



AC7110
Dual USB-C Switch with AV media extender set

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Manual

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Introduction

The AC7110 is designed to extend the connection between two USB-C host computers and a console equipped with dual HDMI displays and USB peripherals. It supports multiple USB transfer types—including control, bulk, interrupt, and isochronous—ensuring reliable and consistent communication between all connected devices.

Using CAT6A or higher-grade network cabling, the transmitter and receiver units can be linked over distances up to 100 meters. Power over Cable (PoC) technology allows the entire system to operate from a single power supply, which can be connected to either the transmitter or the receiver.

The transmitter offers two selectable USB-C host ports, supporting a combined 100W Power Delivery. Both the transmitter and receiver provide local USB ports, while the receiver features two HDMI outputs capable of resolutions up to 4K at 60Hz. These dual HDMI outputs can be used to extend your desktop across multiple displays, enabling a smooth and efficient multi-monitor setup.

Status LEDs indicate power status, active host, link integrity, and data activity. RS232 and FSYNC GPIO pass-through ports support bi-directional command transmission, suitable for applications such as industrial camera control. Host switching can be performed using the front-panel button, automatic host detection, or API commands.

Both units are housed in durable metal enclosures with mounting brackets, making them ideal for professional and industrial environments where stability and long-term performance are essential. A dedicated push-lock power connector reduces the risk of accidental power loss. With PoC support, only one power connection is required; however, when using Power Delivery on the USB-C host ports, the power supply must be connected to the transmitter to ensure proper functionality.

For optimal performance, use HDBaseT-certified CAT6A or higher cables. Switching between hosts may require a few seconds.

DisplayLink Driver Requirement

The AC7110 uses the DisplayLink DL-6950 chipset to support dual 4K@60Hz HDMI output across extended distances. Windows includes the DisplayLink driver in standard system updates, while macOS users can download the latest DisplayLink drivers directly from Synaptics or from our website. Ensure the latest driver is installed for full functionality and stable multi-monitor performance.

Installation instructions can be found on our support website: <https://support.act-connectivity.com/>

Features

- Dual USB-C HDBaseT extender with 100W Power Delivery and two HDMI outputs
- 2x 4K@60Hz HDMI 2.0 outputs
- 2x USB Type-C® host devices with auto-input sensing
- Valens VS6320 and DisplayLink DL-6950 chipset
- 6-Port USB 3.2 5Gbps hub; backwards compatible with USB 2.0 and 1.1
- Power over Cable (PoC): powered by transmitter or receiver by using a CAT6A cable; secure locked power connection
- RS-232 pass-through and API control
- Audio de-embedding with balanced or unbalanced analog output

Package Contents

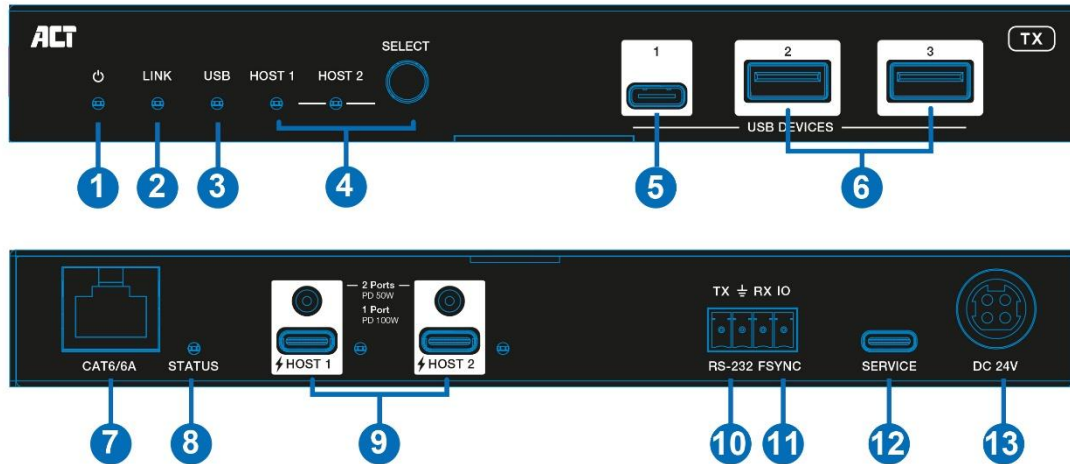
The following parts need to be present in the packing:

1x Transmitter
1x Receiver
1x Locking Power supply 24v/ 7.5A
2x 4pin-3.5mm Phoenix connector Male
1x 5pin-3.5mm Phoenix connector Male
4x Mounting Brackets including screws
1x Quick install

Specifications

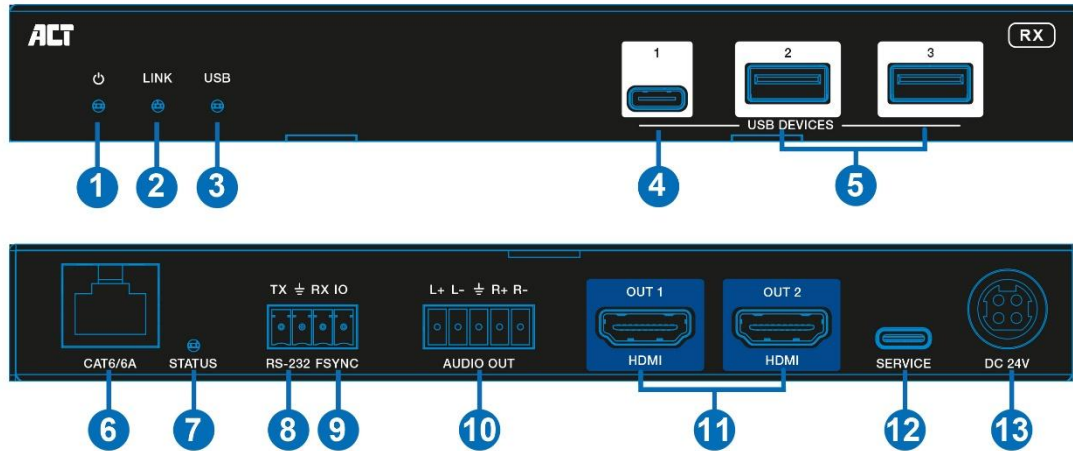
Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18 Gbps
Video Resolution	Up to 4K@60Hz, 2K@60Hz/144Hz
USB Protocol	USB 3.2 Gen 1
Transmission Rate	5Gbps
Color Depth	8/10/12bit
Color Space	RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Audio Formats	HDMI audio: LPCM 2.0 / 5.1 CH Analog audio de-embedding: LPCM 2CH (sample rate 32~192kHz)
Transmission Distance	100m via CAT6A S/FTP 1.5m via USB cable
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge), ±4kV (Contact discharge)
Connection	
Transmitter	Input: 2 x USB-C (host inputs) Output: 2 x USB-A device 1 x USB-C device 1 x RJ-45 Control: 1x RS-232 (3pin-3.5mm phoenix connector) 1x FSYNC (1pin-3.5mm phoenix connector) 1x SERVICE (USB-C, firmware update port)
Receiver	Input: 1 x RJ-45 (24V PoC) Output: 2 x HDMI 4K60Hz 2x USB-A device 1x USB-C device 1x AUDIO line out (5pin-3.5mm phoenix connector) Control: 1x RS-232 (3pin-3.5mm phoenix connector) 1x FSYNC (1pin-3.5mm phoenix connector) 1x SERVICE (USB-C, firmware update port)
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions Tx & Rx	180 mm(W) × 95mm (D) × 23mm (H)
Weight	Tx 0.487 Kg Rx 0.477 Kg
Power Supply	Input: AC100 - 240V 50/60Hz Output: DC 24V/7.5A (US/EU standard, CE/FCC/UL certified)
Power Consumption	Tx: 120 Watt Rx: 19.44 Watt
Operation Temperature	0°C ~ 45°C / 32°F ~ 113°F
Storage Temperature	-40°C ~ 60°C / -40°F ~ 140°F
Operating Humidity	20~80% RH relative humidity (non-condensing)

Front Panel Controls and Functions



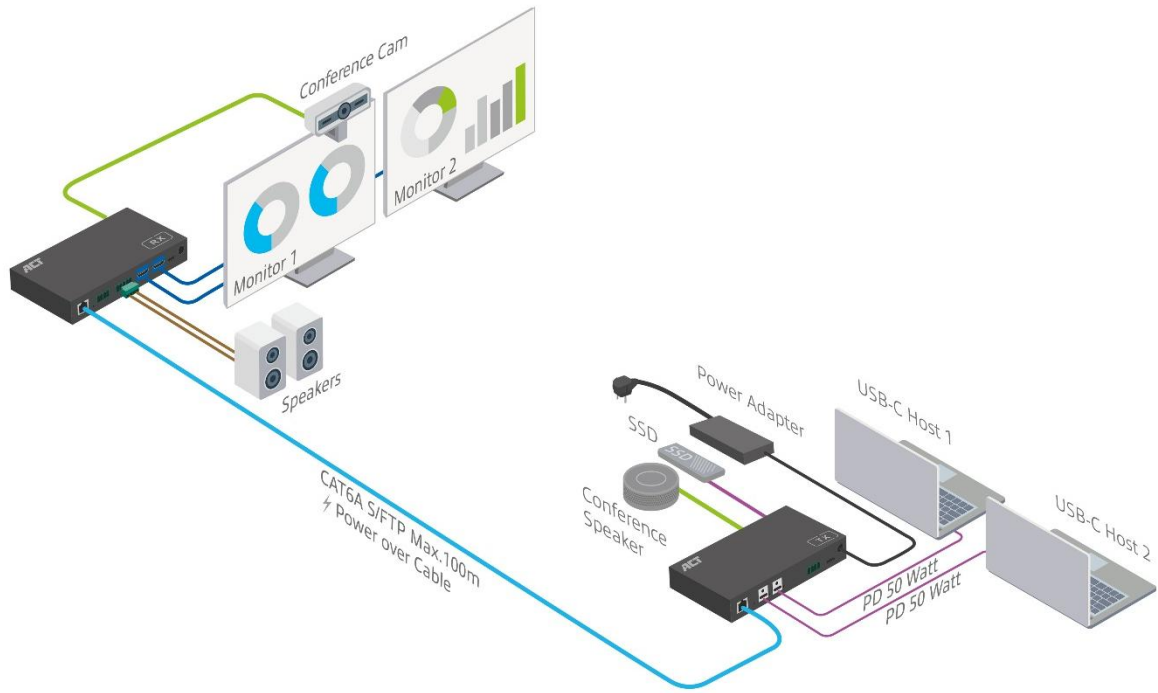
No.	Name	Function Description
1	Power LED	LED will be ON when power is present.
2	LINK LED	Connection signal indicator. <ul style="list-style-type: none"> On: Transmitter and Receiver are connected and linked. Off: Transmitter and Receiver are not connected.
3	USB LED	USB signal indicator. <ul style="list-style-type: none"> On: USB 3.0 signal is detected. Blinking: USB 2.0 signal is detected. Off: USB signal is not detected.
4	Host SELECT	The button is used to switch between HOST 1 and HOST 2. When HOST 1/2 is selected, the corresponding LED will be on.
5	USB-C Device	Downstream USB-C port providing up to 5V/1A. Suitable for connecting USB devices such as flash drives or external hard drives.
6	USB-A Device	Downstream USB-A ports providing up to 5V/1.5A. Suitable for connecting USB devices such as flash drives or external hard drives.
7	CAT6/6A Port	Connect a CAT6/6A HDBaseT cable between the transmitter and receiver. The link carries data and can also provide 24V PoC power to the opposite unit.
8	STATUS LED	Connection signal indicator. <ul style="list-style-type: none"> On: Transmitter and Receiver are connected and linked. Off: Transmitter and Receiver are not connected.
9	USB-C Host Ports	Upstream USB-C ports for connecting PCs or other host devices. Supports up to 100W Power Delivery. Note: When both hosts draw power simultaneously, each port supplies up to 50W. The corresponding LED illuminates when HOST 1 or HOST 2 is selected as the active input channel.
10	RS-232	3-pin Phoenix connector for connection to a PC or control system, supporting RS-232 pass-through and API command control.
11	FSYNC	FSYNC port providing level pass-through from the transmitter to the receiver for synchronizing external devices. Default signal level range: 0–5 V.
12	SERVICE	USB 2.0 port used for firmware updates.
13	DC 24V	DC 24V / 7.5A power input port. The power supply may be connected to either the transmitter or the receiver, as both units support Power over Cable (PoC). Note: Power Delivery on the transmitter is only available when the power supply is connected to the transmitter.

Rear Panel Controls and Functions



No.	Name	Function Description
1	Power LED	LED will be ON when power is present.
2	LINK LED	Connection signal indicator. <ul style="list-style-type: none"> ▪ On: Transmitter and Receiver are connected and linked. ▪ Off: Transmitter and Receiver are not connected.
3	USB LED	USB signal indicator. <ul style="list-style-type: none"> ▪ On: USB 3.0 signal is detected. ▪ Blinking: USB 2.0 signal is detected. ▪ Off: USB signal is not detected.
4	USB-C Device	Downstream USB-C port providing up to 5V/1A. Suitable for connecting USB devices such as flash drives or external hard drives.
5	USB-A Device	Downstream USB-A ports providing up to 5V/1.5A. Suitable for connecting USB devices such as flash drives or external hard drives.
6	CAT6/6A Port	Connect a CAT6/6A HDBaseT cable between the transmitter and receiver. The link carries data and can also provide 24V PoC power to the opposite unit.
7	STATUS LED	Connection signal indicator. <ul style="list-style-type: none"> ▪ On: Transmitter and Receiver are connected and linked. ▪ Off: Transmitter and Receiver are not connected.
8	RS-232	3-pin Phoenix connector for connection to a PC or control system, supporting RS-232 pass-through and API command control.
9	FSYNC	FSYNC port providing level pass-through from the transmitter to the receiver for synchronizing external devices. Default signal level range: 0–5 V.
10	AUDIO OUT	Analog audio output port, supporting balanced audio output (with a maximum support of 2Vrms) and unbalanced audio output (with a maximum support of 1Vrms). Balanced connection method: L+, L-, $\frac{\ominus}{\oplus}$, R+, R Unbalanced connection method: L+, $\frac{\ominus}{\oplus}$, R+
11	HDMI OUT	HDMI output ports for connecting displays such as monitors or TVs. Ensure the latest DisplayLink driver is installed for proper video output. Download link: synaptics.com/products/displaylink-graphics/downloads .
12	SERVICE	USB 2.0 port used for firmware updates.
13	DC 24V	DC 24V / 7.5A power input port. The power supply may be connected to either the transmitter or the receiver, as both units support Power over Cable (PoC). Note: Power Delivery on the transmitter is only available when the power supply is connected to the transmitter.

Connection Example



- HDMI
- CAT6A
- USB
- USB-C
- Audio
- Power

Recommended Connection Sequence (First-Time Setup)

Purpose

To ensure stable link negotiation and USB device enumeration during the first connection (and after firmware or system changes).

Steps

1. Install the DisplayLink driver on both host systems before connecting to the transmitter.
For installation instructions please refer to: <https://support.act-connectivity.com/>
2. **Connect displays (RX → HDMI).**
Connect the RX HDMI outputs to the displays and power on the displays.
3. **Connect the first host (TX → USB-C).**
Connect the TX to the first host via USB-C and allow the system to complete video link and Power Delivery (PD) negotiation until the host recognizes the displays (image present and stable).
4. **Connect USB peripherals after video is stable.**
Only after the video link is stable, connect additional USB peripherals (for example: conference cameras, external hard drives, capture devices) to the RX/TX USB ports.

Dual-Host Operation (Host 1 and Host 2)

Initial Setup with One Host

You may use either **Host 1** or **Host 2** as the first host in the initial setup; the order does not matter. Follow the “Recommended Connection Sequence (First-Time Setup)” above.

Adding the Second Host

After the first host has completed link negotiation and correctly recognized the displays and USB devices, you can connect the second host.

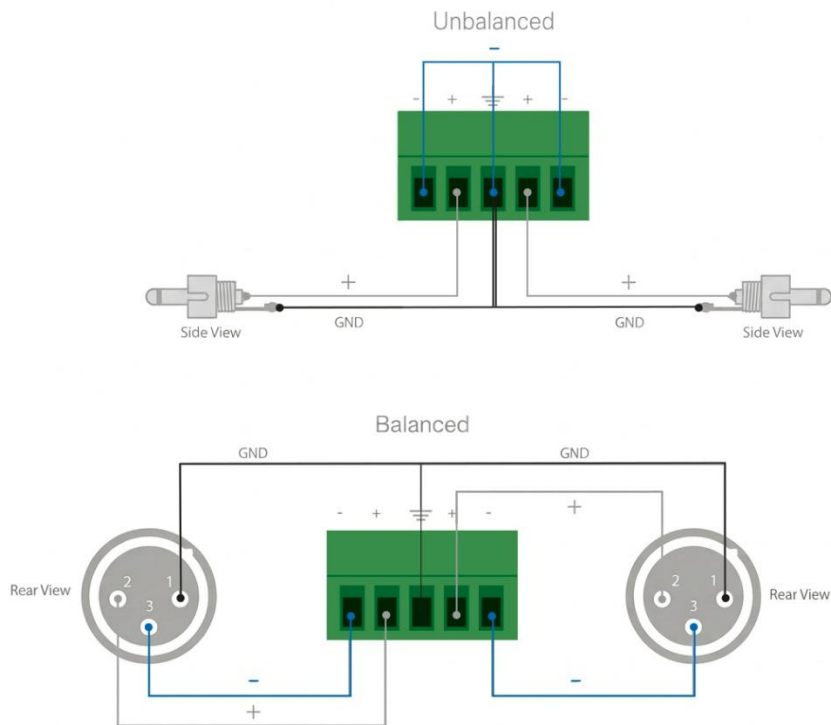
- There is **no need** to disconnect the displays or USB peripherals.
- When switching between Host 1 and Host 2 after the initial setup, the AC7110 will present the connected displays and USB devices correctly to the newly active host, without requiring you to re-plug devices.

Why This Matters

During initial USB-C Power Delivery and link setup, the system negotiates **power, video, and data paths**. If high-bandwidth or high-power USB peripherals (especially USB mass storage devices or UVC cameras) are already attached while the link is still coming up, they may **enumerate prematurely** and **repeatedly connect and disconnect** on some hosts.

Following the sequence above minimizes this behavior. Once one host has completed a stable first-time setup, the second host can be attached and switching between hosts will proceed normally.

AUDIO Output Connection

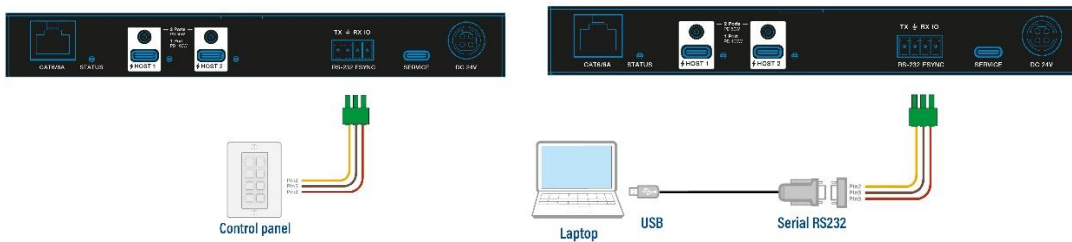


RS-232 Control and ASCII Command Interface

The AC7110 includes an **RS-232** communication port for remote control using ASCII commands.

These commands can be sent in various ways, most commonly via a control panel.

For testing purposes, the AC7110 can also be connected directly to a PC to verify API command functionality.

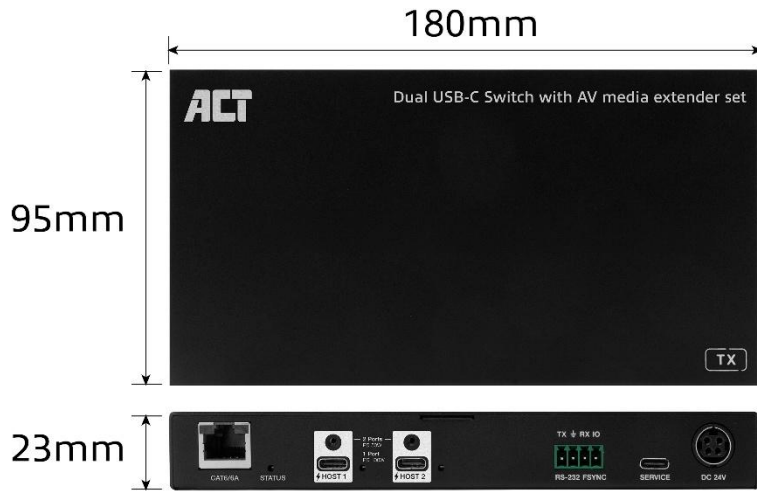
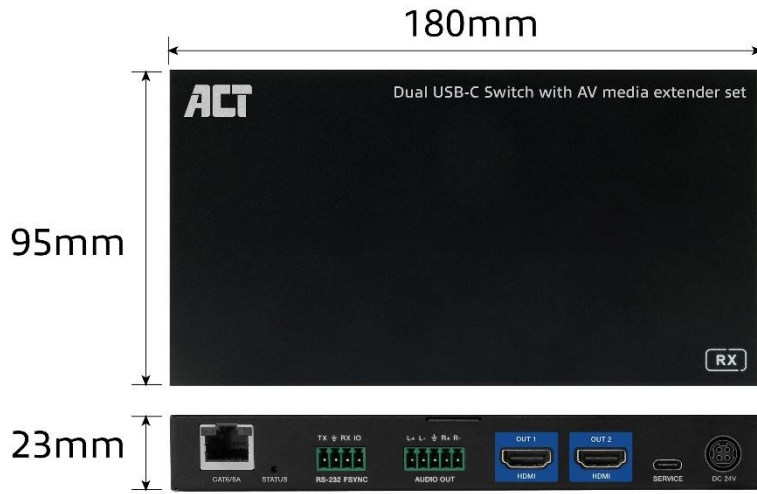


ASCII Commands

1. Service port (USB-C virtual RS-232) communication protocol (Internal debug)
Baud rate: 115200 (fixed), Data bit: 8, Stop bit: 1, Parity bit: none
2. Phoenix RS-232 port communication protocol (Connect to control system)
Baud rate: 4800~115200 (configurable), Data bit: 8, Stop bit: 1, Parity bit: none

Command	Function	Example	Feedback	Default
?	Get the list of all commands	?		
help	Get the list of all commands	help		
get fw version	Get firmware version	get fw version	TX FW 1.0.0 / RX FW 1.0.0	
set reboot	Reboot the device	set reboot	Reboot – system initializing	
set reset	Reset to factory defaults	set reset	Confirm reset	
get status	Get system status	get status	System status output	
set key on/off	Enable or disable front panel key	set key off	Key off	on
get key	Get front panel key status	get key	Key on	
set baud x	Set RS-232 baud rate	set baud 6	Baud rate 115200	115200
get baud	Get RS-232 baud rate	get baud	Baud rate 115200	
get usb5v x	Get USB host input 5V status	get usb5v 0	USB host 1: 5V / USB host 2: none	
set autoswitch x	Set auto-switching on/off	set autoswitch on	Autoswitch on	on
get autoswitch	Get auto-switching status	get autoswitch	Autoswitch on	
set tx usbd x power y	Set TX USB device port power	set tx usbd 0 power 1	TX USB power follows host	1
get tx usbd x power	Get TX USB device power	get tx usbd 0 power	TX USB power follows host	
set rx usbd x power y	Set RX USB device port power	set rx usbd 0 power 1	RX USB power follows host	1
get rx usbd x power	Get RX USB device power	get rx usbd 0 power	RX USB power follows host	
set hdbt update	Set service port to HDBT UART	set hdbt update	HDBT update	
set input x	Select USB host input	set input 1	Input USB host 1	1
get input	Get USB host input	get input	Input USB host 1	

Dimensions



Service and support

This user manual has been carefully written by ACT's technical experts. If you have problems installing or using the product, please check the **support** link at the website www.act-connectivity.com.

Warning and points of attention



Due to laws, directives and regulations set out by the European parliament, some (wireless) devices could be subject to limitations concerning its use in certain European member states. In certain European member states the use of such devices could be prohibited. Contact your (local) government for more information about these limitations.

Always follow up the instructions in the manual*, especially where it concerns devices which need to be assembled.

Warning: In most cases this concerns an electronic device. Improper use may lead to severe injuries!

When you connect the device to the mains, make sure it will not be damaged or subject to (high) pressure.

A power socket is needed which should be close and easy accessible from the device.

Repairing of the device should be done by qualified ACT staff. Never try to repair the device yourself. The warranty immediately voids when products have undergone self-repair and/or by misuse. For extended warranty conditions, please visit our website at www.act-connectivity.com

Dispose of the device appropriately. Please follow your country's regulations for the disposal of electronic goods.

Please check below safety points carefully:

- Do not apply external force on the cables
- Do not unplug the device by pulling the power cable
- Do not place the device near heating elements
- Do not let the device come in contact with water or other liquids
- If there is any strange sound, smoke or odor, remove the device immediately from the power outlet.
- Do not put any sharp objects into the venting hole of a product
- Do not use any damaged cables (risk of electric shock)
- Keep the product out of reach of children
- Wipe off the product with soft fabric, not water mop.
- Keep the power plug and outlet clean
- Do not unplug the device from the power outlet with wet hands
- Unplug the device when you don't use it for a long time
- Use the device at a well ventilated place

**Tip: ACT manuals are written with great care. However, due to new technological developments it can happen that a printed manual no longer contains the most recent information. If you are experiencing any problems with the printed manual or you cannot find what you are looking for, please always check our website www.act-connectivity.com first for the newest updated manual.*

*Frequently asked questions (FAQ). Consult **support** on our website www.act-connectivity.com and see if you can find the right information about your product here. It is highly advisable to consult the FAQ section first, the answer is often here.*

Warranty conditions

The ACT warranty applies to all ACT products. After purchasing a second-hand ACT product, the remaining warranty period is calculated from the moment of purchase by the product's initial owner. ACT warranty applies to all ACT products and parts, indissolubly connected or mounted to the product it concerns. Power supply adapters, batteries, antennas and all other products not directly integrated in or connected to the main product or products of which, without reasonable doubt, can be assumed that wear and tear during use will show a different pattern than the main product, are not covered by the ACT warranty. Products are not covered by the ACT warranty when exposed to incorrect/improper use, external influences or when opening the service parts of the product by parties other than ACT. ACT may use refurbished materials for repair or replacement of your defective product. ACT cannot be held responsible for changes in network settings by internet providers. We cannot guarantee that the ACT networking product will keep working when settings are changed by the internet providers. ACT cannot guarantee the working of web services, apps and other third party content that is available through ACT products

When my product gets defective

Should you encounter a product rendered defective for reasons other than described above: Please contact your point of purchase for taking care of your defective product.