

# **MultiSystem Converter with built-in TBC/Genlock ID#488**



**Operation Manual**

## Introduction

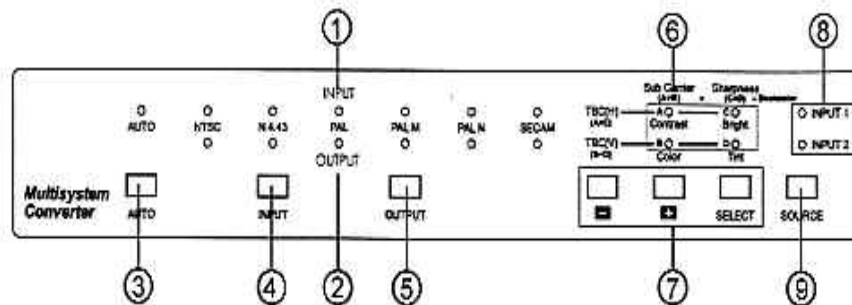
This unit is a Multisystem converter that provides broadcast quality conversion between numerous worldwide broadcast television standards: N3, N4, PAL, PAL, PAL M, PAL N and SECAM. It has built-in TBC Genlock capability for synchronizing multiple asynchronous video sources.

## Features

- Two sets of video and S-VHS inputs.
- One output for each of composite video, S-VHS and Y, B-Y, R-Y.
- Input system auto detection.
- 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.
- Digital comb filter for input system decoding.
- Built-in Time Base Correction (T.B.C) function for signal synchronization.
- 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).
- Full digital decoding and encoding; highly integrated digital processing reduces the board size and ensures reliable quality.
- A color-bar pattern will automatically appear on the TV screen when there is no video signal present on the input.
- TBC is active at all time, even in the bypass mode.
- Built-in TBC/Genlock capability for synchronizing multiple asynchronous video sources.
- Adjustable control on contrast, brightness, color, Tint and Horizontal/Vertical phase of TBC video.

## Operation Controls and Functions

### Front Panel



#### · Video input system indicator: AUTO, SECAM, PAL N, PAL M, PAL N4, N3-

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 indicators will also illuminate to show video system of the input.

#### · Video output system indicator: PAL N, PAL M, PAL, N4, N3-

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.

#### · 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 lights turn off, and the user has to manually select the input system through the input button select.

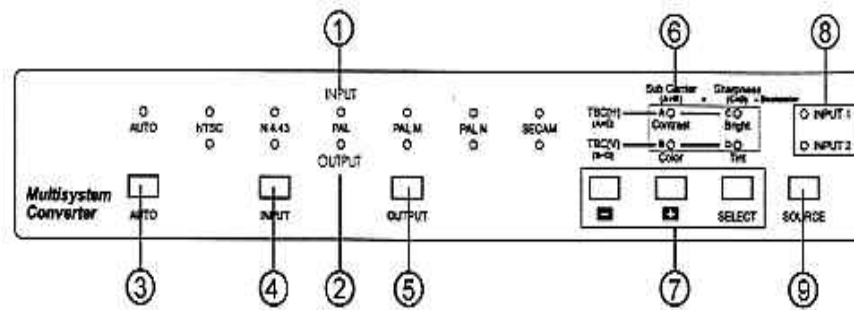
#### · Input system select button

Each depression of the button steps through a series of video systems and auto detection mode. The sequence of selection is- NTSC 3.58 -> NTSC 4.43 -> PAL (BDGI)-> PAL M-> PAL N-> SECAM.

#### · Output system select button

Each depression of the button steps through a series of video systems. The sequence is-NTSC 3.58 -> NTSC 4.43 -> PAL (BDGI)-> PAL M-> PAL N-> SECAM.

## Front Panel



### • Picture adjustment indicators-

1. **Contrast indicator-** When it lights up, use + and – buttons to adjust the picture contrast.
2. **Brightness indicator-** When it lights up, use the + and – buttons to adjust the picture brightness.
3. **Colour indicator-** When it lights up, use the + and – buttons to adjust the picture colour.
4. **Tint indicator-** When it lights up, use the + and – buttons to adjust the picture tint.
5. **When both contrast and brightness** light up, use + and – buttons to adjust horizontal phase of the TBC input (against Genlock input).
6. **When both colour and tint** light up, use + and – buttons to adjust the vertical phase of the TBC input (against Genlock input).
7. **When both contrast and colour** light up, use + and – buttons to adjust the sub-carrier phase of the TBC input (against Genlock input).
8. **When both brightness and tint** light up, use + and – buttons to adjust the sharpness level.
9. **When brightness, contrast, colour and tint** indicators all light up, there is no video signal present on the input, the unit can offer 10 different types of background colours for choosing as follows:-  
**COLOURBAR Patternback** ->Yellow -> Cyan -> Green -> Magenta -> Red -> Blue-> White -> No Signal. Use + and – buttons to select your desired background color

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

• **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-> Colour-> Tint-> TBC (H)-> TBC (V)-> Sub Carrier-> Sharpness-> Backcolour.

2. **+ Button-** Press this button for adding picture effect value.

3. **- Button-** Press this button for decreasing the picture effect value.

4. **+ And - button-** 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.

• **Input Indicator-**

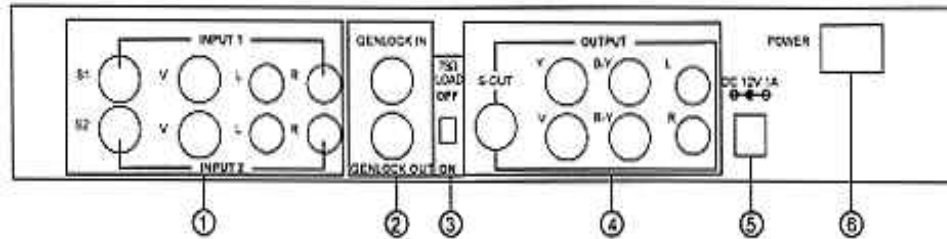
1. Input 1 illuminates when input 1 is selected.

2. Input 2 illuminates when input 2 is selected.

• **Input Selector-**

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

## Rear Panel



### 1. Video Input-

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

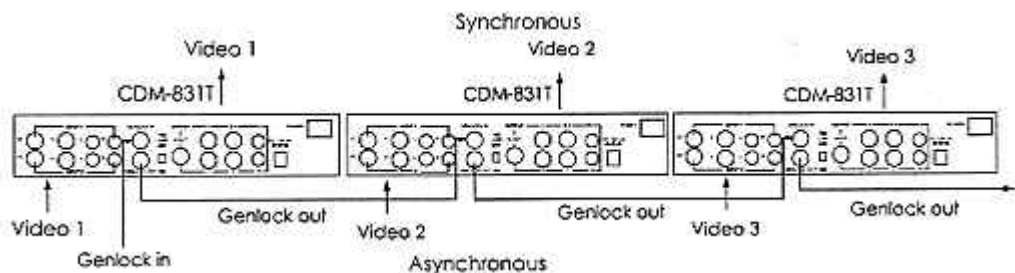
### 2. Genlock Input/Genlock Output-

The 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 reconstructs the sync burst and timing of the incoming video and provides an error-free standard of video output. When Genlock is not connected, the unit works as a video converter.

When the 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. E.g. If 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. This means that when there is a Genlock input, the output will always follow the system and the 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.



**75-load switch:** When Genlock out is not connected to the Genlock of another unit, set the switch to ON. If it is connected to another unit then set the switch to OFF.

3. **Video Output-** This is the video output port. There are three different formats of video out-composite, S-Video and colour difference (Y, R-Y, B-Y). These three outputs are all effective when a video input is connected to the unit.

4. **DC 12V 1A-** Connect your power supply here.

5. **Power- ON/OFF-** This switch allows you to turn your unit ON or OFF.

## Installation

The DC adaptor power unit should not be plugged into a wall outlet until all connections are complete.

- Using your connector cable connect the output port (Number 3 on the rear panel) to the output device (Video, TV).
- Using your connector cable connect the input port (Number 1 on the rear panel) to the input device (video, satellite receiver, camcorder).
- Select the video input system; you may select AUTO, N3, N4, PAL, PAL M, PAL N or SECAM. When an input signal has been chosen, the indicator will light up.
- Select the video output system; you may select N3, N4, PAL, PAL M or PAL N or SECAM. When an output signal has been chosen, the indicator will light up.
- If you would like to synchronize two video inputs, connect the genlock to your video source and the output of the unit will automatically turns itself into the same system and synchronization as the Genlock. You must connect the genlock out of one unit to the genlock in of another unit. When the Genlock is not connected the unit works as a video converter.

Once all connections are complete please connect the power supply provided to the power socket.

## Specifications

<b>Input TV systems</b>	NTSC 3.58, NTSC 4.43, PAL M, PAL N, SECAM.
<b>Connection Terminals</b>	2 x Video Input, 2 x S-Video Input, 2 x Audio Input (R, L) 1 x Video Output, 1 x S-Video Output, 1 x Audio Output (R, L) Colour difference (Y, R-Y, B-Y) x 1. Genlock output: 1 composite Genlock input: 1 composite
<b>Sampling frequency</b>	Y:13.5 MHz R-Y:6.75 MHz B-Y:6.75 MHz
<b>Digital Code Bit</b>	Y: 8 Bits R-Y: 8 bits B-Y: 8 Bits
<b>Line Conversion</b>	525 to 625 lines and vice versa
<b>Field Conversion</b>	60 to 50 fields and vice versa
<b>Power Supply</b>	DC 12V 1A
<b>Dimensions</b>	300 (W) mm X 242 (D)mm X 55 (H)mm
<b>Weight</b>	2.0Kgs
<b>Accessory</b>	One 3-pin A/V cable, S-VHS cable, DC adaptor.