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One Component to Two VGA Video Adapter Manual

Model:

KD-CTCA2

Winner Of 5 CES Innovations 2002 Awords

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Model Number:
KD-CTCA2

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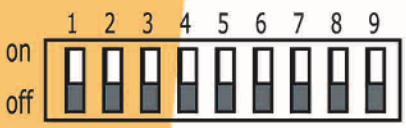
INNOVATIONS INTERNATIONAL CES
2002

Basic functionality:

[1] KD-CTCA2 is designed to convert component (YPrPb) signals available from digital HDTV set top boxes or DVD players to VGA (RGBHV) signal for display on a HDTV monitor or a computer monitor capable of operating in 480p, 720p or 1080i display format mode. The KD-CTCA2 is equipped with two VGA outputs (DB15 connectors) and an auto scan rate (480p,720p,1080i) sensing mode. All modes of the KD-CTCA2 can be enabled by changing the positions of the seven dip switches accessible from unit's top cover. A small Flathead screwdriver should be used. There could be a total of nine dip switches on the unit; switches 8 and 9 are not used.



View from the top with Db15 connector to the left

[2] Accepted scan rates:

480p: Unit will accept and process 480p know as "progressive format" available from "progressive" DVD players. In addition, it will accept the 480p output available with an optional component adapter for the Microsoft X BOX and the Nintendo Game Cube game consoles. It also accepts the 480p setting available on Panasonic, Zenith, Samsung and other HDTV set top boxes.

720p: The KD-CTCA2 will accept and process the ATSC standard of 720p HDTV format available from a number of set top box makers. Your display device must also accept this scan rate. Check with the set top box and display device manufacturers for guidance.

1080i/540p: The KD-CTCA2 will accept and process standard HDTV 1080i and 540p format scan rate, available from some HDTV set top boxes.

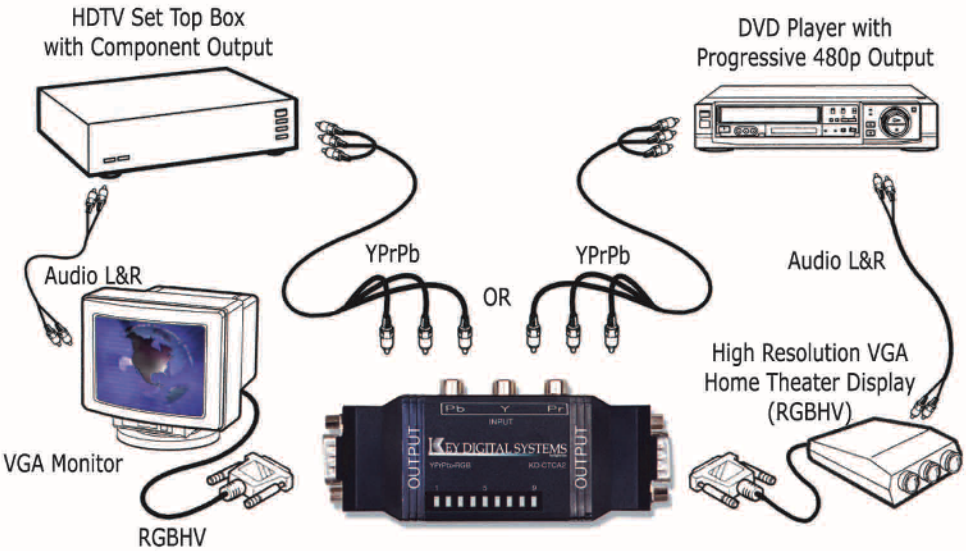
[3] Negative or Positive Output Sync: There are two variations of TTL Sync available on the KD-CTCA2's DB15 connector: The two positions available are Positive Sync or Negative Sync. Most monitors accept both. Some monitors may only operate properly with only one sync setting. If the default "Positive Sync" does not produce an image on your monitor, switch to KD-CTCA2 to Negative Sync by moving dip switch 5 to the down position.

GAME CUBE & XBOX COMPATABLE

[4] Composite/Horizontal Drive Output Sync: Most of the monitors expect a separate Horizontal sync. However, some monitors require a composite H/V sync. This is available by moving the dip switch 4 to the up position

[5] Horizontal Centering Adjustment, Clamp position for BRIGHTNESS:

This adjustment is located next to the power supply terminal on the side of the KD-CTCA2. It is provided for small adjustments to help center the image on the monitor screen. It is not recommended to explore maximum adjustment ranges on this potentiometer doing so may cause a loss of sync. The blanking interval of output G (green) video contains embedded sync originally present in the Y connector of the YPrPb signal. The output format may be called RGsBHV. Some monitors may experience improper image brightness due to clamp on sync on Green. You may observe an image that is either too bright or too dark. Adjusting this potentiometer will affect horizontal centering while correcting the improper brightness level. You may need to correct the uncentered image by changing your monitor's Horizontal Centering control. Consult the owner's manual provided with your monitor for instructions on locating and operating its horizontal centering control.



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[6] Auto Format Mode: This feature is designed for easy setting and operation of the adapter. The KD-CTCA2 will automatically track incoming scanning formats and automatically sync to them. There is no need to set scanning formats in this mode. Some monitors may not accept this setting, requiring you to disable the "auto format" mode and operate the KD-CTCA2 in its "manual" format mode

[7] Dip Switch Configuration Tables:

Auto Format Enabling Mode: SW=Switch

SW1	SW2	SW3	SW6	SW7
OFF	ON	OFF	ON	ON

Auto Format Enabled

[8] Manual Format Enabling Mode:

Switches should be set for appropriate scanning format as shown below:

[8.1] 480P format mode:

SW1	SW2	SW3	SW6	SW7
ON	OFF	OFF	OFF	OFF

[8.2] 720P format mode:

SW1	SW2	SW3	SW6	SW7
OFF	ON	OFF	OFF	OFF

[8.3] 1080I or 540p format mode:

SW1	SW2	SW3	SW6	SW7
OFF	OFF	ON	OFF	OFF

[9] Composite or Separate Horizontal Sync Mode:

SW4 ON – Composite Sync Output
SW4 OFF – Separate Horizontal Sync Output

[10] Positive or Negative Output Sync Modes:

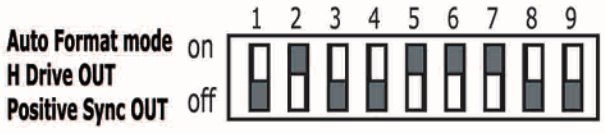
SW5 ON – Positive Sync Out

SW5 OFF – Negative Sync Out
Please try switching from Positive to Negative Sync (or visa-versa) if your monitor loses its picture.

If your monitor does not work after you have set switches 1, 2,3,6,& 7, please go through the following sequence for switch 4 & 5 until your monitor works.

SW4	OFF	OFF	ON	ON
SW5	OFF	ON	OFF	ON

Factory default setting:



[11] Factory Default Settings Are :

o Auto Format mode On with SW1 off; SW2 on SW3 off; SW4 off; SW5 on; SW6 on; SW7; on
o Separate Horizontal Sync On
o Positive Sync On
Composite Sync Off- Sync is on Green/Horizontal sync/Vertical sync

[12] Operating with progressive DVD player:

Please make sure that DVD player is in actual 480p or "progressive" mode before using this transcoder. One of the easy way to make sure is to connect the Y (green) output of the DVD player to the monitor TV's Composite Video (Yellow jack) input. In "progressive" or 480p mode the regular TV will either lose horizontal lock or will show a double (side to side) black and white image. In 480i or "interlaced" mode the connection of Y (green) output of the DVD to a regular TV Composite Video (Yellow jack) input will show a normal size black and white image.

[13] Operating with XBOX game console:

[13.1] Setting X-Box dashboard (control panel) to the 480p mode to play a game:

Connect your component X-Box AV cable to the X-Box and a regular TV with Video (yellow RCA jack) input. The X-Box component AV cable adapter should be connected to the X-box. The green cable or "Y" of this component AV cable (one of the three YPrPb or YCrCb) should be connected to the Video input (yellow RCA jack) of your regular TV. This yellow RCA Video jack input is sometimes used when connecting to VCR's.

You will need this connection because the X-Box's dashboard will only output as 480i. The X-Box dashboard will appear in black and white on your regular TV and you will be able to set the XBOX for 480p output resolution. USE ONLY COMPONENT X-BOX AV CABLE FOR THIS SETTING. You will not be able to set the X-BOX TO 480p if you initially use the COMPOSITE VIDEO AV PACK

[13.2] Now you are ready to play the X-Box game console on your VGA monitor. Simply insert the game into the X-Box CD-ROM cradle, load the game and connect the YPrPb cables to KD-CTCA2 and a VGA computer monitor cable from the KD-CTCA2 to a VGA monitor. When game loads the X-Box will switch to 480p automatically and you can start using your VGA monitor in full color andresolution. Using the KD-CTCA2 with VGA monitor will greatly enhance your visual game experience compared to using a HDTV monitor. The VGA monitors usually have 50% more resolution then HDTV monitor in all three R, G, B colors.

[13.3] The CTCA2 should show the X-Box game image on your VGA monitor in factory default mode with following dip switch configuration:

sw1=off; sw2=on; sw3=off; sw4=off; sw5=on or off; sw6=on; sw7=on; sw8&9 – not used
Please try sw5 both on and off. In some rare cases VGA monitors prefer positive or negative sync.

[13.4] If the image on the monitor is too bright with colors are washed or too dark please try to adjust the horizontal centering/brightness potentiometer [5] first in auto format [7] and if there is no effect in 480p manual mode [8.1].

You can use a small "flathead" type flat screwdriver. The potentiometer is multi-turn so you may have to turn a few cycles to achieve the result. During this adjustment you will be able to move the image left or right and adjust brightness or "color wash-out" in the same time.

FAQ's for KD-CTCA2

1Component (YPrPb) Input to 2 VGA (RGBHV) Outputs

Q: My DVD Player does not work when hooked up to the KD-CTCA2

A: [1] Make sure you have progressive DVD player that is set in 480p progressive mode. VGA monitors only take 480p not 480i.

[2] Make sure that monitor will accept 640X480/60 format. That type of format will be applied to the monitor from KD-CTCA2 when DVD is in progressive mode.

Q: Why does my picture look washed out?

A: [1] Try factory default configuration.

[2] If too bright or color washed out try centering adjustment located near power plug. Use jeweler type flat screwdriver. Try by moving image towards left and find a spot where brightness decrease and colors are not washed out.

Q: My picture is off center

A: Try centering adjustment. Re-center at the monitor if possible.

Q: The picture is not stable

A: [1] Image is not in sync or significantly distorted try to change switch 5 from positive (factory default is positive) to negative sync sw5=OFF;

[2] If your monitor accept Sync-on-Green (RGsB) try to force the output to be Sync-on-Green with all dip-switches=OFF;

Q: My monitor displays picture with some "cushion" like geometric distortion on the left and right borders of the picture.

A: Change polarity of the sync by altering position of sw5.

Q: Will the KD-CTCA2 work with Play Station 2 (PS2)?

A: The PS2 will not work with VGA because PS2 is 480i only for all games. VGA monitors only take 480p not 480i.

Q: Why does some of my Game Cube fail to play?

A: The Nintendo Game Cube could be set for 480p for following games: Burnout, Luigi's Mansion, Pikmin and Madden NFL 2002. Other Game Cube games are 480i only.

Q: I do not see a picture on VGA input of my Loewe 480p capable TV using HDTV Set Top Box with 1080i component output as a signal source for KD-CTCA2.

A: You need to use HDTV capable monitor clearly rated for 1080i signal to be acceptable on its VGA port.

Q: The HDTV picture on my 4:3 aspect ratio Loewe and Sony HDTV monitors are centered in the middle with black bars on top and bottom.

A: Sony, Loewe and some Panasonic HDTV monitors with 4:3 tube display 1080i/540p HDTV signal in the middle of the screen in a "letterbox" format. There is no control available to change that display format in HDTV mode.

Three steps approach to enable X-Box drive VGA display with the help of KD-CTCA2 video adapter

[1] Setting X-Box dashboard (control panel) to have 480p mode during playing the game:

Connect your component X-Box AV cable to the X-Box and regular TV with Video (yellow RCA jack) input. The X-Box component AV cable adapter should be connected to the X-box. The green cable or "Y" of this component AV cable (one of the three YPrPb or YCrCb) should be connected to the Video input (yellow RCA jack) of your regular TV. This yellow RCA Video jack input is sometimes used for the VCR's. We need that connection because the X-Box dashboard is ONLY 480i. The X-Box dashboard will appear in black and white on your regular TV and you will be able to set the monitor to 480p resolution. USE ONLY COMPONENT X-BOX AV CABLE FOR THIS SETTING. WHEN USING X-BOX WITH COMPOSITE VIDEO AV PACK, USER WILL NOT BE ABLE TO SET MONITOR RESOLUTION TO 480P.

[2] Now you are ready to play the X-Box game on your VGA monitor. Simply insert the game into the X-Box CD-ROM cradle, load the game and connect the YPrPb or YCrCb (same signals) through KD-CTCA2 to VGA monitor. When game loads the X-Box will switch to 480p automatically and you can start using your VGA monitor in full color and resolution. Using the KD-CTCA2 with VGA monitor will greatly enhance your visual game experience compare to HDTV monitor. The VGA monitors usually have 50% more resolution then HDTV monitor in all three R, G, B colors.

[3] The CTCA2 should show the X-Box game image on your VGA monitor in factory default mode with following dipswitch configuration:

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sw8&9 – not used

Please try sw5 both on and off. In some rare cases VGA monitors prefer positive or negative sync.

[3.1] If image on the monitor is too bright or colors are washed out please change the dipswitch configuration to 480p manual mode:

sw1=on; sw2=off; sw3=off; sw4=off; sw5=on or off; sw6=off; sw7=off;

KEY FEATURES:

• Enables display of progressive DVD players or Component Video HDTV set top boxes on VGA monitors and projectors.
• Automatic formats - 480p, 720p, 1080i/540p.
• Drives two VGA monitors.
• Enables display of XBOX games at 480p, 720p, 1080i/540p on standard VGA monitors and projectors.
• Compatible with XBOX game machine component AV pack adapter.

KEY BENEFITS:

• Compatible with all progressive DVD players.
• Compatible with all Component Video HDTV set top boxes.
• Horizontal image centering adjustment.
• Crystal clear display.
• World's smallest adapter on the market.
• Compatible with all NTSC and PAL interlaced and progressive formats in auto mode.
• Drives cable up to 50 feet.
• Cost effective.
• 2 years parts and labor warranty.

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TECHNICAL SPECIFICATIONS:

Video Inputs:

• One Component Video (YPrPb) input.
• Three RCA color-coded jacks.
• 1 V p-p @ 75 OHm terminated.
• Composite Sync on "Y".

Accepted Scanning:

Manual Mode:
• 60 Hz refresh: 480p, 1080i/540p, 720p.

Auto Mode:
• 50 Hz or 60 Hz refresh: 480i, 576i , 480P, 576P, 1080i/540p, 720p.
• Input and Outputs same scanning format.

Color Space conversion:
• HDTV Colorimetry Matrix.

Bandwidth:
• -3 Db at 110 MHz.

Output Sync:
• Positive H&V, TTL.
• Negative H&V, TTL.
• H Drive or Composite sync on H.

Adjustment:
• Horizontal centering/brightness.
• One small flat screwdriver driven potentiometer.

Video Outputs:
• Two independent RGBHV outputs (DB15 output ports) R, G and B: 0.7 V p-p,75 OHm terminated at source.
• Sync on G and H&V.

Warranty:
• 2 years parts and labor.