KD-CTCA3

Component Video to VGA Adapter

Key digital

Component Video to VGA Adapter
Model KD-CTCA3

Component Video (YPrPb) input to VGA Video (RGBHV) output Video Adapter with added features of Component Video loop-through, auto-sensing VGA-In to VGA-Out pass-through when Component Video is inactive, and sync format selections. This

Video Adapter is NOT a Video Scaler or Video Processor.

Included in this package:

- One KD-CTCA3 ClearVideo3
- One external power supply
- This User/Installer Manual with included Warranty statement

Product Overview

The KD-CTCA3 ClearVideo3 is the world's smallest video adapter on the market to "glue" your Component Video (YPrPb) devices to VGA monitors and projectors. ClearVideo3 is the ideal choice to drive your VGA displays from Component Video sources like your progressive DVD player, video

game (like Xbox and Game Cube), or HDTV Set Top Boxes. ClearVideo3 works with most* video formats, like 480p, 720p, 1080i/540p, NTSC, PAL, interlaced or progressive. With your Key Digital cost-effective ClearVideo3 product, you get crystal-clear processing and you can drive your VGA monitor with cable lengths up to 50 feet..

*NOTE: To drive VGA monitors, the source video format must be above a 31 kHz scanning rate. The user should note that a typical VGA monitor therefore will NOT display formats like 480i/60 and 576i/50 that are in the range of 15.7 kHz.

Why do you need a Video Adapter?

The video industry has produced many different products to process, switch, and distribute your video. In many instances, the video input or output formats of these products are not compatible. For example, you may have an application where you would like your video game with Component Video (YPrPb) out to drive your VGA (RGBHV) display.

What do you do? One less-palatable option is to purchase all new equipment that is totally compatible, which is a significant investment and limits you for the future to ever consider equipment that does not conform to the standard you pur-chased. At Key Digital, we have a better solution for you. We have designed economical, high-quality

video adapters, which "glue" your components that may have been designed to diverging standards:

- KD-CTCA3 ClearVideo3: *Component Video (YPrPb) to VGA adapter, and more*
- KD-CTCA3 ClearColor3: *VGA to Component Video adapter, and more*

NOTE THAT A VIDEO ADAPTER DOES NOT PERFORM VIDEO SCALING, PROCESSING, OR SCAN CONVERSIONS.

Product Features

KD-CTCA3 ClearVideo3 offers versatility, convenience, and well thought-out features:

- Smallest Component Video (YPrPb) input to VGA (RGBHV) output Video Adapter on the market today
- Convenient and intelligent Input/Output features:
  - Component Video input also has active pass-through output to simultaneously drive your Component Video display
  - Auxiliary VGA input will automatically pass through to the VGA output if sync is not

detected on the Y channel of the
Component Video input – a great feature
that lets you permanently hook up
ClearVideo3 to your existing PC and VGA
monitor set-up

- Enables display of:
  - Progressive DVD players or Component
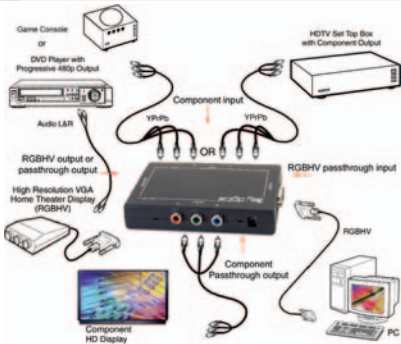   Video HDTV Set Top Boxes on VGA monitors

and projectors
- Xbox and other game consoles at 480p, 720p, and 1080i/540p on standard VGA monitors and projectors
- Compatible with:
  - All Component Video HDTV Set Top Boxes
  - All NTSC and PAL interlaced and progressive formats

- Xbox and Game Cube video games
- Flexible Sync Out options:
  - H and V drive (RGBHV), or Composite Sync on H selection (RGBHcV)
  - H and V drive (RGBHV), or Sync-on-Green selection (RGsB)

SOME TYPICAL APPLICATION EXAMPLES
Component Video to VGA Adapter
ClearVideo3, Model KD-CTCA3

ClearVideo3 - Video Adapter - Model KD-CTCA3

UL LISTED

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

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1)Read these instructions.
2)Keep these instructions.
3)Heed all warnings.
4)Follow all instructions.
5)Do not use this apparatus near water.
6Clean only with dry cloth.
7)Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8)Do not install near any heat sources such as radi-

ators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9)Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for

replacement of the obsolete outlet.

10)Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11)Only use attachments/accessories specified by the manufacturer.

12Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the

apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13)Unplug this apparatus during lightning storms or when unused for long periods of time.

UL LISTED - Model KD-CTCA3

Refer all servicing to qualified service personnel.
Servicing is required when the apparatus has been
damaged in any way, such as power-supply cord or
plug is damaged, liquid has been spilled or objects
have fallen into the apparatus, the apparatus has
been exposed to rain or moisture, does not operate
normally, or has been dropped.

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QUICK SET-UP

Connecting and using your KD-CTCA3 ClearVideo3 is a simple process.
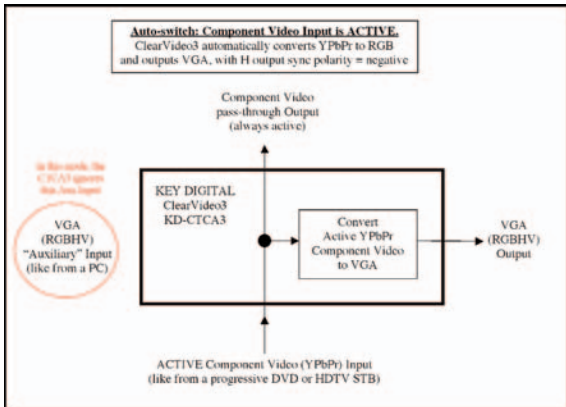
NOTE: Do not attempt to connect power to the unit until you have completed all Steps 1 – 4.

STEP 1: Determine your configuration

requirements. The primary function of the KD-CTCA3 ClearVideo3 is to convert your Component Video (YPrPb) signal to VGA (RGB). The unit automatically adjusts to the input scan format. There are added bonuses that let you also simultaneously drive your Component Video monitor, or even automatically pass-through a VGA source (like from your PC) to the VGA output when Component Video is Typical configuration with ACTIVE YPbPr Component

KD-CTCA3

Auto-switch: Component Video Input is ACTIVE.
ClearVideo3 automatically converts YPbPr to RGB
and outputs VGA, with H output sync polarity = negative

Component Video
pass-through Output
(always active)

KEY DIGITAL
ClearVideo3
KD-CTCA3

Convert
Active YPbPr
Component Video
to VGA

VGA
(RGBHV)
Output

In In-mode, the
CTCA3 ignores
this Aux input

VGA
(RGBHV)
"Auxiliary" Input
(like from a PC)

ACTIVE Component Video (YPbPr) Input
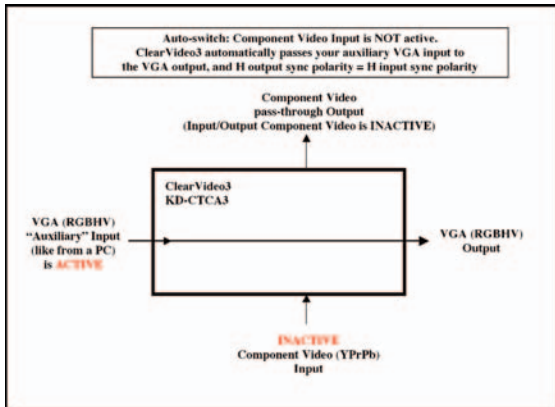(like from a progressive DVD or HDTV STB)

Input always passing through to the YPbPr loop-through output, and automatically converted to VGA. This configuration allows your Component Video source to SIMULTANEOUSLY drive your Component Video monitor and VGA monitor.
inactive, as demonstrated in the figures below.
Typical configuration with INACTIVE YPbPr

Auto-switch: Component Video Input is NOT active.
ClearVideo3 automatically passes your auxiliary VGA input to
the VGA output, and H output sync polarity = H input sync polarity

Component Video
pass-through Output
(Input/Output Component Video is INACTIVE)

ClearVideo3
KD-CTCA3

VGA (RGBHV)
"Auxiliary" Input
(like from a PC)
is ACTIVE

VGA (RGBHV)
Output

INACTIVE
Component Video (YPrPb)
Input

Component Input, and "Auxiliary" VGA Input passed on to the VGA output. This configuration allows your VGA source to be connected to the VGA monitor in cases where the Component Video source is INACTIVE – perfect for PC applications.

STEP 2: Make your Input Connections:

• One Component Video (YPrPb) input on three RCA female jacks
• If desired, one "auto switching" VGA (RGBHV) input will drive the RGBHV output when Component Video input has no sync on "Y"

STEP 3: Make your Output Connections:

• One VGA Video (RGBHV) output on DB15 connector

that can drive two monitors with equal cable lengths up to 50 feet
• If desired, one Component Video (YPrPb) always-active pass-through output on three RCA female jacks (be sure to terminate this output at the end of the runs)
STEP 4: Configure the Sync Output Select Switches (adjacent to the Component Video input connectors) to suit your application. H&V polarity out for Component Video to RGBHV conversion is always

NEGATIVE polarity. H&V polarity out for the case when the auxiliary VGA input signal (like from a PC) is switched to the VGA output is always the SAME as the polarity of H&V on the input VGA signal.

Select between H and V drive sync or Composite Sync with Switch 1:

• Switch 1 ON (up): H and V drive VGA out (typical mode, RGBHV)

• Switch 1 OFF (down): Composite Sync out on H,

and V (RGBHcV)

Select between H and V drive sync or Sync-on-Green with Switch 2:

• Switch 2 ON (up): H and V drive VGA out (typical mode, RGBHV)

• Switch 2 OFF (down): Sync-on-Green mode (RGsB)

STEP 5: Apply power to the unit:

• Use ONLY the external wall-plug power supply provided with your unit, +5 Volts @ 03.Amps, 100-240 VAC, 50-60 Hz

• Connect the 1/8" mini-plug external power supply connector to your unit, and plug the power supply into a power outlet

• The green Power-on LED (adjacent to the external power supply connector) should be ON

STEP 6: Operation of your unit:

• Your Component Video source should now drive your VGA display and is also available as an active Component Video pass-through

• The red LED (adjacent to the external power supply connector) indicates sync detected on the Y Component Video input when LED is ON

• If you also have a VGA input connected to the unit, it should be passed to the VGA output when the red LED is OFF, indicating the Component Video source is inactive (Auto-switch feature)

Technical Specifications
ClearVideo3
Model KD-CTCA3

Video Inputs:

• One Component Video (YPrPb) input on three RCA female jacks

  • 1 V p-p @ 75 Ohm terminated

  • Composite Sync on "Y"

• One "auto switching" VGA (RGBHV) input

connected to RGBHV output when Component Video input has no sync on "Y"

Video Outputs:
• One VGA Video (RGBHV) output on DB15 connector that can drive one monitor with cable lengths up to 50 feet

      • RGB: 0.7 V p-p, 75 Ohm, terminated at the

source

• One Component Video (YPrPb) always-active pass-through output on three RCA female jacks

Accepted Scanning Formats:

• Unit adjusts automatically for incoming video scanning format:

  • 50 Hz or 60 Hz refresh
  • 480p, 576p, 1080i/540p, 720p

- Output scanning format is always the SAME as the input scanning format

Control and Adjustments:

- LED's (adjacent to the external power supply connector):
    - Green Power-on LED
    - Red LED indicates sync detected on the Y Component Video input when LED is ON

KD-CTCA3

- Output Sync Select Switches (adjacent to the Component Video input connectors):
    - H and V drive, or Composite Sync:
        - Switch 1 ON (up): H and V drive VGA out (typical mode, RGBHV)
        - Switch 1 OFF (down): Composite Sync out on H (RGBHcV)
    - H and V drive, or Composite Sync:

- Switch 2 ON (up): H and V drive VGA out (typical mode, RGBHV)
- Switch 2 OFF (down): Sync-on-Green mode (RGsB)
- Output Sync polarity:
  - Negative TTL sync for H and V in RGBHV mode
  - Negative Sync-on-Green for RGsB mode

• Polarity of H&V sync for pass-through RGBHV is the same as input H and V drive polarity

Processing:
• HDTV colorimetry matrix
• Video bandwidth -3 dB at 110 MHz, linear-phase passband, for crystal-clear display

- Auto switching between VGA (RGB) input and Component Video (YPrPb) converted to VGA (RGB)
    - With active sync on the Y Component Video input, Composite Video is converted to VGA at the VGA output connector
    - If no sync is present on the Y Component Video input, the auxiliary VGA input signal automatically drives the VGA output connector

- Output RGB sync format processing: RGBHV, RGBHcV (composite sync on H) or RGsB (composite sync on Green)
- Outputs can drive cables up to 50 feet

Mechanical:

- Connectors
    - RCA (for Component Video)
    - DB15 (frequently used for VGA/computer)

- 1/8" mini-plug external power supply input
- Size: 2" x 4.75" x 0.75"
- Weight: 1 lbs.
- Enclosure type: Plastic
- External wall-plug power supply provided, +5 Volts @ 03.Amps, 100-240 VAC, 50-60 Hz

HOW TO CONTACT KEY DIGITAL

Repairs and Warranty Service:

Should your HD Leeza require warranty service,
please contact Key Digital first to obtain a Returned
Materials Authorization (RMA) number
Please contact us at either:
Toll-free 1-203-778-0295 extension 3#
email tech@keydigital.com

Technical Support:

For technical questions about using our products,
please contact us at either:

1-203-778-0295 or Toll-free 1-888-258-2028

email tech@keydigital.com

Customer Support:

For customer support questions about using our
products, please contact us at either:

1-203-778-0295

email customersupport@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.