

1400W p.s. UHF Amplifier

AU301-D is a full LDMOS Broadcast Power Amplifier specifically designed for analog applications. The unit is the state of the art in terms of easy assembly, reliability and performances. The complete unit is compliant to all relevant international standards.

Key Features

- Full LDMOS Power Amplifier
- 1400 W ps Out
- BroadBand (470-862 MHz)
- No internal cabling
- Easy maintenance without special tools
- RS232-RS485 interface
- Control software included
- Extremely strong mechanical structure
- Requires external PSU (see PS200-D series from Res-Ingenium)



Electrical Data

Voltage Supply	28-32 Vdc 30V nominal (Recommended PSU=200-D)
Power Consumption	3000W @1400W Ps Black Field @650MHz (typ.)
Current Consumption	100 A max @ 30 V analog signal @650MHz (typ.)
Operating Temperature	0 to +45 °C
Humidity	Up to 90% (non condensing)
Gain Stability	0 to 45 deg. +/-0.5dB ¹
Gain	56dB nom. ±2dB (fine ADJ available)
Input Return Loss	Min. -16dB (Typ. -20dB)
Output Return Loss	Min. -18dB (Typ. -22dB)
Load Mismatch (1400W p.s. F₀ 860MHz VSWR=2:1) all phase angle	No degradation
P_{out} Common Amplif.	1400W Ps IMD < -45dB Red Field Sound 1 -13dB; Sound 2 -20dB (without pre-correction)
P_{out} PEP	2200W max IMD < -27 dBc

Mechanical data and Interfaces

Dimensions	19" 3HU std 600mm depth ²
Weight	25 Kg.
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

External High Power Supply Technical Specifications Output Power Characteristics³

Vout	30Vdc
Iout Max operative current	2 x 50A or 1 x 100A in analog application

¹ WARM UP:

To achieve the stability vs temperature correct value when the equipment is cold, please wait 30 minutes at least after switching on.

² See pag. 5

³ Only Power Supply output characteristics are indicated. Input characteristics must be in accordance with available networks. A high input isolation, well protected from possible spikes at input, is suggested.

Contact Res-Ingenium, +39 0763 316333 Fax +39 0763316002- or visit www.res-ingenium.com for a complete listing.

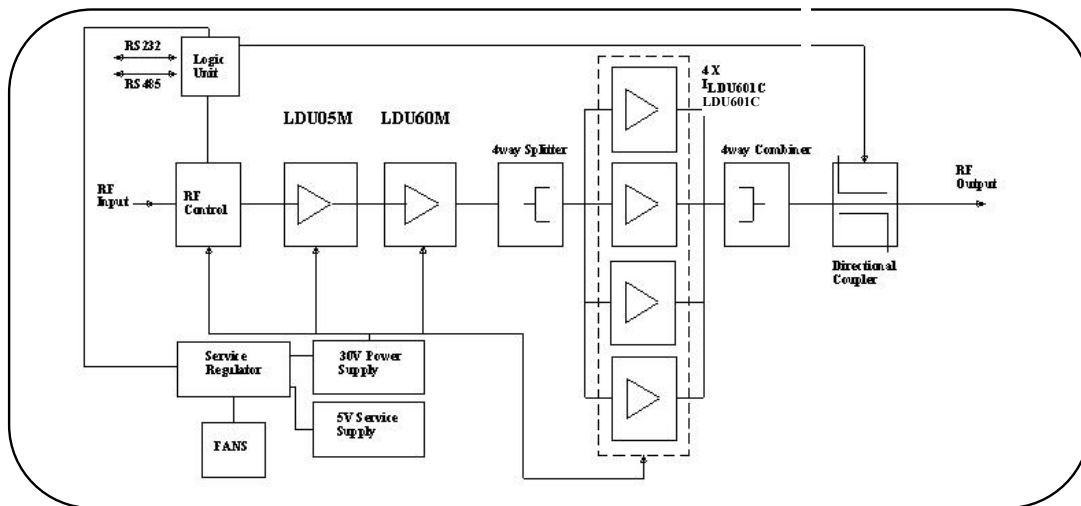
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Current Limit	2 x 55A or 1 x 110A in analog application
Load Regulation	+/- 0.5% from 10% up to 100% dynamic load change
Output Ripple	400mV max
Sense	External Sense for both sections (if double). Sense Impedance 6.8 K Ω each positive/GND wire.
Enable	AU301-D 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 Output Power Characteristics⁴

Vout	5Vdc
Iout	0.5A
Load Regulation	+/- 0.5% from 10% up to 100% static load change
Output Ripple	50mV max
Enable	This voltage must be present anytime to power the logic control unit.

Block Diagram



⁴ Ibid.

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Remote control

Enable ⁵	RF Enable ON/Stand By
GAIN (option)	Gain setting

Readable data by remote computer or Control Logic Unit (through RS232/RS485)

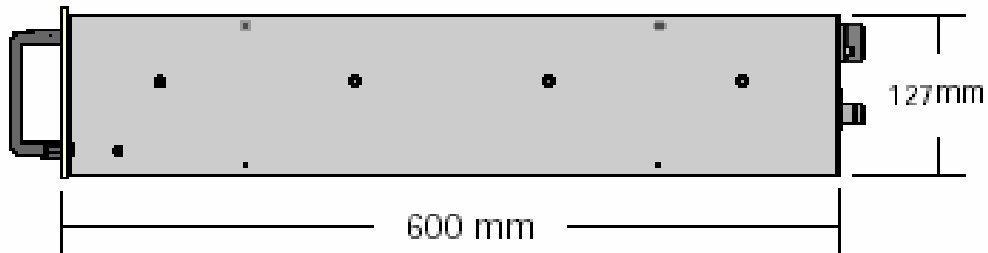
STATUS/ALARMS	NOTES
Enable	ON/STAND BY
RF Faults	ACTIVE if Gain < 6dB referred to nominal
°C max	ACTIVE when RF Thermal Protection is ON
Pin max	ACTIVE when RF Overdrive Protection is ON
VSWR max	ACTIVE if VSWR max Protection is ON
I max	ACTIVE when Current is too high
MEASUREMENTS	
RF in	Input Power in mW
RF out	Output Power in W
RF DRV	RF Driver Output in W
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

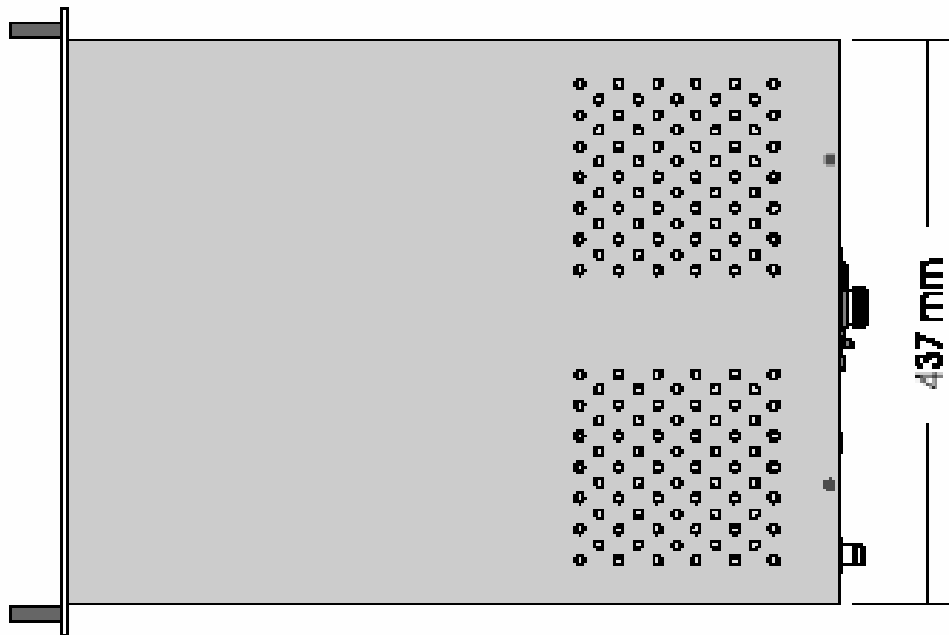
RF Thermal Protection	
Overdrive	Pin max must be set on the working channel with the used Analog signal
VSWR max	VSWR max must be set on the working channel with the used Analog signal
I max	

⁵ An output on the rear panel can manage the external Power Supply ON/OFF. The external PS will be switched OFF in case of alarm.

Side View



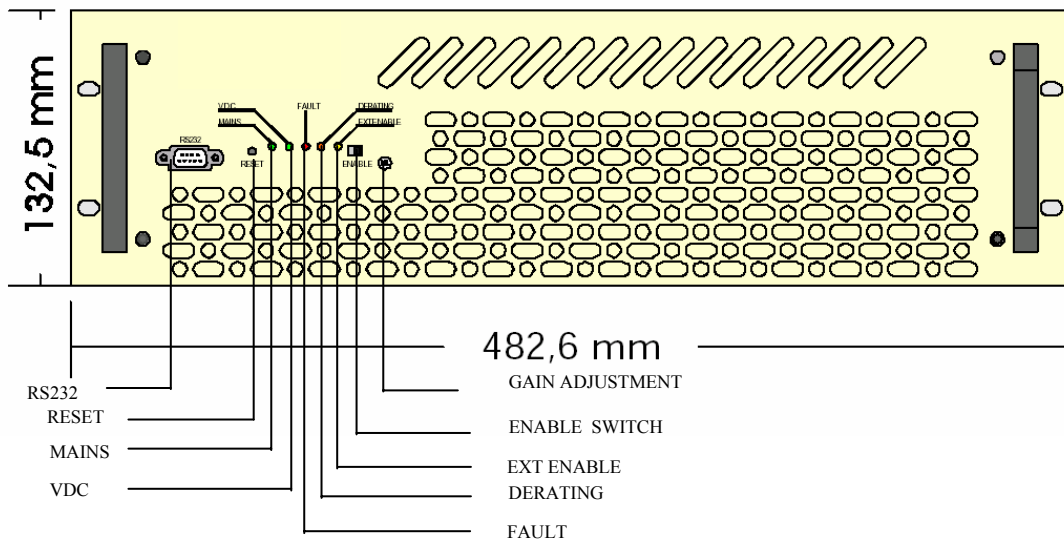
Top View



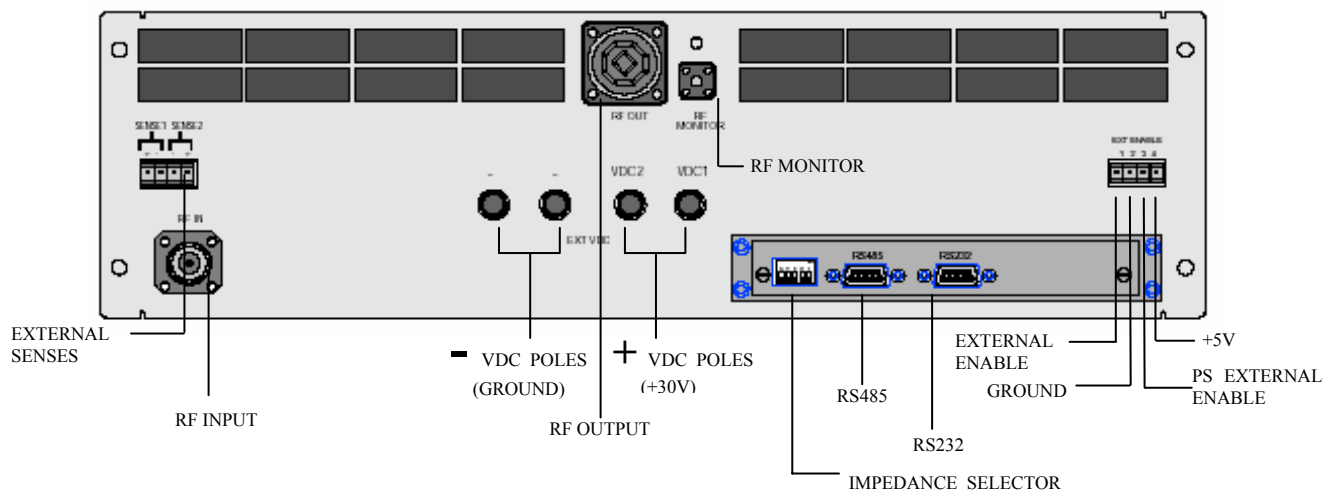
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Front Panel



Rear Panel



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