Elite Skills Arena Operation and Maintenance Manual

Introduction –

A summary of the key information required for the operation, maintenance, testing, inspection and repairs of Elite Skills Arena products. This manual can be used to assist the user in maintaining the machines safely. If you have any concerns, always contact Elite Skills Arena directly for clarification.

Contents –

1.   Operational Tips –

- Always make sure there is a rubber washer between all panels/uprights, connected by the joiners/nuts and bolts.

The rubber washers separate each metal panel so that the vibration is strongest on the panel that is struck with the ball. The Washers prevent metal on metal contact, so the vibration does not transfer around the machine.

- To shut an ESA product down, press and hold the power button for 5 seconds. Ensure the machine is fully off before removing the power supply.

Machine is fully off when the scoreboard is blank and the power button is no longer flashing.

- If using a battery, do not leave it plugged into the product when the product is not being used, as it will run the battery flat.

If using a machine on the battery, just unplug the connector whilst not in use. Same applies for Wireless panels.

- Charging the battery from flat will take a long time, as it is very long lasting. So, if you run the battery to flat, it could take up to 14 hours to fully charge. The battery is fully charged when the light on the power pack is green. It is 90% charged when this light is orange. When charging the battery keep the lid open.

2. General Cleaning and Maintenance Procedures –

2.1 Panel Cleaning –

- The best solution for cleaning dirt and marks on the panels is using a cloth with washing up liquid or similar. Do not use polish or strong cleaning substances which could damage the paintwork.

2.2 Regular Maintenance Procedures –

- Bi-weekly, ensure the acrylic joiners are connected tightly securing the panels. Over time they can work loose, which can affect the vibration sensors.

- Bi-weekly, ensure magnetic connecting cables and connectors are clean, and free from dirt/particles.

- [Precision Wall only] Monthly, ensure the nuts and bolts are tight and structures at the rear of the Wall are not causing vibrations through the metalwork.

- Quarterly, ensure screws connecting each electronic box to the panels are tight, as well as the screws that secure the lid on the back of the box.

3. Common Issues, checks, and remedies –

3.1 System Does Not Turn On

Power supply is connected but system does not power on.

Checks –

- Connector going into power supply from plug socket is fully inserted at both ends and power supply has green light indicating it is powered on.
- No power/electrical issues at facility/specific power socket.
- Try an alternative power supply or battery to see if the machine powers on.

Remedies –

- If power supply is faulty, contact Elite Skills Arena for a replacement and continue with an alternative temporarily.
- If all of the above checks are completed and no external issues. The fault will be within the main scoreboard panel. **Contact Elite Skills Arena to go through potential remedies.**

3.2 System Remains on Start Up

The system appears to have power and displays "START UP" in yellow on the main display, but the message remains for longer than normal. The START UP message should be displayed for 30-40 seconds after switch on, after which the ESA logo should appear.

Checks –

- *Whilst on 'Start Up' the target panels should also pulsate with a yellow light. If this stops, then the problem is with the main display. This is a fault that requires maintenance.*
- *If the pulsating yellow lights continue, the main processor is not running the software.*

Remedies –

- Switch the machine off fully, unplug the power and wait a few minutes. Then switch back on and see if the issue persists. If it does, contact Elite Skills Arena for further guidance.

3.3 System Displays Loop Error

The Scoreboard panel is displaying 'Loop Error' in red, and it is not possible to start an exercise.

Checks –

- Generally, this is a cabling issue, go round the machine and check that all cables are clean, free from dirt and obstructions and are fully connected. Sometimes this might not be obvious, so thoroughly check each cable and ensure they are not damaged and sit flush inside the connector.
- When there is a loop error, the lights on the product will normally flash to indicate where the error is. The signal travels round in a clockwise direction, and where the red lights stop is normally where the problem is.
- If the issue is not detected from the above, loop the scoreboard panel cable back on itself, so that is the only panel in the system and see if Loop Error is still displayed.

Remedies –

- If a cable is disconnected/obstructed, simply plug back in and the loop error will disappear.
- (ICON 4M, 6M, 8M, 10M) If a standard panel cable/board is faulty, remove the panel from the system temporarily and close the circle with 1 less panel, and contact Elite Skills Arena for a replacement.
- If a standard panel cable/board is faulty in other ESA machines, contact Elite Skills Arena to discuss further remedies.
- If loop error is shown when the scoreboard panel is looped to itself, this means the error is within that panel. Contact Elite Skills Arena for further guidance.

3.4 LED Light not lighting up, but panel still scoring points.

During gameplay, a panel is not lighting up as a target but still responds to being struck by the ball with either a point or a miss on the scoreboard.

Checks –

- On the web interface, change the game to Knockout and see if the panel displays a target. Also try Maestro to check if the light only has issues displaying certain colours.
- Unscrew the box lid on the back of the panel in question, and check the white connectors are all plugged fully into the green board and that none of the cables are broken. The LED connector is the white connector on the side of the board. (Circled below).

Remedies –

- Providing the issue persists after the above. Keep the box lid removed and contact Elite Skills Arena to talk through checking the other end of the LED cable to ensure it is plugged in.
- If LED is faulty, use a spare if you have one, or wait for replacement to arrive.

3.5 Master Scoreboard panel going off when another panel is struck in the system

Scoreboard panel incorrectly going off as if it has been hit, when another panel in the system has been struck (likely directly next to the scoreboard panel).

Checks –

- Panels are not sliding or vibrating on the surface beneath and surface is relatively even.
- Nothing is touching the rear of the scoreboard panel causing it to vibrate when other panels are struck.
- All washers are correctly placed, and joiners are tight.
- Screws holding the master box in place are tight and not rattling.
- Volume of the speakers is not too high that the speakers are vibrating and causing the panel to go off.
- Nothing inside the scoreboard panel can be heard rattling or vibrating.
- Check that one of the panels adjacent to the scoreboard panel doesn't have a faulty sensor by hitting the boxes of both panels with your hand to ensure they do go off when struck.

Remedies –

- Reduce volume and turn off game background noise to temporarily fix. Contact Elite Skills Arena to reduce the master panel sensitivity if required.
- If adjacent panel has faulty sensor, follow instructions as provided below. [Appendix 2 – Sensor Replacement].
- If problem persists, or master panel is constantly going off every second of the game. Replace sensor as per Appendix 2.

3.6 Standard Panels are going off incorrectly, when another panel is struck in the system

Standard panel incorrectly going off as if it has been hit, when another panel in the system has been struck (likely adjacent panel either side).

Checks –

- Panels are not sliding or vibrating on the surface beneath and surface is relatively even.
- Nothing is touching the rear of the panel that is going off, causing it to vibrate when other panels are struck.
- All washers are correctly placed, and joiners are tight.
- Screws on electronic box of panel that is going off incorrectly, are tight and not rattling.
- If possible with your machine, try moving the panel that is not going off to a different place in the sequence and see if the issue moves with it. If it does the problem is with that panel, if it does not, the problem is likely with the panel that is going off instead.

Remedies –

- Contact Elite Skills Arena to alter individual panel sensitivity if the problem persists.
- Discuss with Elite Skills Arena and If either panel has a faulty sensor, follow instructions as provided below. [Appendix 2 – Sensor Replacement].

3.7 Cannot locate esaIcon Wi-Fi network to connect too.

In settings of phone/tablet/computer, unable to find the esaIcon Wi-Fi to connect too. Or network connects but then drops out straight away.

Checks –

- The machine has been on for 5 minutes + to allow the network to load up.
- You are within range of the scoreboard panel (in highly populated areas, within 5M is recommended).
- If the option is available, on most devices you can manually type in esaIconXXX and the password and if the network is available it will connect you to the WIFI. On an apple device click Other at the bottom of 'Networks' and type in the details.
- Turn off Auto-Join other networks if the WIFI network appears but your device keeps disconnecting you and reconnecting to a different network.

Remedies –

- Switch the machine off and on and run through the checks again above.
- Contact Elite Skills Arena to discuss physical checks on the router & connecting through ethernet to diagnose the issue.

3.8 Unable to load web interface – server not responding

Can connect to the esaIconXXX wifi network, but unable to load up the interface to control the product.

Checks –

- Make sure the device has not disconnected from the WIFI network. (The interface will only load if connected to the WIFI Network.
- Ensure you have typed the correct web address to display the web interface. Consult the manual to confirm. Normally either 10.110.110.10/frontpanel.htm or 192.168.1.1/frontpanel.htm
- Remove the lid of the scoreboard panel box, and ensure the ethernet cable running from the Teltonika Router to the back of the Circuit board is not disconnected and pushed in fully.

Remedies –

- Contact Elite Skills Arena if the problem persists after the above checks.

3.9 System not connected to internet

Displayed by a red cross in the corner of the scoreboard. System not connected to the internet meaning scores not transferring to the database.

Checks –

- Continue logging players in as normal, their scores will still be saved locally on the machine until it next makes an internet connection.
- If using Ethernet or connected to a facility WIFI network, check that the internet itself is not down. Reset the router.
- Have the settings changed (eg. local Wifi network name or Password), which has removed the machines from the network?

Remedies –

- Switch machine off and back on to reset.
- If connected by Ethernet, try an alternative ethernet cable.
- If settings have changed, or the machine has disconnected, need to follow the WIFI connection process again - Appendix 3 (Connecting an ESA Machine to a local WIFI Network).
- Contact Elite Skills Arena if the problem persists.

3.10 Beam Breaker not going off (ICON V2 & Circuit only)

When player or ball breaks the beam, the light does not activate to say the beam has been broken successfully.

Checks –

- Only 1 target can be activated at a time, ensure another player or ball has not hit another panel at the same time.
- Ensure the reflector and the beam are lined up correctly. Sometimes they can be moved out of line over time, or the reflector may have fallen off.

Remedies –

- Align the panels again, or reset up if required to ensure they are lined up correctly.
- Re-fix the reflector if required.
- Contact Elite Skills Arena for further guidance if not solved.

3.11 Wireless Circuit panel continues to flash red but does not connect to the Master Panel

After a maximum of 5 minutes, all Circuit panels should have connected to the master and stopped flashing red. If a panel continues to flash red, this indicates it has not made a connection.

Checks –

- If no slave panels have connected to the master, check the steps above (3.7 – cannot locate ESA Wifi network).
- If only 1 panel of the Circuit is not connecting, check it is within the recommended range of 15M from the master panel.

Remedies –

- Turn off all other slave panels, leaving only the problem panel and the master panel switched on. Connect to the slave panel as per Appendix 4 (Reconnecting a Wireless Slave Panel) and attempt to reconnect.
- If no XPICOWIFI network comes up, contact Elite Skills Arena for further assistance.

Appendix 1 - Removal of covers

Master panel

Remove the three screws on the underside of the box and slide the lid down. A large screwdriver can be used to lever the lid as shown as it can be quite tight.
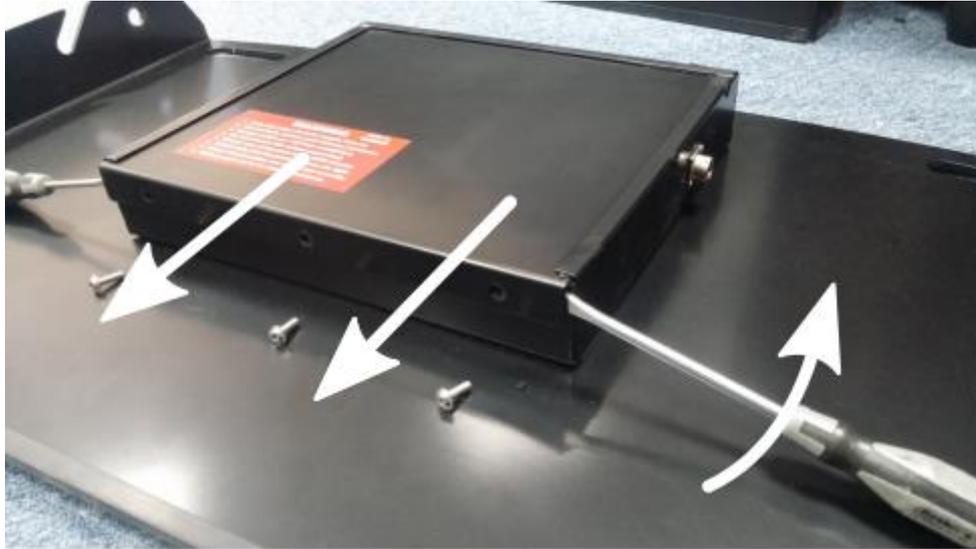
Older slave panel

Remove the two screws on the underside of the box and slide the lid down in a similar manner to the master panel shown above.

Newer Slave Panel

For a newer slave panel this involves removing the six lid screws and withdrawing the lid. A Phillips PH2 Screwdriver is ideal for this task.

Appendix 2 – Sensor Replacement

The Icon panels use piezoelectric devices to detect vibrations in the aluminium structure resulting from a ball (or other object) striking the surface. The signals from the sensors are digitally filtered by the panel electronics in order to register a ball strike.

The sensors are located in various locations depending on the age and type of panel, but they are all fixed using the same technique – by using a thin layer of glue to bond the sensor to the aluminium.

To change the sensor you will need:

- • A screwdriver to open the box lid. (Should be Philips PH2).
- • A type of strong holding glue.

Glue

The type of glue used is important, and it must be a type that sets fairly solid. During manufacture "Stixall" (https://www.everbuild.co.uk/product/stixall/) has been used and is recommended for sensor replacement.

Please note that silicone or other sealants are NOT suitable and result in inferior sensing performance.

Access to the sensor

Remove the lid of the panel that requires the sensor replacement using a manual screwdriver.

The sensors are located in various locations depending on the age and type of panel, but they all have the following appearance:
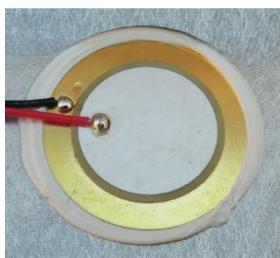
Prior to removing the sensor, check that the white connector from the sensor to the board has not simply come unplugged. If this is the case, simply plug back in and the sensor will operate again.
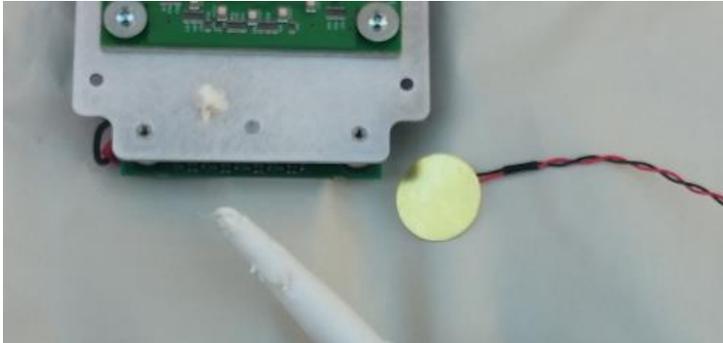
Removal

The sensors can be removed by sliding the blade of a knife under the edge and easing it off, as shown.

Discard the sensor after removal – they should not be re-used.
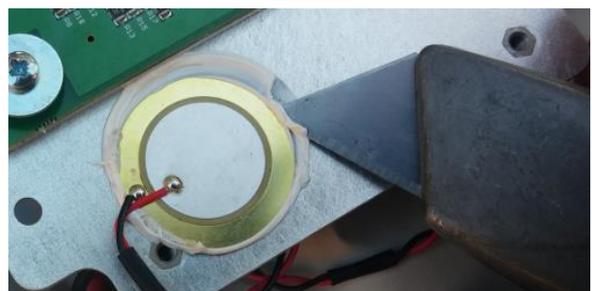
Replacement

Use a blob of Stixall or equivalent glue (see notes as the start of this section) about the size of a small pea. Do not use excess glue.

Place the sensor on the glue and press down firmly with the thumb. Move the sensor around in a circular motion whilst applying pressure to spread the glue thinly and evenly.
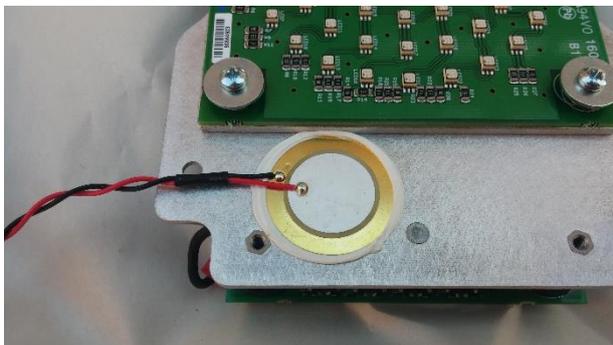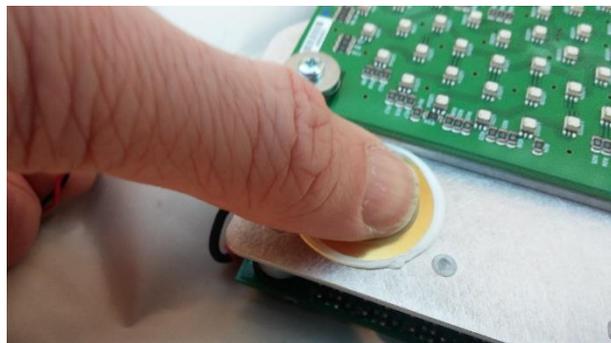
The finished sensor should have glue visible all around the sensor.

DO NOT allow any part of the edge of the sensor to remain in free space, however small.

The system can be re-assembled immediately, but take care not to move the sensor whilst the re-assembly takes place.

Appendix 3 – Connecting an ESA Machine to a local WIFI Network

Instructions

1 Connecting to the machine WIFI network.

The most convenient way to perform this task is using a laptop.

Visit the WIFI settings on the laptop to connect to the Icon access point. This has the SSID of esaIconXXX where XXX is the product serial number.

The password is SportsArena1.

2 Connecting to the router control panel

Open a web browser and enter the address:

10.110.110.1

If this does not work, try 192.168.1.254. If this works then you have an older system and to proceed, please replace all references to 10.110.110. below with 192.168.1.

You may need to use *incognito* or *private* mode to access this address if you have accessed other devices using the same address.

The full address is http://10.110.110.1/cgi-bin/luci/.

The following web page should be shown:

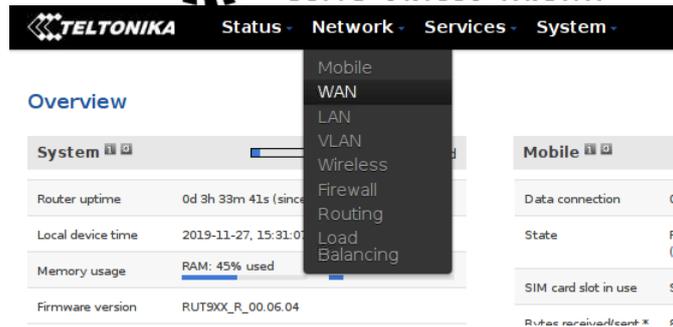Use the following credentials:

Username: admin

Password: T31t0n1k@
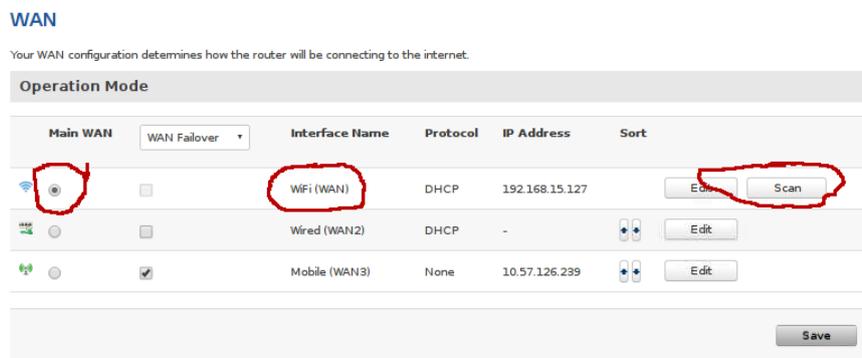
Hint: The 0 and 1 in the password are numerical.

3 Setting the WiFi

Once logged in the system overview page is displayed.

Select Network → WAN as follows:

On the WAN page, ensure the WiFi (WAN) interface is selected as the Main WAN source as follows:

(If you are wiring the internet connection directly to the machine with a LAN Cable. Ensure Wired (WAN2), is selected as Main WAN).

Press Save.

Press the 'Scan' button to the right of the WiFi line in that table, then 'Start Scan'.

A list of available WiFi networks should be shown. Select the correct network for your location and enter the relevant password. Press 'Save'.

The router should connect to the internet and provide the Icon with an Internet connection.

Return to the Status → Overview page and the WAN section should show the connected Wireless network:

Appendix 4 – Reconnecting a Wireless Slave Panel

Turn off all Wireless Slave panels except the Master & the one slave panel you wish to re-connect.

1. Connecting to the XPICO

Power the slave.

Associate the WiFi on the PC with the xPico WIFI network.

password: XPICOWIFI

Open the xPico setup page:

address: 192.168.0.1

user: admin

password: PASSWORD

2. Connect to ESA Network

Once onto the XPICO set up page. Click Quick Connect at the top on the left hand side.

QuickConnect: Then press scan

Select the esaIconXXX access point.
password: SportsArena1

Submit and wait for the "The changes have been saved permanently" response.

3. WLAN Profiles

Go to WLAN Profiles at the bottom left of the page and ensure that only one is present. Delete all but the network of the Icon master you are using.

4. Turn the Master and Slave panel off and back on and they should connect.

If the XPICO Page does not load, or no XPICO WIFI network appears, contact Elite Skills Arena for more guidance. If the esaIcon network does not come up on the scan, check that the panel is within range, and that you can connect to the esaIcon WIFI network yourself through your own laptop/tablet/phone WIFI settings.

Further Support –

If you are concerned about any maintenance procedures, or need guidance, contact Elite Skills Arena directly.