

element™

EV770 POS Terminal User Manual



Copyright 2023
All Rights Reserved
Manual Version 1.1

General Information

The information contained in this document is subject to change without notice.

We make no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. We shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

This document contains proprietary information that is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced or translated to another language without the prior written consent of the manufacturer.

TRADEMARK

Intel®, Pentium® and Celeron® are registered trademarks of Intel® Corporation. Microsoft® and Windows® are registered trademarks of Microsoft Corporation.

Other trademarks mentioned herein are the property of their respective owners.

Safety

IMPORTANT SAFETY INSTRUCTIONS

1. To disconnect the machine from the electrical power supply, turn off the power switch and remove the power cord plug from the wall socket. The wall socket must be easily accessible and in close proximity to the machine.
2. Read these instructions carefully. Save these instructions for future reference.
3. Follow all warnings and instructions marked on the product.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
9. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.



This device complies with the requirements of the EEC directive 2014/30/EU with regard to “Electromagnetic compatibility” and 2014/35/EU “Low Voltage Directive”.



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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

CAUTION ON LITHIUM BATTERIES

There is a danger of explosion if the battery is replaced incorrectly. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer’s instructions.



Battery Caution

Risk of explosion if battery is replaced by an incorrectly type. Dispose of used battery according to the local disposal instructions.



Safety Caution

Note: To comply with IEC60950-1 Clause 2.5 (limited power sources, L.P.S) related legislation, peripherals shall be 4.7.3.2 “Materials for fire enclosure” compliant.

4.7.3.2 Materials for fire enclosures

For MOVABLE EQUIPMENT having a total mass not exceeding 18kg.the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of V-1 CLASS MATERIAL or shall pass the test of Clause A.2.

For MOVABLE EQUIPMENT having a total mass exceeding 18kg and for all STATIONARY EQUIPMENT, the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of 5VB CLASS MATERIAL or shall pass the test of Clause A.1

LEGISLATION AND WEEE SYMBOL

2012/19/EU Waste Electrical and Electronic Equipment Directive on the treatment, collection, recycling and disposal of electric and electronic devices and their components.



The crossed dust bin symbol on the device means that it should not be disposed of with other household wastes at the end of its working life. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling, and disposal procedure.

To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.

This product should not be mixed with other commercial wastes for disposal.

Revision History

Changes to the original user manual are listed below:

Rev	Changes	Date
1.0	Original Release	22/6/23
1.1	Add Accessories	7/12/23

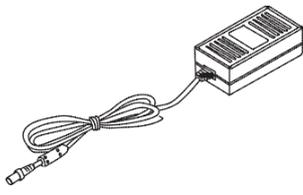
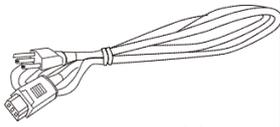
Table of Contents

General Information	2
Revision History.....	5
Table Of Contents	6
1. Packing List.....	8
1.1. Standard Inclusions	8
1.2. Standard Accessories.....	8
1.3. Optional Accessories	9
2. System View	10
2.1. Front & Side View.....	10
2.2. Rear View.....	10
3. Specifications	11
4. Configuration Modes	12
4.1. Desktop.....	12
4.2. Monitor & Separate Box PC.....	13
4.3. Panel PC.....	14
5. Installing Accessories	18
5.1. MSR.....	18
5.2. Customer Display.....	18
5.3. Rear 2 Line Display	19
6. Software	21
6.1. Cashdrawer I/O Controller	21
6.2. Adjusting Screen Brightness	21
6.3. Windows 10 Touch with Multiple Displays	21
6.4. Mouse Mode Touch	22
6.5. Start Up Options.....	22

7. Troubleshooting	23
7.1. Basic Troubleshooting	23
7.2. Contacting Technical Support	23

1. Packing List

1-1. Standard Inclusions

 <p>EV770 POS Terminal</p>	 <p>I/O Cover</p>	 <p>Power Supply</p>
 <p>AC Power Cable</p>	 <p>RJ to DB9 Serial Cable Adaptor</p>	<p>Accessories Kit (optional)</p>

1-2. Accessories Kit Contents:

Module	PN	Item	pack qty	photo
Box PC	30500187	rubber foot for monitor	4	
Box PC	30600061	Rubber foot screws for monitor	4	
Panel PC	21601029	USB CABLE FOR CDU/VFD	1	
Panel PC	30500180	Rubber pad for rubber foot holes	4	
Panel PC	30600124	VESA screws	4	
Panel PC	30600147	Screws for rubber foot holes	4	
Panel PC	30600164	Screws to lock box pc on display	4	

1-3. Optional Accessories

 <p>MSR Part no. TTETEV770005</p>	 <p>10" Customer Display Touch Part no. TTETEV770004 Non Touch Part no. TTETEV770016</p>	<p>2 Line Display 2 x 20 Part no. TTETEV770009</p>
 <p>Extra RJ to DB9 Serial Cable Adaptor Part no. TTETEV770010</p>	 <p>USB-C extension cable for "desk mount – separate PC" Part no. TTETEV770014</p>	 <p>USB-C cable for "Panel Mount" Part no. TTETEV770015</p>

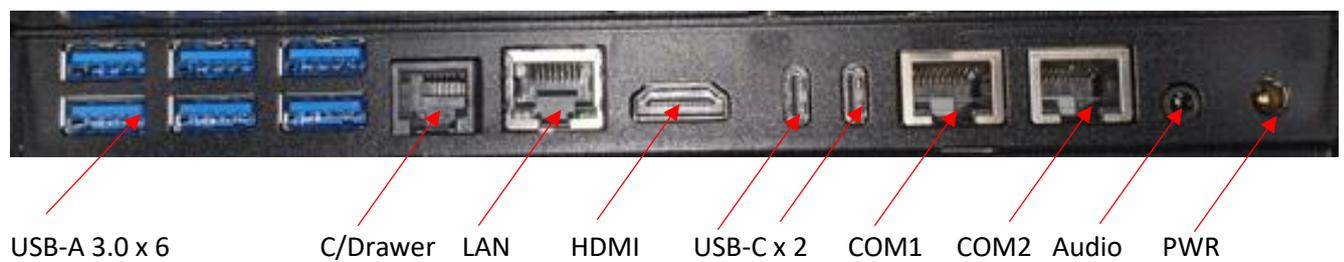
2. System View

2-1. Front & Side View 1



2-2. Rear View

2-3. IO Ports View



3. Technical Specifications - EV770

Item	Parameter	
Model	TTETE770002	
System	Motherboard	Gemini Lake Refresh
	Processor	Intel® Celeron® Processor J4125(4M Cache, up to 2.70 GHz)
	Chipset	SoC
	System Memory	SO-DIMM DDR4 2666/3200MHz x 1 (up to 8G)
	Storage Device	M.2 128GB (Up to 2TB)
	Graphic Engine	Intel® UHD Graphics 600
LCD Touch Panel	LCD Size	15.6"
	Brightness	220 cd/m2
	Resolution	1366 x 768
	Touch Screen	10-points P-CAP touch screen
Expansion	M.2 2230 Key-E Socket	1x M.2 2230 for optional Wi-Fi and B/T module
External I/O Ports	USB	6 x USB3.0
		2 x USB-C (1xUSB-PD reserved for main display, 1 x USB-C)
	Serial Port	2 x Powered COM with RJ50
	LAN	1 x 10/100/1000Base-T
	Cash Drawer	1 x RJ12 (12V/24V supported)
	Display Port	1 x HDMI 2.0a
	DC Jack	19-24V DC-in
Audio	Internal Speaker	1 x Speaker 2 watt
Indicator	LED Indicator	1 x Power LED
Power	Power Supply	19V 65W AC adapter
Communication	WLAN + BT	1 x M.2 2230 Key-E Socket for Wi-Fi and B/T module (Optional)
Peripheral (option)	MSR	3 tracks magnetic card reader
	2nd Display	10.1" - 16:9 1024 x 600 LED screen
	Customer Display	20 Characters x 2 lines VFD dot display
Certification	EMC & Safety	CE, FCC, RCM
Environment	Operating Temperature	0°C ~ 40°C
	Storage Temperature	-20°C ~ 60°C
	Humidity	20% to 85% RH (non-condensing)
Dimension (WxDxH)	379 x 190 x 317mm	
Weight	-	
Mounting	VESA 75 x 75	
OS Supported	Windows 10 IoT Enterprise LTSC 2021	

4. Configuration Modes

The element EV770 can be configured for the following mounting options (depending on accessories provided)

4-1. Desktop

Shipped in desktop mode



4-2. Monitor and Separate Box PC

By removing the Box PC from the base of the stand it converts to 2 separate pieces,



4-2.1. Separating Touch Monitor Stand and Box PC

Parts Required:

USB-C extension cable

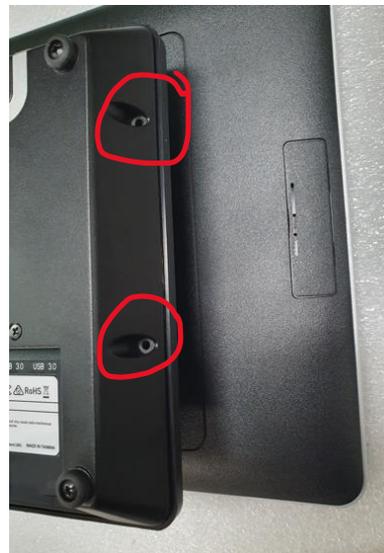
Rubber feet and screws for stand x 4

Procedure:

1. Power off the terminal and disconnect all I/O and power cables
2. Place the terminal upside down on a flat clean surface (preferably on an anti-static matt)
3. With a small Philips screwdriver, remove the USB-C cable lock bracket



4. Remove USB-C cable
5. Remove 4 screws (2 on each side of box pc)



6. Lift off box pc from stand
7. Attach feet to stand using



8. Attach USB-C extension cable (pn: TTETEV770014) to USB-C connector on stand, attach the other end to the USB-C port on the box pc
9. Re-attach USB-C cable lock to box pc
10. Reconnect power and I/O cables to box pc
11. Attach I/O cover to box pc

4-3. Panel PC

The panel PC mode has the box pc attached directly to the back of the touch panel assembly, it is without the stand



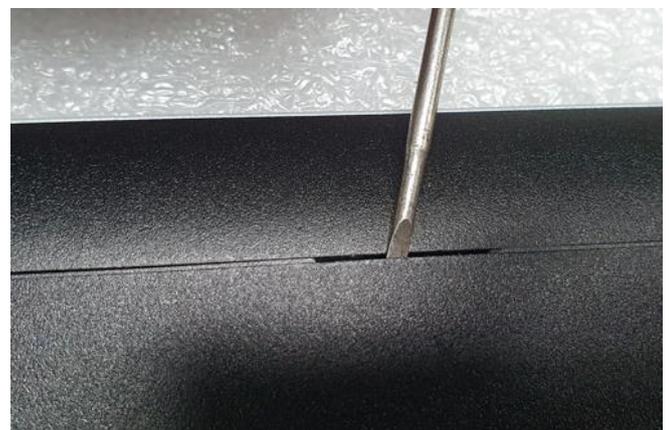
4-3.1 Attaching Touch Monitor to Box PC

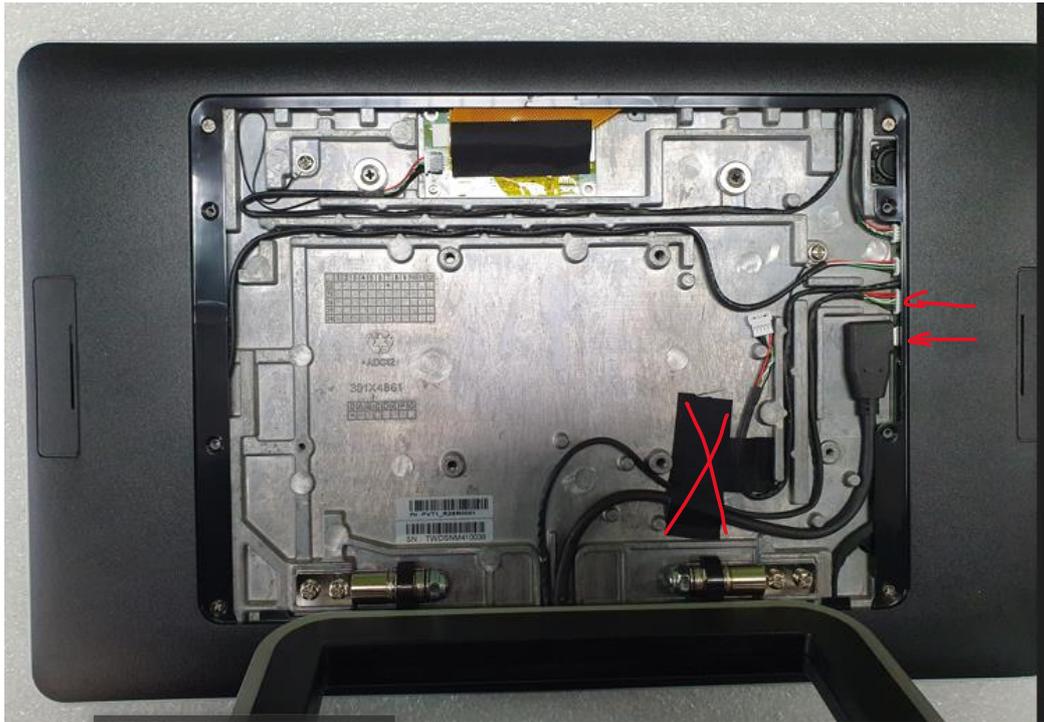
Parts Required:

USB-C cable (20cm)

Procedure:

1. Power off the terminal and disconnect all I/O and power cables
2. Place the terminal upside down on a flat clean surface (preferably on an anti-static matt)
3. Follow the procedure for “Separating Touch Monitor Stand and Box PC” up to step 6
4. Find the small notch in the middle of the LCD back cover plate and with a small flat blade screwdriver lever it outwards. It is held in place by 2 magnets and some small tabs at the bottom so can be prized out fairly easily





5. Carefully remove the USB-C cable and the USB-I/O cable above it (use a small flat bade screwdriver to prise the connector out of the plug)
6. Remove the black tape as indicated
7. Remove the 4 screws holding the hinge in place (2 on each side)
8. Attach the short usb-c cable (pn: TTETE770015) to the usb plug on the back of the screen and guide it into place as per above, then re-attach tape to hold in place. Take note that the cable lies flat and exits the cavity in the middle bottom to line up with the cap in the box pc top plate.
9. Place the box pc on top of the lcd screen cavity as shown, ensuring the usb-c cable feeds correctly to the usb-c port. Secure with the 4 screws (2 on each side).



10. Re-attach USB-C cable lock to box pc and secure with the usb cable lock bracket

11. Remove screws for rubber feet & remove rubber feet
12. Remove white plastic inserts in holes
13. Replace with “Screw to lock box pc on display” screws



14. Fit “rubber foot hole” pads on top of screws



15. Reconnect power and I/O cables to box pc
16. Attach I/O cover to box pc

5 Installing Accessories

5.1. MSR

1. Ensure the terminal is shut down and disconnected from power
2. Locate the side panel and remove using fingernail or small blade screwdriver to prise open the cover
3. Gently pull out the cable and attach to the MSR cable
4. Place the MSR on top of the guide pins and gently press down into place, ensuring the cable doesn't get pinched or caught
5. Screw into place



5.2. Customer Display

1. Ensure the terminal is shut down and disconnected from power
2. Place the terminal face down on a soft surface (so as not to scratch the screen)
3. With a flat blade screwdriver or knife, gently pries off the element logo from the back of the terminal.



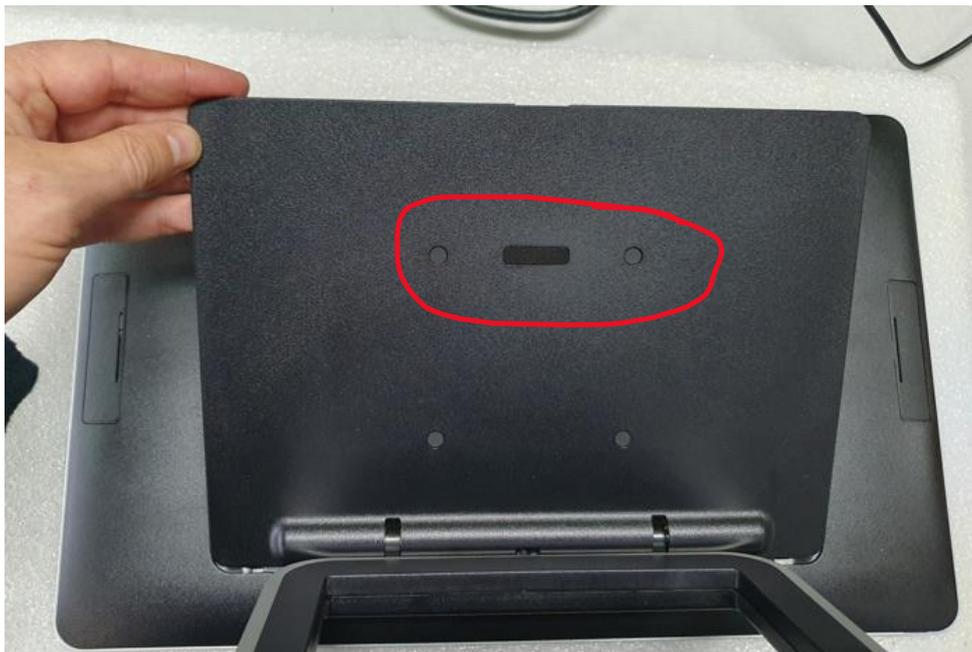
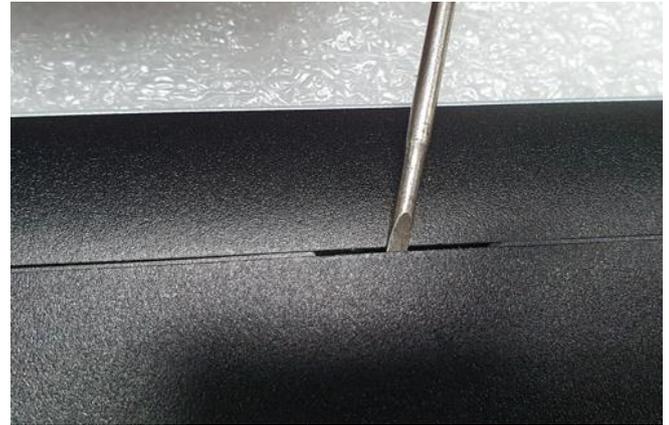
4. Disconnect the logo backlight from the usb connector



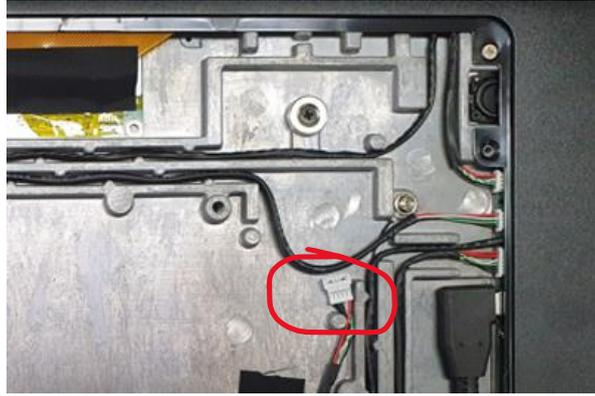
5. Connect the CDU plug to the usb connector, ensuring it is inserted squarely
6. Attach the CDU and secure with 2 screws provided, when attaching in place make sure the connector and cable sit inside the cavity so as not to interfere with the mounting bracket
7. Power on the terminal, you may need to re-calibrate the touch screen if you are using the Microsoft touch driver

5.3. Rear 2 Line Display

1. Ensure the terminal is shut down and disconnected from power
2. Place the terminal face down on a soft surface (so as not to scratch the screen)
3. Find the small notch in the middle of the LCD back cover plate and with a small flat blade screwdriver lever it outwards. It is held in place by 2 magnets and some small tabs at the bottom so can be prized out fairly easily



4. Remove the covering panel for the 2 line display and the top 2 VESA hole covers
5. Route the 2 line display cable through the display hole and connect to the internal USB cable



6. Replace the rear cover
7. Attach the 2 line display to the rear of the terminal using the 2 screws
8. The 2 line display will show up in Windows as a virtual (USB) COM port

6. Software

6.1. Cash Drawer I/O Controller

The EV770 has a cash drawer kick port on the back of the box pc. This is controlled via software, either directly via the I/O port, or via the OPOS driver. See “Cash Drawer Application Guide.pdf” for information on integrating it into your POS application.

Cash Drawer Port Pin Outs



The image shows a close-up of an RJ12 connector with six pins labeled 1 through 6. The pins are arranged in a row, with pin 1 on the left and pin 6 on the right. The connector is black and white.

Pin	Description
1	GND
2	Drawer 1
3	Drawer status
4	12V / 19V / 24V
5	Drawer 2
6	GND

6.2. Adjusting Screen Brightness

Download screen brightness utility from <http://elementpos.co/downloads>

6.3. Windows 10 and touch with multiple displays

If you are using the Microsoft native touch driver (10 point touch), when you connect a 2nd screen to the terminal and extend the desktop, the touch on the main screen goes out of calibration. To fix this follow the steps mentioned below (you'll need a mouse):

1. Ensure the external display is in Extended Mode (To select Extended Mode, press the Windows Key + P)
2. Go to Control Panel
3. Select View by Large Icons, choose Tablet PC Settings and select Setup
4. Both screens will be white background and the primary display will show the text “Touch this screen to
5. identify it as the touchscreen” & “If this is not the Tablet PC screen, press Enter to move to the next screen.”
6. To close the tool, press Esc
7. There is no need to calibrate the screen.
8. Press OK to exit Tablet PC Settings

6.4. Mouse Mode Touch Driver

This converts the touch screen to single touch mode and behaves more like a mouse when tapped.

To use the terminal with the mouse mode touch driver, download and install from

<http://elementpos.co/downloads>

6.5. Start Up Options

During the POST screen

Press to enter bios

Press <F11> for boot menu

7. Troubleshooting

7.1. Basic Troubleshooting

Symptom	Possible Cause	Resolution
POS Terminal does not power on and there are no lights on the box pc after pressing power button	Power supply not connected	Check power supply is connected to box pc and to mains power
	USB-C cable not connected to Touch Screen Assy	Check USB-C cable is connected to Box PC Check USB-C cable is connected to back of Touch Screen Assy
Touch is out of calibration or not responsive	Significant change in environment	Restart the POS terminal, the touch screen will be recalibrated on restart
	A 2 nd screen was connected	See chapter 6.3 - Windows 10 and touch with multiple displays
	Application may not support tablet mode	Install mouse mode touch driver
Screen is too bright or too dull	Screen brightness adjustment required	Use screen brightness utility to adjust screen
Terminal will not boot into Windows	Bootable usb plugged into usb port	Unplug usb flash disk and reboot
	Incorrect boot order	Enter BIOS and change boot order to "Windows Boot manager"
Windows is not activated	The terminal hasn't been connected to the internet	Connect the terminal to the internet and reboot the terminal.
	The license key won't activate	Reload the factory supplied windows image Contact element technical support

7.2. Contacting Technical Support

For further help please contact your software supplier or reseller. For hardware support use the element website support page at <https://www.elementpos.co/contact-support>