roger schult

german audio lab

Universalfilter
W2377 MK2

Operating Manual
Quick Guide

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Dear customer, we sincerely thank you for purchasing our product.

The W2377 MK2 module for the api ® 500 system that you have purchased was manufactured according to highest manufacturing standards adhering to all European and national guidelines currently in effect. EMV compatibility has been certified and the appropriate records are available at the manufacturer. Upon shipment, the product left the manufacturer in perfect working condition according to factory specifications.

In order to maintain the factory specs and guarantee safe operation in the future, we advise that you read the included operating manual as well as further safety documents (see below) - they contain important notes for operating and handling your product. When passing the unit on to third parties, please also make them aware of these documents.

Any use outside of the applications described in this manual may cause damage to the product and may further imply to hazards such as electrical shorts, fire, electric shocks, etc. The product must not be altered or modified. The enclosed safety and hazard notices about this product refer to the installation and operation in an api ® 500 system. Consequentially, there may be relevant guidelines and regulations that affect operation, even if they don't apply to our product directly. Installation and operation should therefor be carried out by trained personell only.

Operating the product in adverse conditions such as in contact with water or excessive humidity, dust, gases, fumes or solvents is not permitted.

If you should have technical questions to this product, please contact our technical support team. You will find the contact details in the appendix of this manual.

Controls and Operation

The universal filter W2377 MK2 is designed for the api ® 500 system and covers the entire audio spectrum from 20 Hz to 23.3 kHz in a single filter unit. Selecting the frequency range in three filter decades via the toggle switch provides accurate frequency resolution for the most difficult tasks. This "range" switch enables changing the working frequency range by a factor of 0.1 for the low frequency band, 1 for the mid band, and 10 for the upper frequency band. With a convenient overlap between the crossover frequencies a wide spectrum can be adjusted with ease.

Gain (rotary control)
The module has one rotary gain potentiometer with a range of -10 dB to +10 dB.

"range" (toggle switch)
The frequency range of the frequency control is set via a toggle switch
- in the low band (x0.1) between 20 Hz and 233 Hz
- in the mid band (x1) between 200 Hz and 2.33 kHz
- in the high band (x10) between 2 kHz and 23.3 kHz

Frequency (rotary control)
The frequency control adjusts the filter frequency with a scale from 0.2 kHz and 2.33 kHz, but the actual frequency range depends on the setting of the "range" toggle switch as follows: 20 Hz - 233 Hz for the low band (toggle switch in "down" position), 0.2 kHz - 2.33 kHz for the mid band (toggle switch centered), and 2 kHz - 23.3 kHz for the high band (toggle switch in "up" position).

Q-factor (rotary switch)
A rotary switch adjusts the quality factor of the bandpass filter between Q = 0.3 (wide) to Q = 10 (narrow) in nine steps. The module is further capable of serving as a high pass (HP) or low pass (LP) when the rotary switch is set to the left and right extreme position.

"on"-switch
The LED backlit "on" pushbutton switch activates the filter in its depressed position. When turned off the filter will be silently removed from the signal chain ("hard bypass").

Jumper settings
Several additional features are available via jumper settings on the unit's circuit board. To adjust these jumper settings, the enclosure has to be opened carefully by removing the four Philips screws. Please also refer to the downloads section on the Roger Schult homepage at www.rogerschult.com. Please take note of the jumper positions before making any changes.

The brightness of the **"on"**-switch LED may be adjusted in three steps by removing jumpers **K6** and **K9**. The jumpers can be removed by gently pulling them upwards. If both jumpers are inserted, the LEDs will be the brightest. If only jumper K6 is inserted, the LEDs will be at their medium brightness. The lowest brightness setting is achieved if only jumper K9 is inserted.

The low and high pass filter functions of the Q-factor switch can be deactivated by pulling the jumpers **K29** and **K30.** If both jumpers are inserted, both the high pass (**HP**) and the low pass (**LP**) are operational. Removing the jumpers for the high pass (K30) or low pass (K29) deactivates them.

Installation in an api ® 500 system

Instructions for installing the W2377 MK2 filter module

Please note that electric potential differences and electrostatic discharges (ESD) can destroy your api ® 500 system and the W2377 MK2 module. Please make sure to discharge any potential electrostatic charges by touching a plumbing pipe, heating pipe or any other piece of metal connected to earth before installing the W2377 MK2 module. Neutral electric potential is a prerequisite to any installation or reconfiguration of electronics modules and their interconnections.

Turn off your api ® 500 rack or console and all connected devices. Remove any blank panels that might cover the slot you have chosen for installation of the module. Center the module between the two threaded mounting holes with the shield of the module frame facing to the left and evenly insert the module into the free slot without applying brute force. Secure the W2377 MK2 module with both screws. The module is ready for operation once the appropriate connections in the rear of the api ® box have been taken care of.

Recycling

Please stay eco-friendly and dispose of all defective and obsolete devices at a certified collection facility according to local laws and regulations.

The crossed out wheels bin label that can be found on your product indicates that this product should not be disposed of via the normal household waste stream. To prevent possible harm to the environment or human health please separate this product from other wast streams to ensure that it can be recycled in an environmentally sound manner. For more details on available collection facilities please contact your local waste management office or the retailer where you purchased this product.

Specifications

Tentative spec sheet, 02/2015

High frequency filter (x10), "up" position	2 kHz to 23.3 kHz
Mid frequency filter (x1), "center" position	200 Hz to 2.3 kHz
Low frequency filter (x0.1), "down" position	20 Hz to 233 Hz

Gain, continuously variable rotary control   +/- 10 dB

Q-factor, 11-position switch   0.3 / 0.5 / 0.7 / 1.0 / 1.5 / 2.5 / 4 / 6 / 10 as well as LP and HP

„on", LED backlit pushbutton   enable / disable filter module, hard-bypass

Input (electronically balanced)

Reference input level	+6 dBu
Maximum input level with linear setting	+23 dBu
Input impedance	10 kOhm

Output (electronically balanced)

Reference output level	+6 dBu
Max. Maximum output level	+26 dBu / (0.05% THD+N)
Output impedance	40 Ohm

Gain at linear setting   0 dB at 1 kHz (+0.1 / -0.2 dB)

Signal-to-noise ratio	< 100 dB
Noise level (UWTD / WTD)	< 80 dBq / < 76 dBq
Harmonic distortion	THD+N / 0 dBu 0.01%

Frequency range   20 Hz - 40 kHz (+ 0.1 /- 0.2 dB)

Delay time of hard bypass relais	max. 3 ms
Power supply	+/- 16 V via api ® -system + max. 120 mA / -16V max. 60 mA
Module dimensions	115 mm x 172 mm (height x depth)
Faceplate dimensions	19" / 3 RU, 1.5" x 5.25" (width x height)
Faceplate finish	Aluminum, chromated Aluminium, white powder coat (5th)
Weight	0.55 kg

Box contents and compatibility

Box contents

- W2377 MK2 module for api ® 500 system
- Quick start guide in German
- Quick start guide in English

Compatibility

The compatibility certification records for this product are available upon request from the manufacturer.

As all Roger Schult products, the W2377 MK2 is hand-crafted and precision-engineered in Germany.

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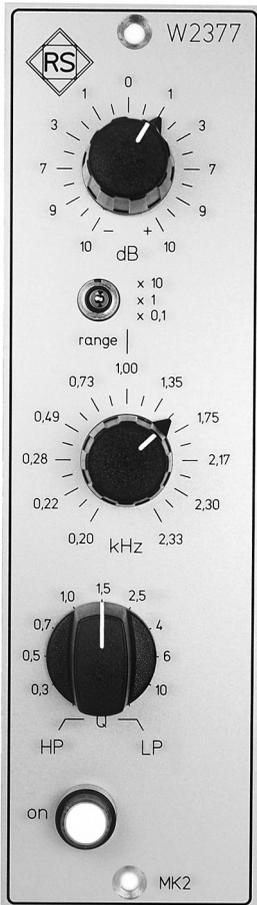# Manufacturer

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Model:
Aluminum, chromated

Model:
Aluminium, white powder coat