1. **Product Name**

Interactive Projection Sand Box

2. **Product Code**

23415, 23416

3. **Colour**

White exterior as standard

4. **Brief Description**

Wonderful for therapy, education and entertainment for children, adults and older adults. Combines the responsiveness and activity opportunities of interactive projection with the palpable experience of sand for a highly multi-sensory experience

5. <u>Contents</u>

The system comprises a system on legs with castors; a built-in computer and a projection unit.

- 1 x Sand reservoir with telescopic stand
- Marble sand
- Laminated white lid
- Interactive game projection system
- Power cable
- Epson and Monoblock remote control
- Wireless keyboard
- Wooden sensor objects
- Warranty card
- Manufacturer's user manual

6. <u>Snoezelen® Stimulations</u>

- Sight
- Touch

7. <u>Best Use</u>

Use in a darkened environment that is large enough for users to move around the Sand Box.

8. <u>Compatible ROMPA® Products</u>

Visit www.rompa.com for a wide range of products that can be used in sand such as Hedgehog Balls and Sensory Stones.

9. <u>Starting Up</u>

Please read all the instructions in their entirety before setting up and using this product. Set up will require time - there are no short-cuts to setting up this product.

Please keep these instructions in a safe place so they can accessed easily.

2 people are required to set this product up.

10. Detailed Description

Wonderful for therapy, education and entertainment for children, adults and older adults. Combines the responsiveness and activity opportunities of interactive projection with the palpable experience of sand for a highly multi-sensory experience. Interactive augmented reality allows users to transform sand into the earth's surface with lakes, mountains, volcanoes and valleys; to dig up dinosaur fossils; to play 'football' and much, much more. Loose materials such as sand allow imaginative play and creative activity whilst providing tactile sensations that promote fine motor skills, tactile perception and hand-eye coordination. White frame as standard - other colours available upon request.

Includes:

• Table frame with metal reservoir for sand, laminated board top (to turn this into an interactive table), additional legs (to adjust the height) and projector arm
• Projector with 3D depth sensor, USB and HDMI cables
• Marble sand (recommended by therapists for motor skills development as especially mouldable)
• 94 wooden sensor objects – for the Interactive table games
• Wireless keyboard
• Software featuring activities for sand and table

Assembly and set up required on receipt - 2 people required. Telescopic legs are available separately for the Large option for wheelchair users - contact us for more information.

This is flexible, and uses cognitive skills and motor skills. Fun – using this product is enjoyable and encourages working collaboratively.

Sand Activities

Sapper

Level the sand at the start of this activity - areas that need flattening are indicated by blue light. Find a chest and keep digging around it and it will jiggle then open. However, avoid the traps and explosive mines. This activity requires patience, attention and encourages hand-eye co-ordination. Moving the sand on this activity is quite challenging but also calming. The user regulates the pressure exerted. There are 7 levels of difficulty in this activity. Up to 6 users can play at once to develop teamwork.

Fossil

Carefully excavate the bones. Once the bones glow red, the user must be very gentle.   This activity is based on memory and using care. Bones will crack if the user digs dip too deep or too quickly. This activity has various difficulty level and may be useful for those who are hyperactive.
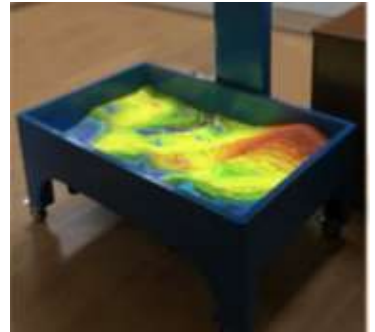
Water

This is a no-fail, non goal-orientated activity. Users can make islands, make water splash and ripple. Good for fine motor control, gross motor skills, story-telling and imaginative play. To encourage decision-making, users could use suitable toys such as plastic figures and they could be asked to keep a person/creature on land stay dry and safe. This activity is effective when balls are thrown into the 'water' to encourage further motor skills.

Volcano

This educational activity is about 3D landscape modelling and visualization. Lower landscape appears as underground water whilst higher landscape appears as hills/mountains. Build the volcano till black at the top then make a hole in the top till it goes white. Up to 5 volcanoes can be made at one time in the standard tray. This is a basic activity but it is very engaging. The activity can build in complexity according to instructions given to the user e.g. place a toy house/person in the tray and user directs lava away from it/him.

Sand ball

For 2 to 4 players. Aim to score in the opponent's goal by moving the sand to move the ball forward. This activity is good for problem-solving and developing hand-eye co-ordination.

Hedgehog

Help hedgehog get to bunny's birthday party. Hedgehog must avoid the balloons as his spikes will burst them. Users must dig out a groove for a path first and gently push the sand under the hedgehog to get him to the party. The sand and users' hands don't pop the balloons – only the hedgehog can. This activity has 7 difficulty levels and has sound effects.

Table Activities
       Activities using the white laminated lid over the sand reservoir

Alphabet
Spell a word correctly using the wooden sensor objects and a
corresponding image/animation of this will be visible – CAT, DOG,
HOUSE. This is suitable for early spelling skills.
The cat and dog can also be heard. Theses auditory cues help with the
association of word and object e.g. cat meowing. For children and for
those with learning difficulties, a visual product like this in a darkened
room can help those with attention deficit disorders.

Castle
Place the wooden sensor objects to defend the castle from attack.
A blue triangle causes ice; a pink flower causes fire (although the fire doesn't melt the ice).
Use these to defend the castle against the monsters. The monsters are abstract so there is no
requirement to recognise these. This activity works on hand-eye co-ordination and cognitive
skills – there is judgement, reasoning, a rationale behind where you move the pieces to. The
castle isn't destroyed if the monsters reach it, so this is a no-fail activity.

City
Place the wooden sensor objects to create transport
networks. Each wooden sensor object represents a mode
of transport – road, air, railway. The display reacts to
intersecting transport modes, such as building bridges if
roads intersect. The vehicles change according to the size
of the route e.g. the helicopter becomes a jumbo jet.
Users could put their own objects on the top (e.g. bean
bags, toy railway bridges) and supervisors could ask them
to create a road, train track etc. around it i.e. set users
tasks. This activity is good for cognitive skills, orientation,
topography (planning), problem-solving, hand-eye co-
ordination, development of perceptual skills.

11. Safety

- Always supervise the use of this product

- Consider storage – make sure unsupervised use is not possible at all times.
- Install and use in dry indoors only. Avoid hot, humid or dusty environments. Avoid environments where there may be insects.
- Make sure installers' and users' hands are dry before touching any components. Do not touch the system with wet hands. Keeps drinks and other fluids away from the product to avoid accidental spillages.
- Do not expose the projector or computer to moisture, abrasive substances (e.g. keep the sand in the reservoir and well away from the projector and computer), foreign objects and corrosive substances.
- Do not operate the system with the projection side covers and the protective cover removed.
- Do not use any accessories not recommended by the manufacturer
- Do not lean on the product. Do not allows users to attempt to climb on or get in the unit.
- Do not block or cover the ventilation openings.
- Do not move the product once it is switched on.
- Only use the supplied power cable with this product – do not use this with other equipment.
- Unplug the system during a thunder storm. Disconnect the system from the wall electrical socket using the plug (do not pull the cable).
- Make sure the wall electrical socket is operating correctly and do not overload the socket.
- Do not tamper with the plug – it has a ground function for a reason.
- In the unlikely event that you notice smoke, sparks, a burning smell nor unusual sounds when operating this product, cease use immediately and turn of the product from the outlet.
- In the unlikely event of electric shock, immediately disconnect the product from the electrical socket.

12.   Technical Specification

23415

Size: unit 110 x 83 x 200cmH
               play area 105 x 66cm
Weight: 190kg, including 98kg of marble sand

23416

Size: unit 160 x 110 x 280cmH
               play area 155 x 97cm
Weight: 274kg, including 154kg of marble sand

Material: Metal

Projector: LED WXGA
Aspect ratio: 16:9
Projector resolution: 1280*800
Contrast ratio: 15000: 1
Projector brightness: 3300 ANSI 1m
Projector lamp life: 6000 hours (eco mode 10000h)
Speaker included

Computer:
Operating system: Android 5.1
Processor: Quad-core Cortex A17 Up to 1.8GHz
GPU: Mali-T7 600MHz
RAM: 2GB DDR3
Storage: 8GB EMMC (Internal)
                    MicroSD (Up to 32GB)
Wi-Fi: 802.11 2.4G
Ethernet: LAN 10M/100M (No LED)
Features: IR Receiver, HDMI, AV-Out, Bluetooth, USB Port (USB 2.0), USB OTG
                    (Micro USB), 3.5mm Stereo Headphone Jack, Stereo Microphone
Audio Playing Format: MP1, MP2. MP3. WMA, WAV. OGG, OGA, APE. FLAC, AAC, M4A, 3GPP etc.

Electrical parameters:
Voltage range: 100 - 240 V AC, 50 – 60Hz
Power consumption: 300W

Environmental parameters:

Operating temperature: +5° +35° C
Storage temperature: -   -25° +55° C
Operating humidity: Working humidity: 10%-90%
                           Storage humidity: 10%-90%

CE: Meets the requirements of   EN60950-1:2006, EN 55022:2010, EN 55024:2010;
                                      EN61000-3-2:2014, EN 61000-3-3:2013
        related to CE Directives   2014/35/EU (Low Voltage)
                                      2014/30/EU (Electromagnetic Compatibility)

This is an electro-technical system with a built-in Monoblock.
Use this product for its intended purpose only – for educational and training sessions, as well as for presentations.
The software in this product is the intellectual property of the developer. The software cannot be used for commercial use without the written consent of the developer. The software cannot be modified, copied or distributed.

13.   <u>Installation</u>

Preparation
1.   Two people will be required to install this product. Installation requires a good level of computer skills competency.
2.   Consider the following when choosing the indoor location of your Interactive Projection Sand Box:

- Access to a plug. The power cord needs to be straight (no bends/kinks) and in a location where it will not be trodden on or where there is a risk of objects being placed on it.
- Install on a flat, stable surface in a dry environment. Do not install or operate this product at temperatures below +5˚C or above +55˚C.
- Do not install or use this product near sources of heat such as radiators, stoves, flammable objects (e.g. candles, fireplaces etc.) or any other appliances (e.g. amplifiers) that produce heat.
- Avoid areas that may be exposed to vibration.
- The size of the unit – allow room for movement around it also
- The Interactive Projection Sand Box is to be used in dry environments only
- This product is most visually effective in a darkened environment, not in bright lighting conditions
- The product requires re-calibration if it is to be moved to another location with different lighting levels

Assembly
- Unpack the sand reservoir. Turn inside (under the reservoir) and lock all 4 casters, as shown below, to the right.
- Unpack and install the telescopic stand strictly vertically to the sand reservoir using M5 machine screws.

- Install the lower telescopic stand to the bottom of the reservoir 4+4 screws on each side.

- Connect the telescopic stand – upper and lower body 3+3 on each side, 4 on back side.

The distance between top of the reservoir and the sensor must be 1.38m for the Standard Sand Box (2.02m for the Large Sand Box).

- Secure the Projection block on top of the stand with 4 M5 screws on each corner.

- Plug in the power cable and ethernet cable.

- Plug in the external power cable to the telescopic stand lower back socket.

If the temperature difference inside and outside the room is more than 15° or the

shipment was carried out in the winter, it is necessary to leave the System in a warm room for 3-4 hours before switching on.

Switching on and Operation

1. Plug in the power cord. Activate the projector with the remote control.
2. To enable the built-in computer, use the start button on second remote control. When you click on it, the built-in computer will start. A projection with a desktop with shortcuts to preinstalled programs will appear on the sand.
3. To work with the system, you need to use the wireless keyboard (connected to the Monoblock). In addition, we are offering double USB hub to connect to Monoblock when needed:
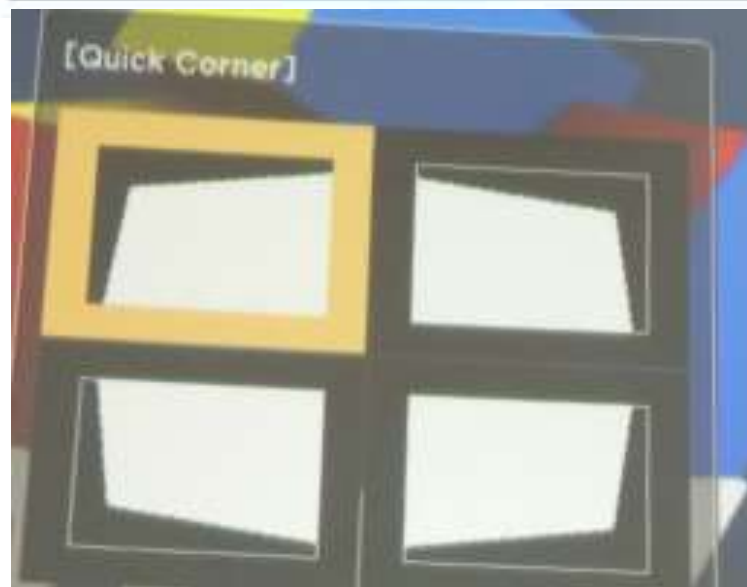

   Turn on the wireless keyboard.
4. Important! The use of any unlicensed SOFTWARE will invalidate the user warranty.
5. In the case that the screen resolution is not automatically set – use the remote control to turn off the computer and unplug the power cord for 10 seconds.
6. Before filling the tank with sand, adjust the projection, following the necessary steps:
   - Set the colour mode to sRGB – path Menu, image, color mode.

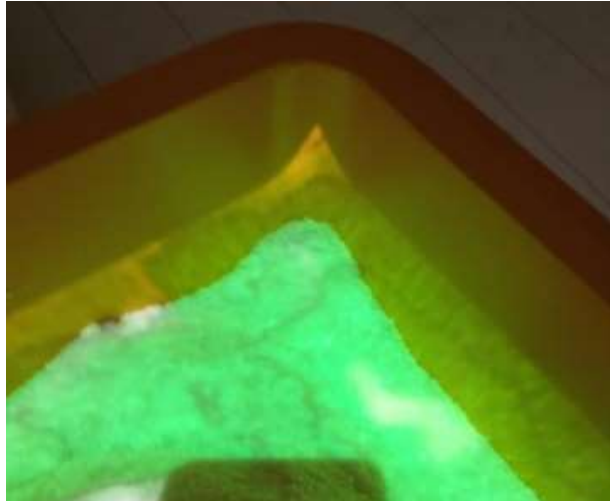   - Set Signal Aspect to Full mode – path Menu, Signal, Aspect, Full.

- Change the trapezoidal distortion of each angle of the projection, using the remote control of the projector (Menu, Setting, Key Stone, Quick corners) Set each angle to its max to its relative corners.

- Set the Mirror of the Projection block to the best position to cover the entire reservoir with the projection light (projection will most certainly come outside the reservoir; we need to make sure there is no unlit part of the reservoir)
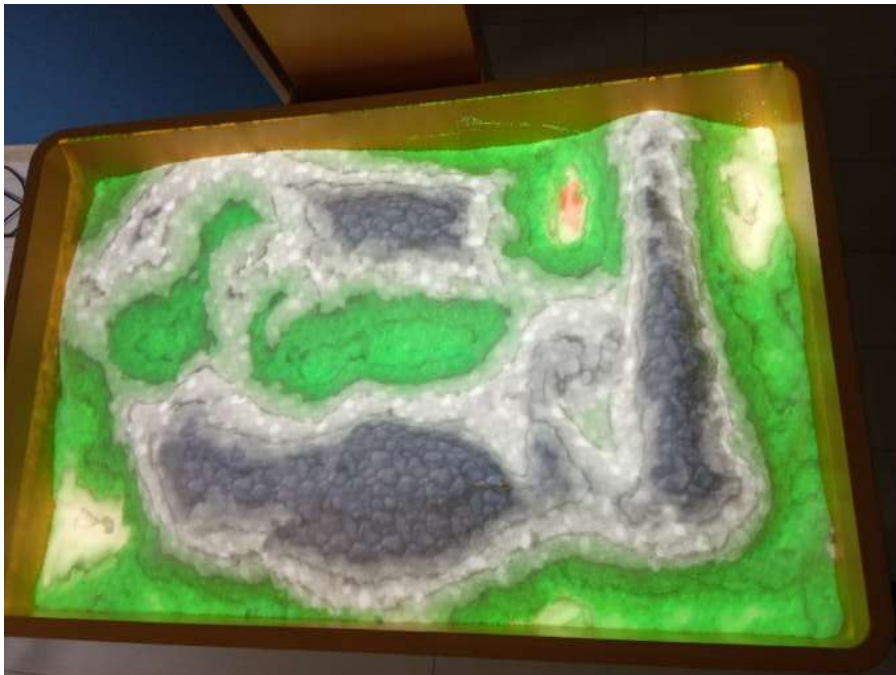- Use the same screws to fix the mirror tight, on both sides.

- After the Mirror is set – the exact projection adjustment is needed. Using same path as before (Menu, Setting, Key Stone, Quick corners) achieve a uniform horizontal light spot relative to the sides of the sand tank. The projection light spot should be projected onto the sides of the tank with sand approximately ¾ of the height. Pay attention to the combination of the horizon of the light spot on the sides and in the corners of the tank. With the exception of the sides of the tank with the telescopic stand of the projection.

The light spot is projected vertically onto the side of the projector rack tank. These settings affect the uniformity of the projection spot and exclude non-illuminated (shaded) areas in the working area of the sand tank.

- After adjusting all 4 corners, the final image must look like that shown below.

There is a similar projection dark line on 3 sides, except the side of the tank with the telescopic stand where the image barely appears on top of it.

7. The selection of programs (modes) is carried out by launching the corresponding application on the desktop of the computer (using the keyboard).

8. IMPORTANT! Be sure to wait for 2 minutes after turning off the PC and Projection System. This is necessary to cool the projector lamp. Disconnect the System from the power supply.

9. IMPORTANT! For safety reasons, it is ALWAYS necessary to disconnect the System from the ~220v network when it is not in use.

10. IMPORTANT! To extend the life of the System never unplug it from the outlet, without first making sure that it was correctly turned off.

11. If any failure occurs during the operation of the PC or projector, it is necessary to disconnect the System from the power supply, wait for 10 minutes and turn it on again, following this manual. If the operating System does not load, contact the

Manufacturer's technical service.

12.	In case of any problems with the operation of the System do not try to repair it yourself (opening the System without the consent of the Manufacturer is prohibited) – contact an authorized service center or technical service of the Manufacturer.

13.	IMPORTANT! For correct operation of the System it is recommended to use an uninterruptible power supply.

Moving and transportation

Should you need to transport the system, ensure the following preparations before-hand.

1.	Disconnect all cables from the System.

2.	If it is necessary to transport the System to another place or to deliver to a repair shop, disassemble and pack it in the packaging material in which it was originally supplied, and or put in a box.

3.	When disassembling, do not apply force to structural elements, especially the projector and the computer.

4.	When transporting, do not subject the System to impacts and strong vibrations.

5.	When the temperature difference inside and outside is more than 15° it may condensate. In this case, it is necessary to leave the System in a warm room for 3-4 hours before use.

# 14.	Care and Maintenance

1.	Unplug the power cord before any care and maintenance.

2.	If the surface of the projector lens and reflector (mirror) is dirty, wipe it with cotton or a soft cloth. If dust or grease is not removed completely, wipe the lens and reflector with a soft cloth slightly dampened with a mild solution of mild detergent for monitors, plasma and computers, and wipe the surface of the screen/case with a dry soft cloth. In any case, do not use any type of abrasive pad, alkaline/acid cleaner, scouring powder, or volatile solvent, such as alcohol, benzine, thinner, etc.
Do not spray liquids directly on the System. If liquid gets inside, it can cause damage, fire or electric shock.
When caring for the surface of the projector lens and reflector, do not press on it and do not make additional efforts, be aware of its fragility.

3.	When cleaning the System do not forget about the need to keep intact the markings and warranty seals of the device. In case of their absence or damage, the manufacturer is not liable for warranty and will not perform warranty service of the system.

4.	In the unlikely event of problems with the product, contact ROMPA®. Do not attempt to repair any issues yourself.

5.	Contact ROMPA® regarding servicing of the product. Unauthorized maintenance or servicing will invalidate the warranty. The warranty does not apply to pre-installed SOFTWARE, nor to the projector lamp. Full warranty details are provided in the manufacturer's manual.

15. <u>Troubleshooting</u>

In the unlikely event of product failure, please check the following:

*Problem: **No sound and picture***
• Check that the power cord is plugged into the outlet and that the outlet is energized
• Turn off and after a few seconds, turn the switch back on at the network cable connector.
• Click the computer start button again.
• Check the brightness and contrast settings of the image.
• Check your volume settings
• When the System is turned off and the projector is turned on, or there is no signal on the projector, the projector automatically turns on the power saving function (sleep mode) for 10 minutes. You can exit sleep mode by turning on the display with the remote control. Then check the volume settings of the speakers and PC.

*Problem: **There is an image but no sound***
• Check the volume settings of the speakers and PC

*Problem: **There is Audio or visual interference***
• Try to find electrical appliances that cause interference and move them away from the system.
• Insert the mains plug into another outlet.

The Manufacturer can provide the Buyer with only consulting and remote assistance in case of problems with the SOFTWARE.

Before contacting ROMPA® to report any difficulties please have the Model Serial Number (noted on the front page of the manufacturer's manual delivered with this product)

Further copies of these instructions can be downloaded at www.rompa.com

We hope you find our instructions invaluable. If you have any suggestions for improving them further your comments will be greatly received – please contact us at
producthelp@rompa.com