

Warranty

Multiplex Technology, Inc. warrants this product to be free from defects in materials and workmanship for a period of one year from the date of purchase or MTI will repair, or at its option, replace the defective product. To obtain warranty service, call MTI for a return material authorization (RMA) number and return the product prepaid

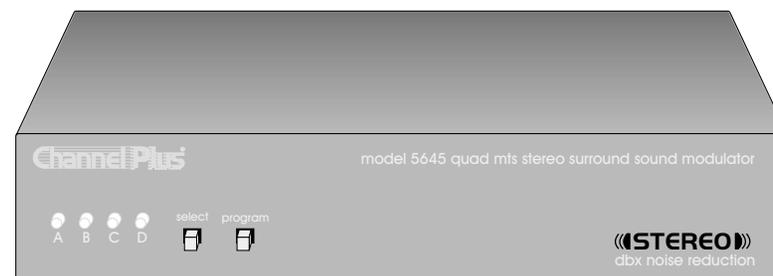
Attention: Customer Service. Please put the RMA number on the outside of the carton.

Any implied warranty arising from the sale of the product including implied warranties of merchantability and fitness for purpose are limited to the warranty stated above. MTI shall not be responsible for losses or damages or expenses, whether direct, consequential or incidental arising from the use of or the inability to use this product. Some states do not allow limitations on how long the implied warranty lasts or the exclusion or limitation or incidental or consequential damages, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which may vary from state to state.

Channel Plus®

PERFORMANCE MULTI-ROOM VIDEO

Modulator Installation Manual



Frequency-Agile MTS Stereo Multi-channel Modulators

Models 5615/5625/5645

This device complies with the FCC's Part 15 Rules for TV interface devices. Any change or modification to this device without the permission of Multiplex Technology, Inc. may void the user's authority to operate this equipment.

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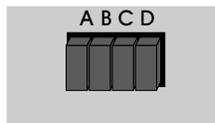
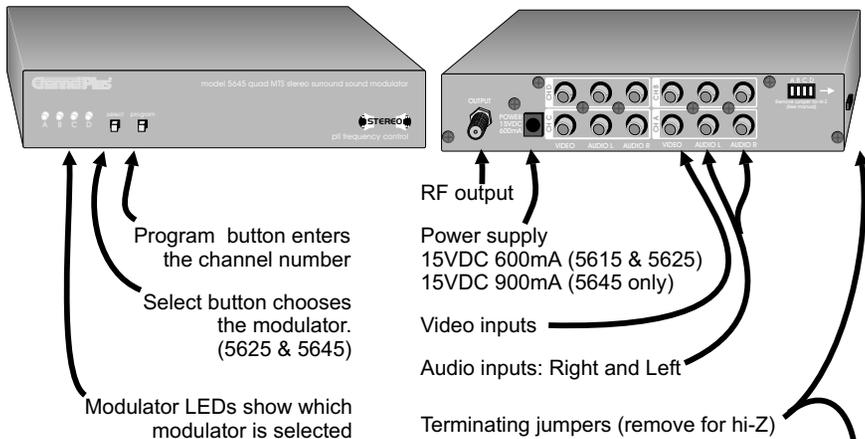
The ChannelPlus 5600 Series are digitally-tuned video modulators that convert any baseband video and audio signal to a user-selected UHF, or Ultraband CATV. An internal quartz crystal reference oscillator and PLL circuitry ensure drift-free performance. The user selects the output frequency (channel) using the "select" button to choose which modulator and the "program" button to enter the number of the desired channel. Any TV connected to the output via coax can receive the signals, when the TV is tuned to the proper channel.

In addition, the 5600 series encodes each channel using the MTS stereo standard. Stereo sound and surround sound information will be received by any MTS compatible television receiver.

Models available:

- 5615 1 channel modulator
- 5625 2 channel modulator
- 5645 4 channel modulator

Controls and Connections - Model 5645 shown



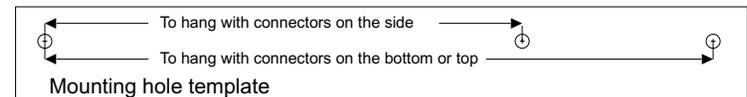
Option:
To connect the video and audio to a local monitor, use RCA type 'Y' adaptors and remove the 'LOOP' jumper for this channel. The model 5615 has built in loop through connectors, so it does not require the use of 'Y' adaptors.



Changing modulation standards

Cable HRC and IRC considerations

Most cable services use IRC frequency assignments. This is the default for the ChannelPlus 5600 series modulators. However, if the cable service uses HRC or the TV appears to search for the "house channels," the modulator can be reprogrammed to use HRC assignments by entering the number "98". Set to IRC by entering a "99". Both of these settings are only used for setting HRC/IRC. **Note:** This setting can be entered on any modulator channel, A, B, C, or D, and affects all channel assignments for that unit. Cable channels must either be all IRC or all HRC.



Specifications: typical @ 25°C ± 5°C

5600 Series modulators

Inputs	video	1 Vp-p @ 75Ω		
	audio	1 V rms @ 47kΩ		
Video performance	differential gain	4%		
	differential phase	<4°		
	signal/noise	55 dB		
RF output	standard	UHF	CATV	
	channel ranges	14-64	65-125 (excluding 95-99)	
	output level	+25 dBmV (85dBuV)		
	IM distortion	-60 dBC		
	alternate channel	-45dBC @ 12MHz		
	Power supply	model number	5615	5625
output current		600mA	600mA	900mA
output voltage		15 VDC		
input power		105-125 VAC		
power consumption		7 watts	9 watts	11 watts
Physical		height	3.8 cm (1.5 in)	
	width	20.0 cm (7.9 in)		
	depth	14.1 cm (5.5 in)		
	weight	1.19 kg (2 lbs 10 oz)		
	MTS audio performance	frequency range	20Hz - 12kHz	
signal/noise		65 dB		
separation		25 dB @ 1000Hz		
surround sound		Compatible with Dolby full logic surround sound		
noise reduction		Certified dbx		

Things to watch for:

No picture ... Verify that the video source is on and is producing a video signal. Check that the TV and the modulator are tuned to the same channel. For example, if the modulator is broadcasting on UHF channel 16, make sure the TV is on UHF 16 rather than CATV 16. UHF 16 and CATV 16 are at different frequencies.

Weak ChannelPlus UHF channel ... If the TV has a separate UHF input, be sure that it is connected.

LEDs blink ... You need to have one unused channel space between channels. The display will blink if you have made an 'illegal' choice. See the section on programming.

Herringbone interference on ChannelPlus channel (diagonal lines) ... You may have chosen a channel number that is not completely vacant. Distant UHF stations may be un-watchable, but will cause interference if you try to create a new channel at the same frequency. Also, cable companies often have extra signals where there should be none. Try moving the ChannelPlus channel to another number. You may have to add a low pass filter to remove cable company noise.

Herringbone interference on many channels (disappears when you remove the modulator) ... The high output of the ChannelPlus modulator can overdrive many RF amplifiers. Reduce the RF output using an attenuator. (ChannelPlus coax panels are designed to take the full output of these modulators.)

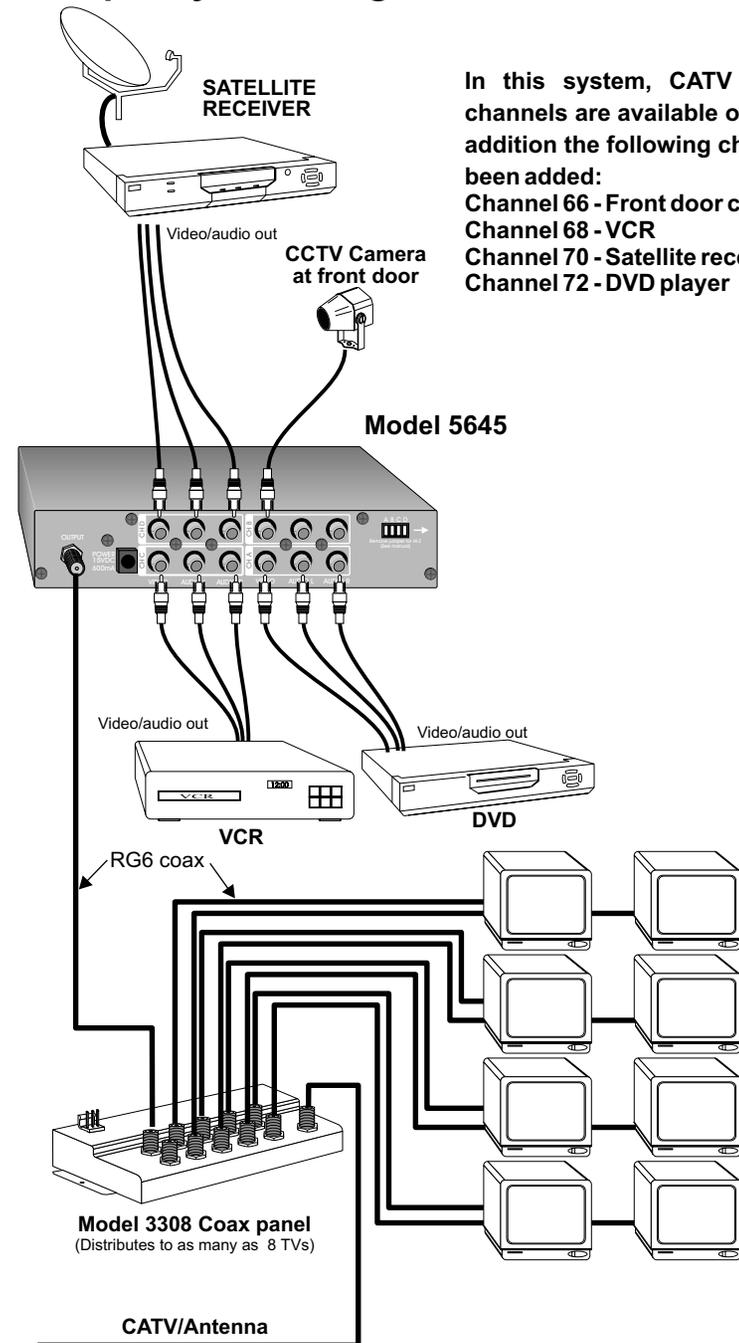
Audio volume seems low compared to broadcast ... There may be little you can do here, other than turn up the volume. Here is what is happening:

- In broadcast television, the audio is compressed: The soft sounds are amplified to be almost as loud as the loud sounds. The technical measure of this is dynamic range, the ratio of loudest to softest sounds. The dynamic range of video devices such as DVD and LV players is very great. Since most of a typical movie consists of 'soft' sounds, the audio will seem quieter than normal television channels. (This is also why commercials, which are the most compressed, seem louder than the program they accompany.)
- To appear to be at the same volume as broadcast channels, the audio level in a modulator is carefully increased. In the modulator, too high of signal level can overdrive the MTS circuits and audio performance will suffer.

No Stereo ... When using the TV outputs to send audio to a home theater system, be sure the TV is in the stereo mode for external speakers. Consult the TV manual, this is often confusing and is different for different TV brands.

No color on ChannelPlus channels ... You may have chosen the incorrect cable standard. Not all televisions can accommodate the 1.25MHz frequency difference between the H and I cable standards. See the section on programming.

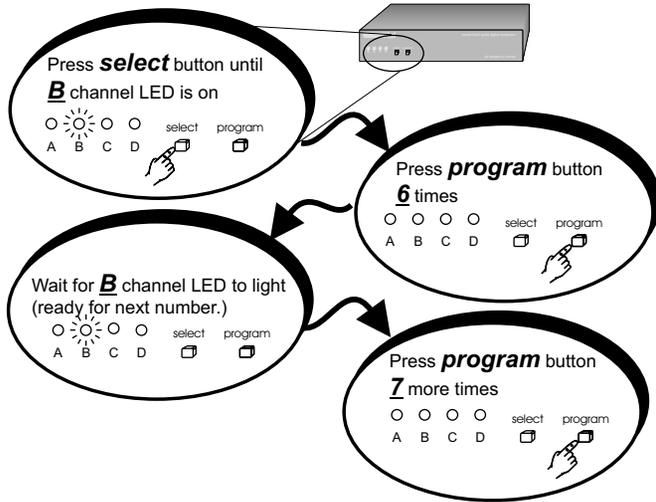
Sample System Diagram



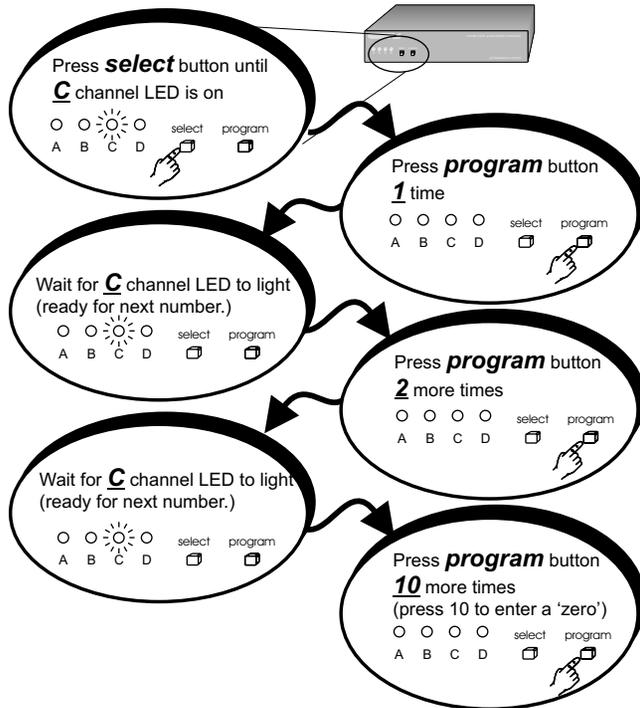
In this system, CATV or antenna channels are available on all TVs. In addition the following channels have been added:
Channel 66 - Front door channel
Channel 68 - VCR
Channel 70 - Satellite receiver
Channel 72 - DVD player

Programming Examples:

To program modulator **B** to channel **67**



To program modulator **C** to channel **120**



Valid Channels: 14-64: UHF channels
65-125: CATV channels
95-99: not valid

Channel Spacing: Skip at least one number between channels.
Channels 14 and 16: OK.
Channels 14 and 15: Illegal.

Error indication: If an error has occurred or an incorrect channel is entered, the LED will flash quickly for a second and return to the previous settings.

If two adjacent channels are selected, the unit will accept the entry but will blink the LEDs of channels that are too close. If this happens, re-program one of the channels to move it away from the other.

Channel number readback: A readback mode will display the current channel assignments.

To readback modulator **C** channel assignment (example: C has been programmed to channel **108**)

