SKAARHOJ

XPanel HIDs

Software User Manual

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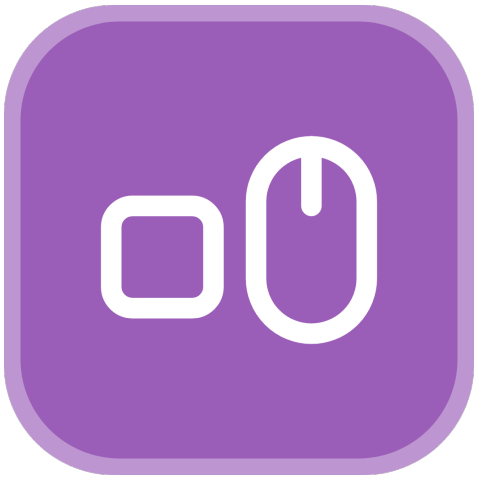

I Disclaimer

Before using this software product, please read and fully understand all instructions provided.

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The source language of this manual is English. Translations into other languages are derived from the English version.

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Danger

DANGER indicates an imminent hazard. Always follow the recommended actions to prevent this danger.

Warning

WARNING indicates a potential hazard. Always follow the recommended actions to prevent this risk.

Caution

CAUTION indicates a possible hazard. Always follow the recommended actions to prevent this hazard.

Notice

NOTICE indicates a potential risk. Always follow the recommended actions to avoid damage.

Hint

HINT provides additional information to clarify or simplify a procedure. It is not related to safety.

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1 About this Document

This operating manual is intended for all users of the SKAARHOJ XPanel HIDs. It provides essential guidelines for the safe and proper operation of the software. All users must read this manual before using the software for the first time to ensure correct usage.

The manual is an important part of the XPanel HIDs and should be kept easily accessible, close to the operator for reference at any time.

For more detailed information about the software's features and functionality, please refer to additional instructions available for download at https://www.skaarhoj.com or request them via support@skaarhoj.co

Ensure that any other relevant documentation is stored safely for future reference and for any potential future users of the software.

For more resources and helpful information, visit the SKAARHOJ website.

SKAARHOJ offers comprehensive training courses to provide deeper insights into maximizing the potential of SKAARHOJ products.

1.1 Intended Use

Notice

Intended Use of XPanel HIDs
All versions of XPanel HIDs are intended for professional use only and must be operated by skilled and trained personnel. They must not be used by inexperienced individuals without proper training.
Before use, carefully read and understand both the operating and user manuals. Use the product and its accessories solely for the purposes outlined in this document. Always follow the safety instructions and system requirements for all equipment involved.
SKAARHOJ assumes no liability for damages or modifications resulting from improper use. Modifying the product or its accessories is strictly prohibited.

2 About XPanel HIDs

XPanel HIDs makes USB HID devices – jog/shuttle controllers, game pads, joysticks, foot switches, presenter remotes, a color grading panel, keyboards, mice and a trackpad – available as **Raw Panels**. SKAARHOJ Reactor and other Raw Panel systems then use them like any SKAARHOJ panel: every button, joystick, jog wheel and trackball becomes a hardware component (HWC) that can be assigned to a function.

Key capabilities:

- **Plug and play** – every supported device that is plugged in gets its own panel, with its own Raw Panel server on a TCP port. The panel keeps that port and its settings, also when the device is unplugged and plugged in again.
- **Announced on the network** – each panel announces itself with mDNS, so Reactor finds it.
- **Live view** – the web interface shows each panel as a drawing of the device. Presses on the device light up on screen, and clicking on screen triggers the same events as the device. A panel's status dot in the list blinks when it sends a trigger.
- **Set up before the hardware arrives** – add a panel of any supported model and simulate it, so Reactor can be configured in advance. The device takes over the panel when it is plugged in.
- **Key debounce** for buttons that bounce, such as foot switches.

2.1 How It Works

1. XPanel HIDs looks for supported HID devices on USB. It looks when the devices on USB change, and once a minute.
2. A device that is found is matched with its panel in the list (or gets a new one), and the panel's Raw Panel server starts on the panel's port.
3. Reactor connects to the port. The device's buttons and controls are sent to Reactor as Raw Panel events.
4. When the device is unplugged, the panel goes offline: its Raw Panel server stops, connected systems are disconnected and the port is closed. When the device is plugged in again, the panel comes back on the same port and the systems can reconnect. A simulated panel keeps running without its device.

HID devices have no displays or LEDs that XPanel HIDs drives: the panels only send triggers. Feedback that Reactor sends to a panel (colors, texts) is accepted but has no effect on the device.

Notice

A device's serial number is made from its model (USB vendor and product ID and product name), not from the device itself. So all devices of one model have the same serial number, and **only one device of each model can be used at a time**. A second device of the same model is ignored while the first is connected.

3 Supported Devices

Model (as shown in the app)	Product key	USB ID	Controls
APEM HF-45S10-U Joystick	`APEM-HF45S10U`	068E:019F	3 joystick axes, 2 buttons
Apple Magic Trackpad 2	`AppleMagicTrackpad2`	05AC:0265	Virtual joystick X/Y, pinch zoom, click
Contour ShuttlePro	`ContourShuttlePro`	0B33:0030	15 buttons, shuttle, jog
Delcom FootSwitch Mouse	`FootSwitchDelcom`	0FC5:3661	1 foot switch
Generic Keyboard	`GenericKeyboard`	046D:C336	Every key, incl. modifiers
Generic Mouse	`GenericMouse`	046D:C077	2 buttons, X/Y movement, scroll wheel with push
Logitech R400/R800	`LogitechR400`	046D:C52D, 046D:C538	Up to 4 buttons
Logitech R500	`LogitechR500`	046D:C540, 046D:C53E	2 buttons
Tangent Ripple	`TangentRipple`	04D8:FA0F	8 buttons, 3 jog wheels, 3 trackballs
USB Generic Gamepad	`GamePad`	0810:0001	12 buttons, 2 two-axis joysticks

The USB ID is the vendor and product ID (hexadecimal) that XPanel HIDs recognizes the model by. Section 10 lists the hardware components of each model with their HWC numbers, for setting up Reactor.

3.1 Generic Keyboard and Mouse

Generic Keyboard and **Generic Mouse** handle the standard USB keyboard and mouse reports, but by default they are only used for one specific Logitech keyboard and mouse (the USB IDs above). Keyboards and mice are not picked up automatically, so other keyboards and mice are left alone.

To use another keyboard, mouse or compatible device as one of the models, add its USB vendor and product ID to the model with the `InjectVIDsAndPIDs` option in the Deep Config (Expert mode, see section 12.1). This works for devices that send the same reports as the model.

3.2 Apple Magic Trackpad 2

The trackpad is used as a joystick: put one finger down and move it, and the distance from where it touched down is the X and Y deflection. A second finger pinching or spreading is the zoom axis. Pressing the trackpad is the click button. XPanel HIDs recognizes the trackpad when it is connected by its USB cable.

4 Getting Started

4.1 Installing

XPanel HIDs runs on SKAARHOJ products with the Blue Pill platform inside (skaarOS). Install the package **HID Integration** (`xpanel-hids`) from the Package Manager of the SKAARHOJ device, and connect the HID devices to the SKAARHOJ device's USB ports.

Open the app from the web interface of the SKAARHOJ device. Its address is:

`http://<device IP>/ingress/xpanel-hids`

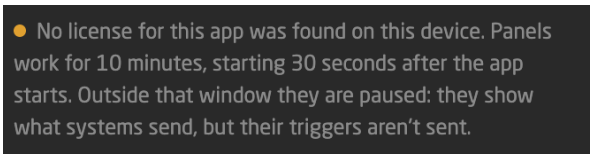
Hint

Click **Go Mobile** on the **Info** page to show a QR code with its address, and open it on a phone or tablet on the same network.

4.2 License

XPanel HIDs needs a license on the SKAARHOJ device. A license covers up to ten connected HID devices; simulated panels don't count.

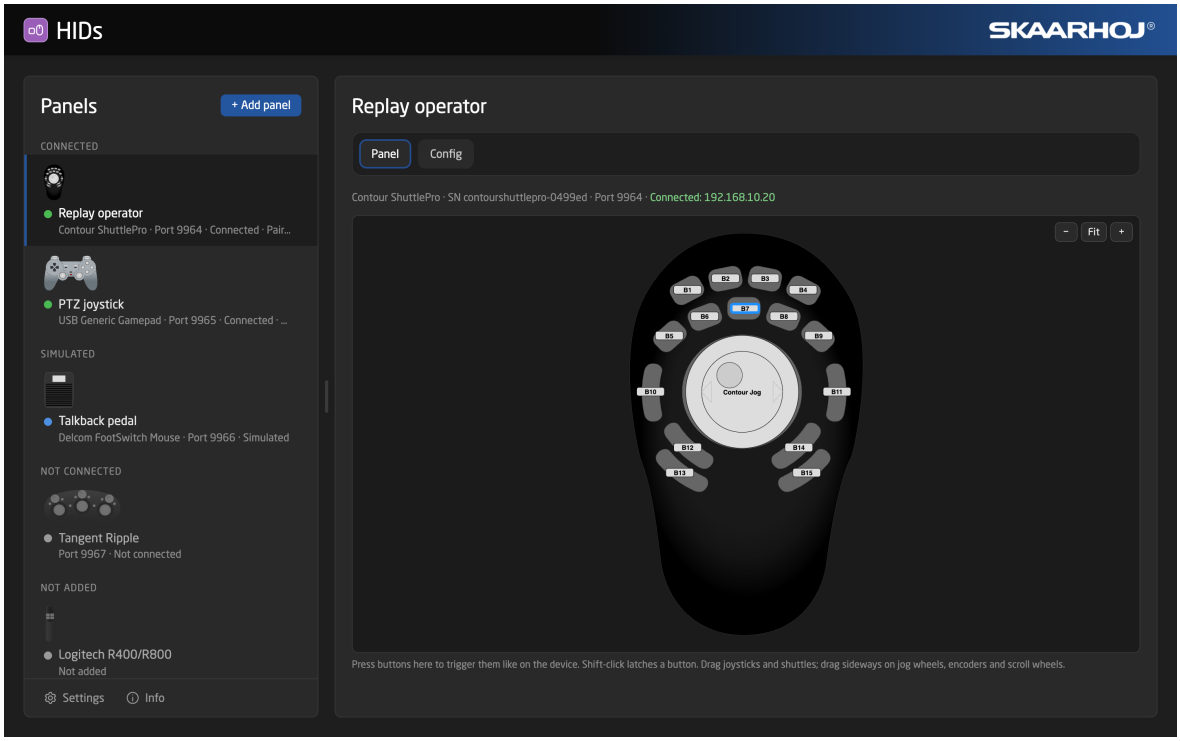
Without a license, the panels work as a trial: for 10 minutes, starting 30 seconds after the app starts. Outside that window the panels are paused: they are on the network and show what you press, but their triggers are not sent to Reactor. A note under the panel list explains this:



4.3 First Steps

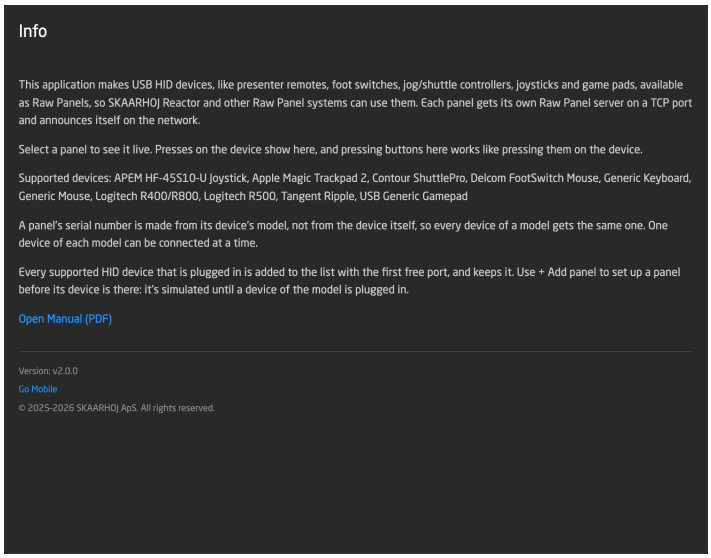
1. Plug in a supported device. It appears in the panel list under **Connected**, with a port (the first free one from 9963).
2. Select it to see it live. Press a button on the device: it lights up on screen.
3. In Reactor, add the panel. It is announced on the network as **XP_HIDS-<model>**, or connect to the SKAARHOJ device's IP address and the panel's port.

5 The Interface



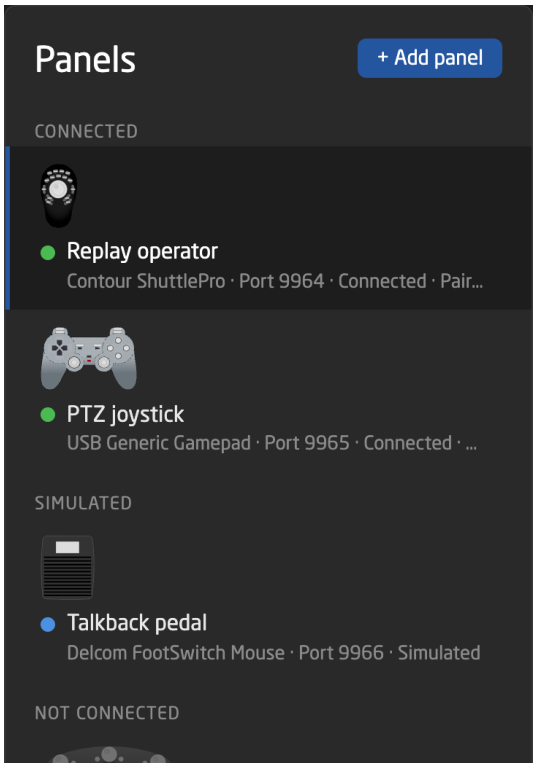
- **Left** – the **Panels** list, the **+ Add panel** button, and **Settings** and **Info** at the bottom (in Expert mode also **Log**). Drag the divider to resize the list.
- **Right** – the selected panel: its name, and under it **Panel** (the live drawing) and **Config** (its settings). The one you used last stays selected when you select another panel. Settings and Info at the bottom of the list show the general settings and information about the app here.
- **Expert** – the switch at the bottom of **Settings**. The version and **Go Mobile** are on the **Info** page.

Expert shows advanced options, marked Expert in this manual: the **Restart** button of a panel, **Protocol mode**, **Deep config** and **Reset** in the general settings, and the **Log** in the desktop app. The choice is remembered by the browser.



Info describes the app and lists the supported devices, with **Open Manual (PDF)**, the version and **Go Mobile** at the bottom.

5.1 The Panel List



Each row shows a drawing of the model, the panel's description (or the model name), and a line with the model, the port and the status. The list is grouped:

Group	Panels
Connected	Panels whose HID device is plugged in.
Simulated	Panels running without their device (see section 6.3).
Not connected	Panels in the list whose device isn't plugged in. They are not on the network.
Not added	Devices that are plugged in but not in the list (when **Add new HID devices** is off).

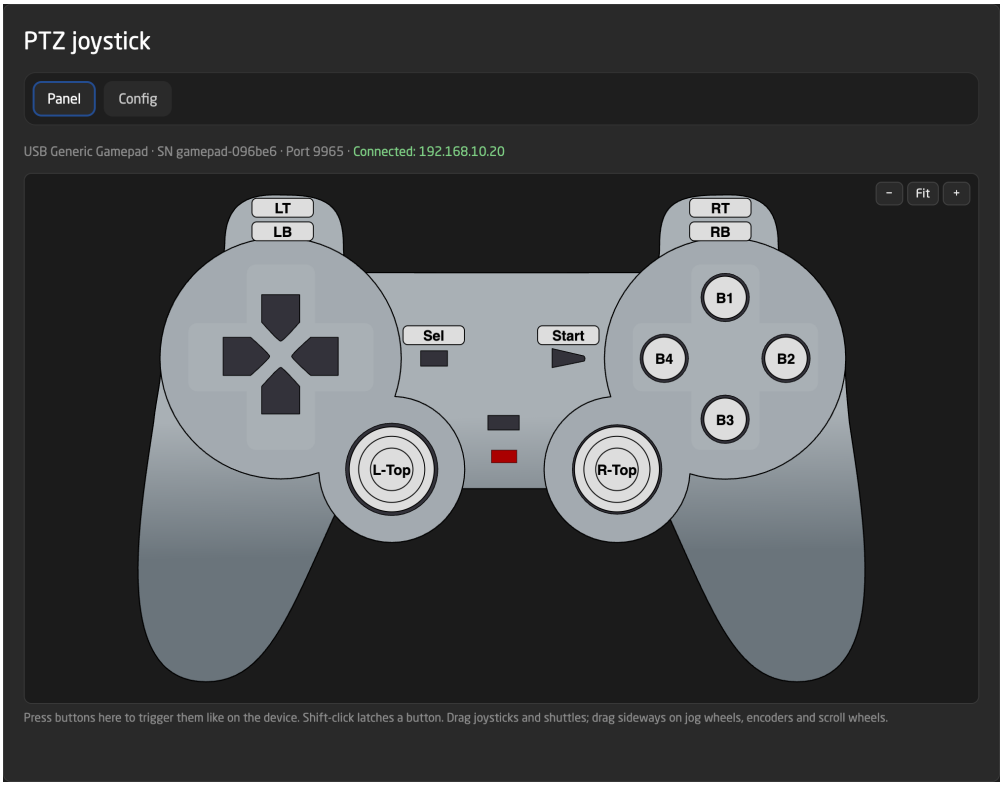
The colored dot and the status word (green: running with its device, blue: simulated, gray: waiting, dark gray: turned off, amber: a problem or not licensed):

Status	Meaning
Running	The Raw Panel server is running, no system is connected.
Connected	One or more systems are connected.
Simulated	Running without its device.
Not licensed	Running, but paused by the license trial: triggers are not sent.
Starting	The Raw Panel server is starting.
Not connected	The device isn't plugged in.
Turned off	**Active** is off in the panel's settings.
Not added	A plugged-in device that isn't in the list.
No port / Error	The panel can't run. The reason is shown in the row, e.g. that another program uses its port.

The dot blinks when the panel sends a trigger, from the device or from the screen.

Right-click a row for its menu: **Remove panel** for a panel in the list, **Add to the list** for a device that isn't added.

5.2 The Panel View



The line at the top shows the model, the panel's serial number (SN), the port, and the IP addresses of connected systems, or Waiting for a system to connect.

The drawing is live. Buttons pressed on the device light up, and operating the drawing works like the device:

- **Click** a button to press it. **Shift-click** latches it (it stays pressed until you click it again).
- **Drag** joysticks and shuttles.
- **Drag sideways** on jog wheels, encoders, trackballs and scroll wheels.

Zoom with the **−**, **Fit** and **+** buttons, or with Cmd/Ctrl + scroll or a pinch. **Restart** Expert stops the panel's Raw Panel server and starts it again; connected systems reconnect.

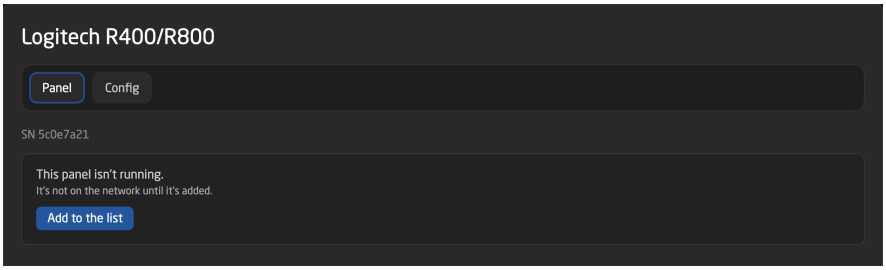
6 Panels and Devices

A **panel** is what Reactor sees: a Raw Panel with a serial number, a port and the components of its model. A **device** is the HID device on USB that operates the panel.

6.1 Plugging In a Device

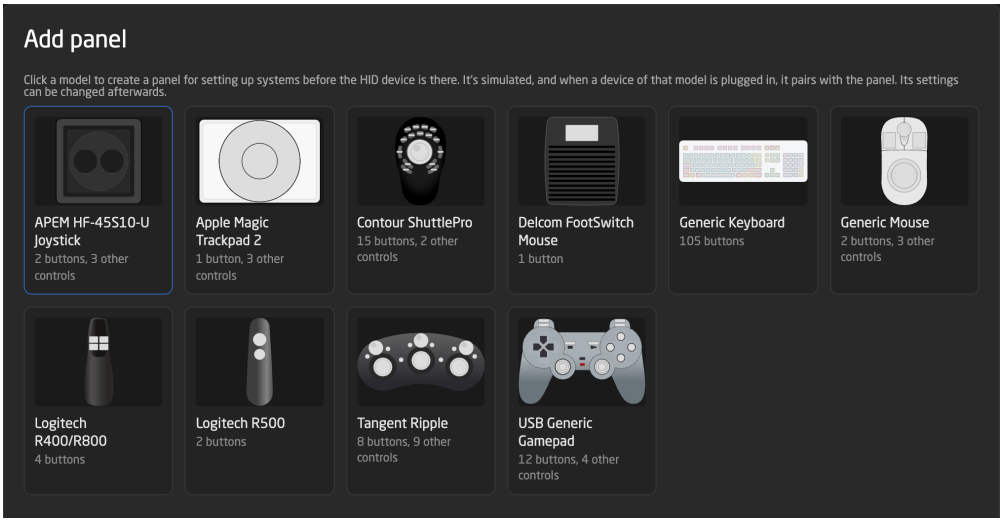
With **Add new HID devices** on (the default), a supported device that is plugged in for the first time is added to the list with the first free port from the starting port. Unplug it and plug it in again, and it comes back on the same port, with its settings. A notice at the bottom of the screen tells you when a device was added or paired automatically.

With **Add new HID devices** off, a new device is listed under **Not added** and is not on the network until you click **Add to the list**:



6.2 Adding a Panel Before the Device Is There

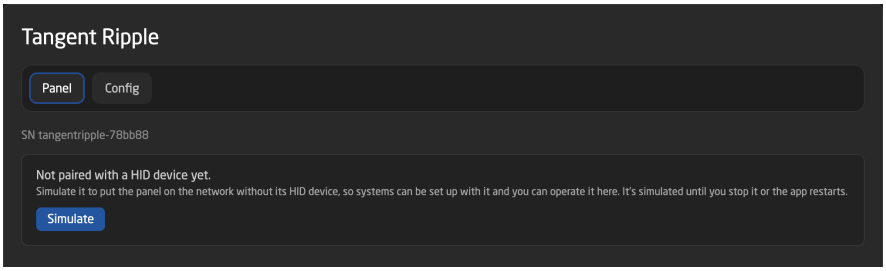
Click **+ Add panel** and click a model:



The panel is created with the next free port and a serial number made from the model, like `gamepad-3fa91c`. It starts simulated, so you can add it in Reactor and configure it right away. When a device of the model is plugged in, it pairs with the first unpaired panel of its model that was added this way, and the panel keeps its serial number and port — Reactor doesn't notice the change.

6.3 Simulating a Panel

A simulated panel runs without its device: it is on the network, and you operate it under Panel. A panel whose device is not connected shows a **Simulate** button:



A simulated panel shows **Simulated** and a **Stop simulation** button in its status line. Simulation lasts until you stop it or the app restarts. When the panel's device is plugged in, the device operates the simulated panel; the panel keeps running, and its connections stay.

6.4 Pairing and Unpairing

The **Physical device** section of a panel's Config shows which device operates it:

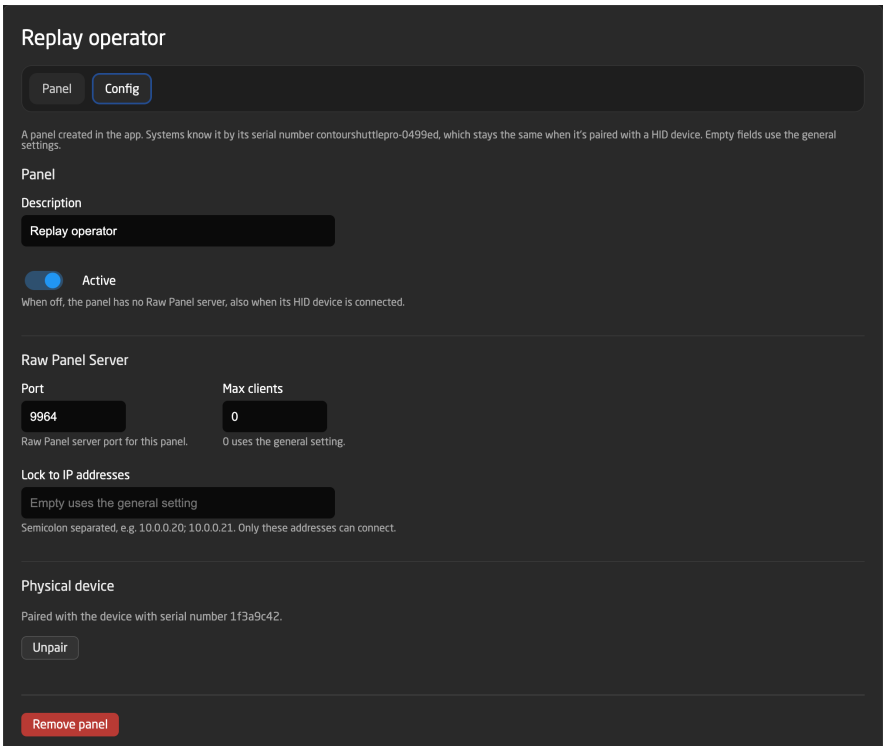
- For a panel added in the app: the serial number of its paired device, and **Unpair**. Unpairing gives the device a panel of its own on a free port. If a device of the model is connected and has a panel of its own, you can pair it with this panel instead.
- For a device's own panel: if panels of its model were added in the app, choose one and click **Pair**. The device then appears as that panel, with its port and settings, and the device's own panel is removed (systems connected to it are disconnected; you are asked first).

6.5 Removing a Panel

Remove panel at the bottom of a panel's Config (or in the right-click menu) removes the panel and its settings from the list. A paired device is no longer paired. A device's own panel can only be removed while the device is unplugged; if it is plugged in again later, it is added as a new panel.

7 Panel Settings

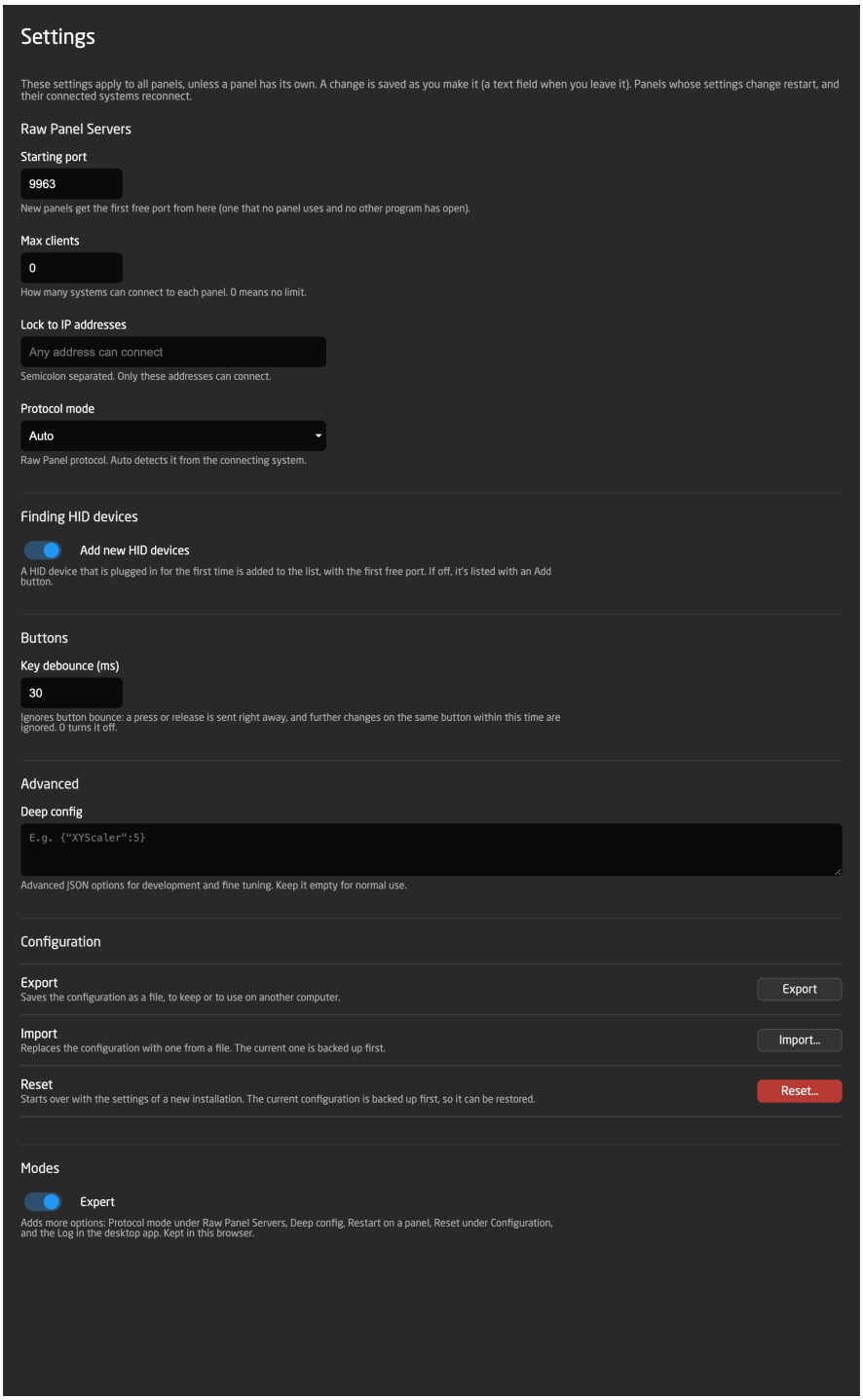
Select a panel and open its **Config**. A change is saved as you make it: switches and lists right away, text and number fields when you leave the field or press Enter. A value that isn't valid is marked in red and not saved. Empty fields use the general settings. Only panels whose settings changed restart.



Setting	Description
Description	A name for the panel, e.g. Replay operator. Shown in the panel list.
Active	When off, the panel has no Raw Panel server, also when its device is connected.
Port	The TCP port of the panel's Raw Panel server (1-65535). Each panel needs its own port.
Max clients	How many systems can connect at a time. 0 uses the general setting.
Lock to IP addresses	Only these addresses can connect. Semicolon separated, e.g. `10.0.0.20; 10.0.0.21`. Empty uses the general setting.

8 General Settings

Click **Settings** at the bottom of the panel list. These settings apply to all panels, unless a panel has its own. A change is saved as you make it: switches and lists right away, text and number fields when you leave the field or press Enter. A value that isn't valid is marked in red and not saved. Panels whose settings change restart, and their connected systems reconnect.


Settings
These settings apply to all panels, unless a panel has its own. A change is saved as you make it (a text field when you leave it). Panels whose settings change restart, and their connected systems reconnect.
Raw Panel Servers
Starting port
9963
New panels get the first free port from here (one that no panel uses and no other program has open).
Max clients
0
How many systems can connect to each panel. 0 means no limit.
Lock to IP addresses
Any address can connect
Semicolon separated. Only these addresses can connect.
Protocol mode
Auto
Raw Panel protocol. Auto detects it from the connecting system.
Finding HID devices
Add new HID devices
A HID device that is plugged in for the first time is added to the list, with the first free port. If off, it's listed with an Add button.
Buttons
Key debounce (ms)
30
Ignores button bounce: a press or release is sent right away, and further changes on the same button within this time are ignored. 0 turns it off.
Advanced
Deep config
E.g. {"XYScaler":5}
Advanced JSON options for development and fine tuning. Keep it empty for normal use.
Configuration
Export
Saves the configuration as a file, to keep or to use on another computer.
Export
Import
Replaces the configuration with one from a file. The current one is backed up first.
Import...
Reset
Starts over with the settings of a new installation. The current configuration is backed up first, so it can be restored.
Reset...
Modes
Expert
Adds more options: Protocol mode under Raw Panel Servers, Deep config, Restart on a panel, Reset under Configuration, and the Log in the desktop app. Kept in this browser.

Setting	Description
Starting port	New panels get the first free port from here: one that no panel uses and no other program has open. Default 9963.
Max clients	How many systems can connect to each panel. 0 means no limit.
Lock to IP addresses	Semicolon separated. Only these addresses can connect. Empty: any address.
Protocol mode Expert	Raw Panel protocol: **Auto** (default) detects it from the connecting system; **Binary** or **ASCII** force one.
Add new HID devices	A device plugged in for the first time is added to the list. If off, it is listed under Not added with an Add button. Default on.
Key debounce (ms)	Ignores button bounce: a press or release is sent right away, and further changes on the same button within this time are ignored. 0 turns it off; at most 1000. Default 30. Applies to the buttons of the devices, not to clicks on screen.
Deep config Expert	Under **Advanced**: JSON options for tuning and development (section 12.1). Keep it empty for normal use.
Expert	Under **Modes**: shows the options marked Expert. Kept in this browser.

8.1 Configuration: Export, Import, Restore, Reset

Under **Configuration**:

- **Export** downloads the configuration (all panels and settings) as a file.
- **Import** replaces the configuration with one from a file.
- **Reset** Expert starts over with the settings of a new installation. Connected devices are added again, possibly on other ports, and panels created in the app get new serial numbers if you create them again, so systems that use them must be set up again.

Before an import, a restore or a reset, the current configuration is backed up. **Restore** (shown when there is a backup) brings back the newest backup. The last ten backups are kept.

9 Connecting Reactor

9.1 On the Network

Each running panel has its own Raw Panel server on its port and is announced with mDNS (service `_skaarhoj-rwp._tcp`):

Item	Value
Model	`XP_HIDS-` and the product key in capitals, e.g. `XP_HIDS-CONTOURSHUTTLEPRO`
Serial number	The panel's serial number (SN under Panel)
Instance name	`<model> [<serial>]`
Host name	`xp-<serial>.local`
Name	The model name, e.g. Contour ShuttlePro
Protocol	Raw Panel 2.0, ASCII and binary (or the one set in Protocol mode)

Reactor finds the panels by their announcement. You can also add a panel by the IP address of the SKAARHOJ device and the panel's port.

9.2 Components and Events

The panels send Raw Panel events for the hardware components (HWCs) of their model. Section 10 lists them. The event types:

Type	Sent as
Button	Press and release (binary).
Joystick axis, shuttle	Intensity (speed) from -500 to $+500$, 0 in the center. A new value is sent when it changes.
Jog wheel, encoder, trackball, mouse movement	Pulses: the number of steps since the last event, positive or negative. The mouse and the Tangent Ripple send them at most ten times per second.

9.3 Connections

- Several systems can connect to a panel at the same time, up to **Max clients**. All of them get the panel's events.
- **Lock to IP addresses** limits which systems can connect.
- A system that stops reading its connection does not hold up the panel for the others. Its messages are held back, and if it takes nothing for 10 seconds (or falls too far behind), its connection is closed so it reconnects.

- When a device is unplugged, its panel goes offline and connected systems are disconnected. When it is plugged in again, the panel is back on the same port and the systems reconnect. A simulated panel stays on the network while its device is unplugged.
- When a panel restarts (its settings changed, or **Restart**), connected systems reconnect.

10 Device Reference

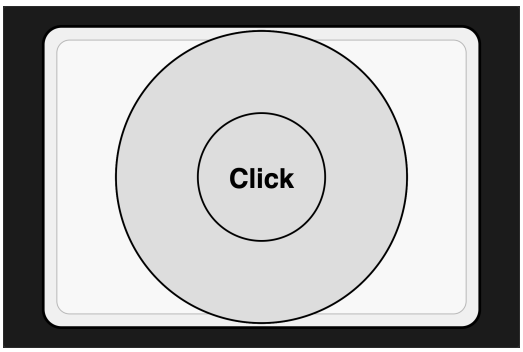
The hardware components of each model, by HWC number, as Reactor sees them. The drawings are the ones under Panel. Types: button; intensity (joystick axis, ± 500); pulses (jog, encoder, trackball).

10.1 APEM HF-45S10-U Joystick



HWC	Label	Type	Function
1	LR	intensity	Left-right (-500 left, $+500$ right)
2	UD	intensity	Up-down
3	Rotate	intensity	Twist
4	Top1	button	Top button 1
5	Top2	button	Top button 2

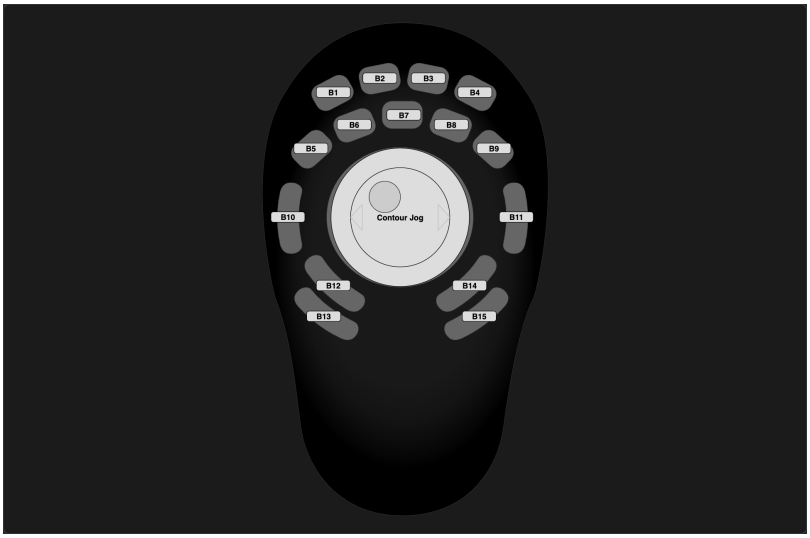
10.2 Apple Magic Trackpad 2



HWC	Label	Type	Function
1	X	intensity	First finger, sideways from where it touched down
2	Y	intensity	First finger, up and down from where it touched down
3	Zoom	intensity	Second finger: pinch or spread
4	Click	button	Pressing the trackpad

The axes return to 0 when the fingers are lifted. Sensitivity, dead zone and update rate can be tuned with the Deep Config (section 12.1).

10.3 Contour ShuttlePro



HWC	Label	Type	Function
1-4	B1-B4	button	Top row, left to right
5-9	B5-B9	button	Second row, left to right
10	B12	button	Lower left, upper
11	B14	button	Lower right, upper
12	B13	button	Lower left, lower
13	B15	button	Lower right, lower
14	B10	button	Left of the jog wheel
15	B11	button	Right of the jog wheel
16	Contour Shuttle	intensity	Spring-loaded shuttle ring, 7 steps each way
17	Contour Jog	pulses	Jog wheel

Notice

On the ShuttlePro, the labels B10-B15 don't follow the HWC numbers. Use the HWC numbers in Reactor.

10.4 Delcom FootSwitch Mouse



HWC	Label	Type	Function
1	Footswitch	button	The pedal

10.5 Generic Keyboard

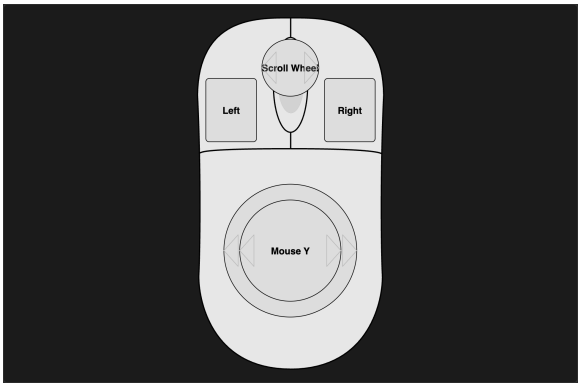


Every key is a button. The HWC number is the key's USB HID usage number, so it is the same on every keyboard, whatever its layout:

HWC	Keys
4-29	A-Z
30-39	1-9, 0
40-44	Enter, Esc, Backspace, Tab, Space
45-56	Dash, Equal, LBrack, RBrack, (49 not drawn), Hash, Colon, At, Tick, Comma, Period, Slash (US layout: - = [ ] \ # ; ' ` , . /)
57	Caps Lock
58-69	F1-F12
70-72	Print Screen, Scroll Lock, Pause
73-78	Insert, Home, Page Up, Delete, End, Page Down
79-82	Right, Left, Down, Up
83-99	Num Lock, keypad / * - + Enter, keypad 1-9, 0, keypad Del (.)
100	BSlash (the extra key next to left Shift on ISO keyboards)
101	Dialog (the context menu key)
256-259	Left Ctrl, left Shift, left Alt, left GUI (Windows/Cmd)
260-263	Right Ctrl, right Shift, AltGr (right Alt), right GUI

Up to six keys plus the modifiers can be held at a time. Keys that are not in the drawing still send events with their usage number.

10.6 Generic Mouse



HWC	Label	Type	Function
1	Left	button	Left button
2	Right	button	Right button
3	Mouse X	pulses	Movement sideways (positive: right)
4	Mouse Y	pulses	Movement forward and back (positive: up)
5	Scroll Wheel	pulses, button	Wheel (positive: up); pressing the wheel is the button

Movement is divided by 20 and the wheel by 1 before it is sent (Deep Config options `XYScaler` and `WheelScaler`).

10.7 Logitech R400/R800



HWC	Label	Type	Function
1	Forward	button	Next slide
2	Back	button	Previous slide
3	Play	button	Start/stop the slide show
4	Black	button	Black screen

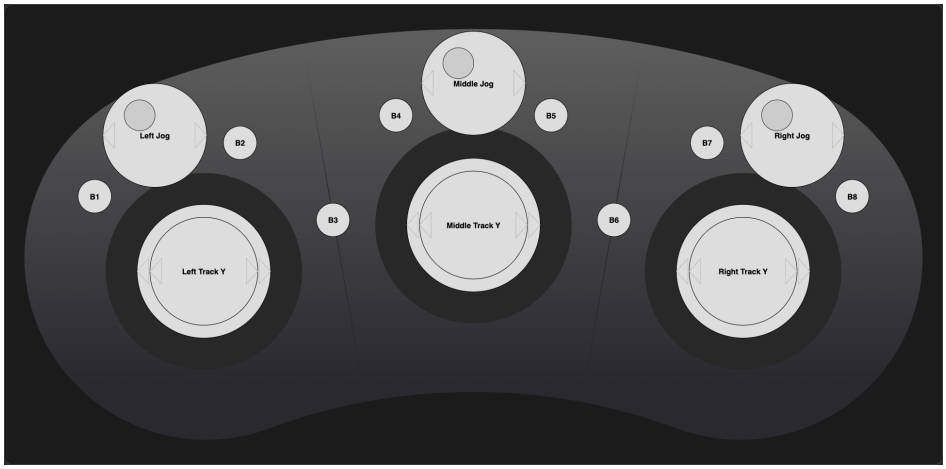
The receiver with product ID C538 only sends Forward and Back.

10.8 Logitech R500



HWC	Label	Type	Function
1	Forward	button	Next slide
2	Back	button	Previous slide

10.9 Tangent Ripple



HWC	Label	Type	Function
1-8	B1-B8	button	Buttons, left to right
9	Left Jog	pulses	Left ring
10	Middle Jog	pulses	Middle ring
11	Right Jog	pulses	Right ring
12, 13	Left Track X, Y	pulses	Left trackball
14, 15	Middle Track X, Y	pulses	Middle trackball
16, 17	Right Track X, Y	pulses	Right trackball

Rings and trackballs are divided by 20 before they are sent. Change this with the Deep Config options `EncoderScaler` and `TrackballScaler`.

10.10 USB Generic Gamepad



HWC	Label	Type	Function
1	Sel	button	Select
2	Start	button	Start
4-7	B1-B4	button	The four buttons on the right
8	RT	button	Right shoulder, top
9	RB	button	Right shoulder, bottom
10	LT	button	Left shoulder, top
11	LB	button	Left shoulder, bottom
12	L-Top	button	Pressing the left joystick
13	R-Top	button	Pressing the right joystick
14	R-LR	intensity	Right joystick, left-right
15	R-UD	intensity	Right joystick, up-down
16	L-LR	intensity	Left joystick, left-right
17	L-UD	intensity	Left joystick, up-down

The D-pad on the left is drawn but not used. There is no HWC 3.

11 Troubleshooting

A device doesn't appear in the list. Check that the model is in the table in section 3 and that its USB ID matches: other versions of a product can have another product ID. A keyboard or mouse needs its USB ID added with `InjectVIDsAndPIDs` (section 12.1). If **Add new HID devices** is off, look under **Not added**.

A second device of the same model does nothing. Only one device of each model can be used at a time (they share a serial number).

A device is found but can't be opened. The app logs "Could not open the device". Unplug the device and plug it in again. If that doesn't help, restart the SKAARHOJ device.

The panel says its port is used by another program. Another program, or another panel, has the port open. The app names the program and starts the panel as soon as the port is free; or give the panel another port.

Reactor is connected but nothing happens. Look for **Not licensed** in the status line: the panel is paused outside the trial window. Check **Lock to IP addresses** and **Max clients**.

A foot switch triggers twice. Raise **Key debounce**.

Jog, trackball or mouse is too fast or too slow. Change the divisors in the Deep Config.

A panel in the list says "Its HID device is the model …". The device paired with the panel is now of another model. Unpair it, or remove the panel.

12 Reference

12.1 Deep Config Expert

JSON in the general settings (shown in Expert mode), for tuning and development. Keep it empty for normal use. Options that are read when a device is opened or the app starts take effect after reconnecting the device or restarting the app.

Option	Description
`InjectVIDsAndPIDs`	More USB IDs to handle as a model: `{"GenericKeyboard":[[1267,259]]}`. Vendor and product ID in decimal. Read at start.
`XYScaler`	Divisor for Generic Mouse X and Y. Default 20.
`WheelScaler`	Divisor for the Generic Mouse wheel. Default 1.
`EncoderScaler`	Divisor for the Tangent Ripple rings. Default 20.
`TrackballScaler`	Divisor for the Tangent Ripple trackballs. Default 20.
`AppleMagicTrackpad2`	Object with `JoystickThrow` (finger travel for full deflection, default 1500), `PinchThrow` (default 1000), `DeadZone` (default 30), `TickerHz` (update rate, default 30) and `ChangeTolerance` (default 20).
`Development`	`{"Mode":"Scan"}` logs every HID device found; `{"Mode":"Log", ...}` logs the reports of the first device that matches the filters `VendorID`, `ProductID`, `UsagePage`, `Usage`, `InterfaceNum`. In these modes the app only logs: panels and the web interface don't start. For identifying new devices only.

Notice

With a Development mode in the Deep Config, the web interface doesn't start after the next restart. Remove it from the configuration file (`config.json` in the app's data folder) to get the interface back.

12.2 Data and Configuration

The app stores its configuration in its data folder as `config.json`, with backups in the folder `config-backups`. It is managed in the app only, not on the configuration page of the SKAARHOJ device; a configuration from an older version is converted the first time the app starts. The manual is available from **Info** (**Open Manual (PDF)**).

12.3 Usage Statistics

The app sends usage statistics to SKAARHOJ: the number of panels per model, the settings choices, and the model, serial number and firmware version of the paired and connected devices. No descriptions, IP addresses or ports.