

# CAT5 VGA Extender

## ITEM NO.: VB-C5

The VGA Extender allows VGA video signals to be transmitted up to 135 meters via 4-pairs CAT5 STP or UTP cable. Used in pairs, the VGA Extender is used in home or commercial applications as a smart, fast and cost-effective, eliminates costly and bulky VGA cable, allowing VGA monitors to be connected extended distances from the PC via standard twisted pair cable. Ideal for classrooms video distribution, lecture halls, retail kiosks, video information displays, overhead projector systems, PC-training systems, and tradeshows PC demo systems.

### Features:

- 1 VGA connector to RJ45 female.
- Including 2 units as transmitter and receiver.
- Up to 135 meters via standard 4 pairs CAT5 STP or UTP cable instead of VGA cable.
- Built in Dip switch for compatible with all monitors when using CAT5 UTP cable.
- Supports up to 1280x1024 pixels.
- Passive device, not support VGA DDC protocol.
- Perfect for classrooms, lecture halls, tradeshows, video information displays...etc.

### 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 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 no picture display, then increase the stage of Dip switch at the receiver and re-connect again.
5. Dip switch by accumulate setting at receiver as below, there is no need to adjust the transmitter unit.

DIP Switch	LEVEL						
1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5	
↓ ↓ ↓ ↓ ↓	1	↓ ↓ ↓ ↑ ↓	9	↓ ↓ ↓ ↓ ↑	17	↓ ↓ ↓ ↑ ↑	25
↑ ↓ ↓ ↓ ↓	2	↑ ↓ ↓ ↑ ↓	10	↑ ↓ ↓ ↓ ↑	18	↑ ↓ ↓ ↑ ↑	26
↓ ↑ ↓ ↓ ↓	3	↓ ↑ ↓ ↑ ↓	11	↓ ↑ ↓ ↓ ↑	19	↓ ↑ ↓ ↑ ↑	27
↑ ↑ ↓ ↓ ↓	4	↑ ↑ ↓ ↑ ↓	12	↑ ↑ ↓ ↓ ↑	20	↑ ↑ ↓ ↑ ↑	28
↓ ↓ ↑ ↓ ↓	5	↓ ↓ ↑ ↑ ↓	13	↓ ↓ ↑ ↓ ↑	21	↓ ↓ ↑ ↑ ↑	29
↑ ↓ ↑ ↓ ↓	6	↑ ↓ ↑ ↑ ↓	14	↑ ↓ ↑ ↓ ↑	22	↑ ↓ ↑ ↑ ↑	30
↓ ↑ ↑ ↓ ↓	7	↓ ↑ ↑ ↑ ↓	15	↓ ↑ ↑ ↓ ↑	23	↓ ↑ ↑ ↑ ↑	31
↑ ↑ ↑ ↓ ↓	8	↑ ↑ ↑ ↑ ↓	16	↑ ↑ ↑ ↓ ↑	24	↑ ↑ ↑ ↑ ↑	32

6. If you are not able to get the good picture after adjust the dip switch of receiver unit, the solution is to replace the cable for STP cable.
7. Improper setting may cause no picture display.
8. After properly setting, 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 do properly compensation. Please use STP (shielding twisted pair) cable to 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 active type of VGA extender which 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 the grounding problem between the VGA equipment or the connection may be picking up some external interference from a nearby power transformer. A solution is to change the cable to use 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 at the cable. In these cases, the best way is to replace the existing cable with a new one.

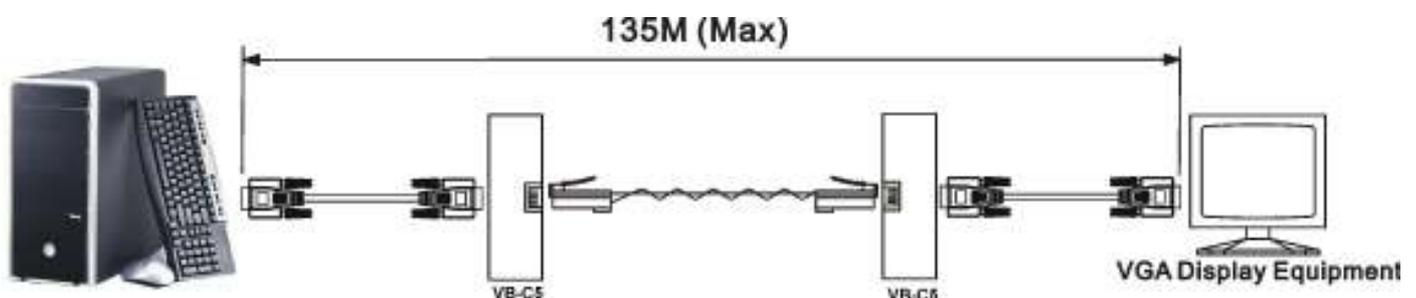
### 6. Wrong colors:

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 the all connections and verify the pin configuration of the cable between CPU and the monitor to ensure that the correct pin configuration is respected.

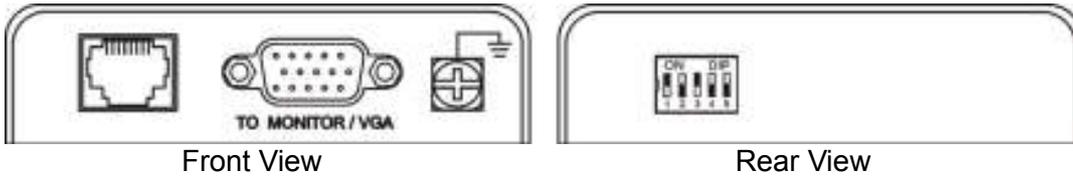
### Noted:

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.
3. Do not connect the VGA Extender to a telecommunication outlet wired to unrelated equipment.

### Installation View:



**Panel View:**



<b>Max. Distance via CAT 5 Cable</b>	
<b>640x480 pixels (15MHz)</b>	<b>135M</b>
<b>800x600 pixels (30MHz)</b>	<b>105M</b>
<b>1024x768 pixels (60MHz)</b>	<b>75M</b>
<b>1280x1024 pixels (100MHz)</b>	<b>60M</b>

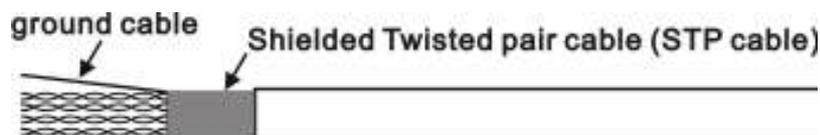
**Specification:**

<b>ITEM NO.</b>	<b>VB-C5</b>
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
RJ45 Pin Configuration: EIA 568B Wiring standard	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
Dip Switch	5 stage, up to 32 combinations
Transmission Distance	60 -135 meters depend on image resolution
CABLE FOR RJ-45	CAT5 STP or UTP Cable
Temperature	Operation: 0 to 55 C, Storage: -20 TO 85 c, Humidity: up to 95%
DIMENSIONS W x H x D mm	110x77x24

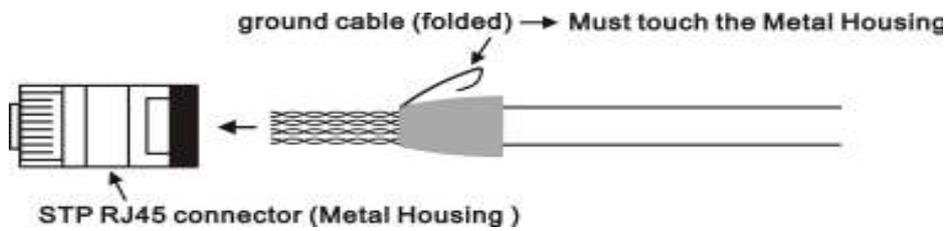
**Application Tips to use CAT5 STP cable:**

**Following is the correct cable connection when use STP cable:**

1. STP (shielding twisted pair) Cable.

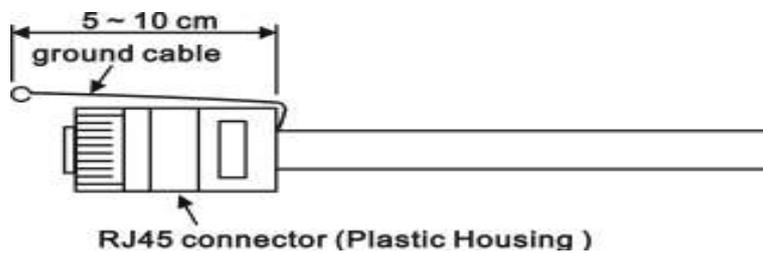


2. STP (shielding) RJ45 connector with STP cable connection.



**If your RJ45 connector is plastic housing (unshielded), then the cable connection must do the following:**

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



2. Make the ground cable connect to ground screw, then plug RJ45 connector.

