Ballistics Shooting Gallery

Order and Installation Manual

For models from July 2020 onwards

Rugged Interactive
Unit 1, Callywith Court
Callywith Industrial Estate, Bodmin
Cornwall, UK
PL231 2RQ

+44 (0) 1726 981 123
www.rugged-interactive.co.uk
hello@rugged-interactive.co.uk

Updated: 31/07/2023

Rugged Interactive
Unit 1, Callywith Court
Callywith Industrial Estate, Bodmin
Cornwall, UK
PL31 2RQ

+44 (0) 1726 981 123
www.rugged-interactive.co.uk
hello@rugged-interactive.co.uk

Contents

© Rugged Interactive 2023

Section 1 – Ordering Process

1.1 - Need to Know

Installation manual purpose and limitations

This manual is intended to provide guidance only, the installation of the Rugged Interactive product will be under your control. You will be responsible for making sure, upon completion of the installation, it is safe to use. As always, we are here to support you, please get in touch if you are in any doubt.

Regulations

Some countries and states have regulations which may be applicable to the Rugged Interactive products, it is your responsibility to check that the product complies with such regulations. This should be conducted during the planning phase for the installation location.

1.2 – Order and Installation Checklist

Contact the Rugged Interactive sales team or a partner / distributor to begin the process. ☐

Confirm the invoice and delivery address along with date required (lead time is at least 5 weeks), VAT number required for export customers. ☐

Complete site survey. ☐

Send purchase order or confirm order. ☐

Make first payment. ☐

Discuss graphic requirements and provide logos and branding guidelines. ☐

Approve graphics. ☐

Make second payment (required a week before dispatch). ☐

Schedule time and team members for installation. ☐

Before install, confirm all tools and components are prepared. ☐

Organise shipment (Customer collection or delivery organised by Rugged Interactive). ☐

Receive your order. ☐

Install the product. ☐

Test and complete installation checklist. ☐

Train the team on how to use the product. ☐

Sounds can be heard when the targets are hit. ☐

Reveal your new Rugged Interactive product to your guests and customers! ☐

1.3 - Ballistics Shooting Gallery Overview

A unique and innovative team game that transforms your air cannon arena. Work as a team to hit your opponent's targets. Score points for each successful hit, accuracy is key!

Brightly lit targets which flash when a hit is registered along with fun sounds and a large scoreboard.

Ballistics Shooting Gallery consists of a series of targets and a Scorebox with all cables supplied. It is quick and easy to install to any suitable structure.

1.4 - Order and Installation Timeline
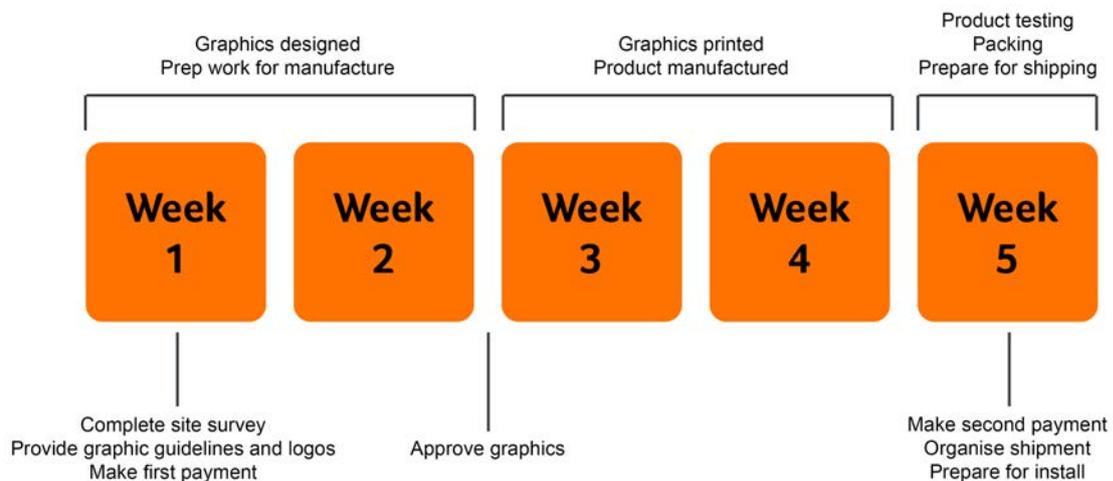
* We do our best to ensure orders are ready on a five-week lead time, however during busy periods or for large orders, the lead time may be longer than outlined here. Lead time will also be affected by graphics guidelines, approval and payment delays.

Rugged Interactive
Unit 1, Callywith Court
Callywith Industrial Estate, Bodmin
Cornwall, UK
PL31 2RQ

+44 (0) 1726 981 123
www.rugged-interactive.co.uk
hello@rugged-interactive.co.uk

1.5 - Getting Started

New Parks

During the design process for a new park, incorporate the intended products into the design using the product specifications that can be found within this manual. CAD files can be supplied upon request.

Existing Parks

When retrofitting existing parks, all specifications can be found within this manual or CAD files are available at request. If further information is required, please get in touch and we will be able to provide further information and guidance.

For both New and Existing parks, Ballistics Shooting gallery must be installed out of reach of children. The targets are not designed to be tamper proof.

1.6 - Place Order

To begin the order process with Rugged Interactive:

Email:
Sales@rugged-interactive.co.uk

Or call the Sales Office:
+44 (0) 7585 955 184

HQ/Production Address:	Sales Office Address:
Unit 1 Callywith Court	Rugged Interactive,
Callywith Ind. Estate,	Future Space,
Bodmin,	UWE North Gate,
Cornwall	Filton Road,
UK	Bristol,
PL31 2RQ	UK
	BS34 8RB

Section 2 – Safety Guidelines

2.1 Installation Safety Guidelines

Before installing any Rugged Interactive product, please read the following:

Dos:

- Ensure that a Site Survey form has been completed prior to installation.
- Have ready suitable equipment, tools and/or man power.
- Observe correct manual handling techniques whilst moving and installing the equipment.
- If being installed onto a wall, the product MUST be mounted onto a wall of a construction capable of supporting its weight and gameplay. If possible, avoid stud walls or unsupported portal infills. If in doubt always contact a suitably qualified surveyor to check.
- Visually check the product for any signs of damage, component failure and/or missing parts.
- To prevent electric shock, keep all electric components away from contact with water.
- Ensure to take anti-static precautions.
- Wear appropriate clothing: do not wear loose clothing or jewellery.
- Long hair should be tied back.
- Tidy back loose cables that could become a tripping hazard.
- Ensure that the playing area is clear.
- Immediately inform Rugged Interactive for maintenance advice if you have concerns.

Don'ts:

- Do not wear shoes with leather soles or high heels.
- Do not use any tools that are not specifically recommended by the manufacturer.
- Do not use the surface of the trampoline to balance ladders or alike.
- Do not distract others while they are installing the product.

2.2 In Play Safety Guidelines

Please ensure you read the following points before using the equipment:

This activity can be great fun, but it can also be dangerous. There is a risk of serious injury if care is not taken when using the equipment.

Dos:

- Before beginning any exercise program, it is recommended that you consult with your doctor.
- Children under the age of 7 years must always be supervised by an adult (over 16 years) when using the equipment and/or recommended accessories.
- Visually check the equipment before using it for any signs of damage, component failure or loose cables that could become a tripping hazard. Report any concerns, e.g. loose or damaged equipment, to a member of staff immediately.
- Ensure you familiarise yourself with any additional facility rules that may apply.
- Ensure that the play area in front of the equipment is clear before attempting to participate.
- Only participate if you are in good physical condition. Participate only within your capabilities / recommended exercise level.
- Wear appropriate clothing.
- Remove all items from your pockets prior to participation.
- Long hair should be tied back.
- Before use, loosen up with warm up exercises and stretches.
- If trampolines are present, practice being in control of your bounce before using the equipment. Always remain in control. Uncontrolled jumps or falls are likely to result in injuries to yourself and/or others.
- Only those participating are allowed in the activity area. If waiting to participate, stand back at a safe distance from the equipment.
- Make sure you have control before leaving the trampolines, obstacles or activity equipment.
- Report any unusual or inappropriate behaviour to a member of staff immediately.
- If you get tired, leave the equipment / activity area and take a break.
- If you feel any pain, dizziness, nausea or any other abnormal symptoms, STOP YOUR WORKOUT IMMEDIATELY. Consult your doctor immediately. Incorrect or excessive training may lead to injuries.

Don'ts:

- Do not attempt to use any of the equipment without undertaking instruction / training carried out by an appropriate instructor.
- Do not participate if you are unwell or have any pre-existing medical conditions including heart, back, neck, bone and/or muscle conditions.
- Do NOT work to exhaustion.
- Do not participate if you are or maybe pregnant.
- Do not wear loose clothing or jewellery (including studs and watches). Clothing should not have any hard or sharp points (such as buckles, studs, toggles or alike).
- Do not wear shoes with leather soles, high heels, sandals, boots or bare feet.
- No food, drink or chewing gum during participation.
- No phones or cameras in the activity area.
- Do not leave clothing or personal belongings around the activity areas.
- Do not participate under the influence of alcohol and/or drugs.
- Do not attempt any move beyond your own skill level.
- Never attempt flips or other extreme moves unless you know you are capable and have had the appropriate training.
- No double flips, triple flips, diving or gainers, even if you are capable.
- Do not distract others while they are using the equipment.
- Do not attempt to catch anyone who may fall.
- Do not sit, lie, stand or rest under the activity equipment and/or surrounding padding/mats.
- Never lean on, jump on, climb, grab, or lift any safety pads or safety nets.
- Do not use any accessories that are not specifically recommended by the manufacturer. These might cause injuries or cause the equipment to fail.

Section 3 - Installation

3.1 - Parts List

Please check off the received parts for the installation and alert Rugged Interactive immediately if anything is missing.

Targets (to the quantity ordered, up to 16). ☐

1 x Hub control box. ☐

4 x Control box mounting brackets including 12 x M5 x 12mm screws. ☐

Target connection cables. ☐

Set of Moulded 25mm target fixing screws. ☐

1 x Start button. ☐

Manual. ☐

3.2 - Tools and Components List

Arrange the necessary tools and the team to install the product.

Ladder. ☐

Spirit level. ☐

Industrial vacuum cleaner. ☐

Dustpan and brush. ☐

SDS impact drill. ☐

Cordless drill – with torque adjuster to avoid over-tightening the screws. ☐

A set of No.2 Pozi bits. ☐

A set of screwdrivers. ☐

A set of Hex keys ☐

3.3 – Installation Overview

Below is an overview of the steps needed to install Ballistics Shooting Gallery. More detail for the process is provided in the following pages. Please read through ALL of this prior to beginning the installation and if you are in any doubt, contact Rugged Interactive.

If you have any concerns on how or what the product is installed to, contact a structural engineer prior to beginning the installation.

STEP 1: Mount scorebox.

STEP 2: Mount targets. Note: Ballistics Shooting Gallery targets must be installed out of reach of children. (Targets are not tamper-proof.)

STEP 3: Attach cables between targets and scorebox.

STEP 4: Turn on Ballistics system.

STEP 5: Test.

STEP 6: Check all is secured.

STEP 7: Stress relief cables.

STEP 8: Enjoy Ballistics!

3.4 – Detailed Installation

Read this manual <u>before</u> installing Ballistics.

Installation Guidelines:
- Complete the Site Survey form prior to delivery and/or installation.
- Send a completed Installation Checklist after any installation to Rugged Interactive.
- A typical installation should take 2 people about 5 hours.
- No obstructions or protrusions in the installation area: e.g. skirting boards, pipes, cables and wiring conduits.
- Avoid trapped and/or pinched cables.
- Use good practice when running data cables to and from products, external pods and sensors. Support long cables at least every 50 cm and provide adequate strain relief for connection points.
- To prevent electric shock, keep all electric components away from contact with water.
- IMPORTANT: Take anti-static precautions.

Structure:
- Mount onto timber or steel framework.
- The targets feature four mounting points.
- The targets feature hanging cables to connect back to the HUB/score box via supplied cable.
- The units must be mounted to a construction capable of supporting their weight and gameplay. Do not fix to plasterboard faced partition, unsupported portal infills and stud walls. (Uneven walls and structures make alignment and fitting very difficult.)

Fixings:
- The manufacturer will supply fixings.
- Use Rawl Plugs (plastic wall plugs) if mounted to a solid block or brick wall.
- All fixings must be tight and secure.

Suggested Extras:
- 3 m of self-adhesive 'mini' box trunking to secure the power cable.
- Cleaning cloth and gentle cleaning spray.

Installation Heights:
- The targets should be mounted out of reach of the users, we recommend a height of 2.4m above the floor.
- Take into consideration the height and distance the air cannons can fire and install appropriately to this.
- Layout of Ballistics is at the discretion of the installer / park constructor.

Operating Environment:
- Keep out of direct sunlight.
- Keep indoors and dry.
- Optimum ambient temperature: 5°C to 30°C. Avoid extreme fluctuations of temperature.

Other Recommendations:
- Instruction / training carried out by an appropriate instructor to all new users.
- A waiting / spectating area positioned nearby is advised.

IF YOU ARE IN <u>ANY</u> DOUBT, CALL RUGGED INTERACTIVE DIRECTLY ON +44 (0) 1726 833 882.

Ballistics Display / Score Box (HUB) Installation
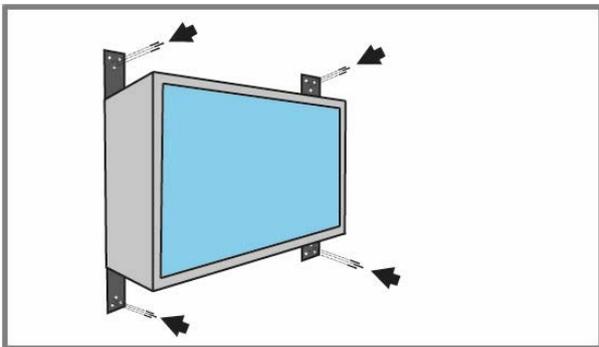
Notes:
- Fix HUB using any suitable self-tapping or wood screws into the surface material. The HUB can be recessed to be flush with the surface or affixed on top of the foam-backed vinyl if necessary.
- A central position is recommended for easy comparison of scores.
- **Note:** Cables exit is at the rear of the display box as standard, however this can be adjusted, if necessary, by removing the pop out on the bottom edge and sliding the cables and rubber grommet around to the new position.

01
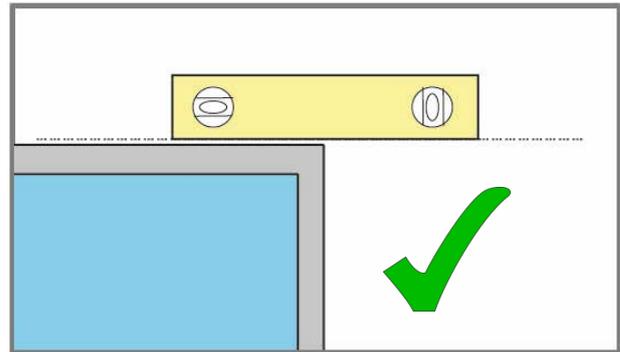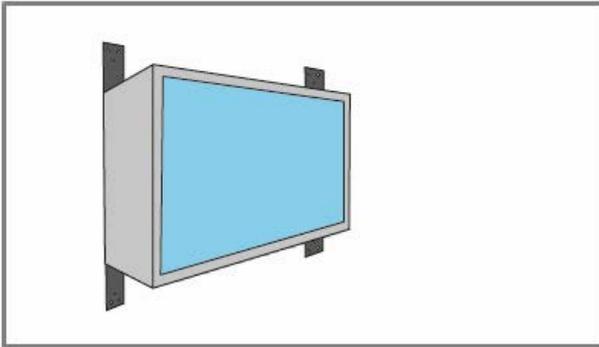
Hold the main body in place, and ensure it is level.

02

Note: Make sure everything is tight and secure and that no cables are trapped.
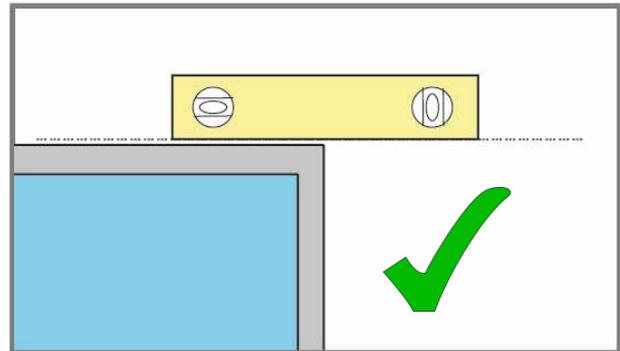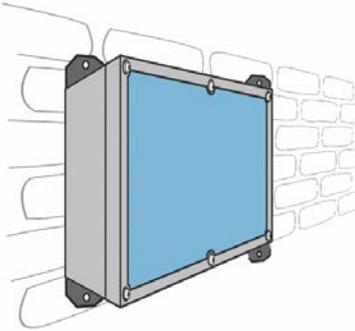
Use appropriate fixings and mount the display box to the wall.
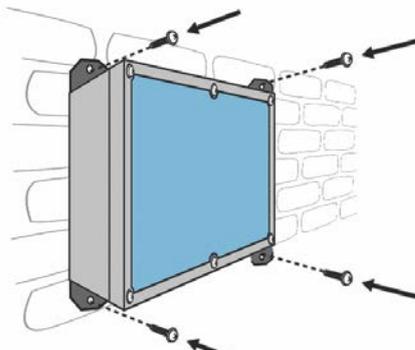
Ballistics Target Installation

Notes:
- Fix targets using any suitable self-tapping or wood screws into the surface material.
- To be installed out of reach of children, the targets are not designed to be tamper proof.
- **Note:** Cables exit is at the base of the target box.

01

Hold the main body in place, and ensure it is level.

02

Note: Make sure everything is tight and secure and that no cables are trapped.

Use appropriate fixings and mount the target box to the wall.

Ballistics Start Button Installation

Notes:

- Fix the Start Button as per the instructions below.
- Fix to a pre-padded pole.
- A position next to the entrance of the Ballistics arena is recommended for ease of use.

01

Position pod on the exposed pole in the desired orientation.

Remove cover from adhesive pad and align to the rear of the pod.
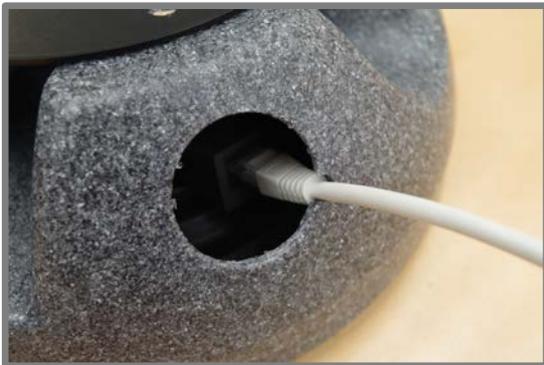

02

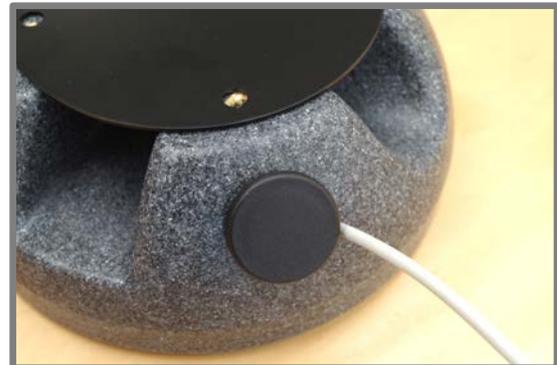Attach bolts and tighten until firmly in place.

03

Connect appropriate length CAT5 cable to the start button's hanging cable that will return to the control box. The start button must be within 30m of the control box.

04

Tuck the hanging cable and head of the CAT5 cable inside the recess in the moulding. Cable excess can be fed into this recess too.

Push the supplied stopper into the hole being sure the cable is sitting in the small recess to the side of the main hole.
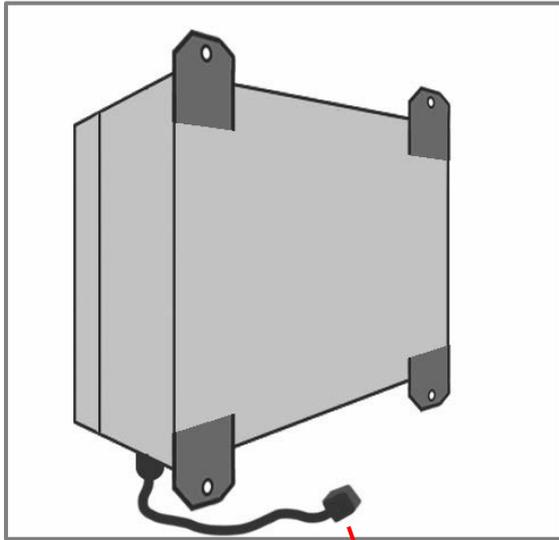
05

Ensure all fixings are secure and all cables are tidy. Add padding to poles as appropriate.

Ballistics Targets to Score Box (HUB) Installation

Notes:
- Attach correctly the supplied CAT5 cables from the targets to the designated output cables from the HUB.
- Make sure the RJ45 connector is clear from dust and debris and do not force the CAT5 Cable into it.
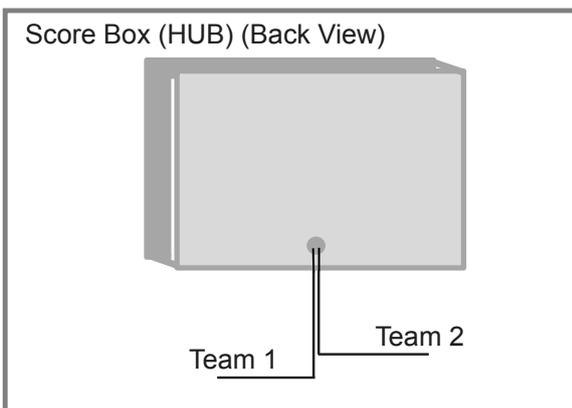

01

Connect CAT5 Cable

Connect the CAT5 cables from the targets to the Score Box (HUB). The targets will have hanging cables to connect the CAT5 Cables to.

02

Score Box (HUB) (Back View)

Team 2

Team 1

The Hub will have hanging cables labelled for the start button and for each target.

Attach CAT5 cables from each target to the connectors at the back of the Score Box (HUB).

NOTE: Please use good practice when running data cables to and from products, targets and boxes. Support long cables at least every 50 cm and provide adequate strain relief for connection points.

CAT5 Cable Connections

Notes:

•Cables come out the back of each unit. Cables need to be installed as shown in **Figure 3.4.1**
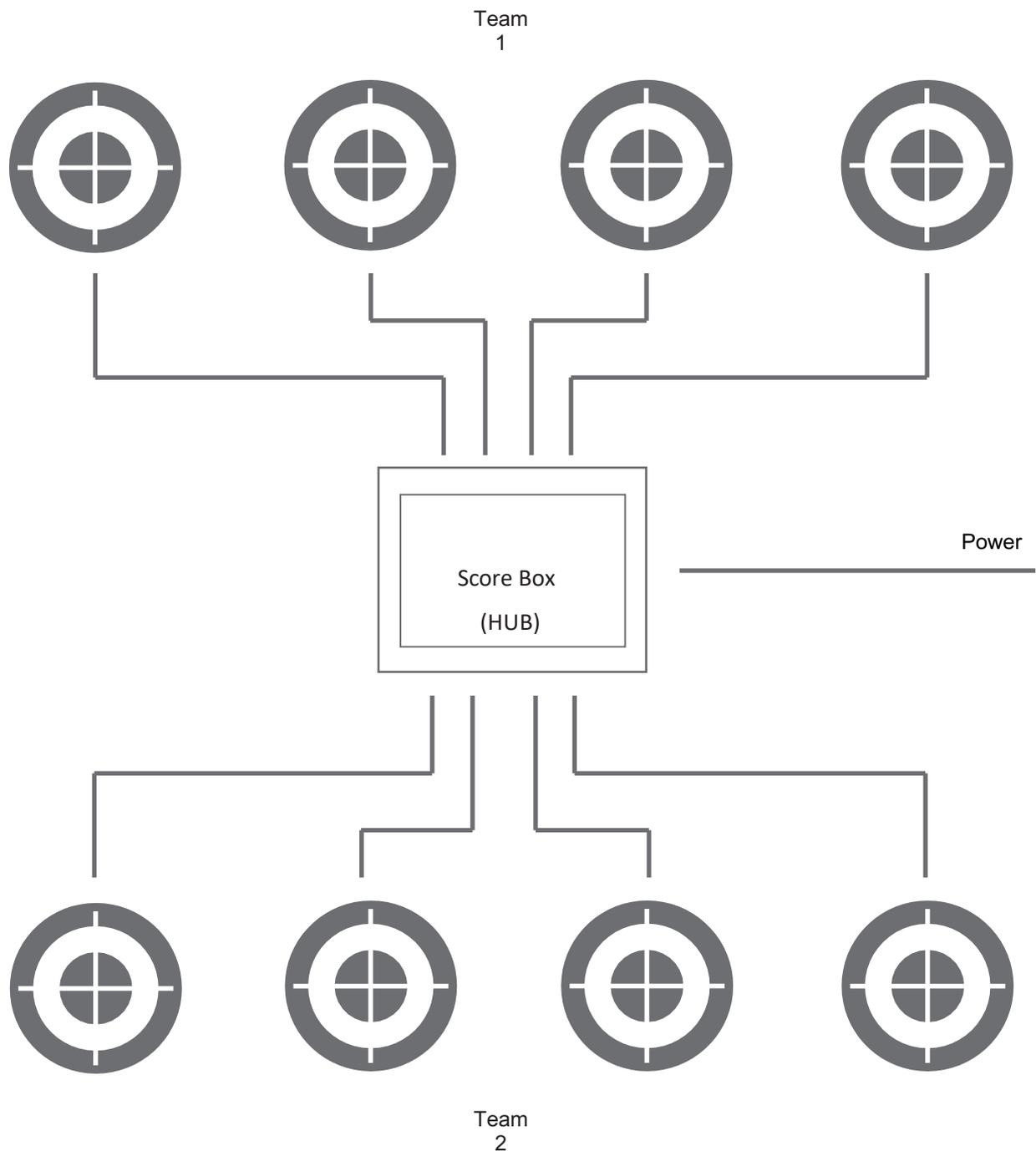

Figure 3.4.1: Typical Ballistics Cable Connections

Section 4 – How to Use

On power up, Ballistics will sound a 'laugh' and will turn to its idle state.

Ballistics (Game / Program) – Battle, 2 minutes

Game Rules:

The objective of Ballistics is to score points by hitting the opposing team targets by using air cannons / balls. One (1) point is earned for any target hit.

The targets are split into 2 even groups. Aim and shoot at the opponents' coloured targets. They will flash and a noise will sound upon a successful hit.

Each game lasts for 2 minutes. Try to hit as many of the opponents' targets as possible to build up your score.

The team to score the most points wins.

How to Use:

Press the start button to begin the game

Aim and fire balls at your opponents' targets to score points.

At the end of the game, the winning score will flash on the score box.

NOTE: At any time, if Ballistics behaves unexpectedly, wait for at least 1 minute for the unit to reset to its idle state.

Section 5 - Programs Guide

Ballistics

Summary: This game includes hand/eye coordination, teamwork, building quick reflexes, and building a competitive spirit.

Gameplay: Upon hitting a target to start the game, all targets will illuminate, and the starting sound is heard.

Every time a target is hit it flashes out, and the score box registers the hit. At the end of the game the winning score flashes.

Aim: To hit as many opponent's targets as possible within the given time limit.

Scoring system: +1 point for each target hit

Duration: 2 minutes

Ballistics Shooting Gallery System Specifications

Dimensions and Weights:

	Approx. Shipment Details		Fully Assembled Details	
	Size (mm)	**Weight**	**Size** (mm)	**Weight**
Ballistics Target *(single)*	-	-	355 x 355 x 60	2 kg
Start Button *(single unit)*			100 x 100 x 100	1 kg
Display / Score Box (HUB) *(single unit)*	-	-	850 x 586 x 70	20 kg

Power Supply: AC: 110-230V, 50-60Hz, 13A

Warranty: 1 year on electronics. 3 years on all other parts.

Regulatory Requirements: CE Approved.
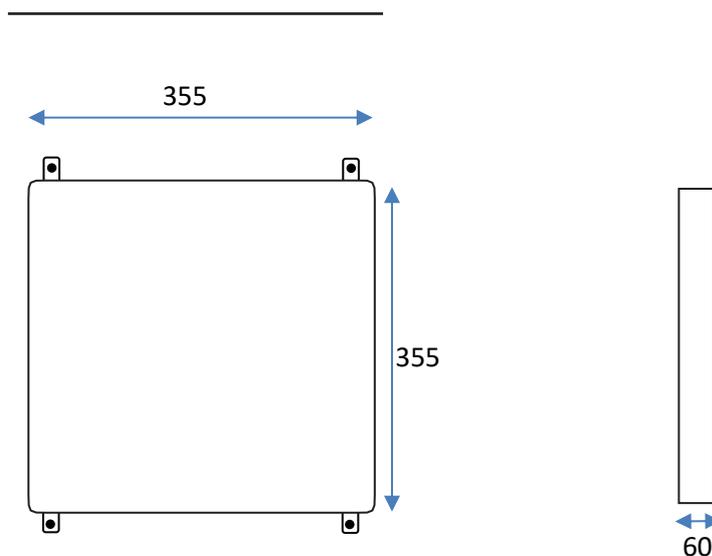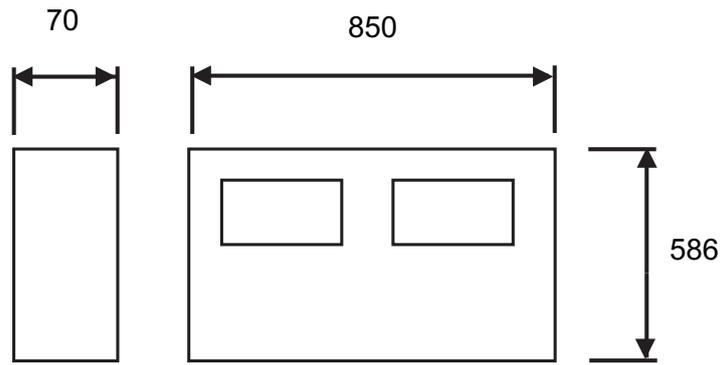
Operating Environment: Indoors: keep dry and out of direct sunlight.

Mount to a framework or structure of a suitable construction.

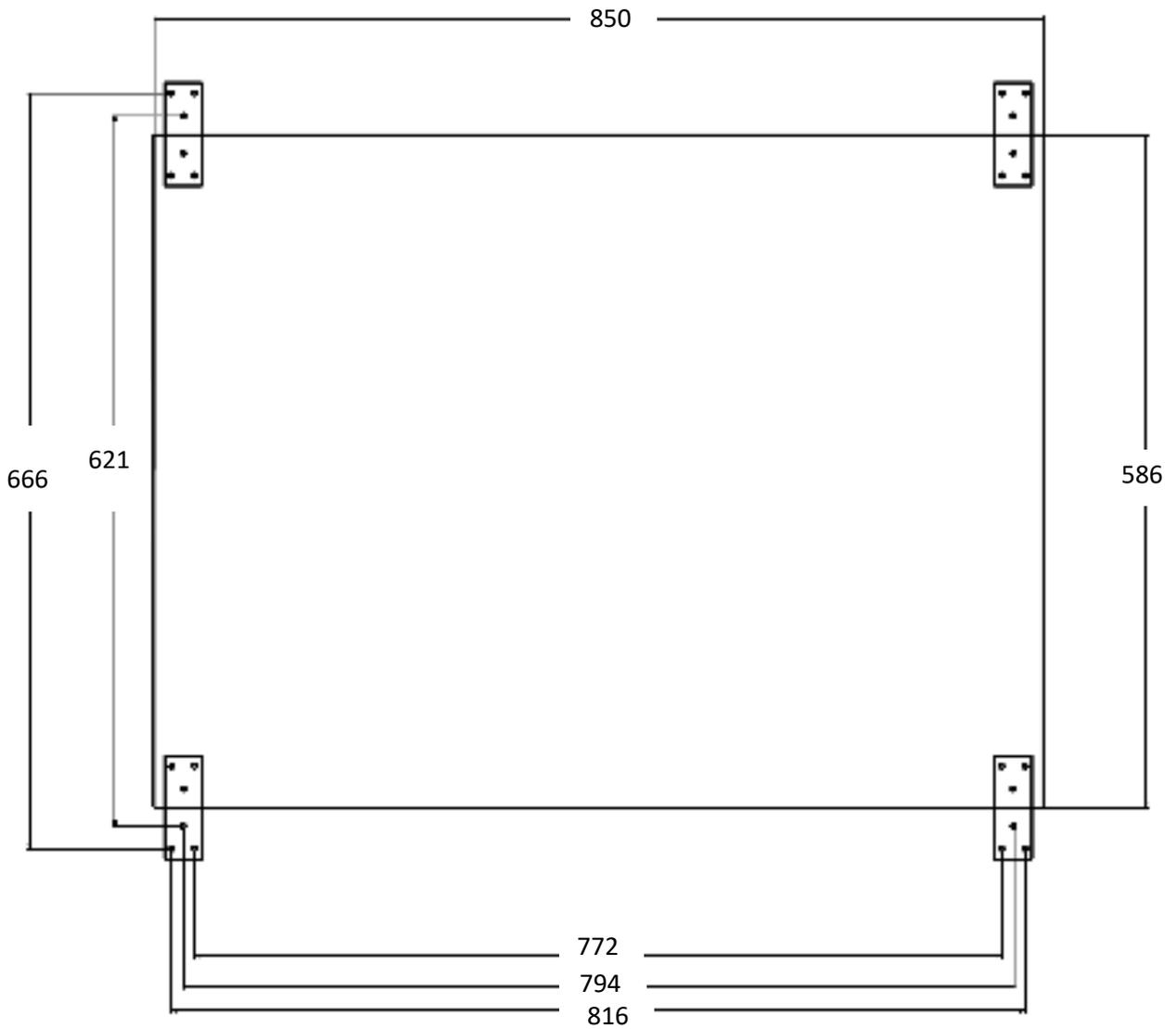Optimum ambient temperature: 5°C to 30°C. Avoid extreme temperature fluctuation.

Target *(Dimensions in mm)*

70

850

586

Score Box (HUB) *(Dimensions in mm)*

850

666

621

586

772

794

816

Mounting Points for Score Box *(Dimensions in mm)*

(VI for 5~9V)

CB FC C€

■ Features

- Universal AC input / Full range
- 2 pole AC inlet IEC320-C8
- Medical safety approved (2 x MOPP between primary to secondary)
- Suitable for BF application with appropriate system consideration
- Low leakage current <50uA
- No load power consumption<0.1W
- Energy efficiency level VI(Except 5~9V for Level V)
- Comply with EISA 2007/DoE,NRCan, AU/NZ MEPS,
  EU ErP and meet CoC Version 5
- Built-in active PFC function
- High efficiency up to 91.5%
- Fanless design with -30~+60℃ working temperature
- Class Ⅱ power (without earth pin)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fully enclosed plastic case
- LED indicator for power on
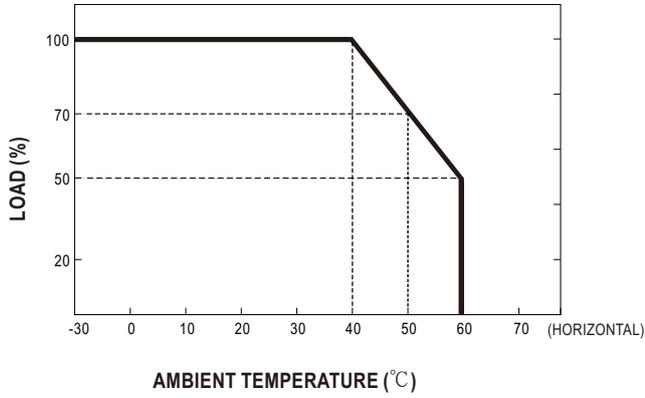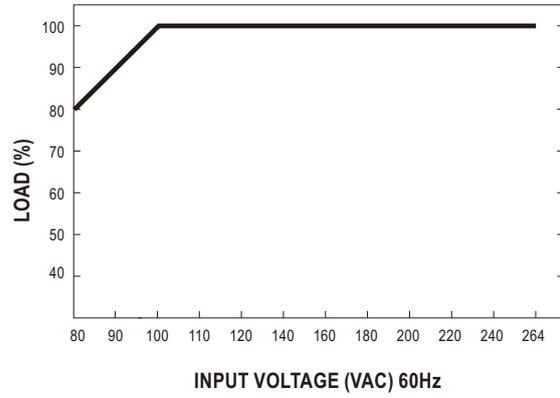- 100% full load burn-in test

SPECIFICATION

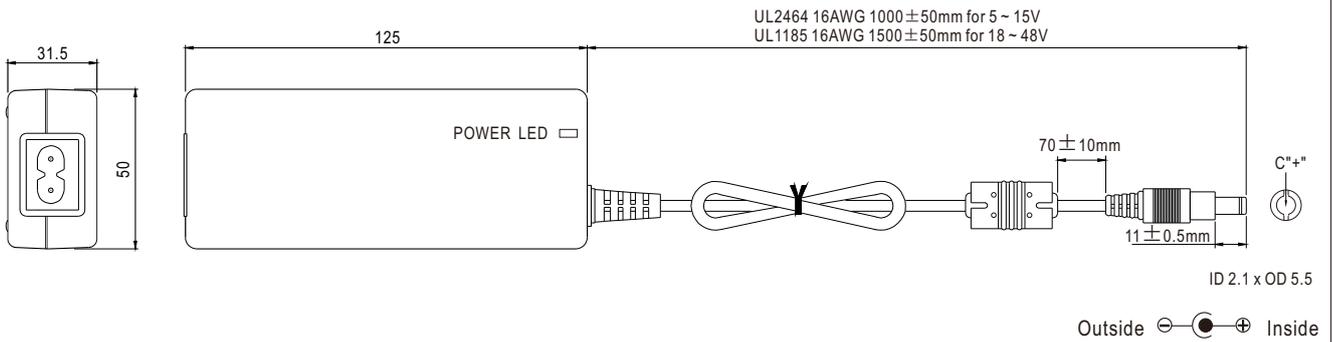| PRODUCT		GSM60B12-P1J
OUTPUT	SAFETY MODEL NO.	GSM60B12
	DC VOLTAGE Note.2	12V
	RATED CURRENT	5A
	CURRENT RANGE	0 ~ 5A
	RATED POWER (max.)	60W
	RIPPLE & NOISE (max.) Note.3	100mVp-p
	VOLTAGE TOLERANCE Note.4	±3.0%
	LINE REGULATION Note.5	±1.0%
	LOAD REGULATION	±3.0%
	SETUP, RISE TIME Note.6	1000ms, 30ms / 230VAC 1500ms, 30ms / 115VAC at full load
	HOLD UP TIME (Typ.)	50ms / 230VAC 15ms / 115VAC at full load
INPUT	VOLTAGE RANGE Note.7	80 ~ 264VAC 120 ~ 370VDC
	FREQUENCY RANGE	47 ~ 63Hz
	EFFICIENCY (Typ.)	88%
	AC CURRENT (Typ.)	1.4A / 115VAC 1A / 230VAC
	INRUSH CURRENT (Typ.)	30A / 115VAC 65A / 230VAC
	LEAKAGE CURRENT(max.)	Touch current < 50μA/264VAC
PROTECTION	OVERLOAD	105 ~ 160% rated output power
		Protection type : Hiccup mode, recovers automatically after fault condition is removed
	OVER VOLTAGE	12.6 ~ 16.2V
		Protection type : Shut down o/p voltage, re-power on to recover
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover
ENVIRONMENT	WORKING TEMP.	-30 ~ +60℃ (Refer to "Derating Curve")
	WORKING HUMIDITY	20% ~ 90% RH non-condensing
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH
	TEMP. COEFFICIENT	±0.03% / ℃ (0 ~ 40℃)
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes
SAFETY & EMC (Note. 8)	SAFETY STANDARDS	ANSI/AAMI ES60601-1 / ES60601-1-11, TUV EN60601-1 / 60601-1-11 approved
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH
	EMC EMISSION	Compliance to EN55011(CISPR11) class B, EN61000-3-2,3, FCC PART 15 class B,CAN ICES-3(B)/NMB-3(B)
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN60601-1-2, EN61204-3 medical level, criteria A
OTHERS	MTBF	720K hrs min. MIL-HDBK-217F(25℃)
	DIMENSION	125*50*31.5mm (L*W*H)
	PACKING	0.32Kg; 40pcs/13.8Kg/1.05CUFT
CONNECTOR	PLUG	See page 3 ; Other type available by customer requested
	CABLE	See page 3 ; Other type available by customer requested
NOTE		1. All parameters are specified at 230VAC input, rated load, 25℃ 70% RH ambient. 2. DC voltage: The output voltage set at point measure by plug terminal & 50% load. 3. Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf & 47uf capacitor. 4. Tolerance: includes set up tolerance, line regulation, load regulation. 5. Line regulation is measured from low line to high line at rated load. 6. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time. 7. Derating may be needed under low input voltages. Pleas check the derating curve for more details. 8. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com)

■ Derating Curve

LOAD (%)

100
70
50
20

-30   0   10   20   30   40   50   60   70   (HORIZONTAL)

AMBIENT TEMPERATURE (℃)

■ Static Characteristics

LOAD (%)

100
90
80
70
60
50
40

80   90   100 110 120 140 160 180 200 220 240 264

INPUT VOLTAGE (VAC) 60Hz

■ Mechanical Specification

Case No. GSM60B   Unit:mm

31.5

50

125

UL2464 16AWG 1000±50mm for 5 ~ 15V
UL1185 16AWG 1500±50mm for 18 ~ 48V

POWER LED

70±10mm

11±0.5mm

C"+"

ID 2.1 x OD 5.5

Outside ⊖ ⊙ ⊕ Inside

■ Plug Assignment

Standard plug: P1J

P1J	
P/N	OUTPUT
CENTER	+

Ballistics Installation Checklist

Please complete this checklist after any installation:

Check 1: Pre-power up checks.

Mounted into a wall or framework of a construction capable of supporting its weight and gameplay. ☐

All fixings are tight and secure. ☐

No signs of damage, component failure and/or missing parts. ☐

No trapped and/or pinched cables. ☐

No loose cables that could become a tripping hazard. ☐

All long cables are supported at least every 50 cm. ☐

Adequate strain relief provided for connection points. ☐

Kept out of direct sunlight during the day. ☐

All electric components away from contact with water. ☐

Any protective elements for transportation removed. ☐

Check 2: Power up.

All panels light up. ☐

Text appears on the hub display and is as expected. *E.g. timers* ☐

Sound volume is at a suitable level*. ☐

Check 3: Hit target to start a game.

A 3-2-1 countdown is heard, and game begins. ☐

Targets flash when ball is fired into target. ☐

Sounds can be heard when the target is hit. ☐

Scoreboard registers hits on display. ☐

Program plays as described in the Programs Guide. ☐

Check 4: Ready for use.

Play area is clear. ☐

Instruction / training carried out by an appropriate instructor to all new users. ☐

If anything unexpected occurs or problems persist after troubleshooting, call Rugged Interactive directly on +44 (0) 1726 833 882.

* The volume can be adjusted on the score box. The volume control can be seen on the bottom edge of the score box. Rotate clockwise for volume up, counter-clockwise for volume down.

Next Steps

Train team members

Train your team members on how to use Ballistics, having knowledge of the gameplay will help them encourage users. Inspire them to cheer and celebrate with the customers when they achieve high scores.

Maintenance

General care and maintenance procedures for your Rugged Interactive product.

1. Inspect the product daily for any signs of damage or loose components. Repair or tighten as applicable.
2. Turn on the product, check the LEDs and sound is working as expected.
3. Start a game, check all pods/sensors work and react as expected. Please refer to the manual for instructions on gameplay.
4. We suggest non-solvent glass cleaning spray, avoid spraying directly onto the pods. Use a non-abrasive microfibre cloth and extremely light pressure when wiping the product. Too much pressure will scratch the graphics panel.
5. Only use accessories recommended by the manufacturer with the products. Accessories not recommended could cause serious damage.
6. Every three months check the fixings are tight.
7. Once a year, check the structure supporting the product is still solid.
8. We recommend turning the products off when they are not in use (close of business), this will help to extend the life of the product.

Marketing

With this being such an eye-catching product, it is excellent for use in posts on social media, either featuring in photos or videos.

If you would like any help, guidance or examples of using this product in your marketing campaign, please contact Rugged Interactive and we will be able to assist with this.

Congratulations!

Congratulations on your new Rugged Interactive product! Your customers are going to love this, and it is a great addition to your venue!

If there is anything we can assist with or if you would be interested in information about any other Rugged Interactive products, then please do not hesitate to get in contact.