



# VGA Extender

Model: VB100VK

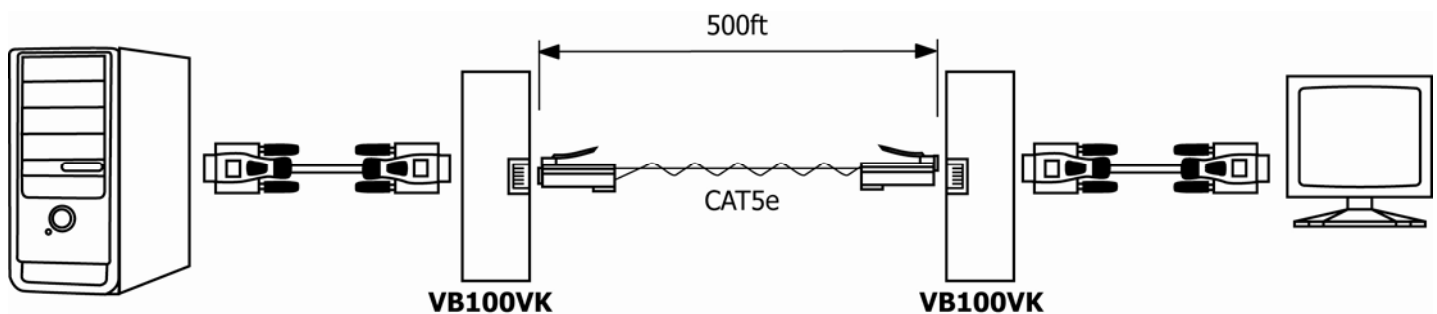


## Features:

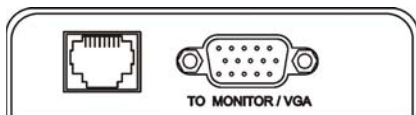
- The VGA Extender allows VGA video signals to be transmitted up to 500ft / 135m via 4-pairs CAT5 shielded twisted pairs cable.
- Included as a pair.
- 1 x VGA connector to RJ45 female.
- Up to 500ft / 135m via standard 4 pairs CAT 5 STP cable instead of VGA cable.
- Supports up to 1280x1024 pixels at 200ft / 60m.
- Passive device; Not supported by VGA DDC protocol.
- Perfect for classrooms, lecture halls, tradeshows, video information displays...etc.
- Used in pairs, the VGA Extender is used in the home or for commercial applications as a smart, fast and cost-effective process. It eliminates costly and bulky VGA cabling, allowing VGA monitors to be connected at a distance from the PC via standard shielded twisted pair cable.



## Wiring Diagram:



## Panel View:



Front View



Rear View

Max. Distance via CAT 5 STP	
640x480 pixels (15MHz)	500ft / 135m
800x600 pixels (30MHz)	350ft / 105m
1024x768 pixels (60MHz)	250ft / 75m
1280x1024 pixels (100MHz)	200ft / 60m

## Specification:

Model Number	VB100VK
Environment	VGA. VESA VP&D 1.0, VIP ver 2.0
Devices	VGA monitors, LCD projection screen, Laptops, PCs.
Input Signals	Video : 1.1V P-P Horiz & Vert Sync : TTL standard. 300kHz max. bandwidth
Insertion Loss	Less than 3dB per pair over the frequency range
Video Signal Return Loss	-15dB max from DC to 60Mhz
RJ-45 Pin Configuration	R video (Red): Pin 1 (+), Pin 2 (-) Balanced Gvideo (Green): Pin 4 (+), Pin 5 (-) Balanced B video (Blue): Pin 7 (+), Pin 8 (-) Balanced Horizontal Sync: Pin 3, Vertical Sync: Pin 6
Impedance	Input : RGB 75 ohms (DB15 HD) Unbalanced Output : RGB 100 ohms (RJ45 shielded) Balanced Horizontal and vertical sync : TTL standard
Transmission Distance	60~135m (depend on image resolution)
Cable	CAT 5 Shielded Twisted Pair Cable
Temperature	Operation: 0 to 55°C, Storage: -20 to 85°C, Humidity: up to 95%
Dimensions W x H x D mm	110 x 77 x 24mm

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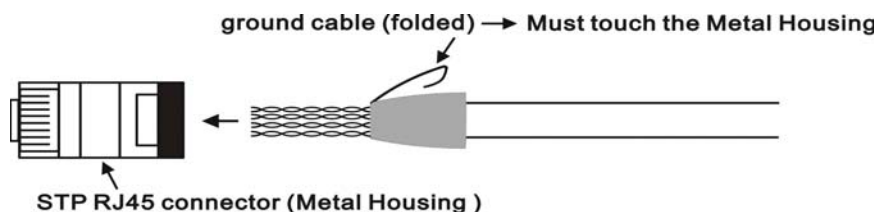
## Application Tips:

**Must use STP RJ-45 connector (shielding – metal housing). The correct cable connection is as follows:**

1. STP (shielding twisted pair) Cable

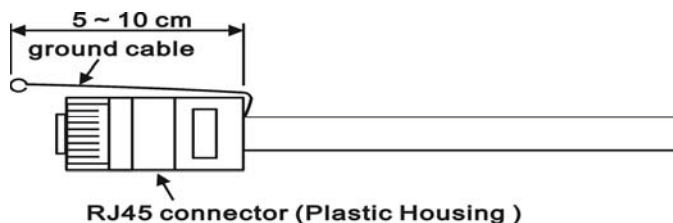


2. STP (shielding) RJ45 connector with STP cable connection.

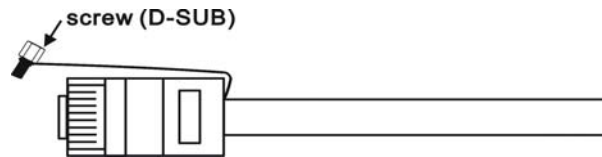


**If your RJ-45 connector is plastic housing (unshielded), then the cable connection must be as follows:**

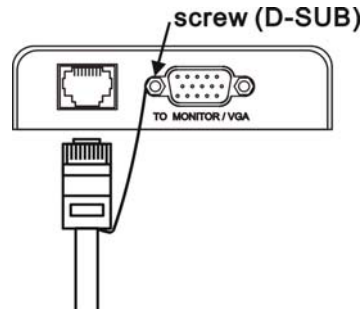
1. The ground cable must pull out around 5-10cm length to connect with VGA BALUN's D-SUB screw for grounding.



2. screw off of the D-SUB , then connect the ground cable



3. Screw back the D-SUB, then plug RJ45 connector.



## Installation:

1. To have the best picture and quick installation, please use STP cable. There is no need to adjust Dip switch when using STP (shielding twisted pair) cable.
2. Please make sure to follow this instruction for DIP switch setting when using CAT5 UTP cable. Please disconnect the wiring between the receiver to the monitor once the picture is not normal, otherwise it may cause your monitor to be damaged.
3. Dip switch setting at receiver unit only when using with UTP cable.
4. Please disconnect the receiver from the monitor once the picture is abnormal or when there is no picture display. You can increase the stage of Dip switch at the receiver and re-connect it again.
5. DIP Switch Level

1	2	3	4	5
↓↓↓↓↓	1			
↑↓↓↓↓	2			
↓↑↓↓↓	3			
↑↑↓↓↓	4			
↓↓↑↓↓	5	.	.	
.	.			
.	.			
↑↑↑↑↑	30			
↓↑↑↑↑	31			
↑↑↑↑↑	32			

6. If you are not able to get good picture after adjusting the dip switch on the receiver unit, the solution is to replace the cable for an STP cable.
7. Improper setting may cause no picture display.
8. After properly setting the unit, you could adjust the contrast and brightness of the monitor for the best picture quality.

## **Troubleshooting at picture problem:**

### **1. Picture disappear intermittence or no picture display:**

Please adjust the DIP switch setting or change the vertical SYNC frequency of the VGA display card, DVR.

### **2. Display not syncing up properly:**

There are some certain models or brands of monitors with very high demand at sync-sensitive and the DIP switch setting may not compensate properly. Please use STP (shielding twisted pair) cable instead of UTP (unshielded twisted pair) cable.

### **3. Blur picture or Loss of image details:**

This may occur as the length of twisted pair cable increases, due to the effects of attenuations. Please change the active type of VGA extender to have a built-in amplifier function to improve the picture, or try to adjust the contrast and brightness of the monitor. If the application operates adequately at a lower resolution (i.e. 800x 600 instead of 1024 x768), then setting the monitor to a lower resolution will help improve the image. Please note the higher DIP switch setting for sync compensation may cause more video signal loss or no picture.

### **4. Flutter:**

Flutter occurs when the background fluctuates between light and dark. This status may be caused by the grounding problem between the VGA equipment or the connection may be picking up some external interference from a nearby power transformer. To fix this problem, change the cable to an STP cable.

### **5. Ghosting:**

Ghosting is characterized by a second video image being received after the main image, resulting in a double image. This is usually caused by the UTP cable connection itself, poor crimping, untwisted pairs, some of the twisted pairs may be longer than others, poor quality cable, or the impedance mismatch of the cable. In these cases, the best way is to replace the existing cable with a new one.

### **6. Wrong colors:**

If the wrong colors appear in an image (for example: blue appears where green should appear), the problem may be caused by poor crimp at RJ45 connector or wrong pin connection. Please check all connections and verify the pin configuration of the cable between CPU and the monitor to ensure that the correct pin configuration is respected.

### **Note:**

1. The maximum distances supported by the VGA Extender are dependent on the type of twisted pair cable and image resolution of the PC's VGA interface. Make sure that the maximum recommended operational distances have not been exceeded.
2. All wiring is "straight-through" twisted pair cable, not being used for other LAN or telephone equipment. Do not connect the VGA Extender to a telecommunication outlet wired to unrelated equipment.