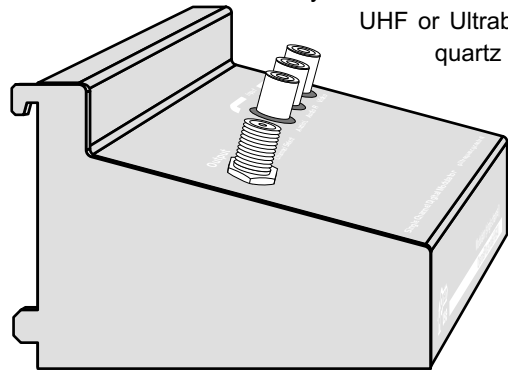


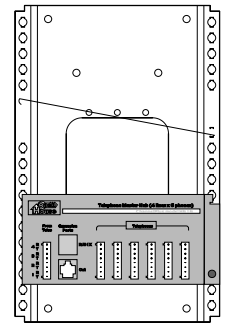
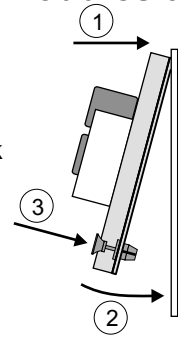
ChannelPlus Video Modulator

The H541 modulator is a digitally tuned video modulator that converts any baseband video and audio signal to a user-selected UHF or Ultraband CATV channel. An internal quartz crystal reference oscillator and PLL circuitry ensure drift-free performance. The user selects the output frequency (channel) using the DIP switch on the front panel. Any TV connected to the output via coax can receive the signal, when tuned to the proper channel.



OpenHouse™ modules attach from the top

- 1) Hook from the top
- 2) Swing into place
- 3) push button to lock



Programming the H541

Set the DIP switches from the following guide:

- Set desired mode: UHF, CATV std, CATV irc or CATV hrc.
- Set channel: Find the desired UHF or CATV channel and set.
- Set termination: For normal operation (75Ω termination) select NORM. When connecting video to a local monitor using a 'Y' adaptor set for LOOP (Hi-Z).

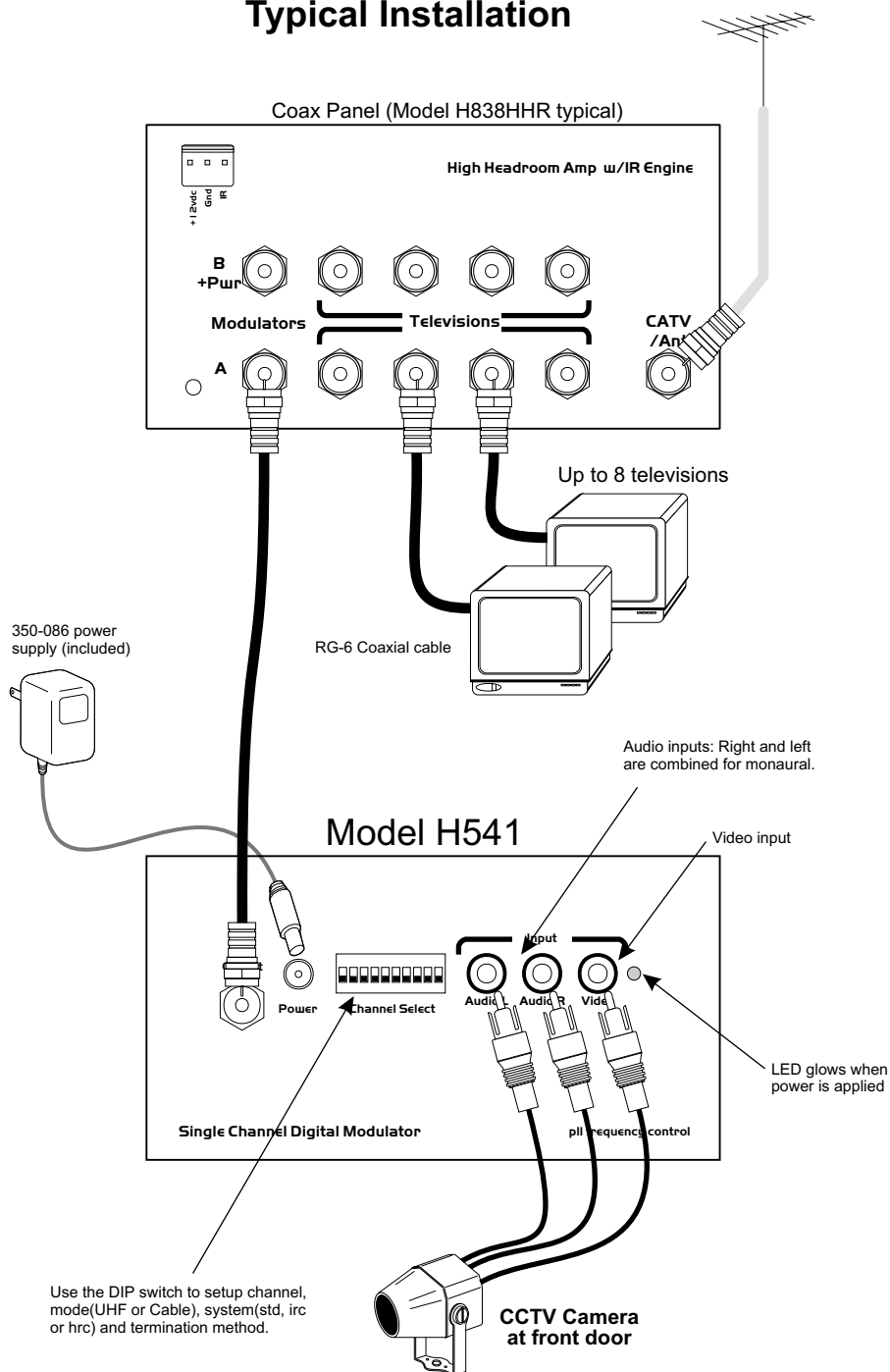
UHF/CATV

| | | | |
|-------|--------|--------|----------|
| 14/65 | 30/81 | 46/102 | 62/118 |
| 15/66 | 31/82 | 47/103 | 63/119 |
| 16/67 | 32/83 | 48/104 | 64/120 |
| 17/68 | 33/84 | 49/105 | 65/121 |
| 18/69 | 34/85 | 50/106 | 66/122 |
| 19/70 | 35/86 | 51/107 | 67/123 |
| 20/71 | 36/87 | 52/108 | 68/124 |
| 21/72 | 37/88 | 53/109 | 69/125 |
| 22/73 | 38/89 | 54/110 | |
| 23/74 | 39/90 | 55/111 | UHF |
| 24/75 | 40/91 | 56/112 | CATV STD |
| 25/76 | 41/92 | 57/113 | CATV IRC |
| 26/77 | 42/93 | 58/114 | CATV HRC |
| 27/78 | 43/94 | 59/115 | |
| 28/79 | 44/100 | 60/116 | LOOP |
| 29/80 | 45/101 | 61/117 | NORM |

Programming Examples

- UHF channel 23, normal termination (75Ω)
- Cable channel 116 (standard), loop through termination (Hi-Z)
- UHF channel 65, normal termination (75Ω)
- Cable channel 65 (HRC), normal termination (75Ω)

Typical Installation



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.

Herringbone interference on modulator channel (diagonal lines): You may have chosen a channel number that is not completely vacant. Distant UHF stations may not be 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 modulator channel to another number. You may have to add a low pass filter to remove the cable company noise. If the filter does not work, try adding a DC-block to remove common mode interference.

Herringbone interference on many channels, including modulator channels (disappears when you remove the CATV/antenna feed): The RF amplifier can be overloaded by abnormally strong signals. Often, you can cure the problem with a simple attenuator. Use a variable attenuator and try to find a signal level where the interference just disappears. Sometimes, the problem is one station is far stronger than the rest. In this case, attenuating all of the signals with a simple attenuator may cause the desired stations to be weak (snowy). You must reduce the strength of the only offending station. A common FM trap will help if the problem is a nearby FM tower. If the problem is a nearby TV station, often the station management can provide suitable filters.

Audio volume is low ... The left and right audio inputs are combined for monaural. For proper audio level, both right and left inputs must be used. If you have a mono source, connect it to both right and left inputs using an RCA 'Y' connector.

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.

Specifications: typical @ 25°C ± 5°C

| | | | |
|--------------------------|---------------------------------------|---|-----------------------------|
| Inputs | video | 1 Vp-p @ 75Ω | |
| | video termination (switch selectable) | 75Ω in normal mode (NORM) >1MΩ in loop through mode (LOOP) | |
| | audio | 1 V rms @ 47kΩ L & R inputs combined for monaural | |
| Video performance | differential gain | 4% | |
| | differential phase | <4° | |
| | signal/noise | 55 dB | |
| | RF output | standard | UHF |
| | channel ranges | 14-69 | 65-125 (excluding 95-99) |
| | output level | +25 dBmV (85dBuV) | |
| | IM distortion | -60 dBC | |
| | alternate channel | -45dBC @ 12MHz | |
| Power supply | model number | 350-086 | |
| | output current | 300mA | |
| | output voltage | 15 VDC | |
| | input power | 105-125 VAC | |

DECLARATION OF CONFORMITY

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 UNDESIRABLE OPERATION.

Installation requirements:

- FCC classifies this product under part 15 of its rules as a "television interface device". Systems designed using television interface devices have the following legal requirements:
- 1) The modulated channel signal strength may not exceed 15.56dBmV at any television. *Federal Regulation 47CFR15.115(b)(1)(i).*
 - 2) If an antenna is used in the system, the modulated channel signal strength may not exceed -51dBmV at the antenna input port. *Federal Regulation 47CFR15.115(c)(4).*

For the Installer:

The system you design must comply with these regulations. As the installer, you are responsible. The easiest way to be fully compliant is to use a ChannelPlus coax panel. ChannelPlus panels have the necessary isolation from the modulator input ports to the antenna input port and gain characteristic from the modulator input ports to the television output ports. These features will make your modulator comply with the above requirements. The **Typical Installation** shown above is fully compliant.

