



**Model 33-1A**  
**33 cm, 42 dB, 18/6/3 Watt**  
**RF LINEAR**  
**POWER AMPLIFIER**

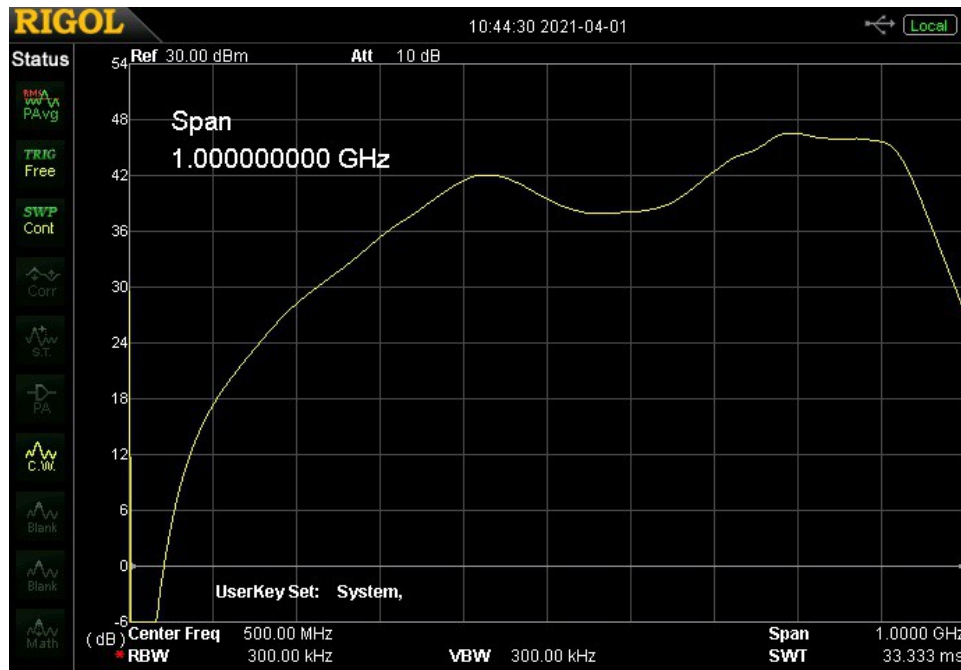


The KH6HTV-VIDEO Model 33-1A, RF Linear Power Amplifier is for use on the amateur radio 33cm & 70cm bands. On 33cm, it can be used to produce a 18 Watt FM signal or 6 Watt (pep), analog, TV signal. It can also produce a 3.5 Watt (avg), high-definition (1080p), digital TV signal. The rf power output can be lowered -3dB or -5dB for reduced DC current draw with the front panel rotary switch. The 33-1A can also be used on the 70cm band with lower output power of 2W (analog TV) and 500mW (DTV).

PARAMETER	Typical Performance	Notes
Output Power (FM, CW)	18 Watts (33cm) & 3.5 W (70cm)	saturated output - see photo
Output Power (analog TV)	6 W (33cm) & 2 W (70cm)	PEP peak power on sync tips
Output Power (Digital TV)	3.5 W (33cm) & 1/2 W (70cm)	rms
RF Power Amplifier Gain	42dB (33cm) & 38dB (70cm)	small signal -- see photo
LSB Rejection (analog VUSB)	better than -20dB	LSB/USB ratio
Spectrum Regrowth (Digital TV)	-30 dB	
Max Input Power	50 mW, +17 dBm	
Duty Cycle	100 %	heat sink & cooling fan included
DC Supply Voltage	13.8 Vdc	10 to 15 Vdc
DC Current @ 13.8 Vdc	1.9, 1.2 or 0.9 Amps 3.7 Amps	for DTV (hi/med/low power) for FM/CW (hi power)
Control - Rotary Switch	OFF - HI - MED - LOW	rf power adj. in -3 & -5 dB steps
RF Connectors	SMA input & N output	
Dimensions & Weight	4.2" x 3.5" x 7.4"	1.5 lbs
Accessories Included	instruction manual & test report	

**KH6HTV Video, Boulder, Colorado, USA, [www.kh6htv.com](http://www.kh6htv.com)**

**Notice:** This amplifier is not FCC type accepted. Therefore, the use of this amplifier is only legal in the USA amateur radio 33 & 70cm bands. Owners and operators of this amplifier must be licensed amateur radio operators.



Small signal Gain, S21 sweep from 0 to 1 GHz. 6dB/div & 100MHz/div, Pin = -20dBm



Max. Power Output with Pin = 0dBm. Sweep from to 1 GHz. 5dB/div & 100MHz/div

**The model 33-1A Amplifier may be used on the 33cm (902-928 MHz) band and also on the 70cm (420-450 MHz) amateur radio band.**