



# Mini USB Extender Kit

Model: VUSBU100K



# USB Hub Extender Kit

Model: VUSBU100HK

VUSBU100K is a passive device using UTP cabling to extend single USB connection at a distance up to 300 ft / 100m. VUSBU100HK is a passive device using UTP cabling to extend single USB connection and providing two port hub functions at a distance up to 150ft / 50m. These devices are consisted of two parts, a host and a remote unit. They can support USB 2.0, and 1.1 full and low speed devices with real-time transmission without delay. VUSBU100K is ideal for use with i.e.: mouse and keyboard and VUSBU100HK is ideal for use with i.e.: digital camera and printer. Any UTP cabling (UTP/FTP/STP CAT5/5e/6) can be used. Both devices have RJ45 jacks for easy cabling and secure connection. Both devices offer a very small foot print, PnP installation without the need to install any drivers. They also have added protections against lightning power surge and electrostatic discharge.

### VUSBU100K Features:

- USB 2.0, USB 1.1 Full Speed transmission up to 100ft / 35m
- USB 2.0, USB 1.1 Low Speed transmission up to 300ft / 100m

### VUSBU100HK Features:

- USB 2.0, USB 1.1 Full Speed transmission up to 150ft / 50m
- USB 2.0, USB 1.1 Low Speed transmission up to 150ft / 50m
- Dual output giving the user added capability to add more devices



Host Unit - Tx

Remote Unit - Rx



Host Unit - Tx

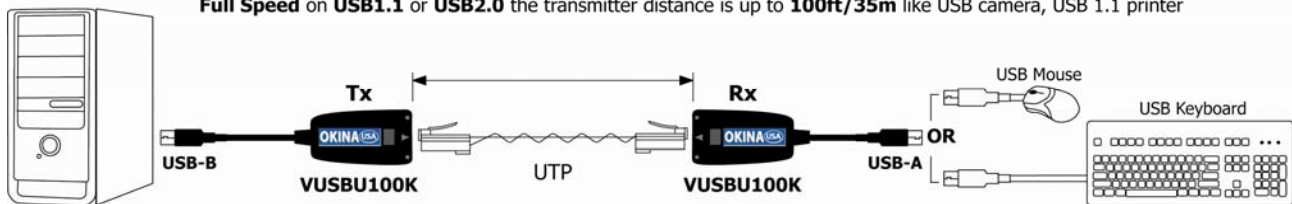


Remote Unit - Rx

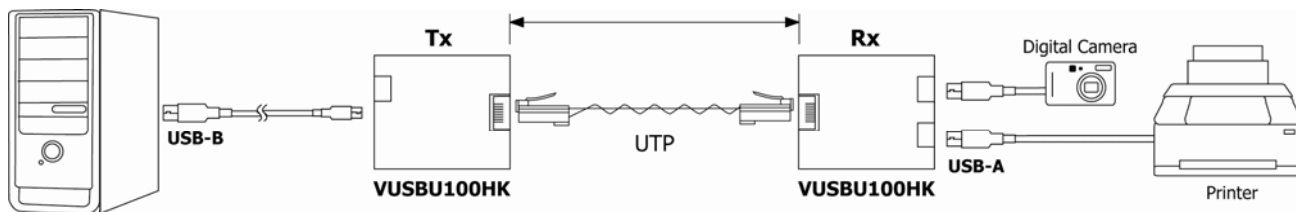
## Application Diagram:

### VUSBU100K

**Low Speed on USB1.1 or USB2.0** the transmitter distance is up to **300ft/100m** like mouse and keyboard  
**Full Speed on USB1.1 or USB2.0** the transmitter distance is up to **100ft/35m** like USB camera, USB 1.1 printer

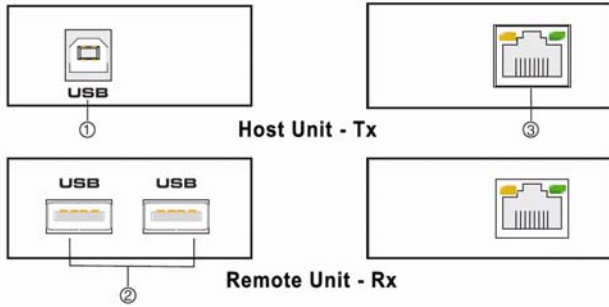


### VUSBU100HK



Note: If USB receiving side connects with an additional USB Hub, the transmission will be reduced to **100ft/35m**

## VUSBU100HK Panel View:



	Parts	Description
1	USB-B Type Port	Using USB-B to A Male to Male cable to PC
2	USB-A Type Port	USB-A Male for device connection
3	RJ45 Jack Port	RJ45 connection between Host to Remote unit

## VUSBU100HK Installation Steps:

Please check all equipments and accessories before installation, if there are missing parts please contact your supplier.

- One VUSBU100HK Host unit
- One VUSBU100HK Remote unit
- One USB-A to USB-B Male to Male cable
- This installation manual

Please follow the steps below for a proper installation

1. Connect the Host unit USB-B port to the USB-B Male to USB-A Male cable than connect the USB-A Male connector to the PC.
2. Connect the device like USB Mouse and Keyboard to the Remote unit.
3. Now connect the previously prepared RJ45 Modular jack to both units.
4. Check to see if the LED Green Power light is on, power is provided to the device when green light is on. Now you have successfully completed the installation.

## Specification:

Model		VUSBU100K	VUSBU100HK
Connectors	Host Unit Input / Output	1 X USB A Type Male Port / 1 X RJ45	1 X USB B Type Port / 1 X RJ45 Port
	Remote Unit Input / Output	1 X RJ45 Port / 1 X USB A Type	1 X RJ45 Port / 1 X USB A Type Port
Transmission Properties	Transition Distance	USB 1.1 Low Speed up to 300ft /	USB 1.1 Low Speed up to 150ft / 50m
		USB 2.0 Full Speed up to 100ft / 35m	USB 2.0 Full Speed up to 150ft / 50m
LED	Power LED	1 Green	
Protection	Transient Protection	1KV : IEC61000-4-5 (GB/T 17626.5)	
	Electrostatic Discharge	1a Contact Discharge level 3	
		1b Air Discharge level 3	
		IEC61000-4-2 (GB/T 17626.2)	
Stability	MTBF	> 10000 Hours	
Physical Properties	Dimensions (L x W x H)	7.87" x 1.38" x 0.89" 200mm x 35mm x 22.5mm (including cable)	3.34" x 2.16" x 0.89" 85mm x 55mm x 22.5mm
	Housing Material	ABS Plastic	Metal
	Color	Black	
	Net Weight	0.15 lbs / 70g	Host Unit: 0.35 lbs / 160g Remote Unit: 0.37 lbs / 168g
Environment	Operation Temperature	32°F ~ 131°F / 0°C ~ 55°C	
	Storage Temperature	-4°F ~ 176°F / -20°C ~ 80°C	
	Relative Humidity	0 - 95% (non-condensing)	

FCC CE RoHS

\*Specifications are subject to change without notice

## USB supports the following data rates:

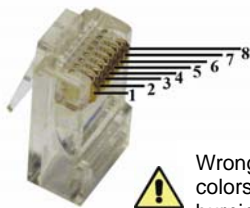
- The Full Speed rate of 12 Mbit/s (1.5 MB/s) is the basic USB data rate defined by USB 1.1. All USB hubs support Full Speed, and such as USB memory drives.
- A Low Speed rate of 1.5 Mbit/s (187.5 kB/s) is defined by USB 1.0. It is very similar to full speed operation except that each bit takes 8 times as long to transmit. It is intended primarily to save cost in low-bandwidth Human Interface Devices (HID) such as keyboards, mice, and joysticks.
- A High-Speed (USB 2.0) rate of 480 Mbit/s (60 MB/s) was introduced in 2001. All high-speed devices are capable of falling back to full-speed operation if necessary.

## Troubleshooting:

The follow step might help you resolve some installation issues:

- Making sure the equipment is installed according to the manufactures installation guide.
- Check both end of the cable to make sure they are using the same cabling standards B to B or A to A.
- Making sure the device used with unit confirmed to the USB 2.0 full speed or lower standard.
- Check to make sure the actual distance between the host and remote unit doesn't exceed maximum cable length and speed.
- Check to make sure the cable is in working and good condition.
- Using a known good working unit to replace the unit in question to help determent if it is defective.
- If all of the above can't resolve the problem, please contact your supplier for technical support.

## How to make a RJ45 Modular Jack:



Wrongfully mixing the colors may result in burning the device.

Pin	T568B Pair	T568B
1	2	White/Orange Stripe
2	2	Orange Solid
3	3	White/Green Stripe
4	1	Blue Solid
5	1	White/Blue Stripe
6	3	Green Solid
7	4	White/Brown Stripe
8	4	Brown Solid

## Important Note:

1. Be sure to use good quality CAT 5E 350Mhz or better cable.
2. When using RJ45 Standard EIA/TIA568A or B on one end of the cable the other end must use the same standard to match it. Otherwise the system will not work.
3. Making sure not to reverse the transmitter and receiver, it will not work if reversed. The unit at the PC side is defined as the transmitter.
4. When the device is in operation DO NOT un-plug the RJ45 jack from the transmitter or the receiver unit. Power off the system before un-plugging.
5. Low Speed USB 1.1 transmission can reach 300ft / 100m, device like mouse and keyboard.  
Full Speed USB 1.1 transmission can reach 150ft / 50m, device digital camera and printer.
6. When adding a USB Hub at the receiver end, the transmission range will reduce to 100ft / 35m.

R&D Designed in Taiwan  
Assembled in China



## Caution:

- All devices must be properly grounded.
- Do not connect this device to any power source.
- Do not handle the unit with wet hands.
- The unit is not waterproof and should not be used outdoors.