



Model 23-12B

23 cm, 50 dB, 15/10/2 Watt RF LINEAR POWER AMPLIFIER

The KH6HTV-VIDEO Model 23-12B, RF Power Amplifier is for use in the amateur radio 23 cm band (1240-1300 MHz). It is a Class A-B amplifier designed for linear service. It can produce a 2 Watt, high-definition (1080P), digital TV



(DTV) signal. It can also be used to produce an 10 Watt (pep), analog TV or SSB signal, or 15 Watts for FM/CW service. For DTV service with it's low DC current draw of only 0.9 Amp at 13.8 Vdc, it is ideal for in the field battery operations, such as for ARES emergency operations. With it's optional heat sink and fan it is rated for 100% duty cycle at full 15 W CW. The heat sink and fan are not needed if the amp is only to be used in 2 W, DATV service. An optional PTT circuit for a 2 W, DATV repeater is also available. It can also be built for either the 900 MHz or 2.4GHz band.

PARAMETER	Typical Performance	Notes
Output Power (Digital TV)	2 Watts, +33 dBm	average power
Output Power (analog TV or SSB)	10 Watts PEP, +40 dBm	peak power on sync tips
Output Power (FM, CW)	15 Watts, +42 dBm	max. saturated output
Output Power (-1 dB comp)	12 Watts, +41 dBm	
Output Power (-1/2 dB comp)	10 Watts, +40 dBm	
RF Power Amplifier Gain	50 dB, nominal	
Amplifier Gain Flatness	± 0.5 dB	1240 - 1300 MHz
Gain Band-Width	150 MHz	-3dB
Amplifier Max Input Power	10 mW, +10 dBm	
Spectrum Regrowth (Digital TV)	-30 dB at +33 dBm (2 Watts)	-37 dB at 1W, -42 dB at 1/2W
LSB Rejection (analog VUSB)	better than -20 dB	at 10 W peak sync
Duty Cycle	100 %	with optional heat sink & fan
DC Supply Voltage	13.8 Vdc	10 to 15 Vdc
DC Current	0.9 Amp (2W DTV), 0.5A idle 2.5 Amps (15W FM/CW)	@ 13.8Vdc
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	

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NOTICE: This linear amplifier is not FCC type accepted. Therefore, the use of this amplifier is only legal in the USA, amateur radio, 23 cm band (1.24-1.3 GHz). Owners and operators of this amplifier must be licensed amateur radio operators.

Performance for Various Options

Parameter	33 cm, 900 MHz option	23 cm, 1.2 GHz standard design	13 cm, 2.4 GHz option
Gain	47 dB	50 dB	47 dB
Pout (saturated)	15 Watts	15 Watts	10 Watts
Pout (DTV)	3 Watts	2.2 Watts	2 Watts

If the amplifier is to be used for any service other than digital TV, then it must be ordered with the optional heat sink and cooling fan. It will overheat without them. Not required if only to be used for the lower output power DTV. If the amplifier is to be used in DTV repeater service in a remote, unattended site with no temperature regulation, then it should be ordered with the optional heat sink and fan.

The optional PTT circuit is designed only for use with DTV in repeater service. Do not order it if you plan to use the amplifier for any service other than DTV.

Note 1 - Optional heat sink and cooling fan +\$40

Note 2 - Optional external PTT circuit for 2W, DATV repeater control. +\$40

Note 3 - Optional 33cm (+\$25) or 13cm (+\$25)