



**Mult  
Tasker™**

MANUAL PART NUMBER: 400-0161-001

**MT103-113**

**4-IN, 4-OUT VIDEO GROUND LOOP  
ISOLATOR CARD FOR MULTI-TASKER™  
USER'S GUIDE**

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## PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **MT103-113**. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **MT103-113** and to prevent fire and shock hazard. Please read them carefully and heed all warnings.

### 1.1 GENERAL

- Qualified ALTINEX service personnel, or their authorized representatives must perform all service.

### 1.2 INSTALLATION

- To prevent fire or shock, do not expose this unit to rain or moisture. Do not place the **MT103-113** in direct sunlight, near heaters or heat radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Handle the **MT103-113** carefully. Dropping or jarring can damage the card.
- Do not pull the cables that are attached to the **MT103-113**.
- Insert the card carefully into the slots of the Multi-Tasker™ without bending any edges.
- When removing a card, please make sure that the card to which it is attached is also pulled out simultaneously.

### 1.3 CLEANING

- Clean only the connector area with a dry cloth. Never use strong detergents or solvents, such as alcohol or thinner. Do not use a wet cloth or water to clean the card. Do not clean or touch any component or PCB.

### 1.4 FCC / CE NOTICE

- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

- This equipment 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 reasonable protection against harmful interference when the 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 this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- Any changes or modifications to the unit not expressly approved by ALTINEX, Inc. could void the user's authority to operate the equipment.

## ABOUT YOUR MT103-113 2

### MT103-113 4-in 4-out MT Video Ground Loop Isolator Card

The **MT103-113** is a general purpose Ground Loop Isolator card designed for use in 1 slot of a MultiTasker™ enclosure. This card enables the connection of up to four video sources to four video destinations, such as display or recording devices. Featuring GLI on Board™ ground loop isolation, this MultiTasker™ card provides protection against "hum bars," artifacts, and potential equipment damage caused by ground loops that are often present in audio/visual presentation systems.

With BNC connectors for both input and output, the **MT103-113** is capable of providing ground loop isolation to 4 separate composite signals, two S-Video (Y/C) signals, or one Component Video (Y, R-Y, B-Y), RGsB or RGSB format signal. For maximum power and flexibility, The **MT103-113** offers 350 MHz bandwidth performance, and a power LED.

## TECHNICAL SPECIFICATIONS 3

FEATURES/ DESCRIPTION	MT103-113
<b>GENERAL</b>	
<b>Inputs</b>	
Input Connector	(4) BNC Female Connectors (Analog or Digital Sync)
<b>Outputs</b>	
Output Connector	(4) BNC Female Connectors (Analog or Digital Sync)
<b>Compatibility</b>	
Using 1 Card	(4) Composite Video, (2) S-Video or (1) Component Video, RGsB, RsGsBs, & RGSB
<b>Approvals</b>	CE/FCC

Table 1. **MT103-113** General

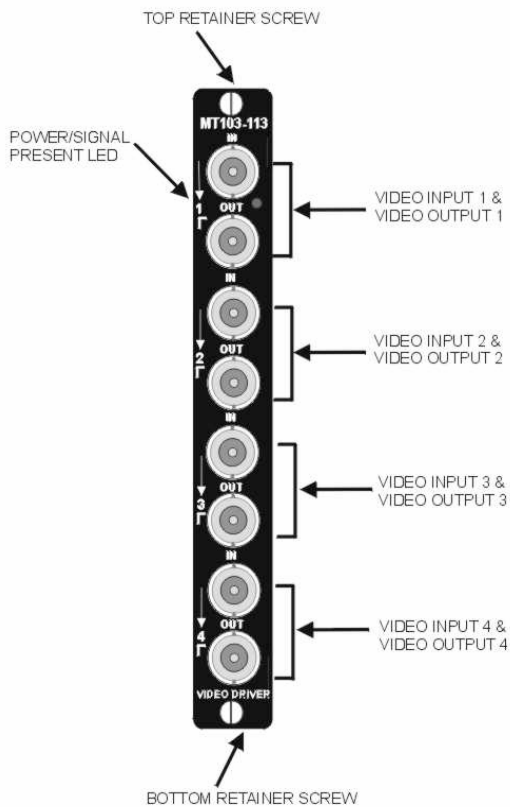
MECHANICAL	MT103-113
Enclosure Slots Required	One
Weight	0.375 lb (0.17kg)
Approx. Shipping Weight	1 lb. (0.45kg)
Connector Panel	Black
T° Operating	10°C-40°C
T° Storage	0 - 50°C
Humidity	90% non-condensing
MTBF (calc.)	40,000 hrs

Table 2. **MT103-113** Mechanical

ELECTRICAL	MT103-113
<b>Input Signals</b>	
Analog	1.5V p-p max.
Digital	-3 to +5V
Impedance	75 Ohms
Type	Differential
Return Loss	-48dB @ 4.5MHz
Maximum DC Offset	10mV
<b>Output Signals</b>	
Gain	10.5 (+/-5%)
Impedance	75 Ohms
Propagation Delay (Sync)	4nS max.
Rise/Fall Time (Sync)	9nS max.
Differential Phase Error	01° @ 4.5 MHz
DC Offset	+/-20mV max., input = 0V
<b>Bandwidth</b>	
MT103-100 & MT103-111	350 MHz @-3dB
<b>Power</b> (from <b>MT100-100</b> )	+5V DC (.3mA) -5V DC (.15mA)
Power Consumption	2 watts max.
<b>Optional Accessories</b>	
MS8132MG	1ft, 4-pin mini DIN Male to 2-BNC Male
MS8133MG	1ft, 4-pin mini DIN Female to 2-BNC Male

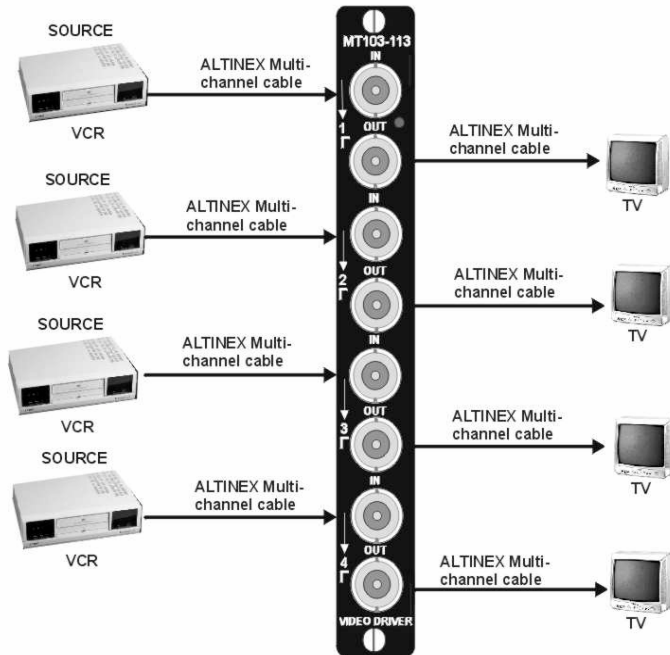
Table 3. **MT103-113** Electrical

## PRODUCT DESCRIPTION 4



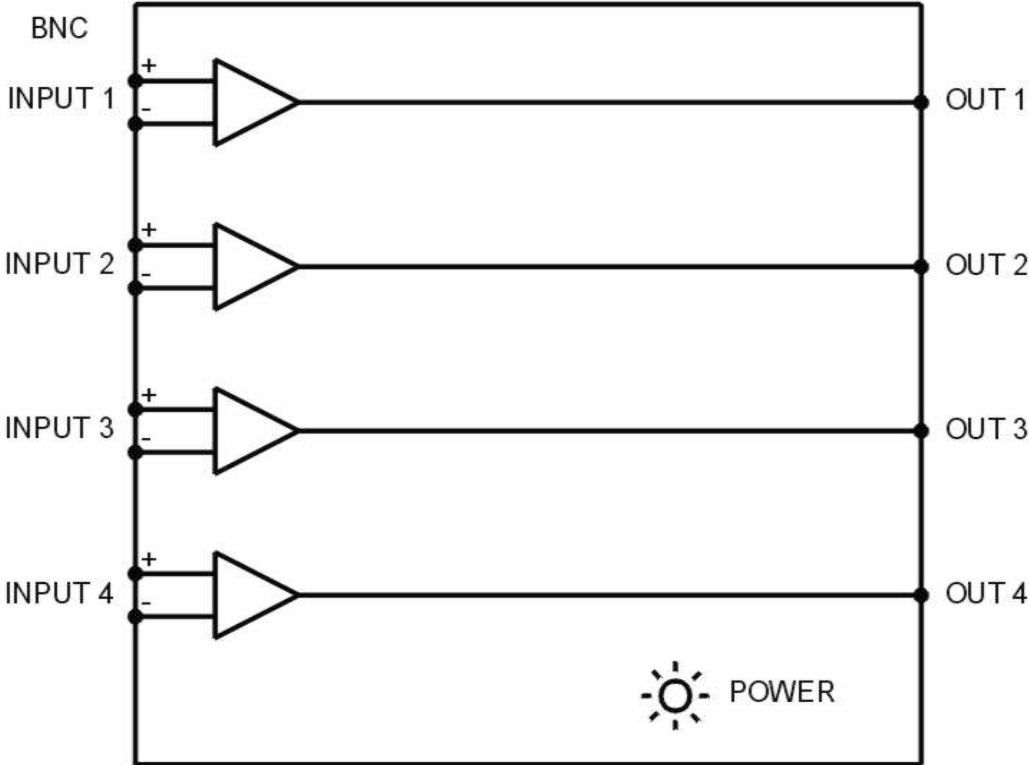
## APPLICATION DIAGRAM 5

### Application Diagram 1



Application Diagram 2: Internal View of the MT 103-113

4 X BNC + GLI + 350 MHZ



## INSTALLING YOUR MT103-113 6

- Step 1.** Slide the **MT103-113** into an available slot in the Multi-Tasker™ Enclosure in order to connect to the bus. Make sure that the **MT103-113** card fits into place. Secure the card to the Multi-Tasker™ by tightening the retainer screws located on the top and bottom of the **MT103-113** card.
- Step 2.** The LED on the card panel will turn red indicating that the card is in full operation. A green LED indicates that a signal is present.
- Step 3.** Connect a coaxial cable from the video source to the input connector of the **MT103-113**. Connect the output connectors of another **MT103-113** to the display devices through a coaxial cable.

## TROUBLESHOOTING GUIDE 7

We have carefully tested and have found no problems in the supplied **MT103-113**; however, we would like to offer suggestions for the following:

### 7.1 LED IS NOT LIT

**A) Cause 1: Card cage is not plugged in.**

*Solution:* Plug card cage in. If the LED lights, the problem is solved. If the LED is still not lit, see Cause 2.

**B) Cause 2: Card is not plugged in all the way.**

*Solution:* Push the card in all the way. If the LED is still not lit, see Cause 3.

**C) Cause 3: Card cage slot has a problem.**

*Solution 1:* Test the card in other slots of the card cage. If the slot was damaged, the card may work in other slots. If other slots work and the LED lights, the problem is the card cage slot. The card cage may require service. Call ALTINEX at (714) 990-2300. If the other slots do not work and the LED is still not lit, see Solution 2.

*Solution 2:* Take any other known good card with an LED and verify that the slot used is good by seeing if the other card's LED lights in that slot. If it lights, then the original card may be the source of the problem. Call ALTINEX at (714) 990-2300.

## ALTINEX POLICY

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### 8.1 LIMITED WARRANTY

ALTINEX warrants that its products and cables are free from defects in materials under normal use and service. This warranty is limited to repairing at company's factory any part or parts of the product, which upon company's examination shall disclose to be, thus defective. Products considered defective should be returned to company with transportation charges pre-paid within 2 years (90 days for cables) from date of shipment to the purchaser. The warranty is expressly instead of all other warranties expressed or implied. ALTINEX neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale of the products. This warranty shall not apply to any product that shall have been repaired or altered outside of company's factory in any way so as, in its judgment, to affect its stability or reliability, or that has been subject to misuse, negligence or accident.

### 8.2 RETURN POLICY

It is very important to ALTINEX that you receive the products that you have ordered and that this product fulfills your need. In the unlikely event, that an ALTINEX product needs to be returned please follow the policies below:

ALTINEX will accept product returns for a period of 30 days from authorized ALTINEX dealers. Products must be returned in an unopened package.

If a product has been opened, the restocking fees will apply. For the restocking fee amount, please contact an ALTINEX Sales Representative.

If the product is in your possession for more than 30 days, the restocking fees will apply.

ALTINEX will not accept any returns on cables or custom products.

If your product is in warranty and needs service, contact the ALTINEX Sales Department for an RMA (Return Material Authorization). Products returned without an RMA number may experience a delay in service.

If your product is out of warranty and needs service, contact the ALTINEX Sales Department for an RMA

(Return Material Authorization). Products returned without an RMA number may experience a delay in service. The service charges will be quoted to you before the actual repairs are done.

### 8.3 CONTACT INFORMATION

#### ALTINEX, INC.

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Brea, CA 92821 USA

TEL: 714-990-2300

TOLL FREE: 1-800-ALTINEX

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FAX: 714-990-3303