

# Digital Filter App

DSO-1000D Series

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**USER MANUAL**



ISO-9001 CERTIFIED MANUFACTURER

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# GETTING STARTED

## App Overview

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Background		The DSO-1000D comes pre-installed with a number of apps. Optional apps can also be downloaded from the Conrad website free of charge at <a href="http://www.conrad.de">www.conrad.de</a>
Included Applications	Go/No-Go	The Go/No-Go application can be used to set threshold boundaries for input signals. Go/No-Go tests to see if a waveform will fit inside a user-specified maximum and minimum amplitude boundary (template).
	Mount Remote Disk	This app allows the scope to mount a network share drive.
Optional Applications	Digital Filter	Adds a digital low or high pass filter to any of the input channels. Each filter can have a user-defined cutoff frequency set.
	DVM	The DVM application displays a digital voltage meter readout that floats on the top left-hand side of the screen.

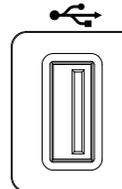
Data Log	The Data Log app will log waveform data and/or screenshots at set intervals for set duration of time.
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## Installing Optional Apps

Background	The DSO-1000D has optional software apps that can be installed to add additional functionality to the DSO.
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Steps	<ol style="list-style-type: none"> <li>1. Download the Digital Filter App zip file from the Conrad website.</li> <li>2. Unzip the Digital Filter App zip file.  The App zip file contains the APP installation file (DigitalFilter_1KB.gz) and this user manual.</li> <li>3. Copy the installation file (DigitalFilter_1KB.gz) onto a USB flash drive.</li> </ol>
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4. Insert the USB flash drive that contains the DigitalFilter\_1KB.gz file into the front panel USB A port of the DSO-1000D.

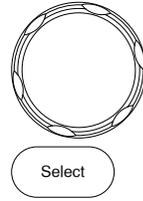


5. Press the *Utility* key then the *File Utilities* soft-key.



6. Use the *Variable* knob and *Select* key to navigate to the DigitalFilter\_1KB.gz file on the USB drive.

VARIABLE



7. Press the *Select* key to start the installation.
8. The installation will complete in a few seconds. When finished a pop-up message will appear asking you to restart the DSO-1000D.
9. Restart the DSO-1000D.

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## Uninstalling Optional Apps

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**Background** Any optional apps that were installed can be uninstalled from the APP menu. Pre-installed apps, such as the Go-NoGo app cannot be uninstalled.

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**Steps**

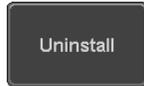
1. Press the *APP* key.



2. Highlight the app that you want to uninstall with the *Variable* knob.



3. Press *Uninstall* twice from the side menu to uninstall the selected app.



x2

## Running Applications

**Background** The APP function can host a number of different applications, some of which are pre-installed and some of which are installed as optional extras.

**Panel Operation** 1. Press the *APP* key.



2. Press *APP* from the bottom menu.



3. Scroll through each application using the *Variable* knob.



4. Select an application by pressing the *Select* key *twice*.



# USING THE DIGITAL FILTER

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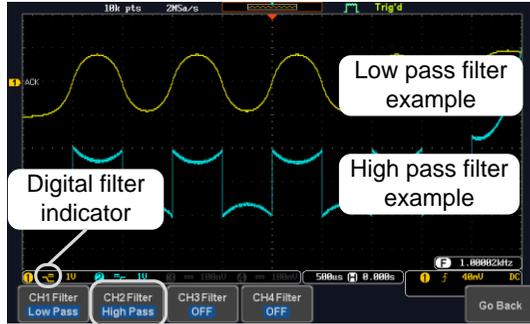
## Background

The Digital Filter app is a digital high or low pass filter with a selectable cutoff frequency. The digital filter can be applied to each channel individually or together using the tracking functionality.

### Basic Features:

- High pass or low pass filtering of analog channels.
  - Selectable cutoff frequencies.
  - Tracking function
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## Example



Digital filter type or status

CH1 input: 2Vpp 1kHz square wave, low pass filter with 1kHz cutoff frequency.

CH2 input: 2Vpp 1kHz square wave, high pass filter with 1kHz cutoff frequency.

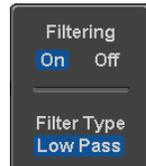
- Panel Operation
1. Choose the Digital filter application from the APP menu. See page 6.



- Set Source
2. Select a source channel by pressing *CH1 Filter*, *CH2 Filter*, *CH3 Filter* or *CH4 Filter*.



3. From the side menu press *Filtering* and turn on.
4. Press *Filter Type* and select low or high pass filter.



Type      Low Pass, High Pass

5. If Low Pass was selected, press *Upper Limit* to set the low pass cutoff frequency. Likewise if High Pass was selected, press *Lower Limit* to set the high pass cutoff frequency. Only one option will be available at a time.



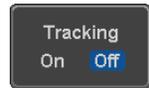
Upper Limit 1Hz ~ 500MHz

Lower Limit 1Hz ~ 500MHz

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Tracking

6. Press *Tracking* if you want the settings of the digital filter on each channel to be the same. When a setting is changed on one channel, it is reflected on the other channels.



The digital filter settings will still apply to the relevant input signals after leaving the app, unless turned off.

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