Video/Audio VGA/Component Smart Baluns™ with RS-232/IR Connection over CAT5/6/7

KD-VACTX

KD-VACWPRX

KD-VACRX
Quick Set Up Guide

Step 1: Begin with the KD-VACTX and all input/output devices turned off with power cables removed.

Step 2: Connect video/audio sources to appropriate input ports on the KD-VACTX.

Step 3: Connect CAT5/6/7 cable to KD-VACTX output.

Step 4: Connect CAT5/6/7 cable to KD-VACRX; KD-VACWPRX input.

Step 5: Connect video/audio devices to appropriate input ports on the KD-VACRX; KD-VACWPRX.
   (In case of Component input use included Y,Pb,Pr to RGBHV break-out cable.)

Step 6: Connect power to the KD-VACTX, KD-VACRX; KD-VACWPRX and all other input/output devices and turn them on.

Note: No signal conversion done on KD-VACTX; KD-VACRX; KD-VACWPRX. If input signal is Y,Pb,Pr output signal will be Y,Pb,Pr. If input signal is RGBHV, output signal will be RGBHV.
# Table of Contents

- Introduction .......................... 2
  - About the KD-VACTX; KD-VACRX; KD-VACWPRX .......................... 2
- Video/Audio Connections .................. 3
- Supported Resolutions ..................... 3
- Accessories ................................ 3
- Installation and Operation ................. 4
- Mechanical ................................ 6
- Important Product Warnings ............... 7
- Safety Instructions ......................... 7
- How to Contact Key Digital® .............. 8
- Warranty .................................. 9

Please read all instructions to insure safe operation of the product.

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Introduction

About the KD-VACTX; KD-VACRX; KD-VACWPRX

- Transmits (KD-VACTX) and receives (KD-VACRX; KD-VACWPRX) Component HDTV signal up to 1000 feet and XGA/RGBHV signal up to 700 feet over standard UTP CAT5/6/7 Cable
- Transmits and receives RS232 and IR control signals up to 1000 feet over standard UTP CAT5/6/7 cable utilizing Key Digital's exclusive technology Adaptive Smart Data Link™
- Transmits (KD-VACTX) and receives (KD-VACRX; KD-VACWPRX) Left/Right analog or PCM/Toslink digital audio up to 1000 feet over standard UTP CAT5/6/7 Cable
- Automatically performs measurement of CAT5/6/7 link frequency response and performs adaptive video response equalization for maximum video quality performance utilizing Key Digital's exclusive Technology Auto Video Equalizer™
- Can handle all major video and audio formats, stereo formats, digital SPDIF and compressed digital audio.
- Shielded RJ45 connectors input/output support 100 ohms for best picture quality
- Compliant with CAT5, CAT5e, CAT6 and CAT7 cables.

* We recommend UTP cables with tight winding tolerance.
**Video/Audio Connections**

**Input**

- **VIDEO**
  - Analog: VGA/RGBHV (1) [VGA DB15 style connector]
  - Component (1): [RCA to DB15 break-out cable included]

- **AUDIO**
  - Analog: L+, L-, R+, R- (1) [Terminal Block 6c style connector, included]
  - *Balanced/unbalanced compatible
  - Digital: PCM (1) [RCA style connector]
  - Toslink (1) [Optical style connector]

- **Data Connection**
  - RS-232 + IR (1): [Terminal Block 5c style connector, included]

**Output**

- **Single CAT5 or CAT5e or CAT6 or CAT7**

**Supported Resolutions**

All major resolutions up to and including 1080P.

- Maximum running distances (UTP CAT5):
  - Component signal at 1080i/720p – **1000 feet**
  - VGA/RGBHV signal at 1280x768x60Hz – **700 feet**
  - VGA/RGBHV signal at 1920x1080x60Hz – **300 feet**

**Accessories**

- External 5 Volt 1 Amp switching power supply (for 110V-240V applications)
- RCA to DB15 break-out cable
- Operating Instructions
Installation and Operation

The KD-VACTX; KD-VACRX; KD-VACWPRX must receive power from the supplied power adapter. We recommend the use on UTP CAT5/6/7 cables for best performance.

Before permanently securing the unit or final installation of cabling behind walls or ceilings, test for proper operation of the unit and the cables in your system.

1. Find a safe and convenient location for the KD-VACTX; KD-VACRX; KD-VAWPRX unit.
   - The KD-VACTX; KD-VACRX is shipped with a convenient mounting clip as an installation option. Once you have verified operation of the unit with your cables, secure the mounting clip to a convenient location. Carefully insert the KD-VACTX; KD-VACRX into the mounting clip provided.

2. Connections
   - Plug in desirable Video source into DB15 style connector port (1) of the KD-VACTX. Port accepts VGA/RGBHV or Y,Pb,Pr (component) signal. In case of Component input use included Y,Pb,Pr to RGBHV break-out cable.
   - Plug in desirable Audio source:
     - Optical into Toslink (2)
     - Analog L/R Audio into Terminal Block 6c style connector (3)
     - PCM into RCA style connector (8)
   - Select switch position on the side of the unit (under access cover) according to choices below:
     1. TosLink
     2. Analog Audio
     3. PCM
     4. Reserved
Connect RS-232 wires to Terminal Block 5c style connector (4) as follows:

» On KD-VACTX - RS-232 Female-to- stripped/tinned leads cable Tx to Rx, Rx to Tx, Ground to Ground.

» On KD-VACRX; KD-VACWPRX - RS-232 Female-to- stripped/tinned leads cable, Tx to Tx, Rx to Rx, Ground to Ground.

Connect IR wires to Terminal Block 5c style connector (4) as follows:

» IR to IR, Ground to Ground

» On KD-VACTX - RS-232 Female-to- stripped/tinned leads cable Tx to Rx, Rx to Tx, Ground to Ground.

Plug in CAT5/6/7 into RJ-45 connector on the back of the KD-VACTX. In order to insure the best possible performance from the KD-VACTX, we recommend using only the original Key Digital power supply.

Connect the supplied power adapter, plug it into the power input jack (6)

You should see the “Power” LED (7) illuminate. (see Fig. 1)
3. Receiving units: KD-VACRX or KD-VACWPRX - do not have sliding switch.
   ➔ Instead, four LED lights (under access cover) will indicate length of connecting CAT5 cable as follows (lights 1,2,3,4 from left to right):
      » #4 LED lit up – 100 feet
      » #3 LED lit up – 300 feet
      » #2 LED lit up – 400 feet
      » #2 & #4 LED lit up – 500 feet
      » #2 & #3 LED lit up – 600 feet
      » #2, #3 & #4 LED lit up – 700 feet
      » #1 LED lit up – 800 feet
      » #1 & #4 LED lit up – 900 feet
      » #1 & #3 LED lit up – 1000 feet
      » #1, #3 & #4 LED lit up – more than 1000 feet
   ➔ Plug in CAT5/6/7 into “Input” port of the KD-VACRX; KD-VACWPRX.
      » At this point, you should see the LINK LED light (5) up on connected units.

Mechanical

➤ CE and RoHS, WEEE compliant
➤ Wall Mountable
➤ Dimensions: 2.8” X 2.5.” X 1.5”
➤ Weight: 0.5 Lbs. (excluding power supply)
➤ Enclosure: Black Metal for KD-VACTX; KD-VACRX, white plastic wall plate for KD-VACWPRX
➤ Power Supply: DC 5V @ 1Amp (110-240V input 50/60Hz)

⚠️ You MUST use the Power Supply provided with your unit or you VOID the Key Digital® Warranty and risk damage to your unit and associated equipment.
Important Product Warnings:

1. Connect all cables before providing power to the unit.
2. Test for proper operation before securing unit behind walls or in hard to access spaces.
3. If installing the unit into wall or mounting bracket into sheet-rock, provide proper screw support with bolts or sheet-rock anchors.

Safety Instructions.
Please be sure to follow these instructions for safe operation of your unit.

1. Read and follow all instructions.
2. Heed all warnings.
3. Do not use this device near water.
4. Clean only with dry cloth.
5. Install in accordance with the manufacturer’s instructions.
6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
7. Only use attachments/accessories specified by the manufacturer.
8. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way including:
   ➔ Damage to the power supply or power plug
   ➔ Exposure to rain or moisture
How to Contact Key Digital®

System Design Group (SDG)
For system design questions please contact us at:
› Phone: 914-667-9700
› E-mail: sdg@keydigital.com

Key Digital Trainings
For questions about Key Digital Trainings please contact us at:
› Phone: 914-667-9700
› E-mail: training@keydigital.com

Customer Support
For customer support questions please contact us at:
› Phone: 914-667-9700
› E-mail: customersupport@keydigital.com

Technical Support
For technical questions about using Key Digital® products, please contact us at:
› Phone: 914-667-9700
› E-mail: tech@keydigital.com

Marketing and Public Relations:
For marketing and public relations information, please contact us at:
› Phone: 914-667-9700
› E-mail: marketing@keydigital.com

Shipping
For shipping questions please contact us at:
› Phone: 914-667-9700
› E-mail: shipping@keydigital.com
**Accounting:**

For accounting questions please contact us at:

- **Phone:** 914-667-9700
- **E-mail:** accounting@keydigital.com

**Repairs and Warranty Service**

Should your product require warranty service or repair, please obtain a Key Digital® Return Material Authorization (RMA) number by contacting us at:

- **Phone:** 914-667-9700
- **E-mail:** rma@keydigital.com

**Warranty**

All Key Digital® products are built to high manufacturing standards and should provide years of trouble-free operation. They are backed by a limited two-year parts and labor warranty.
Key Digital®, led by digital video pioneer Mike Tsinberg, develops and manufactures high quality, cutting-edge technology solutions for virtually all applications where high quality video imaging is important. Key Digital® is at the forefront of the video industry for Home Theater Retailers, Custom Installers, System Integrators, Broadcasters, Manufacturers, and Consumers. We provide total video system solutions because we know and help drive the technology, the industry, the business, and all the latest up-and-coming standards. But most of all, we know exactly what you need for your unique application - the right solution.