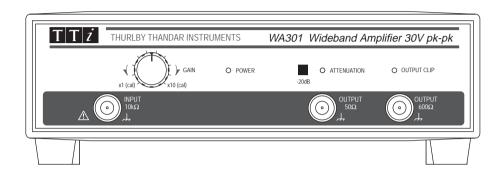


# THURLBY THANDAR INSTRUMENTS

### **WA301**

## Wideband 30V pk-pk amplifier for waveform generation



- 30V pk-pk maximum output
- DC to 1MHz bandwidth
- Variable gain 0dB to +20dB
- $50\Omega$  and  $600\Omega$  outputs
- -20dB output attenuator
- Fully protected output with high current drive

#### **GENERAL DESCRIPTION**

The WA301 is a DC to 1MHz amplifier with a maximum output (e.m.f.) of 30 volts peak to peak from a  $50\Omega$  source impedance. A  $600\Omega$  output is also provided.

The unit can provide up to 15 volts peak to peak into a  $50\Omega$  load and can drive up to 300mA peak into a low impedance or short circuit.

Fully variable gain between x1 and x10 is provided by a rotary vernier with calibrated end stops. A -20dB output attenuator is also incorporated.

An "output clip" LED is provided to warn if the output amplitude exceeds  $\pm 15V$ .

### **APPLICATIONS**

Most function generators have a maximum open-circuit output voltage of 20V peak to peak. The WA301 enables this to be boosted to 30V peak to peak.

Commonly the WA301 will be used as a slave to a function generator with the gain set to x10. Thus an output of 3V pk-pk at the function generator would give rise to an output of 30V pk-pk from the WA301.

Alternatively the variable gain facility might be used to provide an adjustable output level from a fixed level source.

An example of this is a buffer amplifier to a waveform DAC such as the VIPS20 from the TTi virtual instrument module range. The WA301 can provide a waveform amplitude variable between 300mV and 30V pk-pk from  $50\Omega$  whilst maintaining full 12-bit resolution. Lower output levels could be generated by sacrificing resolution.

#### **SPECIFICATIONS**

Bandwidth: -3dB at 1MHz Flatness: -1dB at 400kHz

Rise/fall time: <0.5µs

Distortion: <0.1% at 1kHz

Gain: Vernier adjustment between x1 and x10

Input impedance: 10kΩ

**OUTPUT** 

Output impedance:  $50\Omega$  and  $600\Omega$  (separate sockets)

Output 0dB:  $30V \text{ pk-pk max. from } 50\Omega \text{ (15V into } 50\Omega)$ 

30V pk-pk max. from  $600\Omega$  (15V into  $600\Omega$ ) 3V pk-pk max. from  $50\Omega$  (1.5V into  $50\Omega$ )

Output -20dB:  $3V \text{ pk-pk max. from } 50\Omega \text{ (1.5V into } 50\Omega)$  $3V \text{ pk-pk max. from } 600\Omega \text{ (1.5V into } 600\Omega)$ 

DC offset: <5m

**GENERAL** 

Size:

Power: 230V or 115V AC nominal 50/60Hz, adjust-

able internally; operating range ±14% of nominal; 20VA max.; Installation category II 210(W) x 75(H) x 230(D)mm, inc. feet.

Weight: 1.1kg

Operating Range: +5°C to 40°C, 20-80% RH.

Storage Range: - 40°C to 70°C

Safety: Complies with EN61010-1.

EMC: Complies with EN55081-1 and EN50082-1.

Thurlby Thandar Instruments Ltd. operates a policy of continuous development and reserves the right to alter specifications without prior notice.

Designed and built in Europe by:



Thurlby Thandar Instruments Ltd.

Glebe Road, Huntingdon. Cambs. PE29 7DR England
Tel: 01480 412451 Fax: 01480 450409 e-mail: sales@tti-test.com

