

**CHANNEL VISION™**  
**2 Year Limited Warranty**

Channel Vision Technology will repair or replace any defect in material or workmanship which occurs during normal use of this product with new or rebuilt parts, free of charge in the USA, for two years from the date of original purchase. This is a no hassle warranty with no mail in warranty card needed. This warranty does not cover damages in shipment, failures caused by other products not supplied by Channel Vision Technology, or failures due to accident, misuse, abuse, or alteration of the equipment. This warranty is extended only to the original purchaser, and a purchase receipt, invoice, or other proof of original purchase date will be required before warranty repairs are provided.

Mail in service can be obtained during the warranty period by calling (800) 840-0288 toll free. A Return Authorization number must be obtained in advance and can be marked on the outside of the shipping carton.

This warranty gives you specific legal rights and you may have other rights (which vary from state to state). If a problem with this product develops during or after the warranty period, please contact Channel Vision Technology, your dealer or any factory-authorized service center.

**Specifications:** (typical @25° C)

- Output Frequency Range:** 54 ~ 1000MHz
- Output Level:** 50dBmV (2 chs, spurs -60dBc)
- Gain:** 40dB
- Gain Control:** 0-20dB
- Tilt Control:** 0-16dB
- Noise Figure:** <2dB (max gain, min tilt)
- Return Loss:** 8dB
- Input/output Impedance:** 75 ohm
- Input and Output Tests Points:** -20dB
- Connectors:** F type female
- Power supply:** 110VAC internal
- Power Consumption:** 20 W
- Operating Temperature:** -10°C to +60°C
- Reverse path:** 5-42MHz
  - Gain:** 20dB

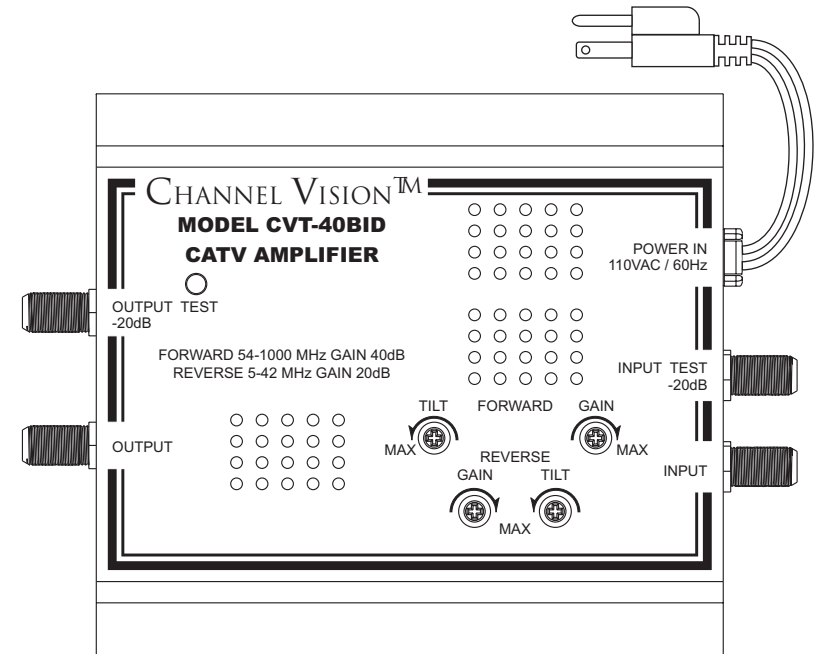
Specifications subject to change without notice.

**CHANNEL VISION™**  
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500-178 rev A

**INSTRUCTIONS**



**CVT-40BID**  
**CATV Amplifier**

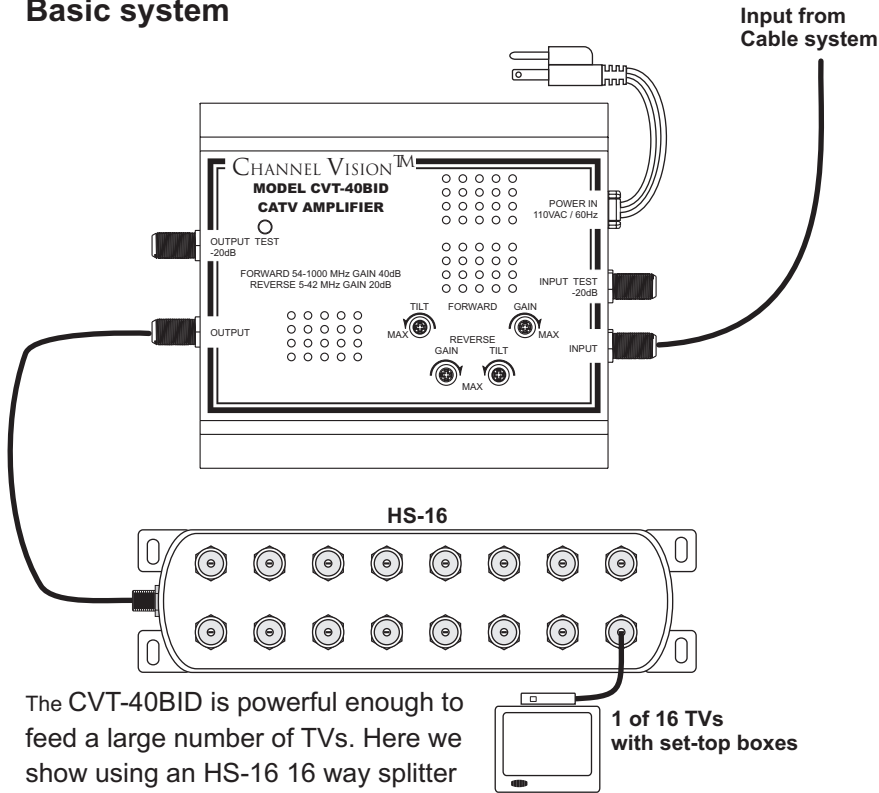
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The **CVT-40BID** is a high gain RF amplifier that covers all TV bands and provides an amplified 5-42MHz reverse channel for CATV upstream information. The CVT-40BID includes a variable input attenuator to reduce the possibility of over driving. The CVT-40BID also includes variable tilt compensation to allow large systems to be properly balanced.

The CVT-40BID is suitable for use with CATV or antenna systems.

## Basic system



The CVT-40BID is powerful enough to feed a large number of TVs. Here we show using an HS-16 16 way splitter to distribute video in a large house.

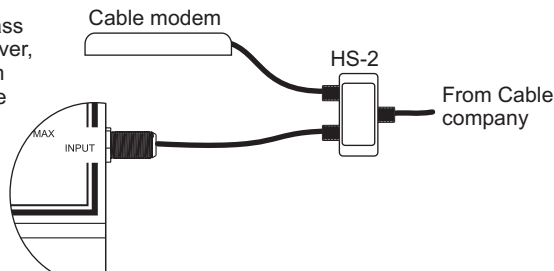
Individual set-top boxes can send information to the cable company on the 5-42MHz reverse channel.

Unused splitter ports should be terminated with a model 2101 75 ohm terminator.

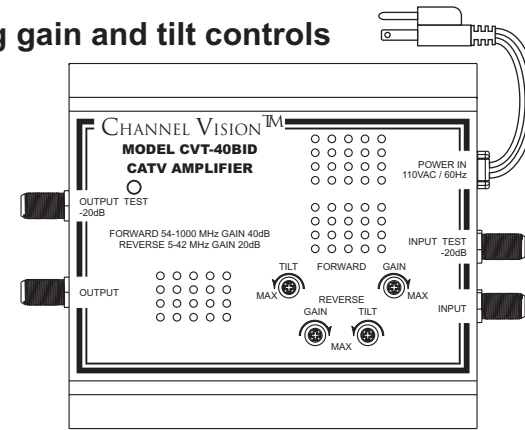


## Using a Cable modem

The cable modem signal will pass through the CVT-40BID. However, we recommend that the modem be fed from a splitter prior to the TV distribution system.



## Adjusting gain and tilt controls



**Gain control ...** The gain control is a variable attenuator that will reduce the level of the signal before the gain stage of the CVT-40BID. The number one problem with video distribution systems is inter-modulation (IM) distortion caused by over driven amplifiers. The symptom of IM is a herringbone pattern on one or more channels.

- 1) Connect the CVT-40BID to the incoming cable signal and view a TV connected to the output test jack.
- 2) Set the gain to MAX.
- 3) Examine all channels for herringbone patterns.
- 4) While viewing a herringbone pattern on one channel, decrease the gain until the pattern goes away. (If the pattern does not change, the CVT40BID is not the cause of this problem.)
- 5) Examine all channels to be sure this gain setting is appropriate.

The ideal gain setting is one that eliminates IM distortion, but is not so low as to introduce noise into the system.

**Tilt control ...** The goal of RF distribution systems is to distribute all channels at equal amplitude. However, coaxial cable attenuates high frequencies more than low. At the end of several hundred feet of coax, a UHF channel can suffer over 10dB more loss than a VHF channel. The tilt control introduces opposite losses into a system to compensate. The tilt control is useful when you have long runs and multiple amplifiers. But setting the tilt control correctly is not simple.

- 1) Using a field strength meter or spectrum analyzer, adjust the tilt control so all signals are the same amplitude at the point where the coax feeds the next amp.
- 2) If you do not have this instrumentation, leave the tilt control at the minimum setting. Do not attempt to adjust tilt without the proper equipment. You will probably create more problems than you will solve.
- 3) When feeding TVs rather than another amp, the tuned front-end of a TV usually makes tilt unnecessary and the tilt control should be left at minimum.