



VA1K-R

500Wrms DAB/1kW p-synk VHF TV Amplifier

VA1K-R amplifier embodies LD-MOS and TETRAFET technologies and is designed for both digital and analog applications. The unit is the state of the art in terms of easy assembly, reliability and performances. The complete unit can assure the compliance to all relevant international standards.

- 1kWps Out
- 500Wrms Out DAB
- BroadBand (170-230 MHz)
- Designed for SKD sales
- Internal cabling free
- Easy maintenance without special tools
- RS232-RS485 interface
- Control software included
- Extremely strong mechanical structure
- Requires external PSU



This picture is a mere example, it does not bind the provided product

ELECTRICAL DATA

Voltage Supply	28-32 Vdc 30V nominal
Power Consumption	2200W @1000W Ps Black Field @ 200MHz (typ.) 1800W @500Wrms DAB @ 200MHz (typ.)
Current Consumption	80 A max @ 32 V analog application 65 A max @ 32 V Digital application
Operating Temperature	0 to +45 °C
Humidity	Up to 90% (non condensing)
Gain Stability	0 to 45 deg. +/-0.5dB[1]
Gain	56dB ±2dB nominal
Power Out (@1dB compression)	Min. 1400W (Typ. 1600W)
Input Return Loss	Min. -16dB (Typ. -20dB)
Output Return Loss	Min. -18dB (Typ. -22dB)
Load Mismatch (CW 1000W F ₀ 200MHz VSWR=2:1) all phase angle	No degradation
P _{out} Common Ampl.	1000W Ps IMD < -45dB Red Field Sound 1 -13dB; Sound 2 -20dB (without precorrection)
P _{out} Separate Ampl.	1200W sink compression < 1dB
P _{out} DAB	500Wrms shoulder < -27dBc (without precorrection)
P _{out} DVB-T	250W IMD < -28 dBc (without precorrection)
P _{out} PEP	1200W IMD < -27 dBc

External High Power Supply Technical Specifications

Vout	30Vdc
Iout	2 x 50A or 1 x 100A in analog application
Max operative current	2 x 30A or 1 x 60A in digital application
Current Limit	2 x 55A or 1 x 110A in analog application 2 x 35A or 1 x 70A in digital application
Load Regulation	+/- 0.5% from 10% up to 100% dinamic load change
Output Ripple	400mV max
Sense	External Sense for both sections (if double). Sense Impedance 6.8 KΩ each positive/GND wire.
Enable	VA1K-R provides a signal 0/5V (0 = disable; 5 = enable). Open collector with internal pull-up. This signal must be used to enable the power supply.

External Service Power Supply Technical Specifications

Vout	5Vdc
Iout	0.5A
Load Regulation	+/- 0.5% from 10% up to 100% static load change
Output Ripple	50mV max
Enable	This tension must be always enabled and connected



VA1K-R



VHFAMP05-R



VHFAMP75-R



VHFAMP400-R□□

MECHANICAL DATA AND INTERFACES

Dimensions	19" 3HU std 600mm depth[1]
Weight	25Kg.
RF in	N connector rear panel
RF out	7/16" connector rear panel
RF mon	SMA connector rear panel
RS232	D 9 poles front and rear panel
RS485	D 9 poles rear panel
Local Enable	Switch front panel Two-pole connector rear panel

REMOTE CONTROL

Enable[2]	RF Enable ON/Stand By
GAIN (option)	Gain setting

READABLE DATA BY REMOTE COMPUTER OR CONTROL LOGIC UNIT (THROUGH RS232/RS485)

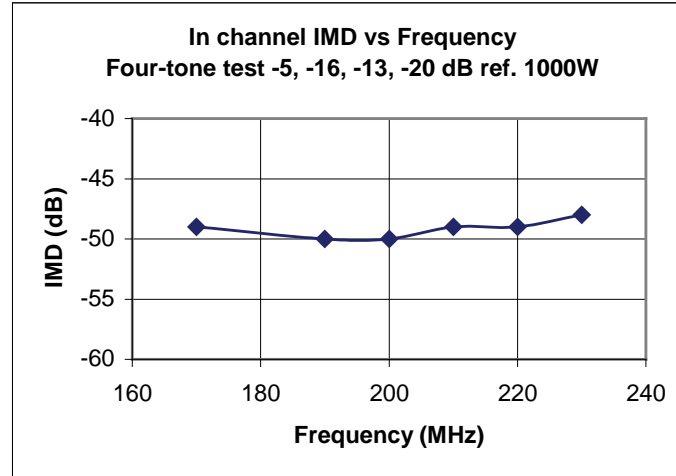
STATUS/ALARMS	NOTES
Enable	ON/STAND BY
RF Faults	ACTIVE if Gain < 6dB referred to nominal
°C max	ACTIVE when RF Thermal Protection is ON
Pin max	ACTIVE when RF Overdrive Protection is ON
VSWR max	ACTIVE if VSWR max Protection is ON
I max	ACTIVE when Current is too high
MEASUREMENTS	
RF in	Input Power in μ W (PS for analog, RMS for DAB and DVB-T)
RF out	Output Power in W (PS for analog, RMS for DAB and DVB-T)
RF Heatsink Temperature	Temperature in °C
IDC Driver	Value in A
IDC Final Stage 1	Value in A
IDC Final Stage 2	Value in A
VDC	PS Output Voltage

SELF PROTECTIONS

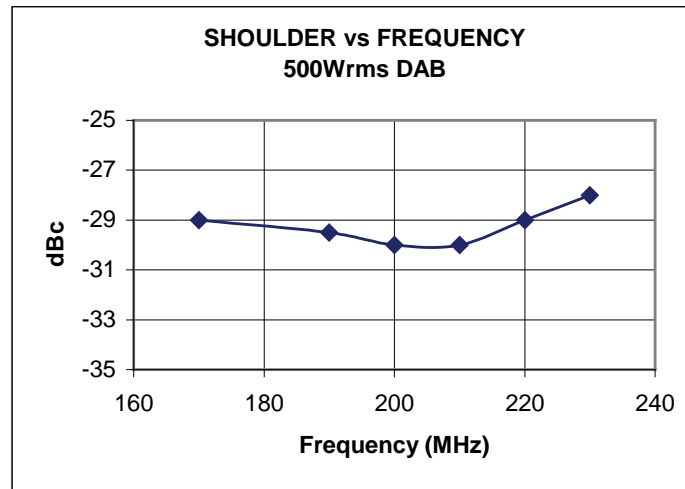
RF Thermal Protection	
Overdrive	Pin max must be set on the working channel with the used DAB or Analog signal
VSWR max	VSWR max must be set on the working channel with the used DAB or Analog signal
I max	



VA1K-R



Without precorrection

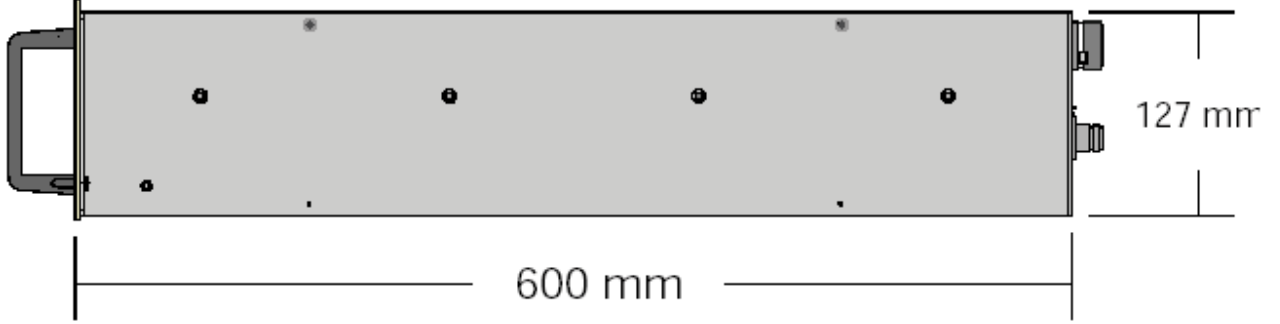


Without precorrection

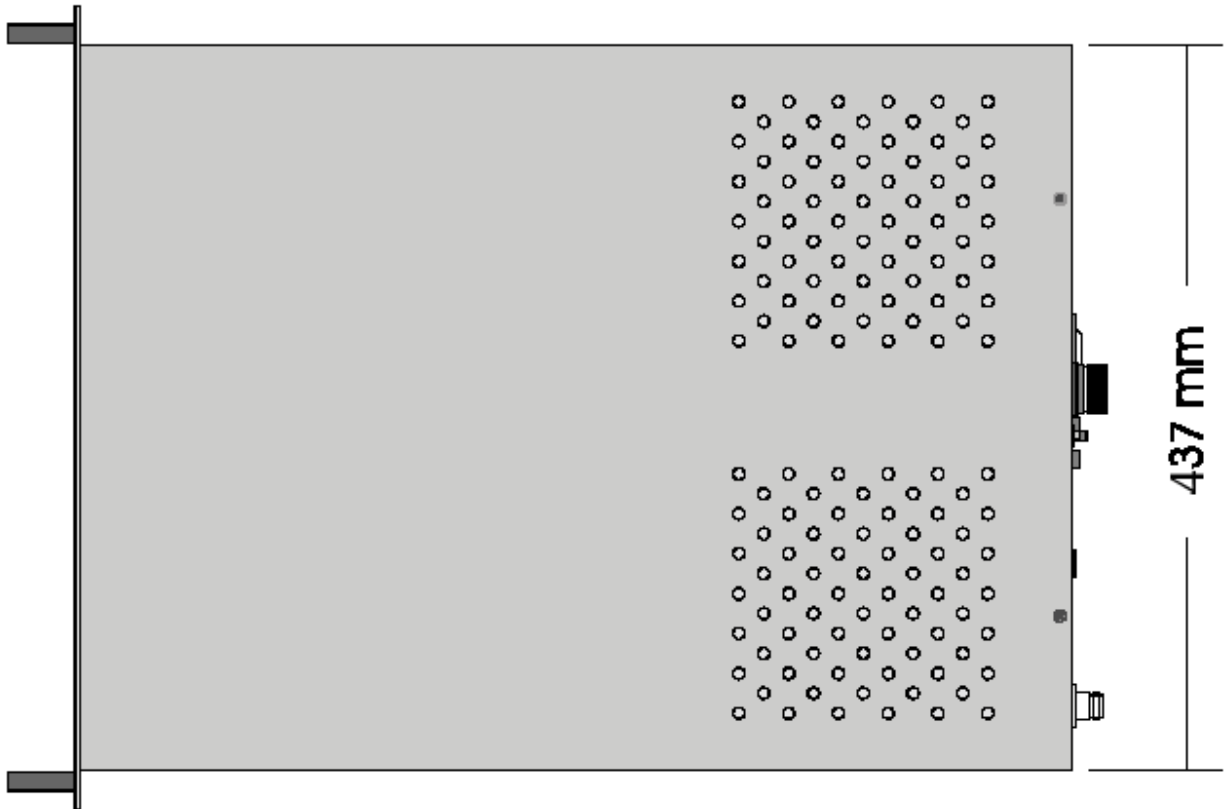


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Side View



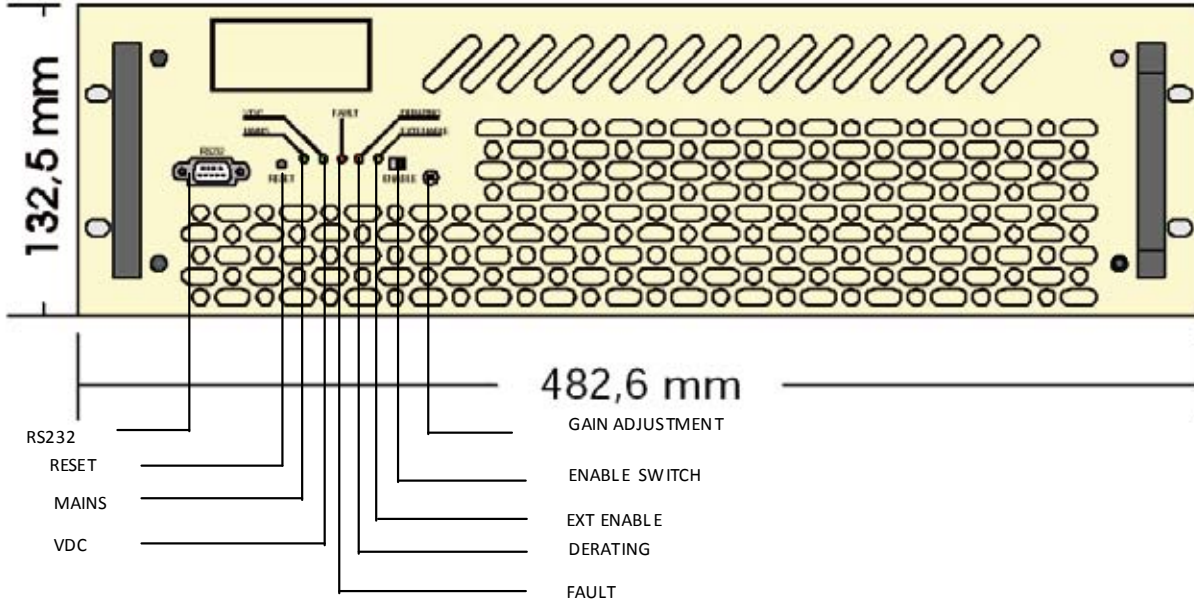
Top View



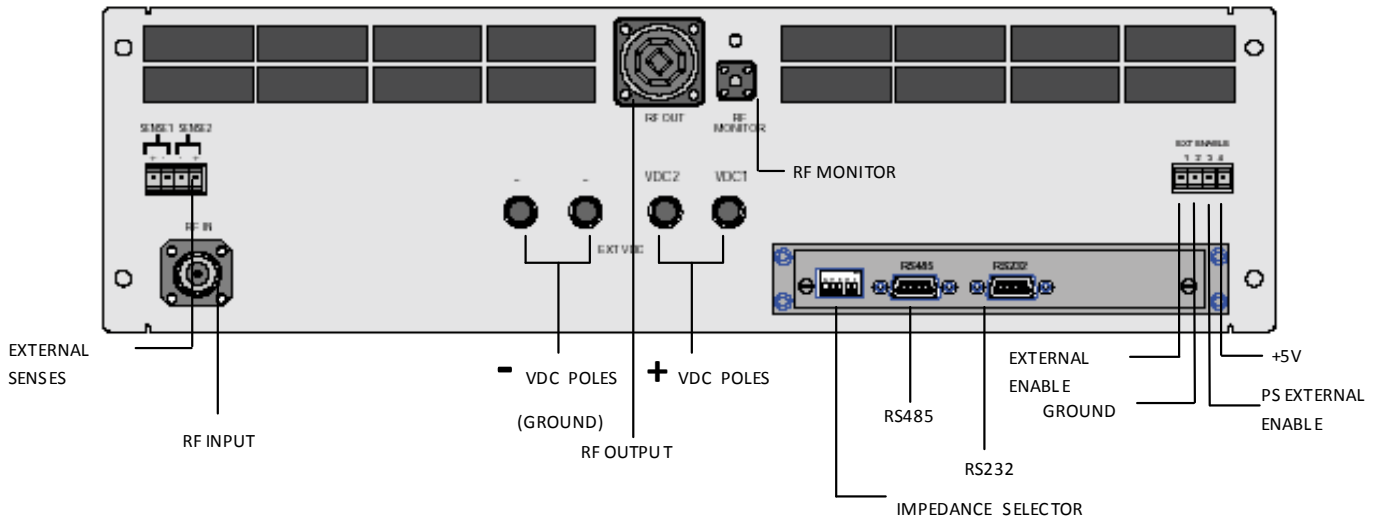


VA1K-R

Front Panel



Rear Panel





VA1K-R

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