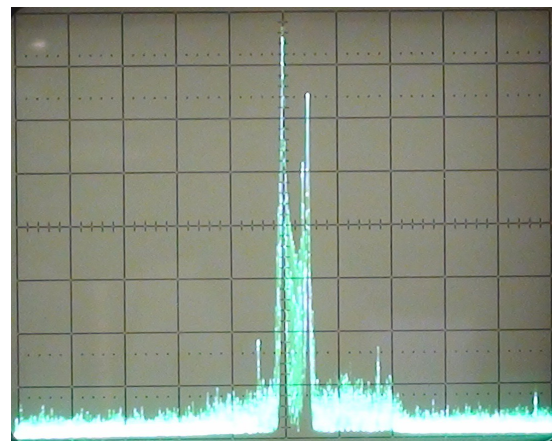




## Model 70-2A 70 cm, VUSB, NTSC, TELEVISION MODULATOR



Model 70-2A VUSB-TV Spectrum  
LSB / USB = -45 dB 10 dB/div & 10 MHz/div

The KH6HTV Video Model 70-2A is a commercial CATV modulator. It produces a Vestigial Upper Sideband (VUSB), NTSC, TV signal, plus an FM audio signal 4.5 MHz above the video carrier. It operates on USA standard CATV channels 2 - 135. It covers the ham 70cm band (420-450 MHz) on CATV channels 57 - 61. The 70-2A has been specially modified by KH6HTV Video to also operate on the non-standard ham TV frequencies of 426.25 MHz and 434.00 MHz which are used in some regions of the USA. The channel adjustments are made with a mechanical up / down switch with a mechanical readout. To operate on the non-standard frequencies, an internal slide switch, accessible through a hole in the side cover, must be activated.

In terms of spectral purity and video quality, the Model 70-2C is a far superior exciter for use with KH6HTV Video linear amplifiers as a TV transmitter. The 70-2A should only be ordered by those hams that due to local conventions, must operate on the non-standard frequencies of 426.25 MHz and / or 434.00 MHz.

## Model 70-2A VUSB-TV, NTSC MODULATOR

PARAMETER	Typical Performance	Notes
Frequency Control	Synthesized	Push Button Selection, Mech. Readout Channel Display
Available Channels 57 58 59 60 61	Video Carrier    Audio Carrier 421.25 MHz    425.75 MHz 427.25 MHz    431.75 MHz 433.25 MHz    437.75 MHz 439.25 MHz    443.75 MHz 445.25 MHz    449.75 MHz	Only legal for use in 70 cm, USA amateur radio band (420-450 MHz) Not recommended for use on Ch. 61
Frequency Offsets    Ch 58 Available                Ch 59	426.25 MHz    430.75 MHz 434.00 MHz    438.50 MHz	Set by internal slide selector switch. IRC or HRC not available Modification by KH6HTV
Frequency Coverage	54 MHz to 860 MHz	CATV channels 2 - 135
Modulation	NTSC, VUSB-TV with +4.5 MHz FM audio carrier	
Channel Bandwidth	6 MHz	SAW Filter
RF Output Power (max)	> +45 dBmV into 75 $\Omega$ , min. > +3 dBm into 50 $\Omega$ , typical	
Adj. Range	> 20 dB typical	
Output Impedance	75 $\Omega$	
LSB Rejection	-45 dB, typical	relative to USB
Spurious Outputs	-25 dBc @ 919 MHz -50 dBc @ 500 MHz > -60 dBc most other spurious	with A/V = -15 dBc
Phase Noise (in channel & adjacent channels)	> -60 dBc, in channel > -65 dBc, $\pm$ 20 MHz	
Sync Pulse Compression	16 IRE units	
Video Input	1.0 V <sub>ptp</sub> into 75 $\Omega$	
Frequency Response	30 Hz to 4.2 MHz,	$\pm$ 1.5 dB
Audio Carrier	4.5 MHz above video carrier	
Deviation	25 kHz	
A/V ratio	-15 dBc (factory pre-set)	adjustable -10 to -35 dBc
Audio Input ( Mono )	3mV to 100 mV <sub>rms</sub> , 10K $\Omega$	for 25 kHz deviation
RF, Video & Audio Connectors	F(f), F(f) & RCA	
Front Panel Controls	Channel Up / Down, Video, Audio, RF & A/V adj	manual push buttons screwdriver trim pots
DC Power Required	12 V @ 200 mA, +5V @ 320 mA	
Dimensions	1" x 8" x 3.45" (w x d x h)	

(70-2A, rev.3/13/2016, kh6htv, mma860)

**KH6HTV-VIDEO**    [www.kh6htv.com](http://www.kh6htv.com)    e-mail: [kh6htv@arrl.net](mailto:kh6htv@arrl.net)

Maui, Hawaii & Boulder, Colorado, USA