



A WORLD OF A/V SOLUTIONS



SIGNAL CONVERTERS

**IN1503
COMPONENT VIDEO TO RGB TRANSCODER**



IN1503
OPERATION MANUAL



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 ausgetauscht 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.



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 **IN1503** is a high-resolution transcoder that accepts an interlaced or progressive scan analog component video signal (R-Y / B-Y / Y) and converts it to RGBS or RGBHV. Many DVD players, broadcast grade video players and HDTV tuners feature component video output signals. While most presentation monitors and data projectors are not compatible with component video inputs, many of these display devices are compatible with RGBHV signals. By transcoding component video signals to RGBS or RGBHV, the **IN1503** makes it possible to take advantage of the highest quality video signal available from DVD players, high end video recorders and other industrial / broadcast video equipment featuring analog component video outputs.

FEATURES

Wide Compatibility - The **IN1503** is compatible with analog component video signals at NTSC and PAL scan rates. The component video output connectors on professional / industrial video equipment is often marked as R-Y / B-Y / Y. On DVD players it is usually marked as Y / CB / CR. The **IN1503** is also compatible with HDTV analog component video signals at virtually any resolution.

High Bandwidth - Superb video bandwidth and dual interlaced / progressive scan compatibility make the **IN1503** an excellent choice for converting the analog component video output of an HDTV tuner to RGBHV for viewing on a scan rate compatible display. With video bandwidth of 85 MHz, the **IN1503** offers ample performance for HD signals at 480i, 480p, 720p and 1080i formats.

Note: Some data monitors are not compatible with interlaced video signals at HDTV scan rates.

Selectable Output Format - The output signal format can be set to RGBS or RGBHV as required by the video distribution system and display devices. Output format is selected using a rear panel switch.

Rack Mountable - Two **IN1503** transcoders can be rack mounted side-by-side in a 1U rack space using the optional **IN9080** rack shelf. A single **IN1503** can be rack mounted with the **IN9080** rack shelf and an **IN9088B** blank plate.

Compatibility

INPUT

The **IN1503** is compatible with interlaced and progressive scan analog component video signals at a variety of scan rates. The unit accepts interlaced component video signals at NTSC and PAL scan rates from DVD players, professional video equipment and other component video sources. The **IN1503** is compatible with progressive or interlaced analog component video signals from an HDTV decoder or other HD source. The **IN1503** transcoder will also accept high resolution progressive scan component video signals from DVD players that feature progressive scan component video outputs.

KEY CONCEPT



*The **IN1503** is not compatible with HDTV devices that output tri-level sync.*

OUTPUT

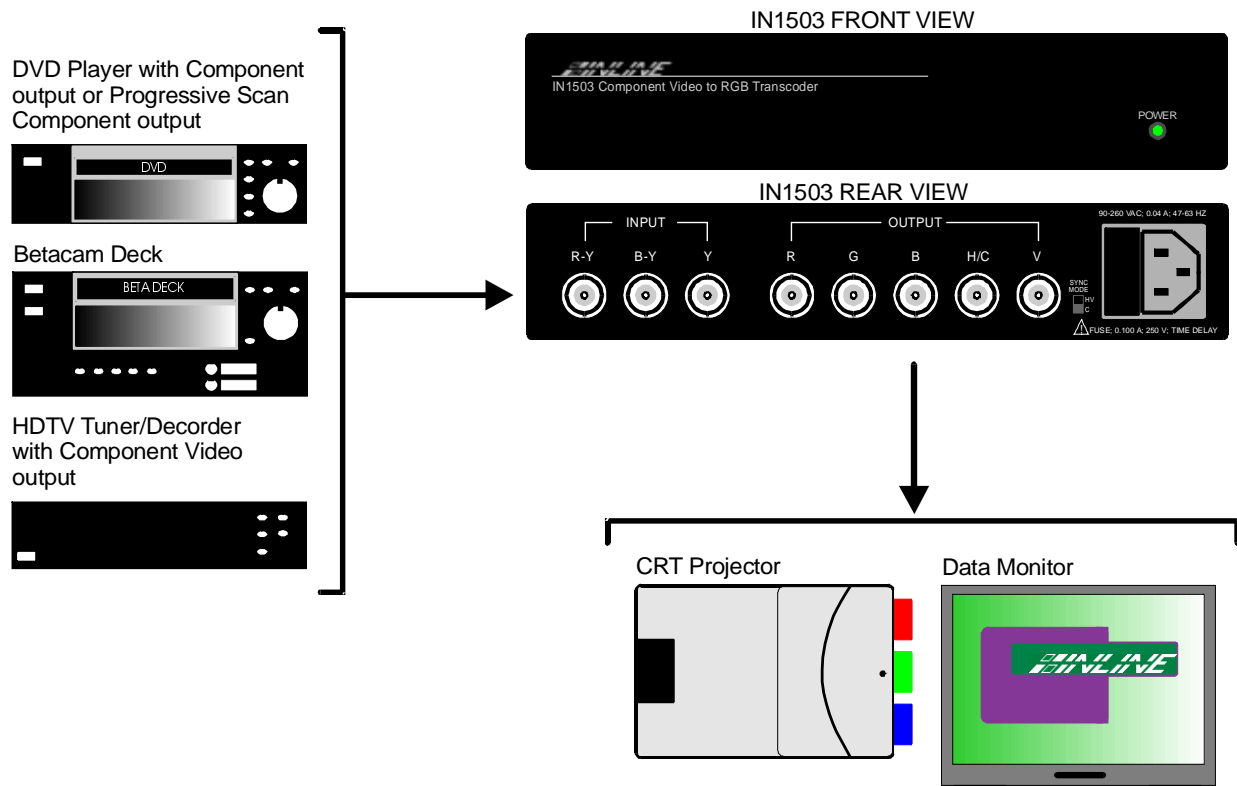
The **IN1503** output signal format can be set to RGBS or RGBHV as required by the video distribution system and display devices. The output format is selected using a rear panel sync mode switch.

Installation and Operation

This section offers step-by-step instructions for installing the **IN1503** high-resolution transcoder. An application diagram is provided below.

1. Place / install the **IN1503** 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. Connect the **IN1503** output (5 BNC connectors) to a data output device (featuring an RGB video input), using four or five ultra high-resolution BNC cables or a multi-conductor RGBHV or RGBS "snake". The **IN7000 / IN7200 / IN7300 Series** cables are well suited for this purpose (see RGB Input / Output Cables on page 4). While making connections, take care to insure that the red output is connected to the red input, green output to the green input, etc.
3. Connect the DVD player, broadcast grade video player or HDTV tuner directly to the **IN1503** input port using three ultra high-resolution BNC cables or a multi-conductor RGB "snake" such as the **IN7200-3**.
4. Select the proper output format by adjusting the sync mode switch located on the back of the transcoder. The output signal format can be set to RGBHV (factory default) or RGBS as required by the video distribution system and display devices. *Note: The polarity of the output sync is always negative. This is true for both composite sync and H & V modes.*
5. Connect power to the **IN1503** using the **IN9230** IEC power cable (included). The POWER LED on the front of the unit will illuminate.
6. Turn on the video source and the presentation monitor / data projector. Once you have installed the **IN1503**, operation is fully automatic.

IN1503 APPLICATION DIAGRAM



SYNC STABILIZATION

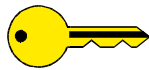
The **IN1503** includes a sync stabilization circuit specifically designed to correct video display problems that sometimes occur with progressive scan signals containing copy guard protection.

The unit contains an internal 3-pin jumper (J2) that allows users to enable / disable the sync stabilization circuit (see the **IN1503 JUMPER ILLUSTRATION** below). The following table shows the appropriate pin settings for interlaced and progressive scan signal outputs:

Status	J2 Jumper Setting
Sync Stabilization Disabled	Pins 1 & 2 Connected (factory default)
Sync Stabilization Enabled	Pins 2 & 3 Connected

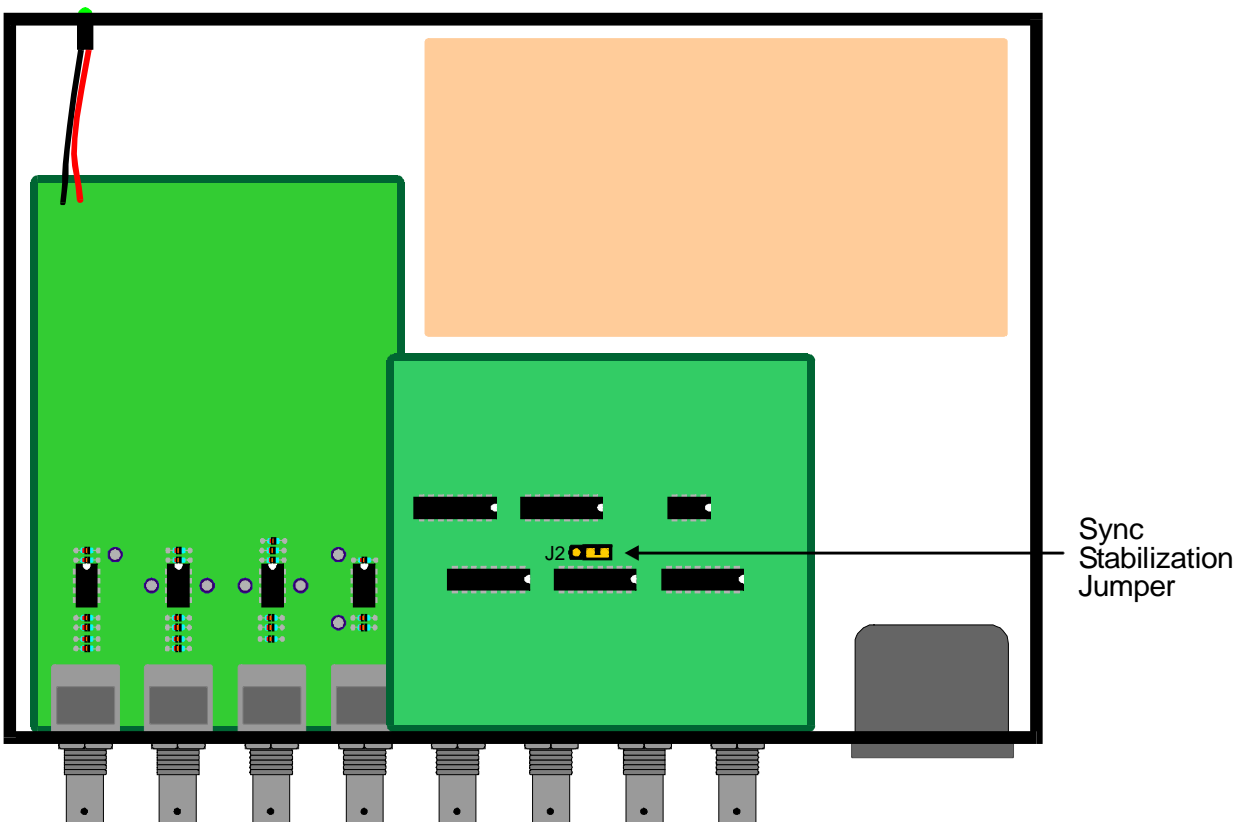
*Note: Sync stabilization is only functional when the **IN1503** is in RGBHV OUTPUT MODE. The J2 setting has no effect on the output when the unit is in COMPOSITE SYNC MODE.*

KEY CONCEPT

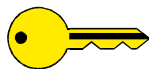


The SYNC STABILIZATION ENABLED MODE (pins 2 & 3 connected) is designed for use with progressive scan signals containing copy guard protection. It is not recommend for interlaced signals.

IN1503 JUMPER ILLUSTRATION



KEY CONCEPT



Warning: *Adjustment of the **IN1503** internal controls must only be carried out by qualified technicians. Care must be taken to avoid static shock to the internal components.*

Specifications

IN1503 High-Resolution Transcoder	
Input	
Connectors	(3) BNC female
Compatibility	Analog Component Video (R-Y, B-Y, Y)
Signal Levels	0.7 / 0.7 / 1.0 Vp-p typical, 75 Ohm impedance
Output	
Connectors	(5) BNC female
Signal Formats	RGBS or RGBHV (User selectable)
Signal Levels	RGB: 0.7 Vp-p Sync: TTL
Bandwidth	85 MHz @ -3dB
General	
Power Supply	Internal Switch Mode: 90-260 VAC; 47-63 Hz
Power Consumption	8 watts
Shipping Weight	4 lbs. / 2 kg.
Product Weight	2.2 lbs. / 1.0 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, 3 rd Edition CE: EN55022 (1987), EN50081-1 (1991), EN50082-1 (1992 and 1994), EN60950-92
Included Accessories	
IN9230 IEC Power Cable, 6' long (USA only)	
Operations Manual	

Optional Accessories	
Power Equipment	
IN9210 Rack Mountable Power Supply, powers up to 10 9VDC / 12VDC devices	
Rack Mount Hardware	
IN9080 Rack Shelf	
IN9088B Blank Panel - Fills Space When Mounting One IN1503	
Installation Cables	
IN7000FP-5 Series RGBHV Cable - Standard Resolution, Plenum Cable available in bulk lengths	
IN7000FP-5K Series Cable - Standard Resolution, Plenum Cable available in 1000' bulk lengths	

RGB Input / Output Cables				
Cables	1-Connector	3-Connector	5-Connector	6-Connector
Standard Resolution			IN7000-5	
Standard Resolution, Flexible Plenum			IN7000FP-5	
Ultra High Resolution	IN7200-1	IN7200-3	IN7200-5	IN7200-6
Super High Resolution			IN7300-5	IN7300-6

All cable grades are available in lengths from 3' to 250' pre-terminated with high quality BNC connectors or as bulk cable.

Troubleshooting

Problem: There is no image on the display device.

Solution 1: Make sure the **IN9230** IEC power cable 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.

Problem: The output image is missing a color.

Solution: The RGBHV / RGBS output cable may be bad. Try switching connections on the output to verify that the missing color's cable is OK (*Example:* If there is no red, try running the green output through the red cable and see if green is displayed or not. If the green output does not appear, replace the cable.

Problem: The image on the display device is rolling.

Solution: Make sure that the sync mode switch on the back of the unit is set properly. The sync mode switch must be set to "C" when using an RGBS format, while systems requiring an RGBHV format must be set to "HV." Make sure that the rear panel sync mode switch is in the proper position.

Problem: In RGBHV mode, the image on the display device appears grainy, is jumping or otherwise unstable.

Solution: Progressive scan signals that contain copy guard can sometimes cause an unstable image on the display device. Setting the J2 jumper (internal) for the sync stabilization setting may help the problem (see SYNC STABILIZATION section on page 3).

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.**

The information in this manual has been carefully checked and is believed to be accurate. However, INLINE, Inc. assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will INLINE, Inc. be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding **IN1503** features and specifications is subject to change without notice.

© Copyright 2000 INLINE, Inc. All Rights Reserved.

INLINE, Inc. ♦ 22860 SAVI RANCH PARKWAY ♦ YORBA LINDA, CA 92887

800-882-7117 ♦ 714-921-4100 ♦ Fax 714-921-4160 ♦ www.inlineinc.com