unitech
because we care

MS650 Wireless CCD Ring Scanner
Quick Guide

For more detailed scanner setting, please go to www.ute.com to download the user manual.

Version 1.0

FCC WARNING STATEMENT

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 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.

CANADIAN DOC STATEMENT

This digital apparatus does not exceed the Class B limits for radio noise for digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de las classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par les ministère des Communications du Canada.

CE MARKING AND EUROPEAN UNION COMPLIANCE

Testing for compliance to CE requirements was performed by an independent laboratory. The unit under test was found compliant with all the applicable Directives, 2014/30/EU, 2014/35/EU and 2014/35/EU.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT

The WEEE directive places an obligation on all EU-based manufacturers and importers to take-back electronic products at the end of their useful life.

ROHS STATEMENT OF COMPLIANCE

This product is compliant to Directive 2002/95/EC.

NON-MODIFICATION STATEMENT

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE FC RoHS

WARNING AND CAUTION

⊘	1. Take any metals into contact with the terminals in connectors. 2. Use the scanner where any inflammable gases.
❗	If following condition occur, immediately power off the host computer, disconnect the interface cable, and contact your nearest dealer. 1. Smoke, abnormal odors or noises come from the scanner. 2. Drop the scanner so as to affect the operation or damage its housing.
Do Not	Do not do behavior below. 1. Put the scanner in places excessively high temperatures such as expose under direct sunlight. 2. Use the scanner in extremely humid area or drastic temperature changes. 3. Place the scanner in oily smoke or steam environment such as cooking range. 4. Be covered or wrapped up the scanner in bad-ventilated area such as under cloth or blanket. 5. Insert or drop foreign materials or water into scanning window or vents. 6. Using the scanner while hand is wet or damp. 7. Use the scanner with anti-slip gloves containing plasticizer and chemicals or organic solvents such as benzene, thinner, insecticide etc to clean the housing. Otherwise, it could not result fire and electrical shock but housing may be broken and injured. 8. Scratch or modify the scanner and bend, twist, pull or heat its interface cable. 9. Put heavy objects on interface cable. Do not stare the light source from the scanning window or do not point the scanning window at other people's eyes or eyesight may be damaged by direct exposure under the light.
⊘	Do not put the scanner on an unstable or inclined plane. The scanner may drop, creating injuries.
❗	Once the interface cable is damaged such as exposed or broken copper wires, stop using immediately and contact your dealer. Otherwise, it could result fire or electrical shock.

INTRODUCTION

LED Indicator

Function Button

Micro USB port
(with Protective Cover)

Restart Button
(insert pin into the hole)

Exit Window

Touch-Activated
Trigger Button

SPECIFICATIONS

Sensor	Linear Image Sensor
Resolution	4mil/ 0.1mm
Indicator	LED, Buzzer
PCS	30%
Housing	Plastic(PC+ABS)
Profile	BT HID, USB HID, USB VCP, Batch Mode
Battery Life	6000 scans (1 scan/ 5 sec)
Charge Time	2.5 hours (fully charged)
Radio	Bluetooth 4.1 (Class2)
Coverage	10M/33ft. (line of sight)
Symbologies	All major 1D barcodes incl. GS1 Databar

BEEPER INDICATION

Single beep	Good read
Single short beep	The scanner reads a Code39 of ASCII in configuration procedure
Two beeps	i. Wireless connection
	ii. The scanner successfully reads a configuration barcode
Three beeps	Wireless disconnection
Three short beeps	i. The scanner reads a barcode while disconnected.
	ii. The scanner reads an unexpected barcode during configuration procedure. (scan [ABORT] to abort and start over)
	iii. Memory full
Four beeps (Hi-Lo-Hi-Lo)	Out of range/Poor connection
Five beeps	Low power

LED INDICATION

Off	Standby or Power off
Flashing Blue	Disconnected or Discoverable
One Green Flash	Good Read
Flashing Red	Low power
Solid Red	Charging

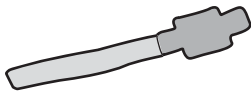# OUT OF THE BOX

Wireless CCD
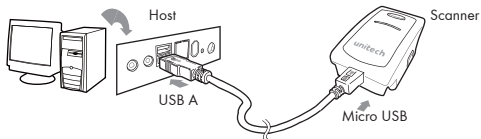Ring Scanner

USB Charger Cable

Quick Guide

Regulatory
Compliance
Statements

Spare Velcro Strap

CHARGING THE BATTERY

1. Flip open the micro USB port on the scanner.
2. Insert the micro USB connector into the port on the scanner and USB A connector into a USB port on the host PC.
3. Keep charging until the red LED indicator turns off.

ATTENTION

1. It is strongly recommended to dry your hand and the velcro strap if either of them is soaking wet. The scanner may still work in wet condition, but its touch-activated button can be too responsive so as to trigger the scanning from time to time, draining battery quickly as a result.

2. The following gloves have been tested to be working with the touch-activated button: latex examination glove, antistatic glove, white cotton glove (with or without latex coating), safety glove, and rubber glove. However, it is still recommended to operate with bare hand to ensure the responsiveness of touch-activated button.

STEP 1 - GETTING STARTED

1. Pull open the long strap and insert your index finger through the loop.

3. Clench your fist and use your thumb to tap the touch-activated trigger button.

2. Adjust and attach the long strap for a comfortable fit.

4. Aim at the barcode you wish to scan.

STEP 2 - BUTTON PREFERENCE

Scan one of below configuration barcodes to determine which touch-sensing button to enable according to your habit:

. F064$

Right Button Only
[For Left-handed User]

. F065$

Left Button Only
[For Right-handed User]

. F066$

Both Buttons

STEP 3 - INTERFACE SELECTION

Scan one of below configuration barcodes to determine your interface:

. E043$

BT HID
[Recommended]

. C008$

USB HID

. C006$

USB VCP

. C035$

Batch Mode

1. **BT HID** - Emulates a **Bluetooth HID keyboard** that transmits barcode data to the host. (see page 11 - 12)
2. **USB HID** - Emulates a **USB keyboard** that transmits barcode data to the host.
3. **USB VCP** - Emulates a **USB virtual com device** that transmits barcode data to the host.
4. **Batch Mode** - Emulates a **USB mass storage device** that saves barcodes collected off-line. (see page 24 - 28)

BT - HID 📶 GETTING CONNECTED

1. Scan [**Disconnect**] to delete previous pairing record. Alternatively, you may long-press the function button for 5 seconds until the the scanner emit two beeps.

. E031$

Disconnect

2. Scan [**BT - HID**]; the scanner will emit two beeps.

. E043$

BT - HID

3. Scan either one of below barcodes according to your host system.

. F068$

iOS/MAC/WINDOWS

. F067$

ANDROID

4. Select "Scanner XXXXXX" on the discovered device list of your Bluetooth. ("XXXXXX" are the last 6 digits of MAC address which can also be found on the product label)

5. The scanner will emit two beeps to verify the connection.

BT - HID 📶 SMARTPHONE/TABLET TOUCH KEYBOARD

Please follow below instruction to toggle touch keyboard on smartphone/tablet.

iOS

To toggle iOS touch keyboard, please simply press the function button.

Function Button

Android

1. Enter "Settings"
2. Enter "Language & input"
3. In Keyboard & input window, tap "Default" to continue.
4. Turn off "Hardware - Physical keyboard", and the Touch Keyboard will function properly again.

BT - HID 🔊 POWER OFF TIMEOUT

The period of inactivity before auto power-off.

Variable Timeout

`. B030$`

SET MINUTE
(Range: 00 ~ 60)

`. B029$`

SET SECOND
(Range: 00 ~ 60)

The default timeout is 00 minute and 30 seconds.
For example, to set the timeout as 5 minutes 30 seconds:

1. Scan [Set Minute]
2. Scan [0] & [5] on page 14.
3. Scan [Set Minute]
4. Scan [Set Second]
5. Scan [3] & [0] on page 14.
6. Scan [Set Second]

No Timeout (Scanner Always On)

`. B021$`

DISABLE TIMEOUT

Warning! This will cause the battery to drain quickly.

NUMERIC BARCODES

1

6

2

7

3

8

4

9

5

0

GENERAL SETTINGS

. A001$

DEFAULT

. P023$

ABORT

. A007$

CHECK VERSION

BEEPER

. F018$

BEEP ON

. F012$

BEEP OFF

ILLUMINATION PREFERENCE

. F059$

**LASER ALWAYS ON
LED ON AFTER 1 SEC**

. F049$

LASER ALWAYS ON
LED AUTO-ADAPTIVE

. F048$

LASER ALWAYS ON
LED ALWAYS ON

. F046$

LASER OFF
LED ALWAYS ON

KEYBOARD LAYOUT

. C010$

ENGLISH (USA)

. C018$

ENGLISH (UK)

. C012$

FRENCH

. C011$

GERMAN

. C014$

ITALIAN

. C013$

SPANISH

JAPAN (106 key)

. C009$

CANADIAN (FRENCH)

. C025$

CANADIAN (TRADITIONAL)

. C034$

NORWEGIAN

. C029$

SWEDISH

. C026$

PORTUGUESE

. C031$

KEYBOARD LAYOUT

. CO17$

CZECH
(QWERTY)

. CO22$

CZECH
(QWERTZ)

. CO21$

HUNGARIAN
(QWERTZ)

. CO24$

HUNGARIAN
(101 KEY)

. CO16$

SWISS
(GERMAN)

. CO23$

SWISS
(FRENCH)

BELGIAN
(AZERTY)

. CO30$

DUTCH

. CO28$

DANISH

. CO27$

SLOVAK

. CO32$

BRAZILIAN
(PORTUGUESE)

. CO33$

ALT CODE

. CO15$

ENABLE SYMBOLOGIES

Barcode	Label	Label	Barcode
`. A002$`	ENABLE ALL CODE	CODE 93	`. G010$`
`. K010$`	CODE 32	IATA	`. N017$`
`. L010$`	UK PLESSEY	TELEPEN	`. L014$`
`. L001$`	MSI	GS1 DATABAR	`. N032$`
`. N001$`	INDUSTRIAL 2 OF 5	GS1 DATABAR LIMITED	`. N010$`
`. M010$`	MATRIX 2 OF 5	GS1 DATABAR EXPANDED	`. N026$`

TERMINATOR

. D012$

CR

. D011$

LF

. D013$

CR + LF

. D010$

NONE

. D015$

SPACE

. D014$

TAB

BATCH MODE 💾

. C035$

BATCH MODE

After scanning the above barcode, the scanner will be able to collect barcode data off-line. The barcode data will be stored in the format of:
< **Date** >, < **Time** >, < **Barcode Data** > < **CR** >

To retrieve stored data, please connect the scanner to the host with cable, access removable storage device "**MiniScan**" from which you may open or copy the file "**BARCODE.txt**" to your computer.

To delete ONE stored data, please scan below barcode. Alternatively, you may press the function button once.

. R005$

DELETE LAST DATA

To delete ALL stored data, simply delete the file "**BARCODE.txt**" in the removable storage device "**MiniScan**" until you hear two beeps.

. R006$

SET DATE

Example: To set Date to 2017-08-01 (Year-Month-Day):
1. Scan [Set Date]
2. Scan [1], [7], [0], [8], [0], [1] on page 14.
3. Scan [Set Date]

. R007$

SET TIME

Example: To set Time to 08:10:30 am (Hr:Min:Sec)
1. Scan [Set Time]
2. Scan [0], [8], [1], [0], [3], [0] on page 14.
3. Scan [Set Time]

* Full drain of battery may cause the Time and Date to stop.
To avoid this, please, please fully charge the scanner for
at least 1 hour before use.

. R011$

DATA FORMAT

The default Data Format is <Date>, <Time>, <Barcode Data> only
below are all items available for display and their codes:

Code	Item	Code	Item
2	Date	3	Time
4	Barcode Data		

Example:
To change Data Format to <Barcode Data>, <Date>, <Time>
1. Scan [Data Format]
2. Scan [4], [2], [3] on page 14.
3. Scan [Data Format]

. R010$

FIELD SEPARATOR
(DELIMITER)

Default is comma (,) You may replace it with any alphanumeric
characters from the full ASCII table in Full User's Manual.

Example: To change Field Separator to Semicolon (;)
1. Scan [Field Separator]
2. Scan [;] from the full ASCII table.
3. Scan [Field Separator]

. R008$

DATE FORMAT

The default Date Format is DD/MM/YYYY (Code = 09), below is full list of available formats and their setup codes:

Code	Format	Code	Format
01	DD-MM-YYYY	09	DD/MM/YYYY
02	MM-DD-YYYY	10	MM/DD/YYYY
03	DD-MM-YY	11	DD/MM/YY
04	MM-DD-YY	12	MM/DD/YY
05	YYYY-MM-DD	13	YYYY/MM/DD
06	YY-MM-DD	14	YY/MM/DD
07	DD-MM	15	DD/MM
08	MM-DD	16	MM/DD

Example:
To set Date Format to MM/DD/YY (Code =12)
1. Scan [Date Format]
2. Scan [1], [2] on page 14.
3. Scan [Date Format]

. R009$

TIME FORMAT

The default Time Format is HH:MM:SS (Code = 01), below are available formats and their setup codes:

Code	Format	Code	Format
01	HH:MM:SS	02	HH:MM

Example:
To set Time Format to HH:MM (Code = 02)
1. Scan [Time Format]
2. Scan [0], [2] on page 14
3. Scan [Time Format]

HOW TO REMOVE VELCRO STRAP

1. Pull open the long strap.

2. Pull out the long strap through the slot.

3. Pull open the short strap on the other side.

4. Keep pulling the short strap until the whole velcro strap is removed from the scanner.

HOW TO INSTALL VELCRO STRAP (RIGHT HANDED USER)

1. Insert the long strap through the left slot, with velcro side facing downwards.

3. Insert the long strap through the other slot, with velcro side facing upwards.

2. Pull the long strap to the end.

4. Attach the long strap to itself to close.

HOW TO INSTALL VELCRO STRAP (LEFT HANDED USER)

1. Insert the long strap through the right slot, with velcro side facing downwards.

2. Pull the long strap to the end.

3. Insert the long strap through the other slot, with velcro side facing upwards.

4. Attach the long strap to itself to close.

TEST BARCODES

Code 39

CODE-39 TEST

Interleaved 2 of 5

9876543210

Code 128

12345678

EAN

4 716415 942052

TROUBLESHOOTING

Q: Your Bluetooth is unable to detect the scanner.

A: (1) Make sure your Bluetooth version is 4.0 or later.
(2) Restart your Bluetooth or Host device and try again, following the instruction on page 11.
(3) Make sure the scanner is in BT-HID mode (see page 10). If the scanner is discoverable, its LED indicator will be flashing Blue.
(4) The scanner might be powered off. By default the scanner goes to sleep after 30 seconds of inactivity. You can re-activate the scanner by touching the scan button on both sides. Alternatively, you may also increase the power off timeout (see page 13) so that the scanner will stay awake longer.

Q: Your Bluetooth can detect the scanner, but it cannot pair with the scanner successfully.

A: (1) Make sure your Bluetooth version is 4.0 or later.
(2) Restart your Bluetooth or Host device and try again, following the instruction on page 11.
(3) Make sure to remove the scanner from the Bluetooth of host device that has previously paired with the scanner.
(4) Follow the instruction on page 11 and try again.

Q: The scanner does not read barcode instantly.

A: (1) Barcode print quality is too poor.
(2) The ambient light is too weak. If that's the case, configure the LED illumination to auto-adaptive or always on (see page 16)

Q: The scanner does not output barcode data as expected.

A: (1) The keyboard layout of scanner does not match that of your host device. Try configuring keyboard layout on page 17 - 20.