Opalum®
of Scandinavia

Owner's guide
How to use your new Opalum sound system

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1. The Control Hub

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   Indicates the current status using different colors and flash modes. For details see section 2.
2. **Power socket**
   Connection for included 24V DC power supply. Make sure connector is firmly attached.
3. **Speaker output, Actiline® Digital Link**
   Do ONLY connect Actiline® enabled speakers to this output. (E.g. Opalum FLOW, BREEZE or STREAM series).
4. **Master volume adjustment**
   The master volume can be adjusted using this rocker switch. When in standby, this switch can also be used to turn on the system.
5. **IR/RS232**
   Connection for controlling the system through either external IR or RS232.
6. **Analog subwoofer output**
   Optionally connect this line level output to the analog input of an active subwoofer. At normal listening levels adding a subwoofer is not needed thanks to the Actisonic® technology. This output will sense if a subwoofer is attached and automatically match the sub-woofer and Opalum speakers using a high precision digital crossover at 80 Hz and 24 dB/octave. If the subwoofer has its own adjustable low-pass filter it should be set to the highest possible frequency in order not to interfere with the digital crossover of the Opalum Control Hub.
7. **Analog stereo line input**
   Connection for analog line level equipment (e.g. MP3-player, notebook, phones, etc.). This can also be used to connect the output of your surround receiver.
8. **Digital input, coaxial***
   Connection for digital S/PDIF equipment (e.g. computer, CD, DVD^{TM}, Blu-ray^{TM}, flat screen TV, etc) using coaxial cabling. (These are trademarks of their respective owners).
9. **Digital inputs, optical***
10. **Digital inputs, optical***
    Connection for digital S/PDIF equipment (e.g. computer, CD, DVD^{TM}, Blu-ray^{TM}, flat screen TV, etc) using optical fibre (TOSLINK^{TM}). (These are trademarks of their respective owners).
11. **IR Learning/Factory reset button**
    Button to tell the control hub to go into IR learning mode. This is also the button to reset the unit to factory settings.
12. **Electrical IR/RS232 mode switch (only for system integrators)**
    Selects if the IR/RS232 connector is used for electrical IR or RS232. Described in the System Integrator Guide on www.opalum.com.
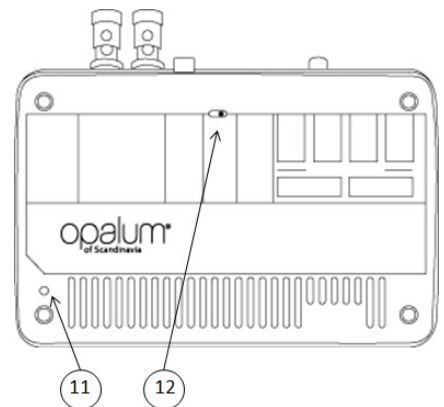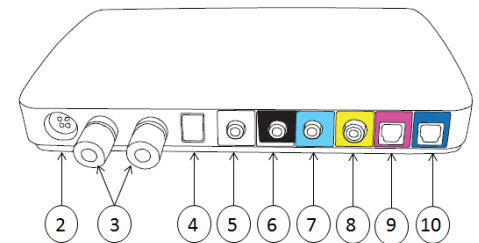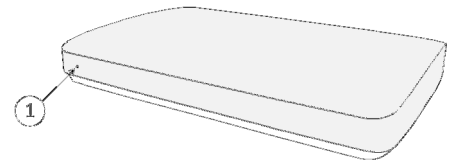
* NOTE:

Use uncompressed stereo PCM audio data only. Data rates of 44.1, 48, 88.2 and 96 kHz are supported in 16 and 24 bits. Both 176.4 and 192 kHz in 16 and 24 bit are also supported using digital coax input. If connecting a multi-channel source (such as a TV, DVD player, computer, etc.) setup this source to output uncompressed two channel (stereo) PCM data.

2. The status indicator

The LED on the front of the control hub indicates the current system status. Its color indicates the current input source and its intensity the system status. The indicator color matches the color marking of the corresponding input on the back of the Control Hub. Since all inputs are normally mixed, the most common color will be white indicating that the product is in Mixer mode.

2.1 Modes of the status indicators

To indicate special events the indicators uses different light modes.

- Dark   - stand by or OFF
- Steady   - normal operation
- Fade up from steady   - increasing volume
- Fade down from steady   - decreasing volume
- Yellow light flashing   - IR learning mode
- Red light flashing   - Short circuit on speaker output terminal, see section *"Short circuit protection"*.

3. Short circuit protection

To protect from shorted or faulty wired speaker cables the system is equipped with Actiline® short circuit protection. If a problem is detected, the power to the speakers is automatically turned off and the status indicator starts flashing red. To recover from short circuit mode you may go through the following steps:

1. Turn the system off or remove mains power
2. Make sure there are no shorted wires at the Control Hub terminals or any of the speaker terminals and that all connected speakers are Actiline® compatible.
3. Turn the system on or apply mains power

If short circuit is still detected disconnect all speakers from the Control Hub and re-connect them one by one, following steps 1-3 above for each added speaker.

4. Connecting the system

The speakers of the Opalum sound system can be connected to the Control Hub in two different ways thanks to the Actiline® technology. In both cases use the included speaker cables or other two conductors stranded 18 gauge (0.75 mm²) or higher/thicker cable.

- Parallel connected or
- Daisy chain connected

Both connection schemes are shown below and are equal in performance.

For maximum ease of use the polarity of the speaker cables and terminals <u>does not matter</u> as the data is transferred to the speakers digitally – another benefit of the Actiline® technology.

For instructions on how to properly use the speaker terminals together with the included cables see section "*Using the speaker terminals"*.
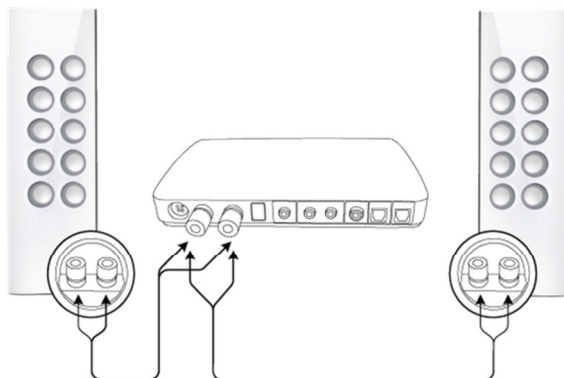
Parallel connection of speakers
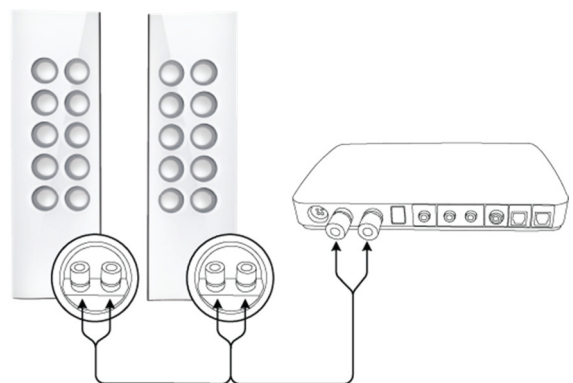
Daisy chain connected speakers

5. Using the speaker terminals

In the Opalum product range there are two types of speaker terminals present:
- Push type terminals
- Screw type terminals

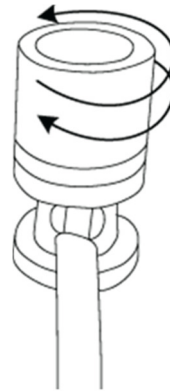Push terminal   Screw terminal

5.1 Installing speaker cable in push type terminals

1. Push terminal firmly until cable hole is fully open.
2. Insert metal part of speaker cable into the cable hole. Make sure that there is no cable insulation inside the hole.
3. Release pressure from speaker terminal. Make sure cable is securely fastened.

5.2 Installing speaker cable in screw type terminals

1. Turn terminal nut counter clockwise until cable hole opens as shown in figure 5.
2. Insert metal part of speaker cable into the cable hole. Make sure that there is no plastic cable insulation inside the hole.
3. Turn terminal nut clockwise firmly until cable is securely fastened.

6. Mounting the speakers

6.1 Wall mounting the speakers
Both the Opalum FLOW, BREEZE and STREAM series speakers are wall-mountable. (STREAM series speakers can also be standing tabletop). For optimum sound performance we recommend to mount the speaker at such height that the middle of the speaker is at about the height of the listener's ears. Therefore, if the listeners are sitting down most of the time when the speakers are used, the speakers should not be mounted too high.

NOTE: Wall mounting hardware must be well able to handle the weight of the speaker. Use appropriate mounting hardware depending on wall material, e.g. use screws with plastic plugs for concrete walls and special drywall plugs or equivalent for gypsum walls. It is important to adjust both wall mounting screws for a tight fit against the wall. Inappropriate mounting may lead to noise produced by vibration or even damage to the products.

For speaker weights please go to www.opalum.com

FLOW speakers with acrylic front only:
NOTE: Do not remove the front protection film until speaker is mounted. This will help the acrylic glass to stay free from scratches and fingerprints.

STREAM series only:
NOTE: To wall-mount the STREAM series speakers the feet must first be removed. This is done by unscrewing the two screws at the bottom of the speaker. Before wall-mounting the speakers please attach the included rubber bumpers to the back of the speaker with one bumper in each corner.

6.2 Speakers standing tabletop (STREAM series only)
To use the STREAM series speakers standing tabletop the included feet must be mounted (as when the speakers were delivered). Please make sure that the feet are tightly secured to the bottom of the speakers if the feet have previously been removed.

7. Using the Opalum sound system

The Opalum sound system can be operated in different manners or modes:

Automatic (default):
In a normal setup there is no use for a remote control, as the unit wakes up automatically whenever any connected source starts playing and goes into standby when no source is playing. In this configuration the selected source is MIXER, which in fact mixes all inputs together. The LED will be white. The volume control is done by the source, like for instance your phone.

Manual:
If manual source select or volume control is required; the system can learn IR commands, so that for instance your TV remote control can be used to select source or adjust volume up and down. In fact any IR remote can be learned, and thereby give you full control of the system.

Integration with custom installation systems:
For those using custom installation, the system accept commands from both RS232 and electrical IR. Please see the in depth descriptions in section 8.

7.1 Automatic standby
In all modes, the Opalum sound system will go to standby automatically. This happens if the selected source has been silent for more than 20 minutes. In standby the Opalum sound system consumes less than 0,5 watt.

7.2 Volume offset adjustment
Even if the volume is normally controlled by your source, like for instance your TV or mobile phone, the Opalum sound system offers a volume offset adjustment feature. This feature allows you to adjust the overall amplification level in the same way as an ordinary AV receiver would do. Increasing the volume offset will make your system play louder, but could also mean that the lowest volume setting on your source still could be too loud for a quiet living room late at night. Decreasing the volume offset will make your system play lower, but could also mean that the highest volume setting on your source isn't enough to get your party rocking. So, either adjust depending on the need of the moment, or find an adjustment that suites your need the best. The adjustment is stored automatically and since it's the amplification that is adjusted, it will affect all sources.

7.3 Bluetooth
To connect your mobile device or PC to the Opalum sound system using Bluetooth you first need to pair the devices. Please see the user guide of your device for how to pair. The Opalum sound system is identified by the name "Opalum xxxxxx", where xxxxxx is a unique number. During the pairing process you might be requested to enter a PASS code. This PASS code is 1397. Pairing should be completed and you should now be able to stream from your device to the Opalum sound system. Volume is also controlled by your device, 7.2 still applies though.

7.4 IR learning
The Control Hub can learn to understand IR commands from most remote controls. You decide

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which buttons to use for which function and simply use the IR learning function to teach the Control Hub. These are the functions that you can assign buttons to:

Sequence number	Button name	Function
1	Volume up	To increase the volume. This is basically the same as pressing the volume offset button on the back of the Control Hub.
2	Volume down	To decrease the volume. This is basically the same as pressing the volume offset button on the back of the Control Hub.
3	Source next	To select the next input on the control hub (see sequence in below drawing)
4	Power on/off	To control the power.

The buttons are learned in sequence starting from 1 in above list. You don't need to learn buttons for all functions as the learning function can be deactivated at any time. However, if you for instance want to learn the button for "Source next", you will also need to learn buttons for "Volume up" and "Volume down", but not "Power on/off".

The IR learning function is activated this way:
1. Make sure the unit is ON (if not push the master volume switch)
2. Press the IR Learn/Reset button on the bottom of the control hub for 2 seconds
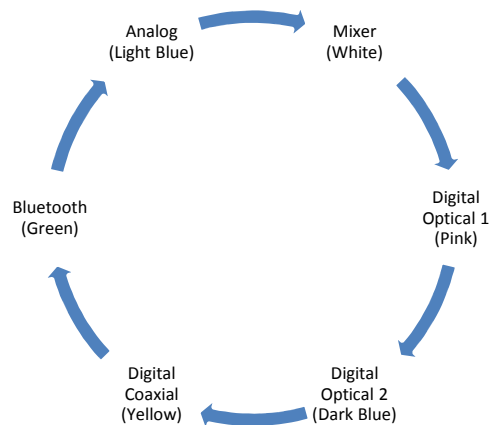3. When IR learning is activated the status LED starts flashing yellow

Learn a command:
4. Point your remote toward the IR eye in the front left side of the Control Hub (just to the right of the LED). Press the button you want to learn once and observe the LED:
   a. Steady green -> OK.
   b. Steady red -> Command was NOT learned.
5. Wait until the LED flashes yellow again and then repeat for next button to be learned or retry the learning of the button which just failed. In either case repeat from step 4.

Done learning:
6. If buttons for all 4 functions was learned the Control Hub will automatically reboot and return to normal operation mode. If you only want to some commands, you simply terminate the learning function by pressing the IR Learn/Reset button shortly - then the hub will reboot and be ready for use.

7.3 Source select (learned IR remote only)
Using the learned IR buttons; source can be selected by stepping through the sources one by one. The sequence of sources is:

Analog (Light Blue) → Mixer (White) → Digital Optical 1 (Pink) → Digital Optical 2 (Dark Blue) → Digital Coaxial (Yellow) → Bluetooth (Green) → Analog (Light Blue)

7.5 Power on/off (learned IR remote only)

Using the learned IR buttons; the Opalum sound system can be switched ON and OFF. If the system is manually switched OFF, the automatic wakeup is disabled.

7.6 Volume control (learned IR remote only)

Using the learned IR buttons; the volume can be adjusted. When the system goes OFF or into standby, the latest volume setting is stored and will be set when the system is switched ON again.

7.7 Factory reset

The factory reset function is to bring the unit back to the initial settings set by the factory. These settings are MIXER mode with volume set to 60%. All learned IR commands are erased.

The reset function is activated by:
1. Make sure the unit is ON
2. Press the IR Learning/Factory reset button for more than 10 seconds
3. Reset has been completed when the control hub reboots (LED turns OFF and then ON)