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VF-4220A
Ultra High Performance
Rubidium Standard Frequency Reference

Valpey Fisher Corporation
Uncompromised Precision

Features

- 10MHz rubidium frequency reference
- 100kHz capability (with multiple RF output options)
- 1 PPS disciplining input (standard)
- Ultra low phase noise (-128 dBc at 10Hz)
- RS-232-C monitor/control
- Convenient 2U bench or 19" rack mount

Applications

- Laboratory
- Systems Frequency Reference



Description

The VF-4220A is an ultra low noise disciplined Frequency Reference with rubidium source and OCXO clean-up oscillator.

The instrument contains a high performance rubidium module, with an extended life design, and very low aging rate to deliver excellent stability. The module is the reference for a high quality OCXO output for low phase noise and jitter.

For even better long term stability the unit will accept a 1 PPS input that can be derived from a reference source such as cesium clock or GPS module.

The VF-4220A is an ideal laboratory or system frequency reference with a range of options to enhance the functionality of the unit.

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Electrical Specifications

Parameter	Condition	Value	Note
Output Level	Standard 10MHz 1 PPS	+7 dBm (RF sine wave) TTL Level	
	Multiple Outputs Option 1MHz, 5MHz, 10MHz	1.0V RMS into 50 Ohms +13 dBm ±1 dBm	
Accuracy		5E-11 (at shipment)	
Spurious		-75 dBc (100kHz BW)	
Aging		<5 E-11/month (after 30 days) <5 E-10/year	
Stability	1s 10s 100s	2E-11 1E-11 2E-12	Short-term
SSB Phase Noise (dBc/Hz)	1Hz 10Hz 100Hz 1kHz 10kHz	-108 -128 -150 -170 -170	@10MHz
Front Panel Display	Indicators Power Lock Fault	 Green LED Green LED Amber LED	

Environmental and Physical

Parameter	Specification
Operating Temperature	0°C to +50°C
Storage Temperature	-20°C to +70°C
Relative Humidity	0-95%, non-condensing
Power Requirements	AC Input Voltage: 90-264V, <10W DC Input (optional): 18-72V
Weight	Unit: <15 lbs.

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Rear View

VF-4220A w/MOPS option



2U (3.504 inches) x 19 inches x 12 inches

How to order:

VF-4220A

Available Options

Option	Description
VF-MOPS	Multiple RF outputs (1MHz, 5MHz, 10MHz)
VF-EXP4	4 channel expansion module
VF-RF01	1MHz sine wave out (x4)
VF-RF05	5MHz sine wave out (x4)
VF-RF10	10MHz sine wave out (x4)
VF-PULS	Pulse distribution (x4)
VF-OCXO	High performance OCXO
VF-ULNO	Ultra low noise output
VF-DCPS	DC power supply
VF-RSLD	Mounted rack slides

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