

# Worldwide Super Multisystem Converter With TBC/Genlock Built-In

CDM-831 Worldwide Converter  
CDM-831T/R Worldwide Converter and TBC

## Operation Manual





## Precautions

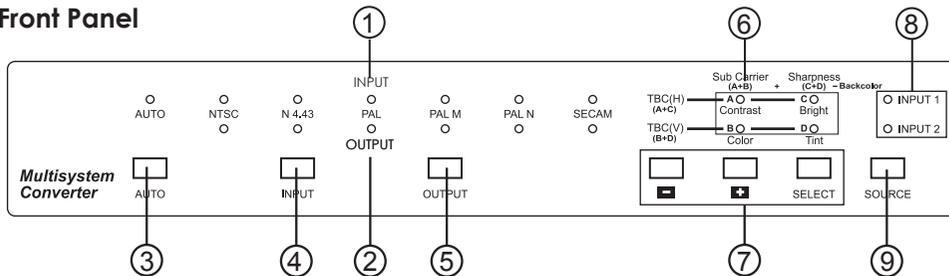
1. Do not expose this product to direct sunlight.
2. Keep the unit away from radiator, heat sources and magnetic field.
3. Do not place it in very dusty or humid locations.
4. Use this unit in a horizontal position only.
5. Do not put heavy object on top of the converter.
6. Put the unit in an open space that has a good ventilation.
7. Keep the unit away from TV or other electronic equipment if the unit is affected.
8. Unplug the unit from the power supply when it is not to be used for a long period of time.

## Features

1. Two sets of video and S-VHS inputs.
2. One output for each of composite video, S-VHS and Y, B-Y, R-Y.
3. Input system auto detection.
4. Digital conversion from input TV signals of NTSC 3.58, NTSC 4.43, PAL, PAL M, PAL N, SECAM to output signals of NTSC 3.58, NTSC 4.43, PAL, PAL M, PAL N, SECAM.
5. Digital comb filter for input system decoding.
6. Built-in Time Base Correction (T.B.C) function for signal synchronization.
7. Built-in automatic gain control (A.G.C) function ensures 1 Vp-p output signal (input level can range from 0.5 Vp-p to 2 Vp-p).
8. Full digital decoding and encoding; highly integrated digital processing reduces the board size and ensures reliable quality.
9. A color-bar pattern will automatically appear on the TV screen when there is no video signal present on the input.
10. TBC is active constantly, even in the bypass mode.
11. Built-in TBC/Genlock capability for synchronizing multiple asynchronous video sources.
12. Adjustable control on contrast, brightness, color, tint, sharpness, backcolor, sub-carrier and Horizontal/Vertical phase of TBC video.

# Operation Controls and Functions

## Front Panel



### ①. Input video system indicator

#### **AUTO, N3, N4, PAL, PAL M, PAL N, SECAM**

1. Illuminates when input auto detection mode is selected.
2. Illuminates when input system is set to NTSC 3.58.
3. Illuminates when input system is set to NTSC 4.43.
4. Illuminates when input system is set to PAL (BDGIK).
5. Illuminates when input system is set to PAL M.
6. Illuminates when input system is set to PAL N.
7. Illuminates when input system is set to SECAM.

**Note: When in auto detection mode one of the system indicator will also illuminate to show video system of the input.**

### ②. Output video system indicator

#### **N3, N4, PAL, PAL M, PAL N, SECAM**

1. Illuminates when output system is set to NTSC 3.58.
2. Illuminates when output system is set to NTSC 4.43.
3. Illuminates when output system is set to PAL (BDGIK).
4. Illuminates when output system is set to PAL M.
5. Illuminates when output system is set to PAL N.
6. Illuminates when output system is set to SECAM.

### ③. Input auto detection button

Push the button to Auto mode, in which the LED lights and the machine will automatically detect the system of the input. Push the button again to manual mode, in which the LED turned off, and the user has to manually select the input system through input button select.

### ④. Input system select button

Each depression of the button step through a series of video system and auto detection mode.

The sequence of selection is as follows:

NTSC 3.58→NTSC 4.43→PAL BDGI→PAL M→PAL N→SECAM

### ⑤. Output system select button

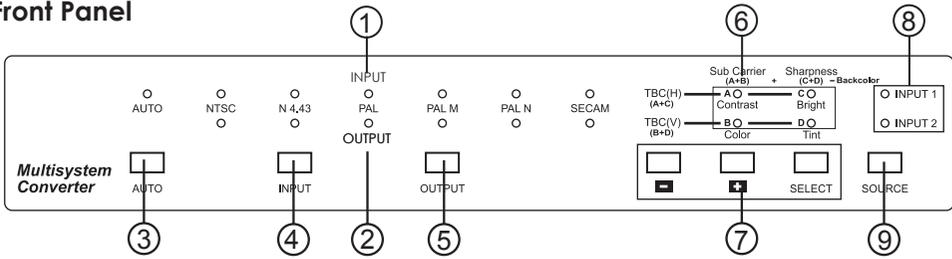
Each depression of this button step through a series of output video system.

The system are selected in the following order.

NTSC 3.58→NTSC 4.43→PAL BDGI→PAL M→PAL N→SECAM

# Operation Controls and Functions

## Front Panel



### ⑥. Picture adjustment indicators

1. Contrast indicator:  
When it lights up, use  or  button to adjust picture contrast.
2. Brightness indicator:  
When it lights up, use  or  button to adjust picture brightness.
3. Color indicator:  
When it lights up, use  or  button to adjust picture color.
4. Tint indicator:  
When it lights up, use  or  button to adjust tint of the picture (NTSC only).
5. When both **Contrast** and **Brightness** light up, use  or  button to adjust horizontal phase of the TBC input (against Genlock input).
6. When both **Color** and **Tint** light up, use  or  button to adjust vertical phase of the TBC input (against Genlock input).
7. When both the **Contrast** and **Color** LEDs light up, press the  or  button to adjust the Sub-carrier phase of the TBC input (against Genlock input).
8. When both the **Bright** and **Tint** LEDs light up, press  or  button to adjust the sharpness level.
9. When **Contrast**, **Bright**, **Color**, and **Tint** indicators all light up, or there is no video signal present on the input, the unit can offer 10 different types of background colors for choosing as follows:  
COLORBAR Pattern Black → Yellow → Cyan → Green → Magenta → Red → Blue → White → no signal. Use  or  to select your desired backcolor.

**Note: When a color is selected as background, it will be memorized and appear again when the machine next turned on.**

### ⑦. Picture adjustment controls

1. Select: Press this button repeatedly to choose what picture adjustment you wish to do.  
Each depression of the button will lead to a change on the controls as follows:  
Contrast → Brightness → Color → Tint → TBC(H) → TBC(V) → Sub carrier → Sharpness → Backcolor
2. : Press this button for adding picture effects value.
3. : Press this button for reducing picture effects value.
4.  + : Press  and  simultaneously, the setting of the selected control will be reset to its default value.  
Press  and  simultaneously for over 3 seconds, all controls will be reset to their default values.

### ⑧. Input indicator:

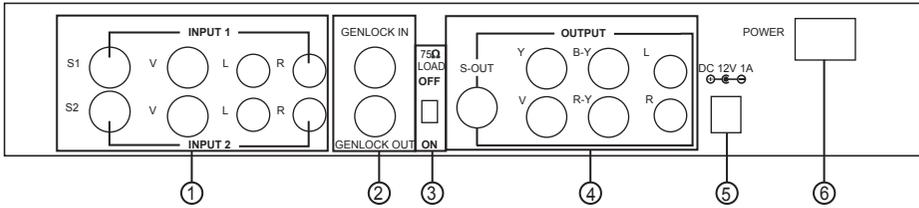
1. Input 1 illuminates when input 1 is selected.
2. Input 2 illuminates when input 2 is selected.

### ⑨. Input selector:

Press the button to select the wanted input source from the two inputs.

# Operation Controls and Functions

## Rear panel



### ①. Video input:

Use input selector on the front panel to select the wanted input. S-video has the priority over composite video when both are connected. If S-Video is not connected, the composite video will take effect.

### ②. Genlock input/Genlock output.

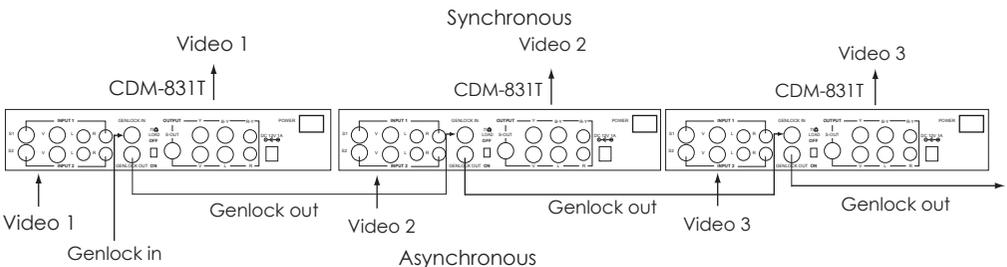
CDM-831T offers TBC/Genlock function in which video input acts as TBC and it could Genlock to the sync of another video (Genlock in), therefore synchronizing the two video inputs.

The full frame processing also reconstruct the sync burst and timing of the incoming video and provide an error-free standard video output. When Genlock in is not connected, the unit works as a video converter.

When Genlock is connected to a video source, the output of the unit will automatically turn itself into the same system and synchronization as the Genlock. For example you are converting a NTSC input to a PAL output, but also feed a Genlock in with a NTSC video, then the output will automatically change its system from PAL to NTSC. That means when there is a Genlock input, the output will always be the system and sync of the Genlock input.

Genlock out is a loop-through of Genlock input which made possible the synchronization between multiple video sources by connecting Genlock out to the Genlock in of the next unit, and repeat it.

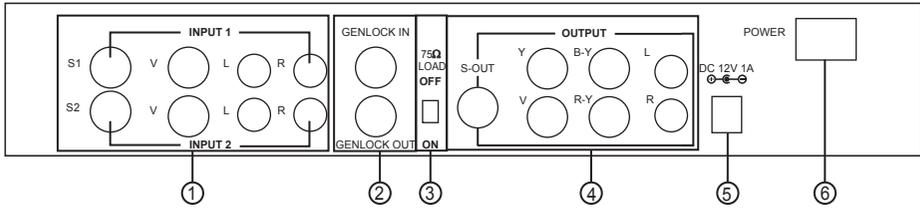
You can synchronize as many video sources as you like.



③. **75 ohm load switch** : When CDM-831T's Genlock out is not connected to the Genlock in of another unit, set the switch to ON. Set to OFF if it is connected to another unit.

# Operation Controls and Functions

## Rear panel



### ④. Video output:

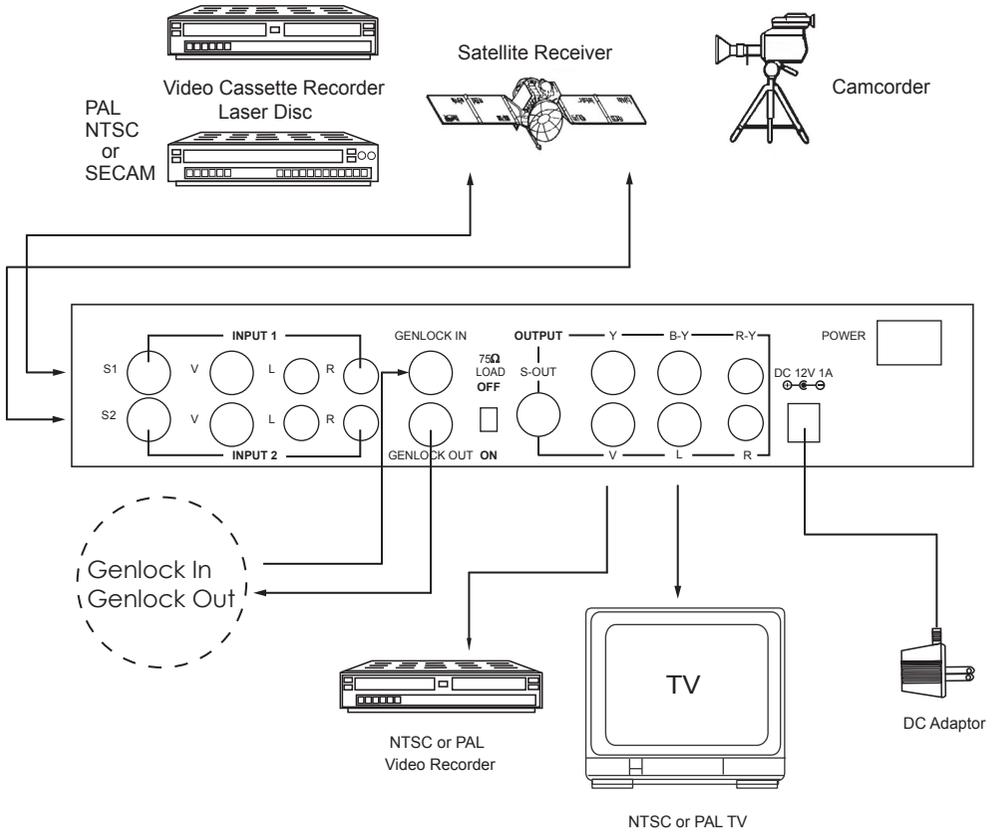
The unit offers three different formats of video out-composite, S-Video and color difference (Y,R-Y, B-Y).

These three outputs are all effective when a video input is connected to the unit.

### ⑤. DC 12V 1A.

### ⑥. Power ON/Off.

# Connection and Installation



## Specifications

Input TV systems	NTSC 3.58, NTSC 4.43, PAL, PAL M, PAL N, SECAM
Connection terminals	Video input: 2 ; S-Video input : 2 ; Audio input: 2 (R,L) Video output: 1 ; S-Video output : 1 ; Audio output : 1 (R,L) Color difference (Y, B-Y, R-Y) output: 1 Genlock input: 1 composite; Genlock output: 1 composite
Sampling Frequency	Y: 13.5 MHz R-Y: 6.75 MHz B-Y: 6.75 MHz
Digital code bit	Y: 8 bits R-Y: 8 bits B-Y: 8 bits
Line conversion	525↔625 lines
Field conversion	60↔50 fields
Power supply	DC 12V 1A
Dimensions	300(W) x 242(D) x 55(H)mm
Weight	2.0kgs
Accessory	One 3-pin A/V cable, S-VHS cable, DC Adaptor

Specifications subject to change without notice





