



High speed high voltage amplifier

- -150V to +150V Output voltage
- DC to 5MHz @ -3dB large signal bandwidth
- Slew rate: 2000 V/μs typical
- Current: 300mA with current limit
- Stable with all capacitive loads, generates no overshoot
- Short-circuit protected output

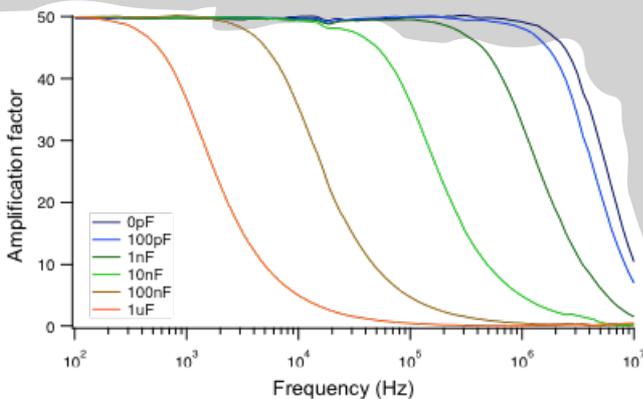


The Falco Systems WMA-300 is a high voltage, wide bandwidth laboratory amplifier for demanding high-speed applications. Its DC - 5MHz bandwidth and large voltage range make it an excellent choice for use with MEMS devices, EO-modulators, PZT piezo positioning systems, beam steering components, ultrasonics, and many more.

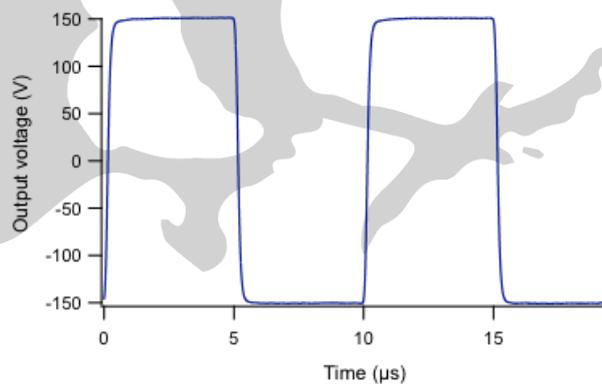
In other high-speed negative feedback amplifiers, instability under capacitive loading conditions is a common problem. This often results in unwanted overshoot voltages, and - in extreme cases - oscillations. In the WMA-300, this problem has been rigorously solved by a clever dual feedback system. No significant overshoot occurs at any capacitive load.

The amplifiers' full-power frequency response is essentially flat up to 2MHz. To ensure proper high frequency operation, the input has an impedance of 50 Ohms.

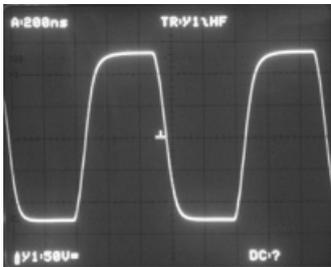
Output overload or short-circuit conditions are also no problem, due to the extremely fast output current limiting circuit that has been employed.



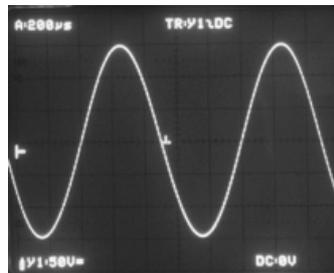
Frequency response 300V_{pp} as a function of capacitive load



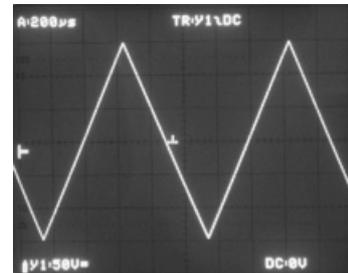
Full power 300V_{pp} 100kHz square wave output



Full power 1 MHz square wave



300Vpp sine wave

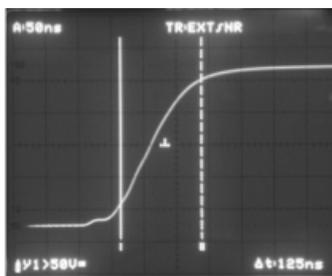


300Vpp triangle wave

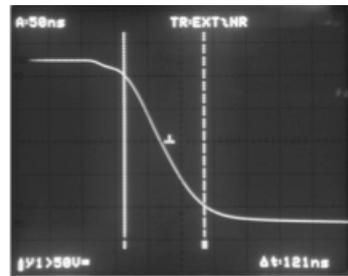
Technical specifications

Amplification: 50x, fixed
Bandwidth: DC – 5 MHz @ -3dB large signal bandwidth
Slew rate: 2000 V/µs typical
Output voltage: -150V to +150V
Current: 300mA typical with limiter
Noise and offset: 12mV _{rms} output noise over the full bandwidth typical, 100mV offset typical
Input impedance: 50Ω
Output impedance: 50Ω
Stability: stable with all capacitive and resistive loads, no overshoot > 5%
Power: 230V 50Hz AC, 120W
Dimensions: 280 x 280 x 160mm
Weight: 6.8kg
Country of origin: The Netherlands

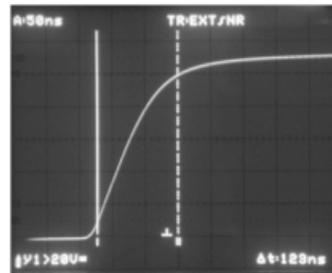
Specifications may be subject to change



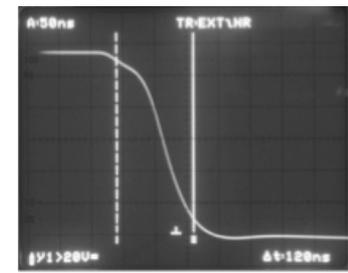
300Vpp step up in 125ns



300Vpp step down in 121ns



150Vpp step up in 123ns



150Vpp step down in 120ns



Falco Systems (established in 2006) is an innovative company that designs and manufactures technology leading high voltage amplifiers for company R&D departments, research institutes and universities worldwide. These amplifiers are used in e.g. precision engineering, electronics, physics, optics, chemistry, (aero-)space engineering and metrology and control.