

OPLabBox

Ultrasonic Pulser & Receiver with Bandpass Amplifier

<http://www.optel.pl/manual/english/oplabbox.htm>

OPLabBox is particularly well suited for ultrasonic measurements. Wide bandwidth amplifier with switched bandpass filter and integrated pulser makes these device suitable for variety of ultrasonic applications.

It is designed to work as an self-sufficient scope adapter, however it can be used as expansion box to other signal processing devices. Together with our ultrasonic testing devices (OPCARD or OPBOX) enables to implement complete ultrasonic system with full hardware and software support.



Specifications:

Power supply:

-Supply Voltage: 9...15V DC

-Power: max 3.5W

Size (LxWxD): 205x110x35 [mm]
8.1x4.3x1.4 [inch]

Analog parameters:

-Input channels: 2 (switched): send & receive and receive

-Input range: 275mVpp

-Input impedance: 50 ohms

-Bandwidth [-3dB]: 40kHz to 22MHz

-High Pass Filter [Hz] (switched): 40k, 57k, 65k, 100k, 210k, 320k, 400k, 1.0M, 1.6M, 3.7M, 5.6M

-Low Pass Filter [Hz] (switched): 400k, 560k, 770k, 1.25M, 2.0M, 4.75M, 5.5M, 8.5M, 11M, 16M, 22M

0 to 92dB full range:

0 to 68dB fluently regulated,
+0 or +24dB switched postamplifier.

-Output range: 1.125Vpp

Trigger: Internal (regulated) or external (max 20 kHz)

Pulser: Step pulser, 0V -360V fluently regulated,
<40ns edge falling time

General Description:

OPLabBox is an wide bandwidth (40kHz to 22MHz) amplifier with switched bandpass filter and integrated step pulser. Overview

Amplifier range is 0dB up to 92dB controlled by two knob (coarse and fine) and +24dB postamplifier switch. It's possible to control gain by voltage via CONTROL connector.

Filter section has two 11-position switches which separately control low and high pass filter.

Integrated pulser can be triggered internally (by Pulse Repetition knob) or externally by TTL signal. Output voltage is controlled by Pulse Voltage knob in range 0 to 360V (without load). It's possible to control pulse voltage via CONTROL connector.

Customize:

Optionally, it is possible to make hardware versions for the special needs of the user.