

PreAmplifier

Ultra-low noise TOFD PreAmplifier



An ultra-low noise, wide bandwidth, fixed gain 40dB TOFD PreAmplifier, suitable for use with any ultrasonic transducers and system. Designed to provide additional front-end gain to improve signal quality in TOFD (Time-of-Flight Diffraction) inspections.

Technical Specification

Amplifier	
Gain	40dB
Bandwidth	20MHz to 80MHz (-3dB)
Noise Figure	1.0nV/(Hz) 1/2
Input Impedance	300Ω (Other options available)
Output Impedance	50Ω (capable of driving very long cable lengths)
Protection	Input and Output are high-voltage transient protected i.e. HT pulse
Power	
Power Source	Single 9VPP3 Battery
Battery Life	16 hours (alkaline)
Input Voltage	5V to 12V DC (reverse polarity protected)
Physical	
Dimensions (W x H x D)	70mm x 35mm 110mm (2 3/4" x 1 1/2" x 4 1/2")
Connectors	Lemo 00
Temperature	0°C to 70°C

Maintaining a strong signal-to-noise ratio (SNR) is critical for reliable detection and accurate interpretation of diffracted signals. When long probe leads are used, signal attenuation can impact inspection performance. By positioning the Phoenix Preamplifier at the front-end of the system, weak signals can be enhanced before further signal degradation occurs, helping to improve the effective signal-to-noise performance of the ultrasonic inspection system.

The Phoenix PreAmplifier is available as 40dB TOFD 1, 2 or 4 channel, as standard. Other configurations are available on request to suit your specific inspection application.

Benefits

- Consistent Performance - Reliable signal amplification delivers stable, repeatable inspection results
- Clearer Signals - Ultra-low noise helps preserve signal quality, supporting confident flaw detection and analysis
- Versatile Inspections - Wide bandwidth provides flexibility for demanding UT applications
- Flexible Design - Available with 1, 2, or 4 channels to suit your inspection setup and workflow
- Confidence using Long Probe Leads - Additional gain helps maintain signal strength in TOFD applications

Features

- 40dB Gain
- Ultra-low noise
- Wide signal bandwidth
- 50Ω Output - capable of driving long cable lengths
- Low power - single 9V PP3 battery or external 5-12 VDC
- Small, rugged enclosure



Order Information

Order Code	Description
PRE-AMP-TOFD	40dB TOFD PreAmp 1 channel
PRE-AMP-TOFD-2CH	40dB TOFD PreAmp 2 channel
PRE-AMP-TOFD-4CH	40dB TOFD PreAmp 4 channel



4 channel PreAmplifier

Other configurations are available on request to suit your specific inspection application, helping to provide a solution tailored to your individual system and inspection requirements.



Customised 16 channel PreAmplifier