VOLFONI
CREATIVE 3D TECHNOLOGY

User Guide

ACTIVHUB™ RF50

www.volfoni.com
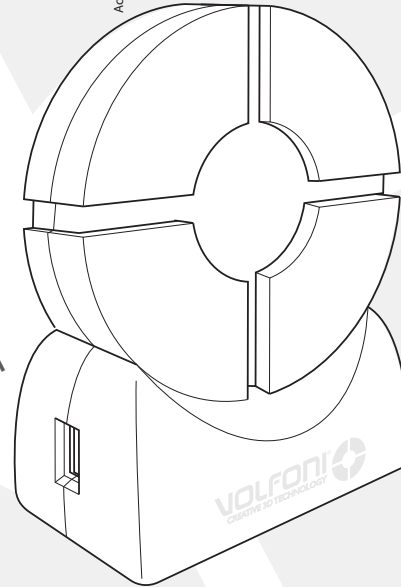
model
VPES-04100

SUMMARY

1. PRODUCT OVERVIEW

1.1 Description
The ActivHub RF50 is an emitter used to wirelessly synchronize 3D glasses with a 3D display system.

It can receive 3D synchronization via
- Wired link, typically VESA-DIN3 or BNC connectors
- Infra-Red link, from a wide variety of sources like 3DTVs and 3D IR emitters
- DLP-link embedded in the 3D images of a 3D-Ready™ projector

It can transmit 3D synchronization via
- RF link from any 3D source.
- VESA Link (square signal 0-5V)

Its intelligent core allows it to be
- Automatically compatible with most 3D display brands using IR synchronization
- Upgraded to new functions via volfoni's website

**It is especially suitable for**
- Virtual Reality centers, thanks to its omnidirectional, interference -free RF link
- Digital Content Creators, thanks to its selectable 12-channels RF Link
- 3D professionals, thanks to its industry-wide multi-brand compatibility

1.2 Content of the ActivHub RF50 Kit
Your ActivHub RF50 kit includes;
- an ActivHub RF50 3D emitter
- a VESA-DIN3 to Jack 3.5 connection cable
- a BNC & USB to Jack 3.5 connection cable
- a USB A to micro-USB cable for maintenance and power

1.3 Connectors and Functions
1. USB connector
2. Jack 3.5 connector
3. IR reception window
4. DLP-Link™ reception window
5. Function selector
6. Power and Function LED
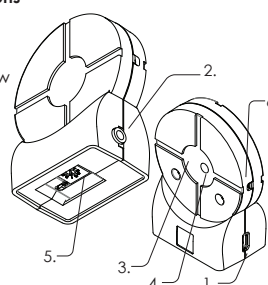
1.4 Requirements
The ActivHub RF50 is a 3D signal emitter to be used with active glasses to view 3D contents played on an active 3D display like 3D monitors, 3DTV or 3D projectors.

The ActivHub RF50 should receive the 3D synchronization signal from an Infra-Red source, a DLP-link™ compatible 3D projector, or a VESA-DIN3 or BNC connector. It can transmit the 3D signal RF, in the following configurations.

The ActivHub RF50 can transmit RF synchronization when connected to a VESA or BNC cable   **In**=Wire, **Out**=RF
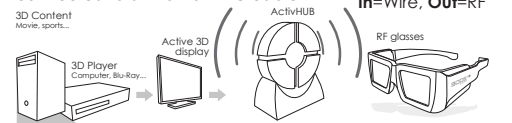
The ActivHub RF50 can transmit RF synchronization when receiving an IR 3D signal.   **In**=Wire, **Out**=RF
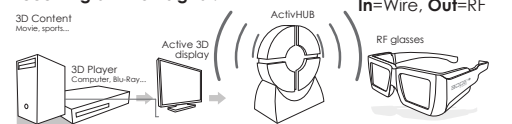
The ActivHub RF50 can transmit RF synchronization when receiving a DLP-Link 3D signal.   **In**=DLP, **Out**=RF
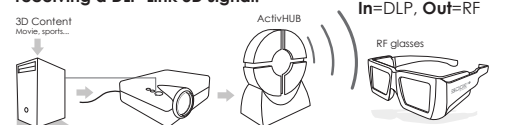
For complex installation please contact Volfoni technical support, support@volfoni.com.

2. COMPATIBILITY

Active 3D TV brands compatible with ActivHub RF50 in IR mode :
Sony®, Panasonic®, LG®, Samsung®, Konka®, Hinsen®, Arcelik®.

Computer 3D displays and systems compatible with ActivHub RF50 in IR mode : Nvidia®, NuVision®, Volfoni®. This includes selected ACER® and ASUS® 3D monitors and laptops

Your ActivHub RF50 uses Volfoni's proprietary RF 3D mode
The ActivHub RF50 is not compatible with 3D systems using Bluetooth, RF4CE or ZigBee RF protocols, like the Samsung Bluetooth Displays and Glasses, or the BitCaldron RF Products

Using your ActivHub RF50 in DLP-Link 3D mode
The ActivHub RF50 is compatible with all 3D-Ready™ projectors with an active DLP-link function. The DLP-link 3D signal is an invisible light pulse embedded into the 3D image projection. Refers to your projector user manual regarding the procedure to activate the DLP-link signal. Most DLP-based projector sold after 2005 are DLP-link compatible.

Compatible 3D Glasses
The ActibHub RF50 is compatible with Volfoni 3D RF glasses(ActivEyes, EDGE RF, EDGE VR). You may find more information about this glasses on our website www.volfoni.com.

These compatibility lists are indicatives. Due to possible changes of protocol by manufacturers, Volfoni cannot warranty compatibility with products previously cited.

3. USING YOUR ACTIVHUB RF50

3.1 Powering the ActivHub RF50
The ActivHub RF50 gets its power either from the Jack or micro-USB ports. Do not plug both inputs to power-providing devices at once, this may damage the ActivHub or the host systems.
The VESA port should be powered with either 5v or 12v. If your VESA is not powered, then the ActivHub RF50 can be powered via its USB port.

3.2 Selecting the synchronization source
Synchronization source selection is automatic on the ActivHub RF50.
At power-on, synchronization sources like Vesa, DLP-Link™ and IR, are automatically checked by the ActivHub. As soon as any of these three signals is detected, the ActivHub will focus exclusively on it until its next full power cycle. To switch to another synchronization source, you need to power off the ActivHub RF50.

The scan priority order is :
1. Wired 3D signal
2. DLP-link 3D signal
3. IR 3D signal

3.3 Selecting the emission channel
The emission mode is selected by the function selector:
0 : Autotest mode
3 to E: RF channels
8 : Default RF channel
F: VESA channel

Please note that the position 1 and 2 are not to be used in the ActivHub RF50.

3.4 Examples of setups

1.VESA-DIN3 > RF mode
1. Set the function selector to a RF channel position.
2. Plug the Vesa or BNC connector to your 3D source
3. If using the BNC cable, plug its USB connector to a power source.
4. Plug the Jack 3.5 connector to the ActivHub RF50.
5. Check blue LEDs lighting up meaning power is on.
6. Check blue LEDs are blinking twice every 3 sec.
Notes
• The ActivHub RF50 blinking twice means a functional 3D sync input and its RF transmission.
• If you experience interferences, or if you are using many ActivHub RF50 in a single room or building, you may choose another channel between 4 and 14.

2. IR > RF mode
1. Set the function selector to a RF channel position.
2. Plug the USB connector to a powered socket or the included adapter.
3. Plug the micro-USB connector to the ActivHub RF50.
4. Check blue LEDs lighting up meaning power is on.
5. Turn the IR reception window towards the IR 3D source like the 3DTV.
6. Check blue LEDs are blinking twice every 3 sec.
7. Make sure you keep the IR reception window turned toward the 3D source.

Notes:
• The ActivHub RF50 blinking twice means a functional 3D sync input and its RF transmission.
• IR receiving mode requires a clear line-of-sight between the ActivHub RF50 and the 3D source.
• If you experience interferences, or if you are using many ActivHub RF50 in a single room or building, you may choose another channel between 4 and 14.

3. DLP®-link™ > RF mode
1. Set the function selector to a RF channel position.
2. Plug the USB connector to a powered socket or the included adapter.
3. Plug the micro-USB connector to the ActivHub RF50.
4. Check blue LEDs lighting up meaning power is on.
5. Turn the DLP-link reception window towards the screen or the projector.
6. Check blue LEDs are blinking twice every 3 sec.
7. Make sure you keep the DLP-link™ reception window turned toward the 3D image or source.
Notes :
• The ActivHub RF50 blinking twice means a functional 3D sync input and its RF transmission.
• DLP-link™ receiving mode requires a clear line-of-sight between the ActivHub and the 3D image or source.
• Because DLP-link signal is in the visible light spectrum, it is very sensitive to ambient light. Optimal positions for the ActivHub are:
-Close to the projector, turned toward the output lens
-Close to the projector, turned toward the screen
-Close to the screen edge, turned toward the projector
• If you experience interferences, or if you are using many ActivHub RF50 in a single room or building, you may choose another channel between 4 and 14.

Note: Using Volfoni Rf glasses require to update them with a RF software. It can be downloaded form volfoni website: www.volfoni.com.

4. RF (Volfoni) > VESA mode
1. Set the function selector to position F.
2. Plug the USB connector to a powered socket or the included adapter.
3. Plug the micro-USB connector to the ActivHub RF50.
4. Check blue LEDs lighting up meaning power is on.
5. Emit RF signal with another AcvtivHub RF50 (with function selector to position 3-E.
6. Check blue LEDs are blinking twice every 3 sec.
7. At the output of the first ActivHub RF50 there is a VESA signal.
8. If you want you can put a Volfoni IR emitter at the output of this ActivHub RF50.

4. ADVANCED USES

Battery monitoring (only with EDGE VR)
To enable the battery monitoring you need to plug your ActivHub RF50 to your computer via USB. Launch the Volfoni Loader (available on www.volfoni.com section "Support"), click on battery (menu "Edition"). The popup will show you the battery level of all the glasses synchronised with the ActivHub RF50

5. LED SIGNIFICANCES

LED OFF: no power
Continuous light: The ActivHub RF50 is powered but there is no 3D source.
LED blinks once: Auto-Test Mode (emit RF Volfoni signal at 60Hz)
LED blinks twice: 3D input OK, and the ActivHub emits in RF mode.
LED blinks three times : 3D input OK and the ActivHub RF50 emits a VESA 3D synchronization signal

⚠ **PRECAUTIONS**
Please note that the ActivHub RF50 synchronization may take up to 30 seconds.

6. SOFTWARE UPDATES

You may want to update your ActivHub RF50. This operation is possible with the Volfoni Loader available on our website www.volfoni.com, section "Support".

7. TECHNICAL SPECIFICATIONS

These technical specifications are effective when using Volfoni 3D glasses.

Radio Frequency
- RF frequency: 2.4 GHz (ISM band)
- Emission power: Adjustable from -20 to 10 dBm

8. IMPORTANT SAFETY RECOMMENDATIONS

- If you are unsure about your vision, take a test to verify your ability to see stereoscopic 3D images.
- Do not sit too close to the screen when watching 3D images.
- Watching 3D may cause discomfort (such as eye strain, altered vision, fatigue, nausea, lightheadedness, dizziness, confusion, loss of awareness, convulsions, cramps and/or disorientation) for some people. Volfoni recommends that you take regular breaks when watching 3D content or playing 3D video games until the discomfort ends. If the discomfort persists, consult a doctor.

- Certain types of TV images or video games that contain flashing patterns of light may cause epilepsy symptoms for some viewers. If you or any member of your family has a history of epilepsy, Volfoni strongly recommends that you consult a physician before the use of this product.
- Be aware of young children, especially those under six years old. Because their vision is still under development, consult a doctor (such as pediatrician or eye doctor) before allowing young children to watch 3D. Not for children's use without proper adult supervision.
- If the product is broken, please keep broken pieces away from mouth and eyes. Dispose of pieces responsibly.

9. MAINTENANCE OF THE ACTIVHUB RF50

- Protect the 3D system from direct sunlight, heat, or water. Extreme conditions may alter the product's abilities.
- Do not drop or modify the electrical or mechanical components of the 3D system.
- Do not apply force to the ActivHub RF50.
- Do not submerge the ActivHub RF50 in water.

10. WARRANTY

The ActivHub RF50 is warrantied to the original purchaser for three to twelve months according to local legislation. The system should be returned in this original box with original proof of purchase. Volfoni does not warrant uninterrupted or error-free operation of the product.

11. CONTACT

Made and distributed in France by Volfoni SAS.
49 Avenue Pierre Grenier 92517 Boulogne-Billancourt, France
Distributed in Americas by Volfoni Inc.
3450, Cahuenga Bd West, Unit 504, Los Angeles, CA90068 USA
Distributed in Germany by Volfoni GmbH.
Erzgießereistraße 38, 80335 München, GERMANY
Distributed in Spain by Volfoni S.L.
Ronda Guglielmo Marconi, 4 46980 Paterna (Valencia) Spain

Distributed in China by VOLFONI Ltd
2101, Tower One, Lippo Center, 89, Queensway, Hong Kong

For further information, visit Volfoni's website at www.volfoni.com

12. REGULATORY STANDARDS

European Union - Disposal information :

This symbol means that according to local laws and regulationsyour product should be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. Some collection points accept product for free. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

FCC Compliance Statement :
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interferences that may cause undesired operation.