INLINE ®

A WORLD OF A/V SOLUTIONS

SIGNAL CONVERTERS

IN1501 COMPOSITE VIDEO TO S–VIDEO / S–VIDEO TO COMPOSITE VIDEO TRANSCODER

IN1501

OPERATION MANUAL

High Resolution Video Products • A/V System Integration Tools • Interactive Training Systems

⚠ Installation and Safety Instructions

For Models without a Power Switch:
The socket outlet shall be installed near the equipment and shall be accessible.

For all Models:
No serviceable parts inside the unit. Refer service to a qualified technician.

For Models with Internal or External Fuses:
For continued protection against fire hazard, replace only with same type and rating of fuse.

⚠ Instructions d'installation et de sécurité

Pour les modèles sans interrupteur de courant:
La prise de courant d'alimentation sera installé près de l'équipement et sera accessible.

Pour tout les modèles:
Pas de composants à entretenir à l'intérieur. Confiez toute réparation à un technicien qualifié.

Pour les modèles équipés de fusibles internes ou externes:
Afin d'éviter tout danger d'incendie, ne remplacer qu'avec le même type et la même valeur de fusible.

⚠ Installations- und Sicherheitshinweise

Für Geräte ohne Netzschalter:
Die Netzsteckdose soll in der Nähe des Gerätes installiert und frei zugänglich sein.

Für alle Geräte:
Keine Wartung innerhalb des Gerätes notwendig. Reparaturen nur durch einen Fachmann!

Für Geräte mit interner oder externer Sicherung:
Für dauernden Schutz gegen Feuergefahr darf die Sicherung nur gegen eine andere gleichen Typs und gleicher Nennleistung ausgewechselt werden.

⚠ Instalacion E Instrucciones de Seguridad

Modelos Sin Interruptor:
La conexión debe ser instalada cerca del equipo y debe ser accesible.

Para Todos Los Modelos:
Dentro de la unidad , no hay partes para reparar. Llame un tecnico calificado.

Modelos con Fusibles Internos o Externos:
Para prevenir un incendio, reemplace solo con el mismo tipo de fusible.

CE COMPLIANCE

All products exported to Europe by Inline, Inc. after January 1, 1997 have been tested and found to comply with EU Council Directive 89/336/EEC. These devices conform to the following standards:

> EN50081-1 (1991), EN55022 (1987)
> EN50082-1 (1992 and 1994), EN60950-92

Shielded interconnect cables must be employed with this equipment to ensure compliance with the pertinent Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) standards governing this device.

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FCC COMPLIANCE

This device has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide against harmful interference when equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense.

Product Overview

DESCRIPTION

The **IN1501** is a high quality bi-directional transcoder for composite video and S-Video signals. Featuring advanced digital signal processing techniques, the unit offers both composite video to S-Video transcoding and S-Video to composite video transcoding capabilities. The **IN1501** is an excellent choice for a variety of applications requiring video signal conversion between these popular video formats.

PRODUCT FEATURES

Simultaneous Bi-Directional Operation - Designed with two separate sets of video signal conversion circuitry, the **IN1501** is capable of providing composite video to S-Video transcoding for one signal, while at the same time offering S-Video to composite video transcoding for a second signal. Simultaneous bi-directional conversion adds great utility to the product since both types of transcoding functionality are available in a single compact unit.

NTSL / PAL Compatible - The **IN1501** is compatible with composite and S-Video signals in the NTSC (M), PAL (B, D, G, H, & I), SECAM and NTSC 4.43 video standards. The transcoder senses the input signal standard and adjusts its operation accordingly.

Front Panel Controls - provide easy access to advanced digital signal processing circuitry that allows users to achieve optimal video quality. A **Color Bar Generator** provides a test signal and also allows operators to manually adjust the hue of their display device. The **Adaptive Comb Filter** switch allows users to select between the adaptive comb filter and the trap filter. The **Video Noise Filter** can be enabled / disabled using the front panel controls as well. *Note: The front panel controls are only functional in S-Video output applications.*

Rack Mountable - Two **IN1501** transcoders can be rack mounted side-by-side in a 1U rack space using the optional **IN9080** rack shelf. A single **IN1501** can be rack mounted with the **IN9080** rack shelf and an **IN9088B** blank plate.

Compatibility

INPUT

The **IN1501** Video Transcoder accepts analog video signals in the NTSC, PAL, SECAM and NTSC 4.43 video standards. The unit automatically senses the input signal and transcodes it appropriately.

OUTPUT

S-Video Input / Composite Video Output - the output standard is not modified (NTSC in / NTSC out, PAL in / PAL out, etc.). The output refresh rate for NTSC signals is 60 Hz, and 50 Hz for PAL video signals.

Composite Video Input / S-Video Output - All signals are output as NTSC M or PAL. NTSC 4.43 signals are converted to NTSC 3.58. SECAM signals are converted to PAL. The output refresh rate for NTSC signals is 60 Hz, and 50 Hz for PAL video signals.

Installation

This section offers step-by-step instructions for installing the **IN1501** bi-directional transcoder. *Note: Read the instructions carefully before initiating the installation procedure. Make sure that there is no power connected to the unit.*

1. Place / install the **IN1501** at the desired location. Make sure that the unit is seated on a flat surface or is securely installed in a standard 19" equipment rack in a 1-U rack space (using the optional **IN9080** rack shelf).

2. **For Composite video to S-Video Transcoding**:

    - Connect the video signal from the DVD, VCR or other video source directly to the **IN1501** composite video input port (BNC female connector). The **IN7200-1 Series** single conductor coax cables are available in a variety of lengths.

    - Connect the **IN1501** S-Video output (4-pin mini-DIN female) to the display device (featuring an S-Video input). The **IN8600 Series** cables are well suited for this purpose and are available in lengths from 6' to 100'.

3. **For S-Video to Composite Video Transcoding:**

    - Connect the video signal from the source directly to the **IN1501** S-Video input port (4-pin mini-DIN female).

    - Connect the **IN1501** composite video output (BNC female connector) to the display device.
    *Note: The **IN1501** is designed with two separate sets of video signal conversion circuitry, allowing both types of transcoding functions to occur simultaneously.*

4. Connect power to the **IN1501** using the **IN9223-1** / **IN9223-5** 12 VAC adapter (included). The POWER LED on the front of the unit will illuminate.

5. Turn on the video source(s) and the display device(s).

6. The three front-panel S-VIDEO OUTPUT CONTROL Buttons can be adjusted if required to achieve optimal picture quality (see page 3).

Operation

This section focuses on operating the **IN1501** using the front panel S-Video output controls. The three switches provide easy access to advanced digital signal processing circuitry that allows users to achieve optimal video display quality.
*Note: The front panel controls are **only** functional in S-Video output applications.*

FRONT PANEL CONTROLS

Color Bar Generator - acts as a video test signal and also allows operators to manually adjust the hue of their display device. Turning the switch to the ON position will generate the Color Bar output screen. Turning it OFF will return the unit to the S-Video output state.

KEY CONCEPT

*The **IN1501** is capable of generating color bars in both the NTSC and PAL video standards. The unit senses the input signal and adjusts automatically. If there is <u>no</u> video input signal present, the **IN1501** will generate color bars in the NTSC format.*

Adaptive Comb Filter Switch - When this switch is set to the On position the **adaptive comb filter** is selected. When the switch is in the Off position, the **trap filter** is selected.

*Note: The comb / trap filter can be selected manually, however, if the **IN1501** detects an unstable incoming video signal that the comb filter will not easily adapt to (i.e. signals containing artifacts, weak amplitude, large amounts of variability in the lumina signal, etc.), the unit will automatically switch to the trap filter setting after about 10 seconds.*

- The **adaptive comb filter** works best with equipment that outputs stable video signals (DVDs, broadcast video recorders, test generators, etc.). The filter electronically provides excellent Luma / Chroma separation (separates the color from the picture signal). This greatly reduces cross-color interference and hanging dots while maintaining image bandwidth and detail.

- The **trap filter** extracts luminance from the picture. While the trap filter may not provide as much detail as the adaptive comb filter, it is *usually* the preferred setting when running signals that are less than optimal quality (such as from a VCR). You may wish to compare both settings to determine which is best for your application.

Noise Filter - reduces high-frequency noise ("snow").

Power LED Indicator - illuminates when power is applied to the unit.

Specifications

IN1501 Bi-Directional Transcoder	
Input	
Composite Video	(1) BNC female
Signal Level	1.0 Vp-p typical, 75 Ohm impedance
S-Video	(1) 4-pin mini-DIN female
Signal	Luma: 0.7 Vp-p typical, 75 Ohm impedance Chroma: 0.3 Vp-p typical, 75 Ohm impedance
Standards Supported	NTSC (M), PAL (B, D, G, H, & I), SECAM and NTSC 4.43
Output	
Composite Video	(1) BNC female
Signal Level	1.0 Vp-p typical, 75 Ohm impedance
S-Video	(1) 4-pin mini-DIN female
Signal	Luma: 0.7 Vp-p typical, 75 Ohm impedance Chroma: 0.3 Vp-p typical, 75 Ohm impedance
Differential Phase	0.5 Degrees
Differential Gain	0.5 %
Luma S/N Ratio	> 73 dB
General	
Power Supply	12 VAC; 1.5 Amp external adapter
Shipping Weight	3 lbs. / 1.5 kg.
Product Weight	1 lb. / 0.45 kg.
Dimensions	1.65" x 8.5" x 6" / 4.2 cm x 21.6 cm x 15.2 cm
Regulatory Approvals	UL1950, CAN/CSA-22.2 No 950, 3rd Edition CE: EN55022 (1987), EN50081-1 (1991), EN50082-1 (1992 and 1994), EN60950-92

Included Accessories
IN9223-1 - 12VAC; 1.5 Amp External Adapter – U.S. Style 120VAC, *or* **IN9223-5 -** 12VAC; 1.5 Amp External Adapter – IEC Socket 230VAC / 50Hz Operation Manual

Optional Accessories
Rack Mount Hardware
IN9080 Rack Shelf **IN9088B** Blank Plate
S-Video Cables
IN8600 Series - S-Video cables, 4-pin mini-DIN (M-M), lengths from 6' to 100'
BNC Cables
IN7200-1 Series - Ultra High Resolution 1-BNC Cable, available in a variety of lengths with pre-terminated high quality BNC connectors

Troubleshooting

Problem: **There is no image on the display device.**

Solution 1: Make sure the power adapter is securely plugged into the unit and the A/C source.
Solution 2: Make sure the A/C source is live.
Solution 3: Verify that the power switch is turned on for the video source and the display device.
Solution 4: Verify the connection to the output display device.
Solution 5: Use the color bar generator to isolate signal interruption.

Problem: **The image on the display device contains static (snow).**

Solution: Using the front panel S-Video output controls, turn the NOISE FILTER Button to the ON position.

KEY CONCEPT

> *We recommend that you experiment with the COLOR BAR GENERATOR, ADAPTIVE COMB FILTER and NOISE FILTER Buttons until you familiarize yourself with the **IN1501** front panel S-Video output controls.*

If problems persist, call INLINE Technical Services at (714) 921-4100 for further assistance.

Warranty

- INLINE warrants the equipment it manufactures to be free from defects in materials and workmanship.

- If equipment fails because of such defects and INLINE is notified within two (2) years from the date of shipment, INLINE will, at its option, repair or replace the equipment at its plant, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications.

- Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of re-shipment to the Buyer.

- **This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.**

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