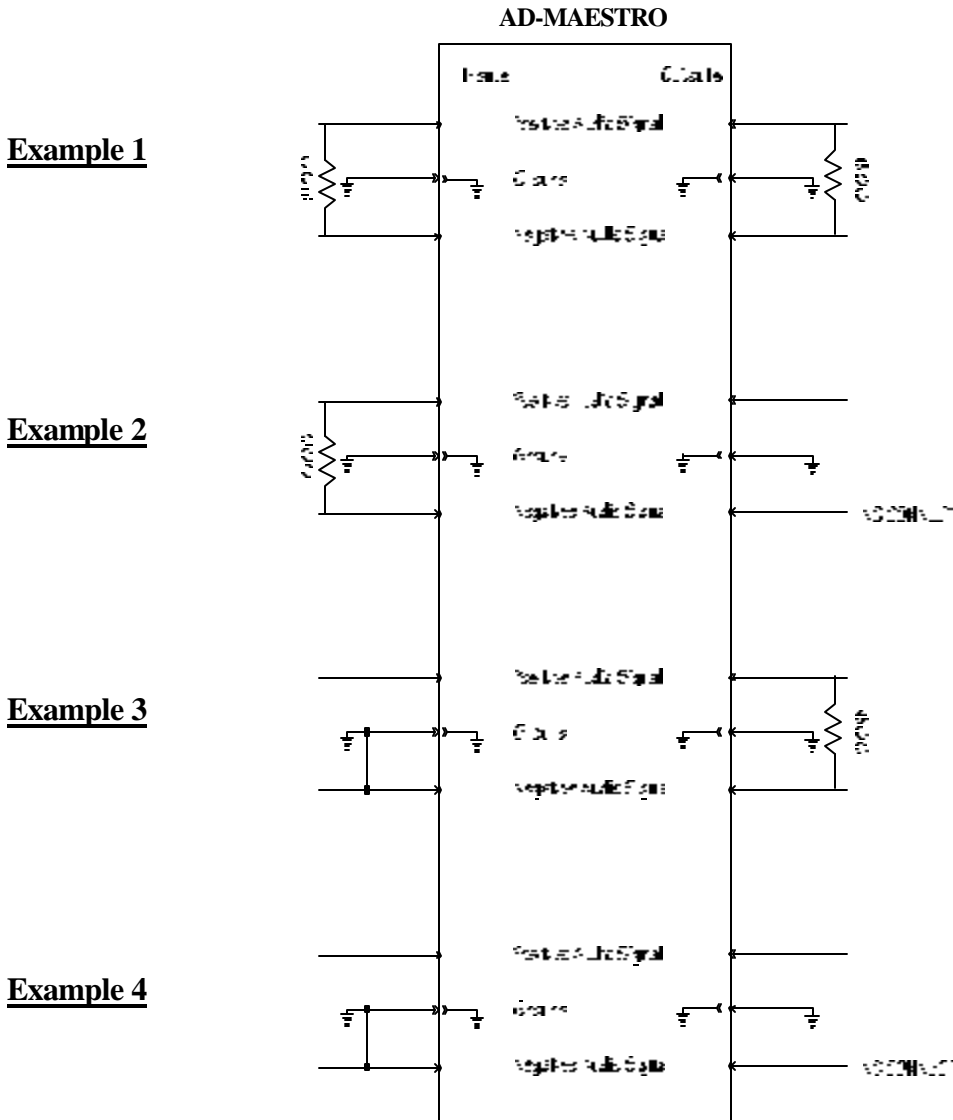


## *OVERVIEW*

The AD-MAESTRO was designed to be installed with ease and simplicity, A tremendous amount of thought and research went into the connection type, placement and reliability. All network video and composite baseband connections are type "F" female. The device and auxiliary video connections are "BNC" male connectors. Both the device and auxiliary offer a video through. This can be used for monitoring or loop through. If no monitor or loop exist, it must be terminated into 75Ω. The network, device, and auxiliary audio connectors are the removable screw terminal (RST) type. The RST connector gives the installer a screw connection with the ease of pushing on and pulling off. Both balanced and single ended audio types are supported by the AD-MAESTRO, see Figure 1.0 for a summary of connections, or look for the illustration that defines your installation. ADTEC offers two device input wire harnesses to simplify installation, the **ADMBALAV** (for balanced audio) and **ADMUNBALAV** (for un-balanced audio). Power to the AD-MAESTRO is standard 115 VAC, 60 Hz. If needed, a set of internal jumpers may be changed to allow for 230 VAC operation. Consult the factory for 230 VAC operation.

Figure 1.0 Audio input and output sources.

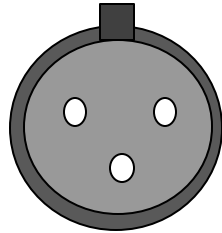


Example	Input	Output	Notes
1	Low Impedance Balanced Audio Source. Typically a XLR or screw terminal connector on source.	Low Impedance Balanced Audio Source. Typically a XLR or screw terminal connector on source.	600Ω resistor on input only required if input source requires low impedance load. 600Ω resistor on output only required if output device (modulator, etc.)does not terminate to 600Ω internally.
2	Low Impedance Balanced Audio Source. Typically a XLR or screw terminal connector on source.	High Impedance Single Ended Unbalanced Audio Source. Typically a RCA or Phone connector.	Connect the Positive Audio Signal to the center of the RCA and the Ground Signal to the shell. <b>Do NOT CONNECT the Negative Audio Signal.</b> <b>WARNING</b> Never short the Ground and Negative Audio Signal on the output of the AD-MAESTRO.
3	High Impedance Single Ended Unbalanced Audio Source. Typically a RCA or Phone connector.	Low Impedance Balanced Audio Source. Typically a XLR or screw terminal connector on source.	600Ω resistor on output only required if output device (modulator, etc.)does not terminate to 600Ω internally.
4	High Impedance Single Ended Unbalanced Audio Source. Typically a RCA or Phone connector.	High Impedance Single Ended Unbalanced Audio Source. Typically a RCA or Phone connector.	Connect the Positive Audio Signal to the center of the RCA and the Ground Signal to the shell. <b>Do NOT CONNECT the Negative Audio Signal.</b> <b>WARNING</b> Never short the Ground and Negative Audio Signal on the output of the AD-MAESTRO.

Lets take a moment to explain the difference between **Balanced** (three conductor) and **Un-Balanced** (single ended) audio sources.

**Balanced** audio uses three conductors to carry the signal, a Positive, Negative and Ground. The audio signal is the differential between the Positive and Negative. The Ground is used as a reference for the differential. Typically, Balanced audio has a low impedance value of 600Ω and uses XLR or three terminal screw connectors. If the source feeding the AD-MAESTRO requires termination into a 600Ω load, a 600Ω resistor will be required across the Positive and Negative terminal on the audio input. If the source does not require 600Ω termination, the 600Ω resistor will not be required. The input impedance for the AD-MAESTRO is approximately 56KΩ while the output impedance is 600Ω.

**XLR Female Type Connector**

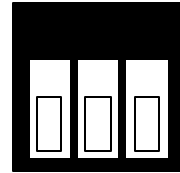


Pin 2  
Positive audio  
signal. **RED  
WIRE.**

Pin 3  
Negative audio  
signal. **BLACK  
WIRE.**

Pin 1  
Ground. **BARE  
WIRE.**

**3 Pin Removable Screw Terminal**



Positive (+)  
Positive audio  
signal. **RED  
WIRE.**

Ground (G)  
Ground. **BARE  
WIRE.**

Negative (-)  
Negative audio  
signal. **BARE  
WIRE.**

The ADMBALAV provides a reliable and economical means to connect a VTR with balanced audio to the Ad-Maestro. The tables below gives the pin to pin connections made for the audio section of the harness.

XLR Pin	RST Pin	Notes. (Program Audio)
1	G	Ground. <b>BARE WIRE.</b>
2	+	Positive audio signal. <b>RED WIRE.</b> A 600 Ohm resistor across + and - will be necessary if the VTR requires 600 Ohm termination (most do).
3	-	Negative audio signal. <b>BLACK WIRE.</b> A 600 Ohm resistor across + and - will be necessary if the VTR requires 600 Ohm termination (most do).

The table above is for the **program audio.**

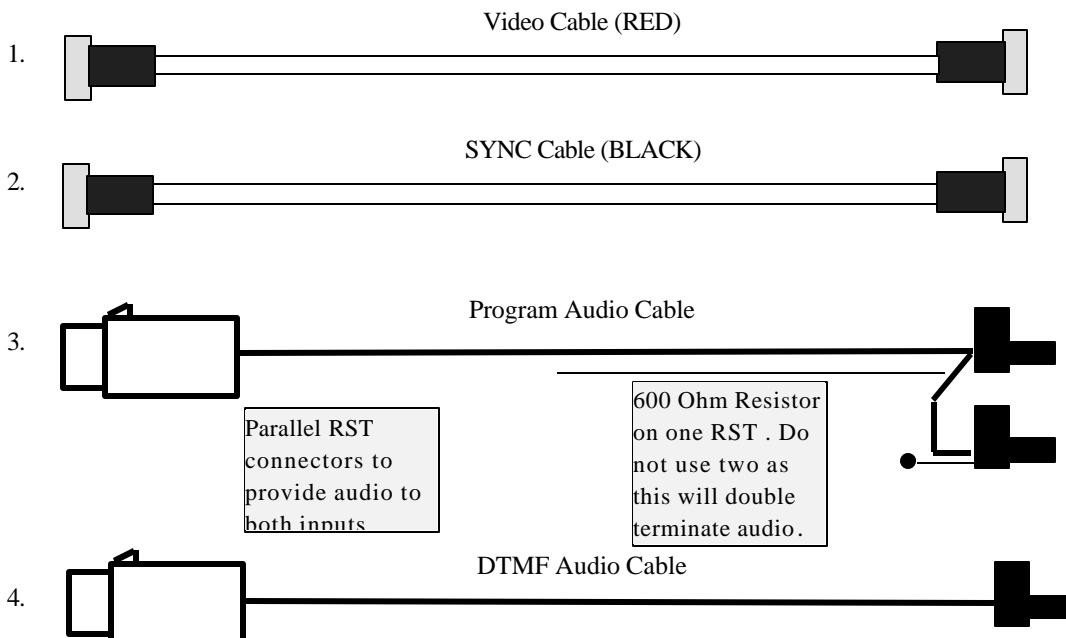
The program audio has a second RST connector paralleled to provide the audio to both device audio inputs. The audio on both connectors is the same, **THIS DOES NOT PROVIDE STEREO AUDIO**. To provide stereo audio, a device (VTR) with at least three audio channels or a HI-FI audio system is required. Only one 600 Ohm resistor is required at the Ad-Maestro device audio inputs.

XLR Pin	RST Pin	Notes (DTMF Audio)
1	G	Ground. <b>Short the BLACK AND BARE WIRES together.</b>
2	+ (DTMF)	Positive audio signal. <b>Red Wire</b>
3	G	Ground. <b>Short the BLACK AND BARE WIRES together.</b>
	- (GPI)	<b>NO CONNECTION.</b> GPI connection not used with DTMF audio. If the GPI connector is shorted to the G then the condition of GPI closed becomes valid. Be extremely cautious when connecting the DTMF/GPI connector.

The table above is for the **DTMF audio**

**The ADMBALAV consists of the following cables:**

1. A Video cable. (Beldin 8241 RED with AMP BNC connectors.)
2. A SYNC cable. (Beldin 8241 BLACK with AMP BNC connectors.)
3. Program Audio cable. (Beldin 8451 with Switchcraft A3F XLR and RST plugs.)
4. DTMF Audio cable. (Beldin 8451 with Switchcraft A3F XLR and RST plug.)



**Un-Balanced** audio uses two conductors to carry the signal, a Positive and Ground. The Negative signal (the differential) is not used in Un-Balance audio. This is why it is referred to as single ended audio and uses what is referred to as common mode transmission. Typically, Un-Balanced audio has a high impedance value

# AD-MAESTRO

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INSTALLATION

ROS and MROS

of approximately 56kΩ and uses RCA or Phono jack. Single ended Un-Balanced audio does not have good noise immunity characteristics. If a source feeding the AD-MAESTRO audio input is Un-Balanced, example three and four explain the proper connection for the three connector screw terminal.

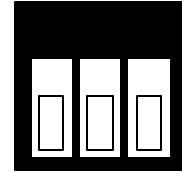
## Phono (RCA) Male Jack



Ring.  
Negative audio signal. **BLACK and BARE WIRES** shorted.

Tip.  
Positive audio signal. **RED WIRE.**

## 3 Pin Removable Screw Terminal



Positive (+)  
Positive audio signal. **RED WIRE.**

Ground (G)  
Ground. **BARE WIRE.**

Negative (-)  
Negative audio signal. **BARE WIRE.**

The **WIRE.** provides a reliable and economical VTR with Un-balanced audio to the Ad-Maestro. The tables below gives the pin to pin connections made for the audio section of the harness.

Phono (RCA) Pin	RST Pin	Notes. (Program Audio)
RING Bare and Black shorted.	G	Ground. <b>BARE WIRE. (The Bare and Black wires are shorted at the RCA jack.)</b>
TIP	+	Positive audio signal. <b>RED WIRE.</b>
RING Bare and Black shorted.	-	Negative audio signal. <b>BLACK WIRE. (The Bare and Black wires are shorted at the RCA jack.)</b>

The table above is for the **program audio.**

The program audio has a second RST connector paralleled to provide the audio to both device audio inputs. The audio on both connectors is the same, **THIS DOES NOT PROVIDE STEREO AUDIO.** To provide stereo audio, a device (VTR) with at least three audio channels or a HI-FI audio system is required.

Phono (RCA) Pin	RST Pin	Notes (DTMF Audio)
RING Bare and Black shorted.	<b>G</b>	Ground. <b>BARE and BLACK WIRES</b> shorted together.
TIP	<b>+</b> <b>(DTMF)</b>	Positive audio signal. <b>Red Wire</b>
	<b>-</b> <b>(GPI)</b>	<b>NO CONNECTION.</b> GPI connection not used with DTMF audio. If the GPI connector is shorted to the G then the condition of GPI closed becomes valid. Be extremely cautious when

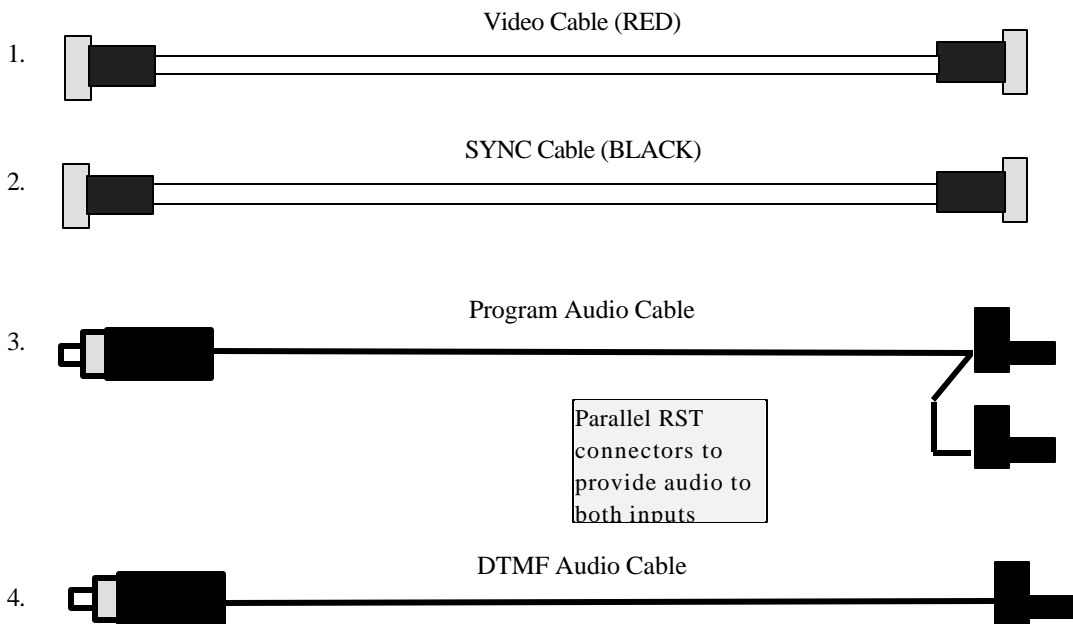
connecting the DTMF/GPI connector.

The table above is for the **DTMF audio**

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**The ADMUNBALAV consists of the following cables:**

1. A Video cable. (Beldin 8241 RED with AMP BNC connectors.)
2. A SYNC cable. (Beldin 8241 BLACK with AMP BNC connectors.)
3. Program Audio cable. (Beldin 8451 with RED RCA Jack and RST plugs.)
4. DTMF Audio cable. (Beldin 8451 with BLACK RCA jack and RST plug.)

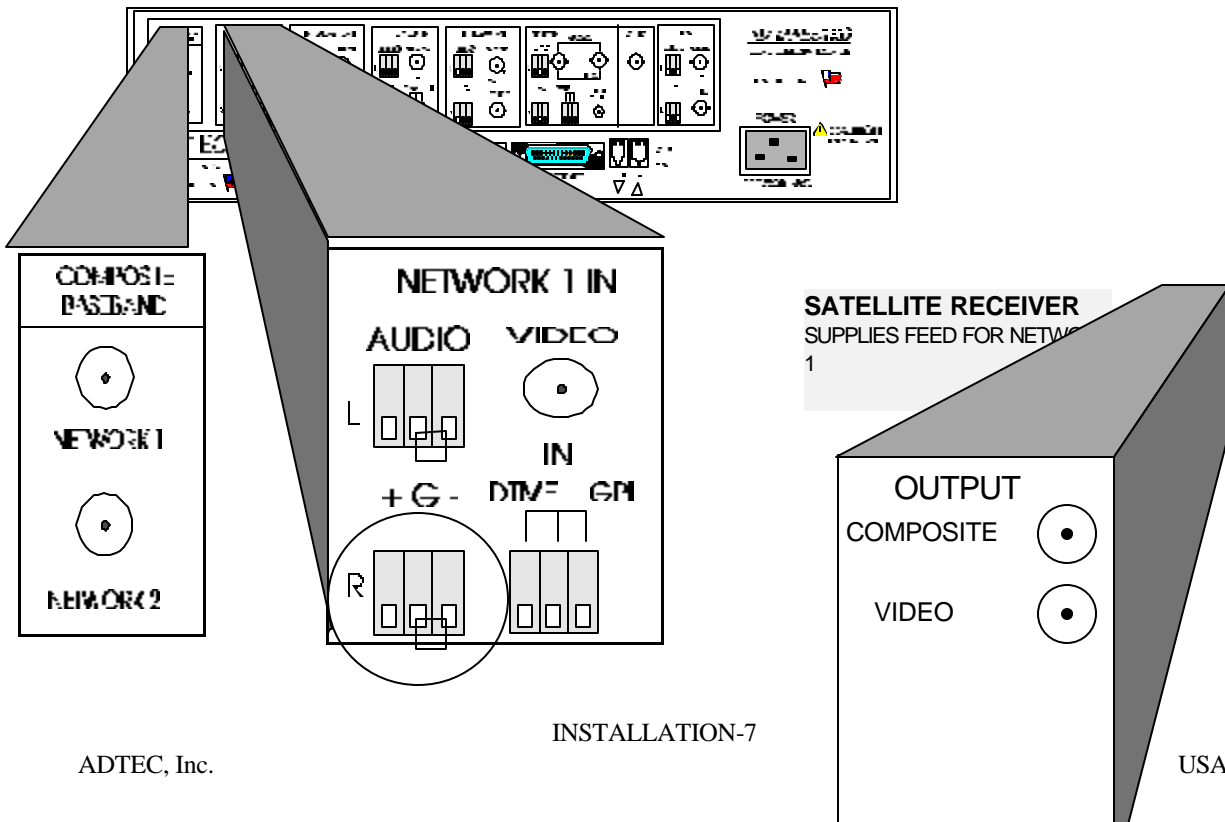


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### SATELLITE RECEIVER TO AD-MAESTRO CONTROLLER:

#### SPECIFIC CIRCUMSTANCES

- 1) The controller uses its own built in demodulators to receive DTMF control tones (CBD-01).
- 2) The satellite receiver has unbalanced audio outputs (high impedance) and is a IRD. If a separate descrambler (Video Cipher etc.) is used, the connections are made on the Video Cipher.



# AD-MAESTRO

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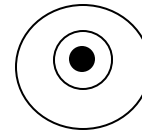
## INSTALLATION

ROS and MROS

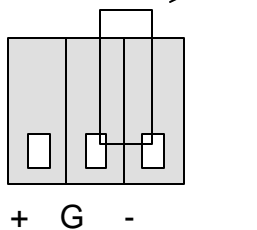
L AUDIO



R AUDIO



THE GROUND LEAD SHOULD ALWAYS BE SHORTED TO THE “-” LEAD WITH A JUMPER WIRE. THE ADMUNBALAV SHORTS THE GROUND AND “-” IN THE RCA JACK.



+  
- /GND  
shorted

+  
FOR MOST UNBALANCED AUDIO OUTPUTS, THE CENTER CONDUCTOR OF THE PLUG IS THE POSITIVE LEAD . ( RCA PLUG PICTURED HERE)  
GND

Connections for Network 1 and Network 2 are identical.

## SATELLITE RECEIVER TO AD-MAESTRO CONTROLLER: cont.

### VIDEO CONNECTION

The video signal from the satellite receiver connects directly to the network video input of the AD-MAESTRO controller. This connection is terminated into 75  $\Omega$  and uses an “F” connector.

### AUDIO CONNECTION

The left and right channel audio feeds from the satellite receiver connect directly to their respective left and right channel audio connections of the network input. However, some simple provisions must be made in order to connect an unbalanced output into a balanced input. Unbalanced audio outputs typically have only a “+” lead and a ground lead. The “+” lead from the satellite receiver should be connected to the “+” lead of the audio connection of the controller. The “ground” lead from the satellite receiver should connect to the “ground” lead of the audio connection of the controller. The “ground” lead and the “-” lead of the controller should be shorted together by a jumper wire. This short can be made at the RCA jack or the RST terminal. This connection is terminated at 56  $k\Omega$  and uses a removable screw terminal jack connector. Audio input levels should be within the range of -10 dB to 10 dB.

**IMPORTANT NOTE: Most all unbalanced audio outputs are designed to be terminated at Approximately 56  $k\Omega$ . (a typical “high impedance output”). If your satellite receiver has low impedance unbalanced audio output, then the “+” and “ground” leads of both the left and right audio channels must be shorted with a 600  $\Omega$  resistor. THIS IS AN EXTREMELY RARE SITUATION. If this is not done, the audio levels will be twice as high as they**

should be and things will sound loud. The AD-MAESTRO controller has 56 kW high impedance audio inputs.

**COMPOSITE BASEBAND SIGNAL CONNECTION**

The composite baseband signal from the satellite receiver connects directly to the composite baseband input of the AD-MAESTRO controller. This connection is terminated into 75 Ω and uses an “F” connector.

**USING A SATELLITE RECEIVER AND VIDEO CIPHER SYSTEM**

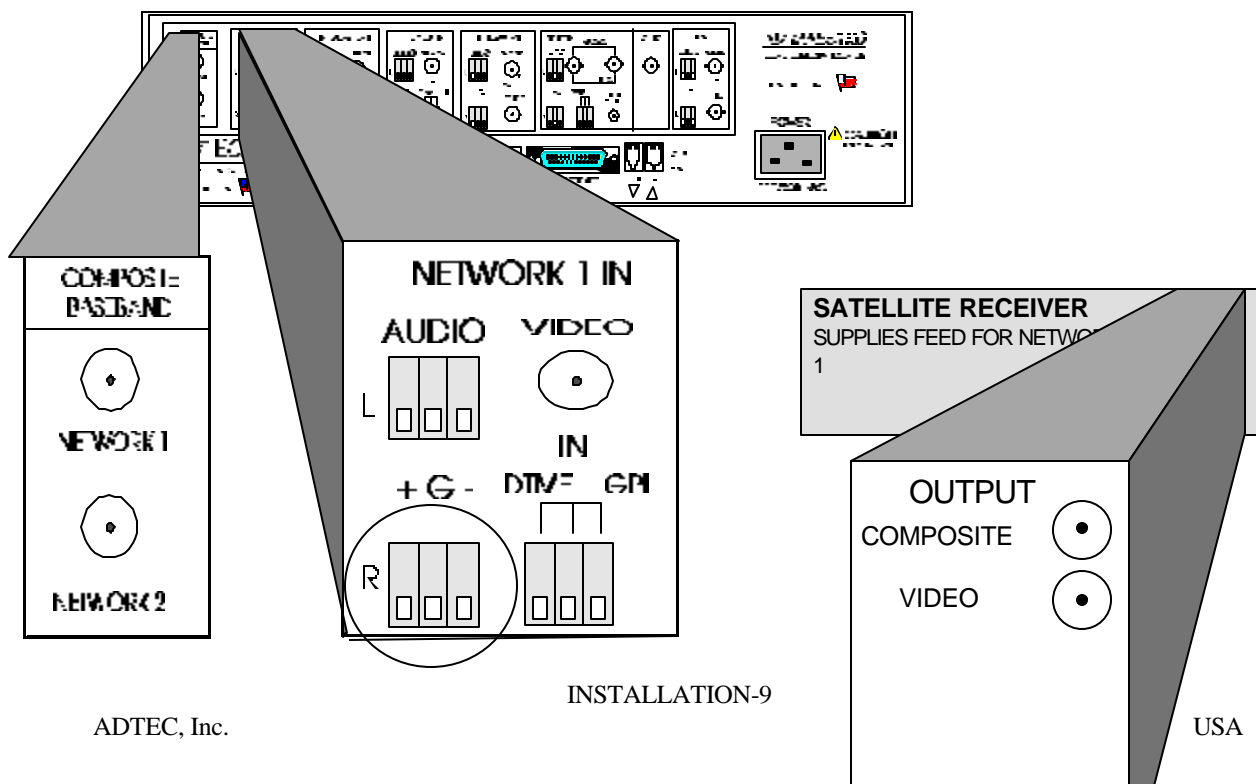
If a separate receiver, descrambler set up is used, the connections for video, audio and composite are made at the video cipher. The receiver feeds the composite signal to the video cipher for descrambling purposes. The video cipher will then provide separate video, audio and composite through. Remove the terminator on the composite through and connect it to the composite input on the Ad-Maestro.

Connections for Network 1 and Network 2 are identical.

**SATELLITE RECEIVER TO AD-MAESTRO CONTROLLER:**

SPECIFIC CIRCUMSTANCES

- 1) The controller uses its own built in demodulators to receive DTMF control tones (CBD-01).
- 2) The satellite receiver has balanced audio outputs (low impedance) and is a IRD. If a separate descrambler (Video Cipher etc.) is used, the connections are made on the Video Cipher.



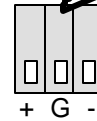
# AD-MAESTRO

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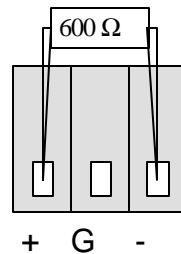
L AUDIO



R AUDIO



600  $\Omega$  RESISTOR ACROSS “+” AND “-”  
AUDIO TERMINALS MAY BE REQUIRED IF  
THE DEVICE AUDIO REQUIRES 600 $\Omega$   
TERMINATION .



Connections for Network 1 and Network 2 are identical.

## SATELLITE RECEIVER TO AD-MAESTRO CONTROLLER: cont.

### VIDEO CONNECTION

The video signal from the satellite receiver connects directly to the network video input of the AD-MAESTRO controller. This connection is terminated into 75  $\Omega$  and uses an “F” connector.

### AUDIO CONNECTION

The left and right channel audio feeds from the satellite receiver connect directly to their respective left and right channel audio connections of the network input. Balanced audio outputs have a “+”, “-” and ground connection. The “+” from the satellite receiver must be connected to the “+” of the audio in on the controller. The “-” must be connected to the “-” of the audio in on the controller and the “ground” from the satellite receiver must connect to the “ground” of the controller. This connection is terminated at 56 k $\Omega$  without the external 600 $\Omega$  resistor. If the satellite receiver requires termination into 600 $\Omega$ , parallel a 600 $\Omega$  resistor from the “+” and “-”. Audio input levels should be within the range of -10 dB to 10 dB.

**IMPORTANT NOTE: Most all balanced audio outputs are designed to be terminated at Approximately 600 $\Omega$  (a typical “low impedance output”). If your satellite receiver has low impedance audio output (600 $\Omega$ ), and requires termination into 600 $\Omega$ , the 600 $\Omega$  resistor must be used. THIS IS THE NORM. If this is not done, the audio levels will be half as high as they should be and things will sound really low. The AD-MAESTRO controller has 56 k $\Omega$  high impedance audio inputs.**

**COMPOSITE SIGNAL CONNECTION**

The composite signal from the satellite receiver connects directly to the composite baseband input of the AD-MAESTRO controller. This connection is terminated into 75 Ω and uses an “F” connector.

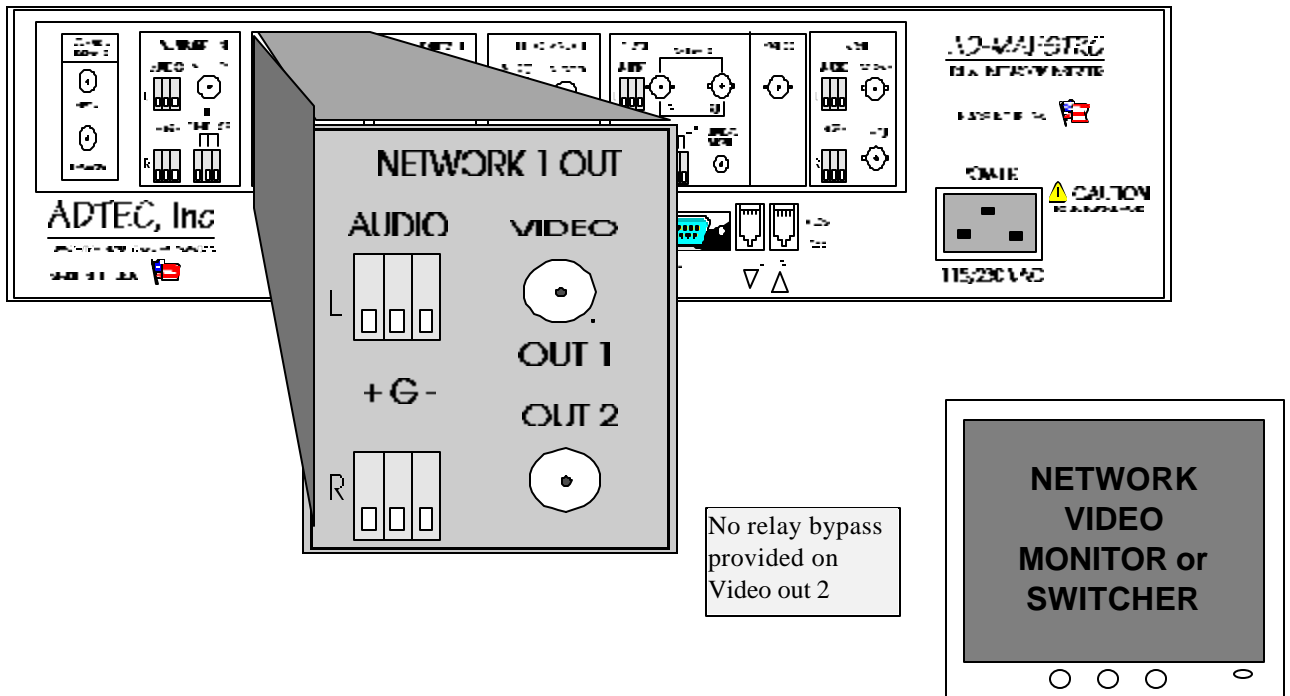
**USING A SATELLITE RECEIVER AND VIDEO CIPHER SYSTEM**

If a separate receiver, descrambler set up is used, the connections for video, audio and composite are made at the video cipher. The receiver feeds the composite signal to the video cipher for descrambling purposes. The video cipher will then provide separate video, audio and composite through. Remove the terminator on the composite through and connect it to the composite input on the Ad-Maestro.

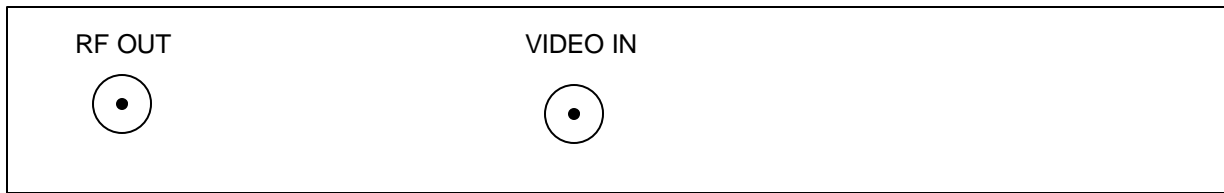
**Connections for Network 1 and Network 2 are identical.**

**CONNECTING THE AD-MAESTRO CONTROLLER TO A MODULATOR**

**Connections for Network 1 and Network 2 are identical.**



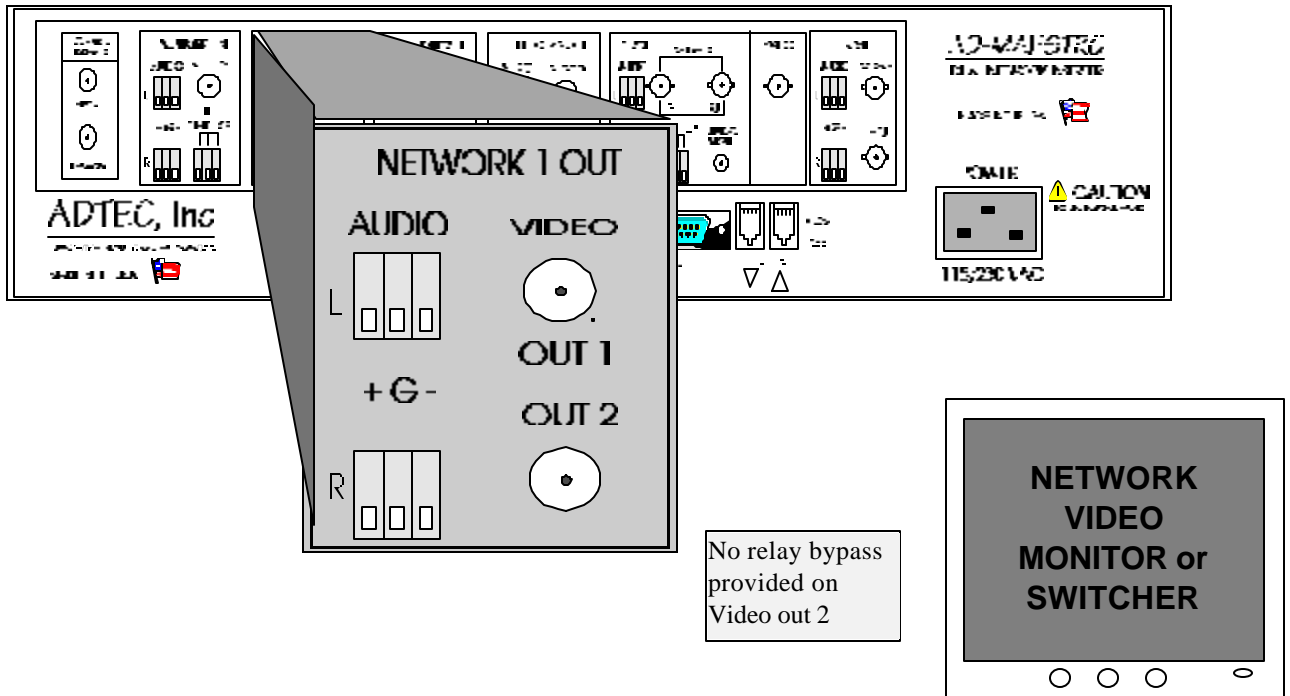
**MODULATOR**  
with Balanced audio.



TO DISTRIBUTION

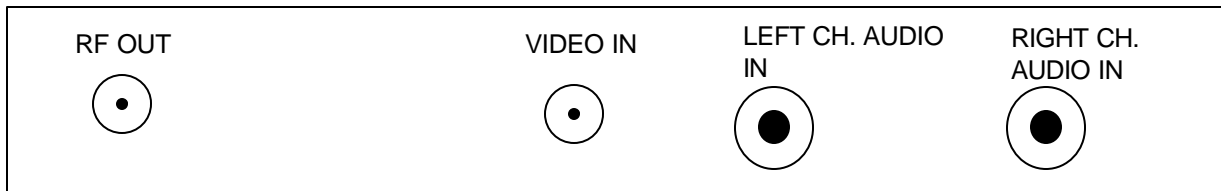
**CONNECTING THE AD-MAESTRO CONTROLLER TO A MODULATOR**

Connections for Network 1 and Network 2 are identical.



**DO NOT CONNECT THE “-” FROM THE AUDIO OUT**

**MODULATOR**  
with Un-Balanced audio.



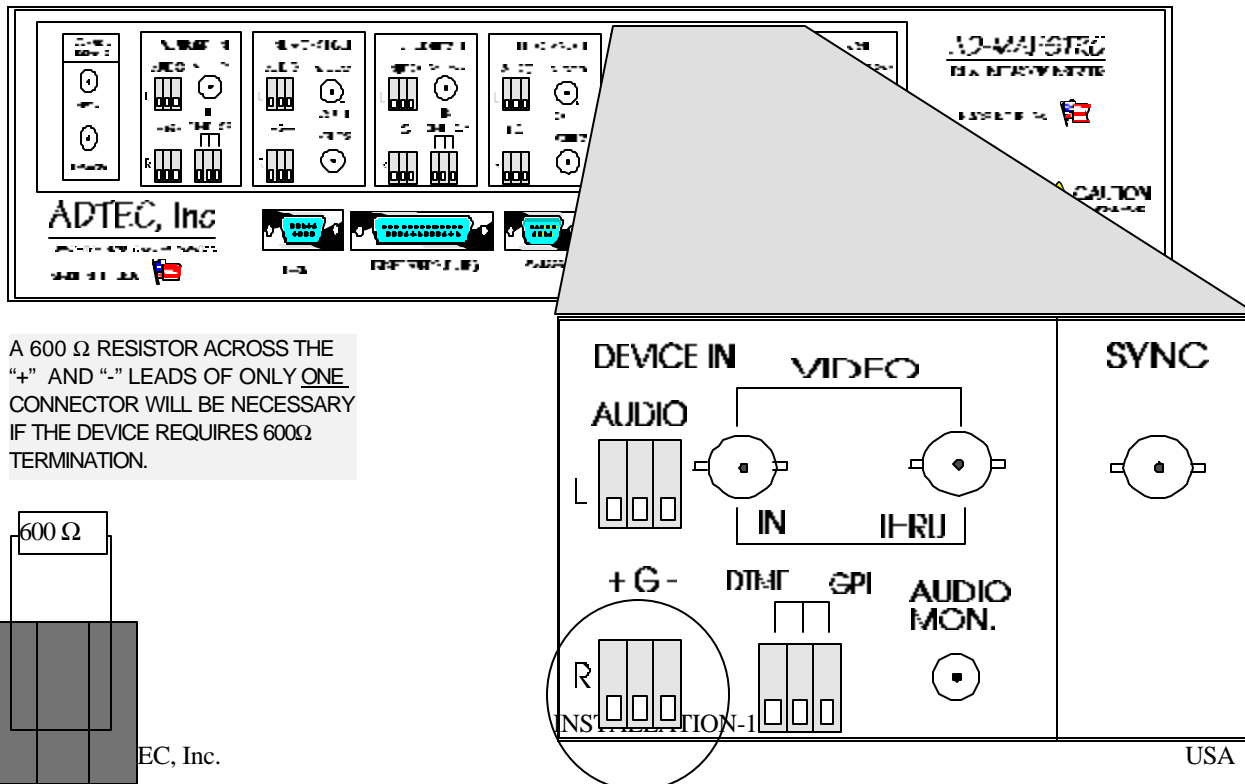
TO DISTRIBUTION

“-” NC

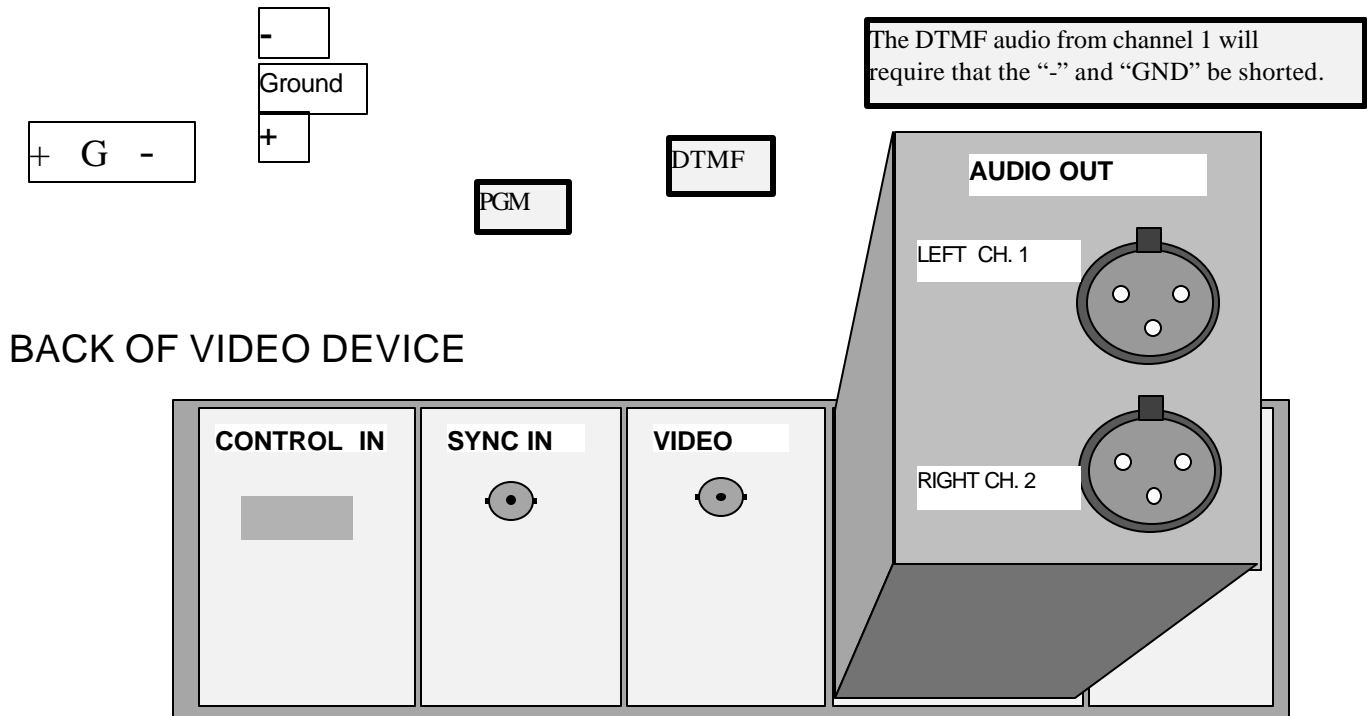
“-” NC

**CONNECTING THE AUDIO OUTPUT OF A VIDEO DEVICE TO THE AD-MAESTRO CONTROLLER**

- 1) The video device has two balanced audio outputs, one for program audio the other for DTMF tones. These are normal or longitudinal audio tracks. To simplify the installation, purchase ADTEC's **ADMBALAV**. (See Installation-3-4)



A 600 Ω RESISTOR ACROSS THE “+” AND “-” LEADS OF ONLY ONE CONNECTOR WILL BE NECESSARY IF THE DEVICE REQUIRES 600Ω TERMINATION.



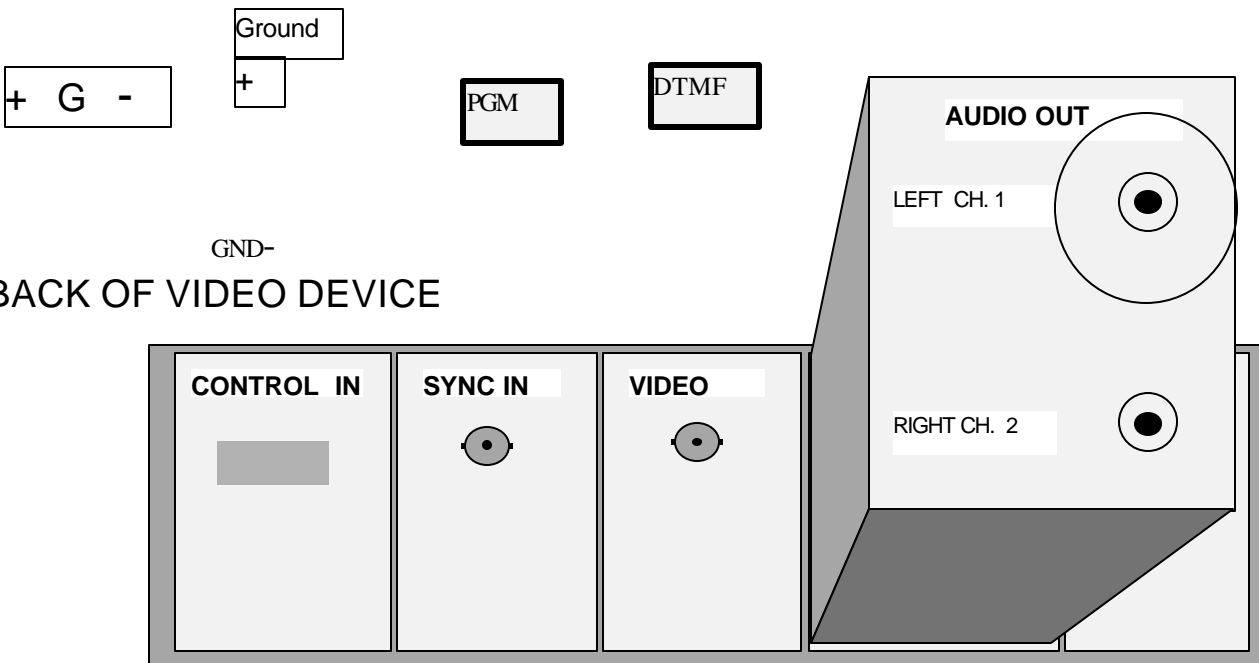
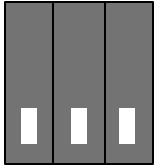
## CONNECTING THE AUDIO OUTPUT OF A VIDEO DEVICE TO THE AD-MAESTRO CONTROLLER. Cont.

In this case, the balanced audio output (PROGRAM AUDIO) of the video device must be connected to the balanced audio input (S) of the AD-MAESTRO controller. IT IS ACCEPTABLE TO PARALLEL A SINGLE AUDIO CHANNEL OUT TO TWO AUDIO INPUTS, ONLY ONE 600  $\Omega$  RESISTOR MUST BE USED. The "+", "ground", and "-" audio connections from the video device connect directly to the corresponding "+", "ground", and "-" audio connections for both the left and right channel of the AD-MAESTRO controller. One 600  $\Omega$  resistor may be necessary to match the impedance of the device audio out. Most balanced audio devices are designed to be terminated into 600  $\Omega$ , (a typical low impedance input). The AD-MAESTRO controller, however, has a 56 K $\Omega$  audio input, (a typical high impedance input). Impedance levels of the audio output and input must match. If your video device has a low impedance audio output, it will be necessary to install a 600  $\Omega$  resistor across the "+" and "-" leads to change the input impedance of the AD-MAESTRO controller to 600  $\Omega$ , (ONLY ONE 600  $\Omega$  RESISTOR MUST BE USED). If this is not done, then the audio levels into the controller will be too loud. If your video device has a high impedance audio output, the input and output impedance levels already match and the resistor will not be necessary. The DTMF input is connected to the audio channel that has the DTMF tones. The DTMF input provides a high impedance (56 K $\Omega$  single ended) load. The "+" audio lead from the video device connects to the "DTMF" pin on the DTMF/GPI connector. The "-" and "GND" audio leads from the device are shorted to the "GND" on the DTMF/GPI connector.

## AUDIO MONITOR



THE "GROUND" AND "-" LEADS SHOULD BE SHORTED TOGETHER WITH A JUMPER WIRE. THE ADMUNBALAV SHORTS THE GROUND AND "-" IN THE RCA JACK.



**CONNECTING THE AUDIO OUTPUT OF A VIDEO DEVICE TO THE AD-MAESTRO CONTROLLER. Cont.**

In this case, the unbalanced audio output (PROGRAM AUDIO) of the video device must be connected to the balanced audio input (S) of the AD-MAESTRO controller. IT IS ACCEPTABLE TO PARALLEL A SINGLE AUDIO CHANNEL OUT TO TWO AUDIO INPUTS. The "+", "ground" audio connections from the video device connect directly to the corresponding "+" and "ground" audio connections for both the left and right channel of the AD-MAESTRO controller. Most unbalanced audio devices are designed to be terminated at 56 KΩ, (a typical high impedance input). The AD-MAESTRO controller has a 56 KΩ audio input, (a typical high impedance input). The DTMF input is connected to the audio channel that has the DTMF tones. The DTMF input provides a high impedance (56KΩ single ended) load. The "+" audio lead from the video device connects to the "DTMF" pin on the DTMF/GPI connector. The "-" and "GND" audio leads from the device are shorted to the "GND" on the DTMF/GPI connector.

**AUDIO MONITOR**

The AD-Maestro provides audio monitoring (device only) by connecting a monitor (with audio) to the audio monitor RCA jack on the Device IN connector panel. No termination is required.

### **VIDEO CONNECTION**

The video signal from the device connects directly to the device video input of the AD-MAESTRO controller. This connection provides a loop through circuit. If a video monitor is connected to the video through, it provides the 75 $\Omega$  termination for the video in. If no monitor is required, a 75 $\Omega$  terminator must be connected to the video through connector. The video in and through connections are video industry standard 'BNC' connectors.

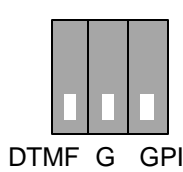
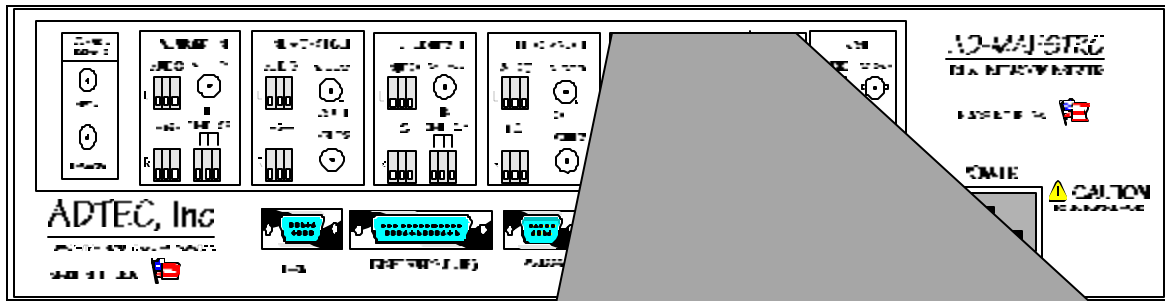
### **SYNC OUT**

The AD-Maestro provides sync out to synchronize the video device to the selected network. Most devices will identify the connector on the device as SYNC IN. Some devices will sync from the VIDEO IN, consult the operations manual for your video device.

**IMPORTANT NOTE.** Most commercial video devices provide for synchronizing (SYNC IN) from other video sources (i.e. Network 1 or Network 2). If your video device has SYNC IN (or will synchronize on the video in) the AD-MAESTRO will provide a synchronous vertical interval switch. If your video device does not have SYNC IN or will not sync on the video input, your device will be out of time with the network. Even though the switch only takes place during the vertical interval, a roll will be present when the AD-MAESTRO switches to and from the network and device.

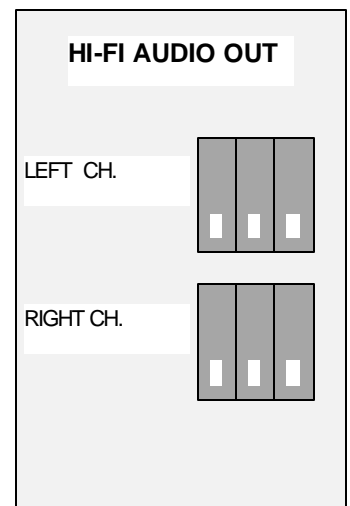
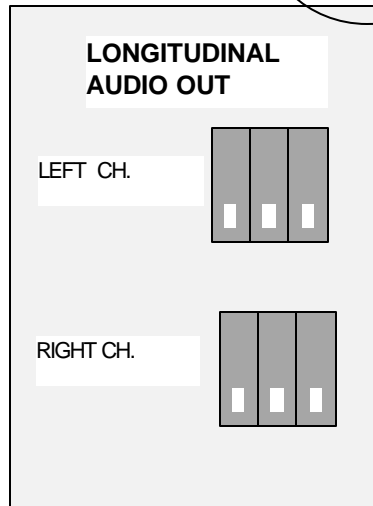
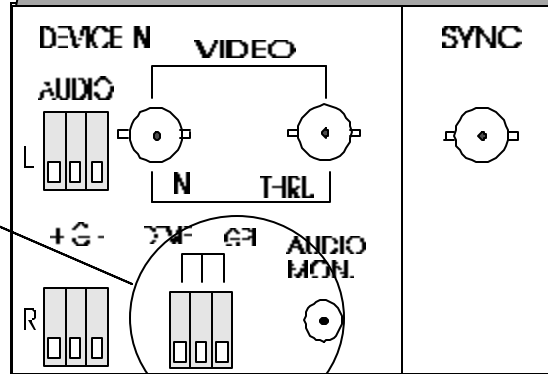
## **CONNECTING A HI-FI VIDEO DEVICE TO THE AD-MAESTRO CONTROLLER USING A LONGITUDINAL AUDIO TRACK FOR DTMF TONES**

1) The DTMF tones from the video device can be recorded on an unused longitudinal audio track. The left and right audio channels for the program audio are recorded onto the hi-fi tracks of the video device. The video device must have both standard longitudinal audio and hi-fi audio capability to work in this arrangement. **Make sure the video device is set up to provide both normal and hi-fi audio outputs simultaneously.**



CONNECT THE HI-FI AUDIO TO THE DEVICE AUDIO INPUTS ON THE CONTROLLER. FOLLOW THE RULES PREVIOUSLY EXPLAINED FOR BALANCED OR UNBALANCED AUDIO SOURCES.

ONLY THE DTMF AND GROUND LEADS SHOULD BE CONNECTED. DO NOT CONNECT THE GPI. IF A BALANCED OUTPUT IS CONNECTED TO THE DTMF, SHORT THE "-" AND GROUND AND CONNECT TO THE GROUND ON THE DTMF INPUT



## CONNECTING A HI-FI VIDEO DEVICE TO THE AD-MAESTRO CONTROLLER USING A LONGITUDINAL AUDIO TRACK FOR DTMF TONES

This case requires a device that has both normal and hi-fi audio capabilities. The HI-FI audio is non editable. Meaning that once it is recorded, no additional audio dubbing or modifications may be performed. The advantages of using a device that supports both HI-FI and normal audio is the HI-FI tracks can be used for stereo program audio and one of the normal tracks can be used for the DTMF tones. The normal audio tracks are editable, meaning the tape can be assembled using the

HI-FI audio while the video is being recorded. The DTMF tones can then be dubbed onto one of the normal tracks. All the rules pertaining to connecting balanced or unbalanced audio to the AD-MAESTRO must be adhered to. Refer to the previous illustrations for the type of audio your device supports.

## **CONNECTING THE AUXILIARY SOURCE TO THE AD-MAESTRO CONTROLLER**

### ***VIDEO CONNECTION***

The video into the auxiliary connects directly to the auxiliary video input of the AD-MAESTRO controller. This connection provides a loop through circuit. If a video monitor is connected to the video through, it provides the 75  $\Omega$  termination for the video in. If no monitor is required, a 75  $\Omega$  terminator must be connected to the video through connector. The video in and through connections are video industry standard 'BNC' connectors.

### ***AUDIO CONNECTION***

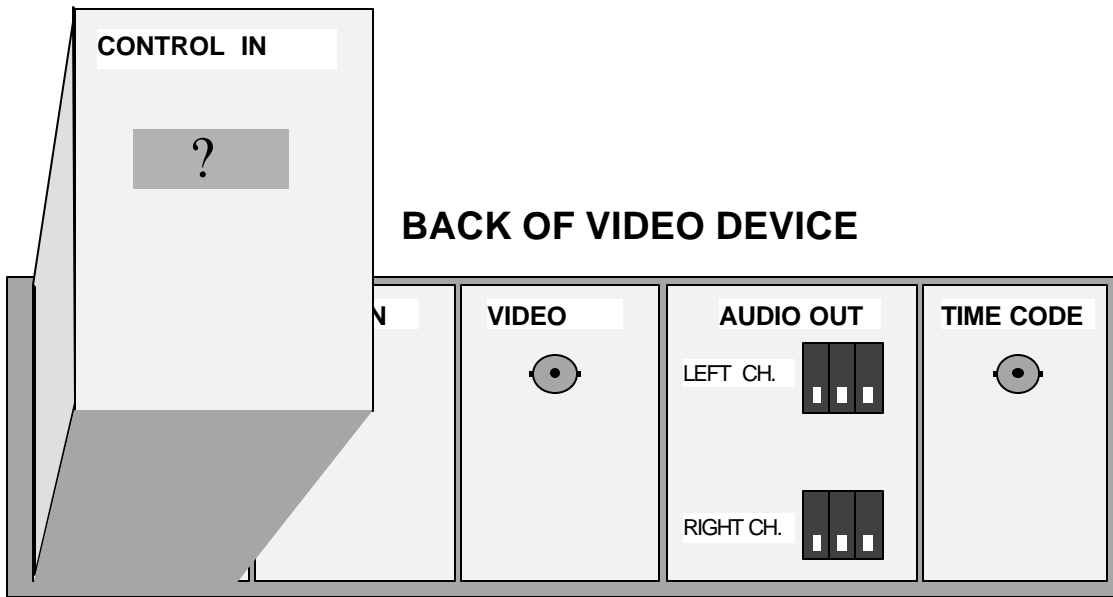
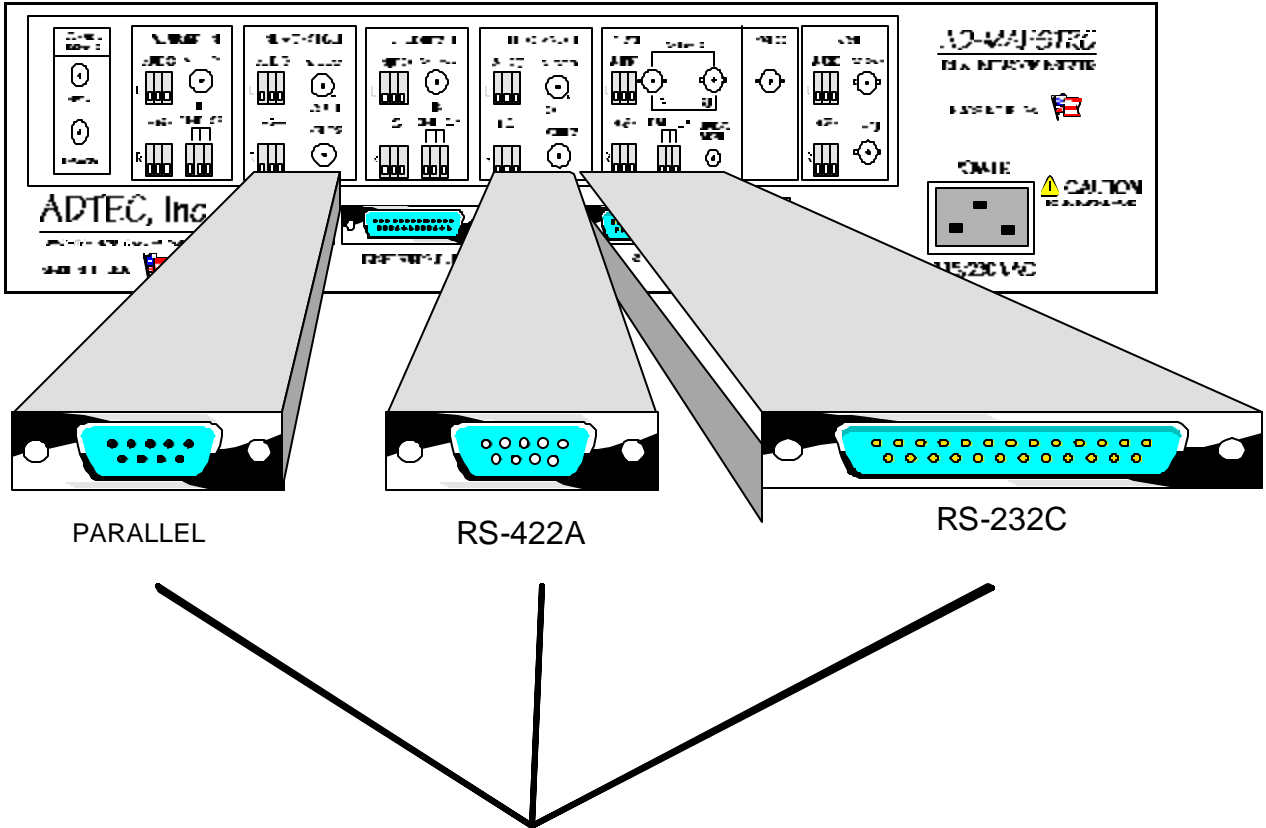
The audio into the auxiliary is two channel balanced audio. Follow the rules and examples previously explained for balanced and unbalanced audio sources to properly connect the auxiliary audio to the AD-MAESTRO controller.

The auxiliary does not provide for sync out. When a switch to and from the auxiliary source occurs, it will be in the vertical interval without synchronization. A roll in the video may occur.

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## **CONNECTING THE CONTROL CONNECTION FROM THE AD-MAESTRO CONTROLLER TO THE VIDEO DEVICE**

- 1) The type of connection depends on the type of control used by the video device.



**CONNECTING THE CONTROL CONNECTION FROM THE AD-MAESTRO CONTROLLER TO THE VIDEO DEVICE cont.**

The AD-MAESTRO supports three different types of control connections to the video device. The type used depends on the type of control connection required by the video device. Different video

devices may have different types of control options. The AD-MAESTRO was designed to meet the type of control the device supports, not to dictate the specific device or control type. The AD-MAESTRO's three different control ports means that it will be able to control most any type of video device. This allows you the flexibility to select the video device and control format which is best suited to your performance requirements and budget.

**1) 9 Pin Parallel** - ADTEC manufactures a family of interfaces which can function with the 9 pin parallel connection. A host of programmable interfaces convert the generic parallel output from the AD-MAESTRO controller to almost any format. Practically any sort of video device can be controlled. Available interface formats include 33 pin SONY connection, 34 pin Panasonic connection, and 45 pin JVC connections. These interface formats will support Play, Stop, Rewind, Rewind Search and Cassette sensing. They are supported by the PSJ-0333, PSJ-0334 and PSJ-0345 interfaces. The PSJ-03 series interfaces allow parallel control with total automation, including tape re-park when a cassette has been changed. The Sony models VP-7000, VP-7020, VP-9000, VO-7600 and VO-9600 have a front panel remote jack. This remote is half duplex, control only, with no status. Adtec supports this remote jack with the WUVR-02 interface. It performs all of the necessary control functions for insertion except Cassette sensing. This means that operator intervention during a cassette change is required to re-park the tape. Once the tape is re-parked, it will function automatically until time for another cassette change. Sony control-S and infrared control formats are also available by using the WUVR-01 and IUVR-01 control interfaces, respectively. They are also half duplex and will require the same operator intervention as the WUVR-02.

**2) RS-422A Serial** - The RS-422A port provides full duplex control using SONY protocol. Video devices with RS-422A interfaces are capable of full function control. In addition, they are also capable of communicating information back to the AD-MAESTRO controller. Information regarding tape cassette changes and tape deck status are communicated to the Ad-Maestro to function together more efficiently. The RS-422A control port operates as a Data Terminal Equipment (DTE) port. To connect Sony, Panasonic, JVC or any video device utilizing RS-422A control, a pin to pin DB9 cable is required.

**3) RS-232C Serial** - The RS-232C port provides full duplex control with user defined protocol. Video devices with RS-232C interfaces are capable of full function control. In addition, they are also capable of communicating information back to the AD-MAESTRO controller. Information regarding tape cassette changes and tape deck status are communicated to the Ad-Maestro to function together more efficiently. The RS-232C control port operates as a Data Terminal Equipment (DTE) port. To connect Sony VTR's (they also provide a DTE pin out) a NULL CABLE is required. To connect Panasonic VTR's (they provide DCE pin out), a pin to pin DB25 cable is required. Check your specific model and interface type or refer to the TECHNICAL section for more information on control types and cables.