| Bar Code Type | Near Distance Typical | Far Distance Typical |
|---|---|---|
| 5 mil Code 39 | 2.0 in / 5.1 cm | 8.0 in / 20.3 cm |
| 5 mil Code 128 | 2.5 in / 6.3 cm | 5.0 in / 12.7 cm |
| 6.6 mil PDF417 | 2.5 in / 6.3 cm | 6.3 in / 16.0 cm |
| 10 mil PDF417 | 1.8 in / 4.5 cm* | 9.0 in / 22.8 cm |
| 13 mil 100% | 2.0 in / 5.0 cm* | 12.5 in / 31.7 cm |
| 20.0mil Code | 2.0 in / 5.0 cm* | 19.5 in / 49.5 cm |
| 20 mil Data Matrix | 1.5 in / 3.8 cm | 13.5 in / 34.3 cm |
| 20 mil QR Code | 1.5 in / 3.8 cm | 11.0 in / 27.9 cm |

# Presentation Mode Working Decode Ranges

(Swipe Speed: 15 in/sec)

| Bar Code Type | Near Distance Typical | Far Distance Typical |
|---|---|---|
| 100% UPCA 80% MRD | 5.0 in / 12.7 cm | 6.4 in / 16.2 cm |

# Manual Trigger Button

This button can be access with a small Pin.

# Section 2 Unpacking

## Unpacking the 2D Barcode Scanner

Verify that the box contains:

- 2D Barcode scanner

- 2 mounting screws

- 2 screw covers

- Quick Install Guide

Remove all protective material from the device.

Inspect the device for damage.

Report immediately if 2D Barcode scanner is damage and with missing items as listed above.

# Section 3: Installation

## Attaching the 2D Barcode Reader

**Note:** The peripheral image below may appear different.

Step 1: Select the location to mount the 2D barcode reader.  Some systems have more than one mounting option.
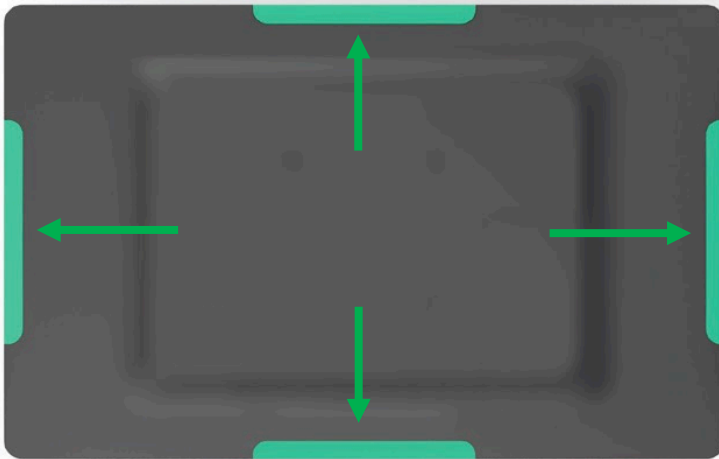


Step 2: Remove the selected peripheral cover from the touch monitor or computer.

Step 3: Gently insert the fingerprint reader into the peripheral bay making sure the connector mates properly.



Step 4: Install the 2 flat head screws included with the kit.



Step 5: Cover the head screws with the adhesive mylar covers included from the kit.

# Installing the Software Drivers

**For use with Windows Systems**:

- Visit Zebra website to download 123Scan configuration utility application.

- For more information on 123Scan, including training tutorial videos go to http://www.zebra.com/123Scan

- For use in CDC COM port emulation mode, please download the driver from the following link: https://www.zebra.com/us/en/support-downloads/software/drivers/usb-cdc-driver.html

**For use with Android systems**:

- The Elo Barcode Scanner is ready to use in its default mode.
- Set up to read most common codes.

# Section 4: Default settings

## Out-of-box Settings

Note: If you are okay with the default settings, you may begin using the scanner. If you prefer different settings, this section will cover additional configurations that can be tailored to your application. Only the most common settings will be covered in this manual. For additional settings, please download the User Guide (SE2707 & PL5000 Decoder for SE4720) from the Zebra website.

## User Preferences/ Parameter Defaults

| Parameter | Default |
|---|---|
| Parameter Bar Code Scanning | Enable |
| Lock Parameter Scanning | N/A |
| Unlock Parameter Scanning | N/A |
| User Parameter Pass Through | Disable |
| Validate Concatenated Parameter Bar Codes | Disable |
| Beep After Good Decode | Enable |
| Beeper Volume | High |
| Beeper Tone | Medium |
| Beeper Duration | Medium |
| Suppress Power Up Beeps | Do Not Suppress |
| LED on Good Decode | Enable |
| Direct Decode Indicator | Disable |
| Low Power Mode | Enable |
| Time Delay to Low Power Mode | 1 Second |
| Trigger Mode | Standard (Level) |
| Picklist Mode | Disable Picklist Mode Always |
| Continuous Bar Code Read | Disable |
| Unique Bar Code Reporting | Disable |

| Parameter | Default |
|---|---|
| Mirrored Image | Disable |
| Decode Session Timeout | 9.9 Seconds |
| Timeout Between Decodes, Same Symbol | 0.6 Seconds |
| Timeout Between Decodes, Different Symbols | SE2707 - 0.1 Sec SE4720 - 0.2 Sec |
| Mobile Phone/Display Mode | Disable |
| PDF Prioritization | Disable |
| PDF Prioritization Timeout | 200ms |
| Low Light Scene Detection | Disable |
| Miscellaneous Options | |
| Enter Key | N/A |
| Enter Key | N/A |
| Transmit Code ID Character | None |
| Prefix Value | 7013 <CR><LF> |
| Suffix 1 Value | 7013 <CR><LF> |
| Suffix 2 Value | |
| Scan Data Transmission Format | Data As Is |
| FN1 Substitution Values | 7013 <CR><LF> |
| Transmit "No Read" Message | Disable |
| | |

# USB Host Parameter Defaults

| Parameter | Default |
|---|---|
| USB Device Type | SNAPI with Imaging |
| USB Country Keyboard Types (Country Codes) | North American |
| Symbol Native API (SNAPI) Status Handshaking | Enable |
| USB Keystroke Delay | No Delay |
| USB Caps Lock Override | Disable |
| Barcodes with Unknown Characters | Send Barcodes with Unknown Characters |
| USB Convert Unknown to Code 39 | Disable |
| USB Fast HID | Disable |
| USB Polling Interval | 8msec |
| Keypad Emulation | Disable |

| Parameter | Default |
|---|---|
| Quick Keypad Emulation | Disable |
| Keypad Emulation with Leading Zero | Disable |
| USB FN1 Substitution | Disable |
| Function Key Mapping | Disable |
| Simulated Caps Lock | Disable |
| Convert Case | None |
| USB Static CDC | Enable |
| TGCS (IBM) USB Beep Directive | SE2707- Honor SE4720 - Ignore |
| TGCS (IBM) USB Barcode Configuration Directive | SE2707- Honor SE4720 - Ignore |
| TGCS (IBM) USB Specification Version | Version 2.2 |

# Image Capture Preferences Default

| Parameter | SE2707 Default | SE4720 Default |
|---|---|---|
| Operational Modes | N/A | N/A |
| Aim Brightness | 2 (High) | 2 (High) |
| Illumination Brightness | 7 | 10 |
| Frame Rate | - | Auto |
| LED Illumination | - | Internal LED illumination |
| Decoding Autoexposure | Enable | Enable |
| Decoding Illumination | Enable | Enable |
| Decode Aiming Pattern | Enable | NA |
| Image Capture Illumination | Enable | Enable |
| Image Capture Autoexposure | Enable | Enable |
| Exposure Time | 100 (10 ms) | 100 (10 ms) |
| Analog Gain | Analog Gain 1 | Analog Gain 1 |
| Snapshot Mode Timeout | 0 (30 seconds) | 0 (30 seconds) |
| Snapshot Aiming Pattern | Enable | Enable |
| Silence Operational Mode Changes | - | Disable |
| Image Cropping | - | Disable |
| Image Size (Number of Pixels) | Full | Full |
| Image Brightness (Target White) | 180 | 180 |

| Parameter | SE2707 Default | SE4720 Default |
|---|---|---|
| JPEG Image Options | - | Quality |
| JPEG Quality Value | - | 65 |
| JPEG Size Value | - | 160K |
| Image File Meta Data | - | Disable |
| Image Enhancement | - | Low (1) |
| Image File Format Selection | JPEG | JPEG |
| Image Rotation | 0 | 0 |
| Bits per Pixel (BPP0 | - | 8 |
| Signature Capture | - | Disable |
| Signature Capture Image File Format Selection | - | JPEG |
| Signature Capture Bits per Pixel | - | 8 |
| Signature Capture Width | - | 100 |
| Signature Capture Height | - | 65 |
| Signature Capture JPEG Quality | - | JPED |
| Video View Finder | Disable | Disable |
| Target Video Frame Size | 2200 bytes | 2200 bytes |
| Video View Finder Image Size | 1700 bytes | 1700 bytes |
| Video Resolution / Subsampling | 1/4 resolution | 1/4 resolution |

# Section 5:  Configuration

**Note:** Only the most common settings will be covered in this manual. For additional settings, please download the Zebra User Guide (SE2707 & PL5000 for SE4720) from the Zebra website.

## Send Versions

### Report Version

Scan the bar code below to report the version of software currently installed in the decoder.



### Report Decoder Manufacturing Information

Scan the bar code below to report the part number, serial number, and manufacture date of the decoder.



### Report Scan Engine Manufacturing Information

Scan the bar code below to report the part number, serial number, and manufacture date of the scan engine.

# Setting to Default Parameters

Scan one of the following bar codes to reset the engine to its default settings as follows:

Restore Defaults resets all default parameters as follows:

- If you configured custom default parameter values via the **Write to Custom Defaults** bar code, scanning the **Restore Defaults** bar code restores these custom values.
- If you did not configure custom default parameter values, scanning the **Restore Defaults** bar code restores the factory default values.



**Restore Defaults**

Set Factory Defaults clears all custom default values and sets the factory default values.



**Set Factory Defaults**

# USB Interface Parameters:

## Reader Interface

Scan one of the following barcodes to select the USB device type. To select a country keyboard type for the USB Keyboard HID host, see USB Country Keyboard Types - Country Codes.

NOTES:

- When changing USB Device Types, the decoder resets and issues the standard startup beep sequences.

- When USB HID Keyboard Emulation or USB CDC Host is selected, and the Trigger Mode is set to Host, the decoder is in locked mode and no scanning is possible. The decoder exits this mode if the host sends the following commands to the decoder. The decoder's trigger mode can then be changed by the host.
  - For HID Keyboard Emulation send switch to SNAPI host command. Use the **Zebra SDK C Sharp Sample Application** or **123Scan** to do this.



\*Symbol Native API (SNAPI) with Imaging Interface

This is the default setting for the scanner out of the box.



USB HID Keyboard



OPOS
(IBM Hand-held with Full Disable)



USB HID POS
(for Windows 10 devices only)

# Symbol Native API (SNAPI) Status Handshaking

After selecting a SNAPI interface as the USB device type, scan one of the following barcodes to select whether to enable or disable status handshaking.



**\*Enable SNAPI Status Handshaking**

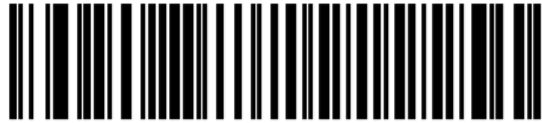This is the default setting for the scanner out of the box.



**Disable SNAPI Status Handshaking**

# USB Country Keyboard Types - Country Codes

Scan the barcode corresponding to the keyboard type. This setting applies only to the USB HID Keyboard Emulation device.

NOTE: When changing USB country keyboard types, the decoder automatically resets and issues the standard startup beep sequences.



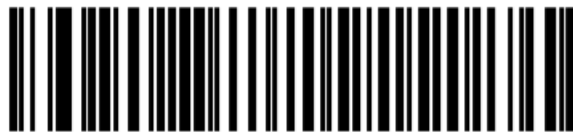**\*North American Standard USB Keyboard**

This is the default setting for the scanner out of the box.



**German Windows**



**French Windows**



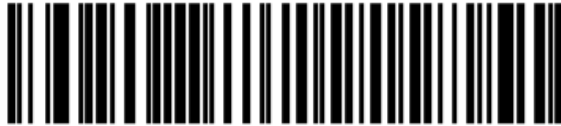**French Canadian Windows 95/98**

**French Canadian Windows 2000/XP**


**French Belgian Windows**


**Spanish Windows**


**Italian Windows**


**Swedish Windows**

**UK English Windows**

**Japanese Windows (ASCII)**

**Portuguese-Brazilian Windows**

# User Preferences Parameter:

## Trigger Mode Settings

**Parameter # 138**
**SSI # 8Ah**

Scan one of the following bar codes to select a trigger mode for the engine:

**Standard (Level)**

A trigger press activates decode processing. Decode processing continues until the barcode decodes, you release the trigger.



*Standard (Level)
(0)

This is the default setting for the scanner out of the box.

**Presentation (Blink)**

The engine activates decode processing when it detects a bar code in its field of view. After a period of non-use, the LEDs turn off until the engine senses motion.



Presentation (Blink)
(7)

**Auto Aim**

The engine projects the aiming pattern when it senses motion. A trigger press activates decode processing. After two seconds of inactivity the aiming pattern shuts off.



Auto Aim
(9)

**Auto Aim with Illumination**

The engine turns on the aiming pattern and internal illumination LEDs when it senses motion. A trigger press activates decode processing. After two seconds of inactivity the aiming pattern and internal illumination LEDs automatically shut off.

Auto Aim with Illumination
(A)

# Illumination Brightness

**Parameter # 669**
**SSI # F1h 9Dh**

This parameter sets illumination brightness by altering LED power. The default is 7. For values from 1 to 10, LED brightness varies from lowest to highest level.

To program Illumination Brightness, scan (Illumination Brightness) barcode followed by two numeric bar codes below that correspond to the value of desired illumination brightness.

For example, to set Illumination Brightness to 6, scan the bar code (Illumination Brightness) followed by the **0** and **6** bar codes.



**Illumination Brightness**

**<u>Numeric Bar Codes</u>**



0



1



2



3



4

||||||||||||||||
5

||||||||||||||||
6

`       ||||||||||||||||
7

||||||||||||||||
8

||||||||||||||||
9

# Cancel

To correct an error or change a selection, scan the bar code below.

||||||||||||||||
**Cancel**

# Aim Brightness

**Parameter # 668**
**SSI # F1h 9Ch**

Scan one of the following bar codes to set the aim pattern brightness or power. Options are low, medium, and high.

**Aim Brightness - Low**
**(0)**

**Aim Brightness - Medium**
**(1)**

**\*Aim Brightness - High**
**(2)**

This is the default setting for the scanner out of the box.

## USB Keystroke Delay

Scan one of the following barcodes to set the delay, in milliseconds, between emulated keystrokes. Select a longer delay for hosts that require slower data transmission.



*No Delay

This is the default setting for the scanner out of the box.



Medium Delay (20 msec)



Long Delay (40 msec)

# Beeper Volume

**Parameter # 140**
**SSI # 8Ch**

Scan one of the following bar codes to select a beeper volume.

**Low Volume**
**(2)**

**Medium Volume**
**(1)**

***High Volume**
**(0)**

This is the default setting for the scanner out of the box.

# Beeper Tone

**Parameter # 145**
**SSI # 91h**

Scan one of the following bar codes to select a beeper tone for the good decode beep.



**Low Tone**
**(2)**



*\*Medium Tone*
**(1)**

This is the default setting for the scanner out of the box.



**High Tone**
**(0)**

# Beeper Duration

**Parameter # 628**
**SSI # F1h 74h**

Scan one of the following bar codes to select the duration for the good decode beep.



**Short Duration**
**(0)**



**\*Medium Duration**
**(1)**

This is the default setting for the scanner out of the box.



**Long Duration**
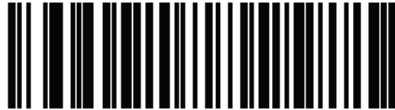**(2)**

# Mobile Phone/Display Mode

**Parameter # 716**
**SSI # F1h CCh**

This mode improves bar code reading performance off mobile phones and electronic displays. Scan one of the following bar codes to select the desired mode.



\*Disable Mobile Phone/Display Mode
(0)

This is the default setting for the scanner out of the box.



Enable Mobile Phone/Display Mode
(3)

# Section 6: Technical Support

## Technical Assistance

| Technical Specifications | Online Self-Help | Technical Support |
|---|---|---|
| visit **www.elotouch.com/products** for technical specifications for this device | visit **www.elotouch.com/go/websupport** for online self-help | visit **www.elotouch.com/go/contactsupport** for technical support |

See this user manual's last page for worldwide technical support phone numbers.

# Section 7: Safety & Regulatory Information

## Electrical Safety Information

Compliance is required with respect to the voltage, frequency, and current requirements indicated on the manufacturer's label. Connection to a different power source than those specified herein will likely result in improper operation, damage to the equipment or pose a fire hazard if the limitations are not followed.

There are no operator serviceable parts inside this equipment. There are hazardous voltages generated by this equipment which constitute a safety hazard. Service should be provided only by a qualified service technician.

Contact a qualified electrician or the manufacturer if there are questions about the installation prior to connecting the equipment to mains power.

## Emissions and Immunity Information

Notice to Users in the United States: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of 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.

Notice to Users in Canada: This equipment complies with the Class A limits for radio noise emissions from digital apparatus as established by the Radio Interference Regulations of Industrial Canada.

Notice to Users in the European Union: Use only the provided power cords and interconnecting cabling provided with the equipment. Substitution of provided cords and cabling may compromise electrical safety or CE Mark Certification for emissions or immunity as required by the following standards:

This Information Technology Equipment (ITE) is required to have a CE Mark on the Manufacturer's label which means that the equipment has been tested to the following Directives and Standards: This equipment has been tested to the requirements for the CE Mark as required by EMC Directive 2014/30/ EU as indicated in European Standard EN 55032 Class A and the Low Voltage Directive 2014/35/EU as indicated in European Standard EN 60950-1.

General Information to all Users: This equipment generates, uses and can radiate radio frequency energy. If not installed and used according to this manual the equipment may cause interference with radio and television communications. There is, however, no guarantee that interference will not occur in any particular installation due to site-specific factors.

1. In order to meet emission and immunity requirements, the user must observe the following:
   a. Use only the provided I/O cables to connect this digital device with any computer.
   b. To ensure compliance, use only the provided manufacturer's approved line cord.
   c. The user is cautioned that changes or modifications to the equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2. If this equipment appears to cause interference with radio or television reception, or any other device:
   a. Verify as an emission source by turning the equipment off and on. If you determine that this equipment is causing the interference, try to correct the interference by using one or more of the following measures:
      i. Move the digital device away from the affected receiver.
      ii. Reposition (turn) the digital device with respect to the affected receiver.
      iii. Reorient the affected receiver's antenna.
      iv. Plug the digital device into a different AC outlet so the digital device and the receiver are on different branch circuits.
      v. Disconnect and remove any I/O cables that the digital device does not use. (Unterminated I/O cables are a potential source of high RF emission levels.)
      vi. Plug the digital device into only a grounded outlet receptacle. Do not use AC adapter plugs. (Removing or cutting the line cord ground may increase RF emission levels and may also present a lethal shock hazard to the user.)

If you need additional help, consult your dealer, manufacturer, or an experienced radio or television technician.

# Agency Certifications

The following certifications and marks have been issued or declared for this peripheral:

- CE

## Explanation of Markings

In accordance with the SJ/T11364 requirement, electrical and electronic products are marked with the following pollution control logo.

The Environment-Friendly Use Period for this product is 10 years. The product will not leak or mutate under normal operating conditions listed below, so that the use of this electronic information product will not result in any severe environmental pollution, any bodily injury, or damage to any assets.



Operating Temperature: See chart below

Storage Temperature: See chart below

It is encouraged and recommended that product packaging be recycled and reused according to local laws.



# Waste Electrical & Electronic Equipment Directive (WEEE)

 This product should not be disposed of with household waste. It should be deposited at a facility that enables recovery and recycling.

Elo has put in place recycling arrangements in certain parts of the world. For information on how you can access these arrangements, please visit www.elotouch.com/e-waste-recycling-program/.

# Power Specifications

### Electrical Ratings

| | |
|---|---|
| Input | 5VDC |

### Operating Conditions

| | |
|---|---|
| Temperature | 10°C - 40°C |
| Humidity: to 95% relative humidity, non-condensing, at 40°C | |

### Storage Conditions

| | |
|---|---|
| Temperature | -40°C - 60°C |
| Humidity: to 95% relative humidity, non-condensing, at 40°C | |

# Section 8: Warranty Information

For warranty information, go to http://support.elotouch.com/warranty/

# Notes

# www.elotouch.com

Visit our website for the latest

- Product Information

- Specifications

- Upcoming Events

- Press Releases

- Software Drivers

To find out more about our extensive range of Elo touch solutions, go to **www.elotouch.com**, or call the office nearest you.

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