nT15IX05 | CM-397M
CGA + YCBCR To VGA Scaler

Operation Manual

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.

- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.

- Never spill liquid of any kind on or into this product.

- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.

- Do not attach the power supply cabling to building surfaces.

- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.

- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.

- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR0	27/06/12	Preliminary Release
VS1	21/03/13	Updated Format and Diagrams
VR2	22/07/15	CGA Input Timing

CONTENTS

1. INTRODUCTION

This is an analog CGA (RGB) or Component (YCbCr) to PC Converter box that can scale the signal to 3 different PC modes; VGA, XGA or WXGA. It enables you to connect your RGB or YCbCr signal source such as game consoles or video players to a PC display. It provides further features such as phase & H/V position adjustment, field-invert setting and OSD display.

2. APPLICATIONS

- CGA to PC resolution conversion
- Component (YCbCr) video to PC resolution conversion
- Display video of older game consoles on standard PC monitors

3. PACKAGE CONTENTS

- Component/CGA to PC Converter
- D-Sub 15-pin to 3-RCA Component Cable
- 5V DC Power Supply Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

Source equipment such as a PC or Video player and output TV/monitor with appropriate connection cables.

5. FEATURES

- Accepts CGA (RGB) or Component (YCbCr) format and converts to PC format
- Scales CGA or Component (YCbCr 480i/576i) signals up to VGA/XGA/WXGA PC resolutions
- 50/60Hz frame rate conversion ensures error-free display (576i only)
- The CGA (RGB) input is auto-detected and can be RGBHV, RGB H+V or RGsB (Sync-on-Green)
- The Component (YCbCr) input is auto-detected and can be YPbPrHV, YPbPrS or YPbPr (Sync-on-Y)
- Play video games on your PC monitors
- Supports CGA at 480i and 576i
- Supports phase and horizontal/vertical position adjustment
- Supports field-invert setting
- Supports several types of signal synchronizations, including Composite Sync, Sync-on-Green and Sync-on-Y
- High-resolution output picture
- Plug and Play design, easy to setup and there is no driver software required
- Palm- size design for easy transportation

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Top Panel
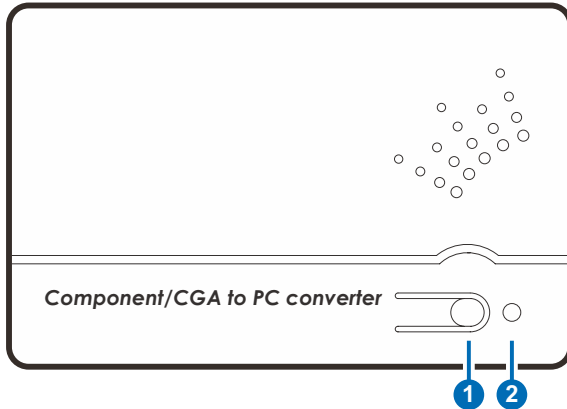

1 **MENU Button**

Press this button once to display the current input & output resolutions and while the OSD is displayed press it again to choose between input signals, CGA (RGB) or Component (YCbCr).

To enter into the OSD menu, press and hold the button for 3 seconds. Press it repeatedly to cycle through the options and leave the OSD menu for few seconds for unit to switch to that option.

2 **INPUT LED**

This LED will light according to the type of source signal, red for CGA (RGB), green for Component (YCbCr).
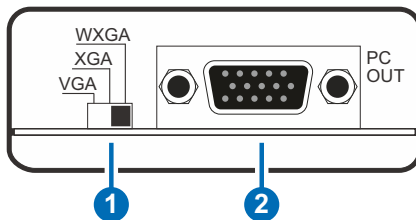
6.2 Front Panel
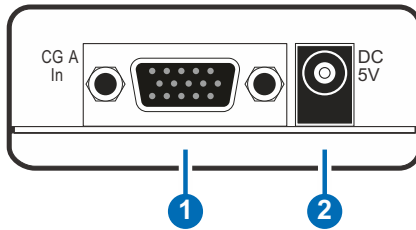
1 **CGA IN**
Connect to the source equipment such as a PC or video player with D-Sub 15-pin cable or Component (YCbCr) to D-Sub 15-pin adaptor cable.

2 **DC 5V**
Connect the supplied power adaptor to the unit and plug it into the AC wall outlet for power supply.

6.3 Rear Panel

1 **VGA/XGA/WXGA Switch**
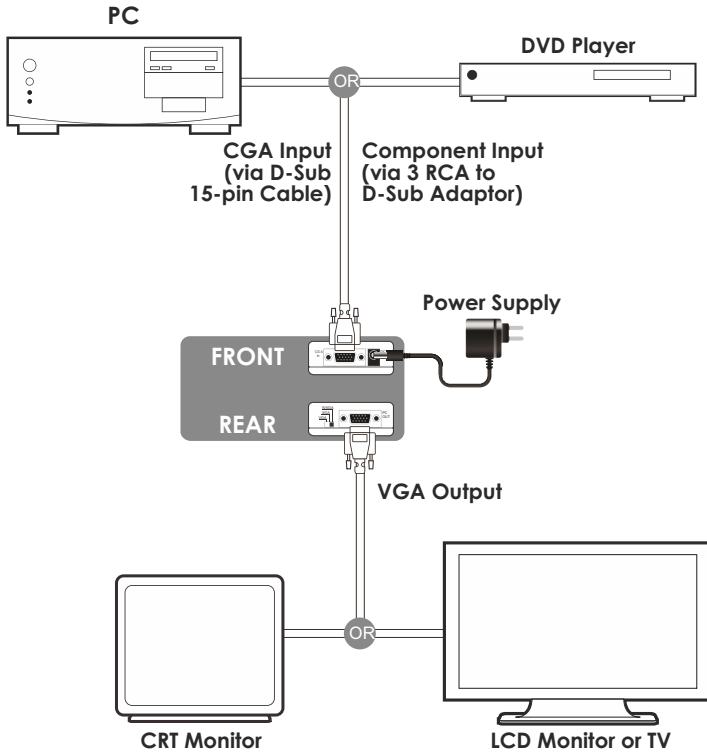Use this Switch to select the required output resolution (VGA, XGA or WXGA).

2 **PC OUT**
Connect to a TV/monitor with D-Sub 15pin cable for display of the converted signal.

6.4 OSD Menu

①	IN	576i
	OUT	WXGA

②	Phase Adjust	
③	IN Color Space	
④	H Position	
⑤	V Position	
⑥	Field Invert	
⑦	Information	
⑧	System Reset	
	Exit	

① The first part of the OSD will display the current input and output resolutions.

② Phase Adjust has a total of 32 steps for adjusting the phase, ranging from 0~31. Press the button repeatedly to adjust the phase setting whenever changing the source equipment. The device will keep memory of the last phase adjustment.

③ IN Color Space for selecting between CGA (RGB) or Component (YCbCr) input signals.

④ H Position has total of 20 horizontal positions ranging from −10 ~ +10.

⑤ V Position has total of 10 vertical positions ranging from −5 ~ +5.

⑥ Field Invert can be used to fix the even/odd field problem. Select Yes to correct the issue when the display image appears to be field inverted.

⑦ Information displays the settings for input signal, color space, field inversion and firmware version.

⑧ System reset will revert the device back to the factory default settings.

7. CONNECTION DIAGRAM

PC

DVD Player

OR

CGA Input
(via D-Sub
15-pin Cable)

Component Input
(via 3 RCA to
D-Sub Adaptor)

Power Supply

FRONT

REAR

VGA Output

CRT Monitor

OR

LCD Monitor or TV

8. SPECIFICATIONS

Input Port	1×D-Sub 15-pin Female
Input Signal	Supports Analog-Level Signal
	RGB 0.7Vp-p 75Ω
	Hsync/Vsync 2 Vp-p ~ 5 Vp-p 75Ω
	YCbCr: Y 1 Vp-p 75Ω, CbCr 0.7 Vp-p 75Ω
Input Timing	CGA: Hf=15700 Hz,
	Vf=59.924 Hz/Non-interlaced
	480i: Hf=15734 Hz,
	Vf=59.94 Hz/Interlaced
	576i: Hf=15625 Hz,
	Vf=50 Hz/Interlaced
Input Format Selection	RGB or YCbCr
Output Timing	VGA: 640×480 @60 Hz
	XGA: 1024×768@60 Hz
	WXGA: 1366×768@60 Hz
Power Supply	5 V/1.2 A switching power adaptor (with Universal plug. CE/FCC/UL certified)
Dimensions	64 mm (W)×112 mm (D)×26 mm (H)
Weight	90 g
Chassis Material	Plastic
Operating Temperature	0 ˚C~40 ˚C/320 ˚F~1040 ˚F
Storage Temperature	−20 ˚C~60 ˚C/−4 ˚F~140 ˚F
Relative Humidity	20~90 % RH (non-condensing)
Power Consumption	3.5 W

9. ACRONYMS

ACRONYM	COMPLETE TERM
CGA	Color Graphics Adapter
RGB	Red Green Blue
VGA	Video Graphics Array
XGA	eXtended Graphics Array
WXGA	Widescreen eXtended Graphics Array