

# Passive Video Balun with Video, Power Connector & Data

Model: VPB111RJ

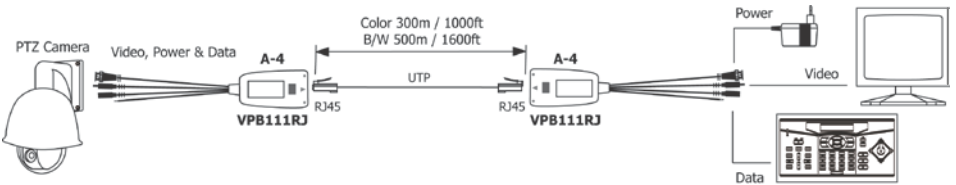
## Features:

- Transmit a color **video signal** up to 300m/1000ft and B/W video signal up to 500m/1600 ft.
- Transmit **power signal** up to 200 m / 600 ft. (Please see Voltage Drop List).
- Transmit **data signal** up to 300 m / 1000 ft.
- BNC male with RJ45 Jack; male and female 12V DC plug on one device.
- Video, camera power, data (RS422, 485) transmission over one standard CAT5 cable.
- Wave Filter Design, Anti-Static Design, IEC 61000-4-2 standard
- Interference Rejection
- ABS Outer Shell



## Application Diagram

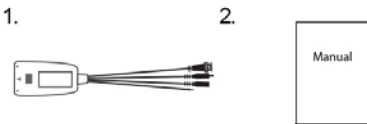
Please refer to back page for Voltage Drop List.



## Package Contents

### Package Contents:

1. One (1) Passive Video Balun with Video, Power Connector & Data
2. One (1) User Manual



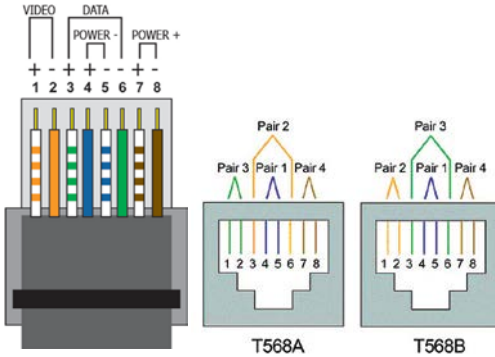
### Caution:

- This device is not waterproof and not to be used outdoors.
- Do not operate the device with wet hands
- If using T568A standard, make sure the other end is matched to T568A
- If using T568B standard, make sure the other end is matched to T568B

# Specification

<b>Model</b>		<b>VPB111RJ</b>
<b>Video Input / Output</b>		<b>BNC</b>
<b>Surge Protections</b>	Video Output Protection	2kV (common mode), 10/700µs Standard: IEC61000-4-2
	Video Input Protection	2kV (different mode), 2kV (common mode) Standard: IEC61000-4-2
	Video Input Protection for Over Current	100mA
<b>Video Signal</b>		1V p-p, 75 Ohms
<b>Transmission Distance</b>		<b>Video:</b> Color 300 m / 1000 ft ; B/W 500 m / 1600 ft <b>Power:</b> 200 m / 200 ft <b>Data:</b> 300 m / 1000 ft
<b>Cable</b>		UTP / Twisted Pair CAT5 (24AWG)
<b>Data Wire</b>		2 Wire Bare Lead
<b>Lighting Protection</b>		IKV (10/700µs)
<b>Power</b>		No Power Required
<b>Max Current</b>		1.5A
<b>Physical Properties</b>	Dimensions x W x H L	210 x 32 x 21 mm / 8.27 x 1.26 x 0.83 inches
	Weight	56.7 g / 2 oz

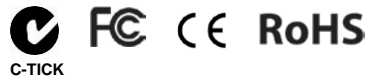
\*Specifications are subject to change without notice



Pin	Pair	TIA/EIA 568A	TIA/EIA 568B	Character
1	2	Green / White	Orange / White	Video +
2	2	Green	Orange	Video -
3	3	Orange / White	Green / White	Data +
4	1	Blue	Blue	Power +
5	1	Blue / White	Blue / White	Power -
6	3	Orange	Green	Data -
7	4	Brown / White	Brown / White	Power +
8	4	Brown	Brown	Power -

## Voltage Drop According to Cable Length (24AWG):

Transmission Distance	Transmission Voltage (12V DC, 0.5A)	Transmission Voltage (12V DC, 1A)	Transmission Voltage (12V DC, 1.5A)
50 m / 160 ft	13.5V	15.5V	17.0V
100 m / 320 ft	15.5V	18.5V	22.0V
150 m / 500 ft	17.0V	22.0V	27.0V
200 m / 650 ft	18.5V	25.5V	32.0V



# Limited Warranty

## LIMITED ONE (1) YEAR WARRANTY AND EXCLUSIONS

Manufacturer warrants to the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by Manufacturer is free of defects in materials and workmanship under normal and proper use for one (1) year from the purchase date. Manufacturer's only obligation is to correct such defects by repair or replacement, at its option, if within such one (1) year period the product is returned prepaid, with proof of purchase date, and a description of the problem. This warrant excludes and there is disclaimed liability for labor for removal of this product or reinstallation. **This warranty is voided if this product is installed improperly or in an improper environment, overloaded, misused, opened, abused, or altered in any manner, or is not used under normal operating conditions or not in accordance with any labels or instructions. There are no other implied warranties of any kind, including merchantability and fitness or a particular purpose, but if any implied warranty is required by the applicable jurisdiction, the duration of any such implied warrant, including merchantability and fitness of or a particular purpose, is limited to one (1) year. Manufacturer is not liable for incidental, indirect, special, or consequential damages, including without limitation, damage to, or loss of use of, any equipment, loss sales or profits or delay or failure to perform this warranty obligation.** The remedies, provided therein are the exclusive remedies under this warranty, whether based on contract, tort or otherwise.

## CAUTION!!!

**Failure to read this notice may result in damaging the camera or device in which the warranty will be voided due to installation error.**

When using any type of RJ45 jack powered balun, a **Cable Tester** must be used to ensure proper connection. Many individuals can make RJ45 connections easily, however mistakes can be made. When making connections for powered baluns, make sure to test the connectivity and ensure proper alignment on both sides.



Cable Tester





When using passive or active baluns, the alignment of the cable is imperative to the success of the operation. Use a Cable Tester because it is a very simple, yet easy to find tool that can save a huge headache. For example, if one of the video wires accidentally gets crimped into the power side, and the powered balun is then hooked up to the camera, both the camera and the balun have just burned out. This is an extremely costly mistake, not only in dollars but time as well. How long does it take to test the RJ45 using a Cable Tester? **Less than one minute.**

**The new terms and conditions state: When an RMA is requested and the product has been burned by bad RJ45 connections, the product is NO LONGER covered under warranty.**

**Note: Which ever way the RJ45 is terminated on one end of the cable, IT MUST BE THE SAME ON THE OTHER SIDE for either TIA/EIA 568A or TIA/EIA 568B. Below is an example of TIA/EIA 568B.**

## Why Us? Quality

### A. Passive Video Balun Comparison with Our Competitors

OURS		Other Competitors		
UTP Balun		Taiwan	China	China
* Lifetime warranty				
	<p><b>A. PCB Placement welding</b> Fewer welding points machinery production High Reliability Vibration Proof</p> <p><b>B. Jumper welding</b> Many welding points Easy to be broken by vibration Complicated production procedure</p>			
YES	Surge / Lightning Protection	NO	NO	NO
YES	ESD Protection	NO	NO	NO
YES	Built-in Filter	YES	YES	NO
Standard for Us		Options for others		

Most of our competitors do not have all multiple protections with Lifetime Warranty

We build all our CCTV video baluns through technologies to protect them with:

#### Surge/Lightning Protection

10/700 us Pulses: 2KV  
Standard E06100-4-5

#### ESD: Electrostatic Discharge Protection

Contact Discharge: Up to 8KV  
Air Discharge: Up to 8KV Standard: IE061000-4-2

#### Wave/Interference Rejection & Noise Filter

Built-in Filter: 0-6MHz with Extra Interference Rejection <60db

### B. Even a Small Part Makes a Big Difference!

We care for every small part & we learn from the mistakes we make!

Even a BNC connector can make a BIG difference. All our BNC connectors have passed the Shaking Test without video loss.

UTP Balun's BNC Connector has a thicker center pin & thicker surrounding. This will avoid video loss while the balun is shaking.

#### UTP Balun's BNC

Thicker Center Pin



Thicker Center Pin

#### Other Company's BNC



OK! But still not good enough



NO GOOD! Thin Pin and Thin Surrounding

## C. On-going Testing for Quality Control

Comparison with other Name Brand



Multiburst Waveform Test



Full Field Color Bar Test:  
Waveform



Test Instruments

Full Field Color Bar Test:  
Signal Phase Diagram



### Related Products

#### Passive Video Filter Balun

VPB100P – Pair



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A-1

#### BNC Passive Video Transceiver – K1

VPBB-100

A-1b



#### Passive Video Filter Balun with Pigtail

VPB100LP – Pair

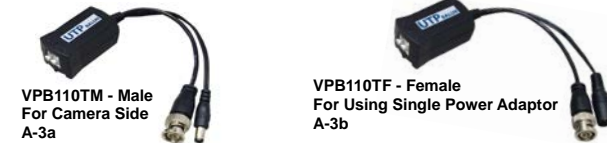
A-2\_A-2a



#### Passive Video Balun with Power Connector

VPB110TK = VPB110TM + VPB110TF as a Kit

A-3\_A-3a\_A-3b



VPB110TM - Male  
For Camera Side  
A-3a

VPB110TF - Female  
For Using Single Power Adaptor  
A-3b

#### Passive Video/Power Lead Balun – RJ45

VPB110RJK = VPB110RJM + VPB110RJF as a Kit

A-3C\_A-3d\_A-3e



VPB110RJM - Male  
For Camera Side  
A-3d

VPB110RJF - Female  
For Using Single Power Adaptor  
A-3e

#### Passive Video Balun with Video, Power Connector & Data

VPB111RJ

A-4



UTP = Unshielded Twisted Pair