

Wide Frequency Range

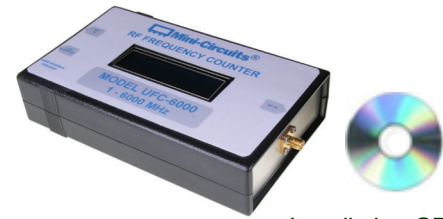
# RF Frequency Counter

UFC-6000

1-6000 MHz

## The Big Deal

- USB HID device compatible with 32/64 bit operating systems
- Wide Frequency Range
- Uses internal or External reference
- Supplied with proprietary GUI software including an API DLL com object.



Case Style: LJ1577

Installation CD with Software included

## Product Overview

Mini-Circuits' UFC-6000 (RoHS compliant) is a small, light weight Frequency Counter operating over the frequency range 1 to 6000 MHz. The counter is cased in a rugged shielded case (size of 6.16" X 3.68" X 1.38") with a 16x2 character LCD screen, a reference input BNC(F) port and a signal input SMA(F) port. Using the USB interface allows remote display of measured frequencies, and eliminates the need for an additional power supply. The counter can also operate independently using an external power supply.

The UFC-6000 is supplied along with a software CD containing a graphical user interface program featuring an API DLL com object. Also included are a 2.7ft. USB cable and a power adaptor suitable for US, EU and UK power systems with a USB A female connector. Longer USB cables are available as an additional option.

## Key Features

Feature	Advantages
USB HID (Human Interface Device)	Plug-and-Play (no need to install a driver for the device).
Wide frequency range	The UFC-6000 can measure the frequency of a signal from 1 to 6000 MHz
Operates with external or internal reference	The UFC-6000 can operate either synchronized with an external 10 MHz reference signal or independently, using its internal reference depending on user preference.
LCD	16x2 character LCD providing the frequency reading, and information on the frequency counter's status.
USB powered	Power to the UFC-6000 is supplied through the USB connector from either the USB bus or the supplied power adaptor with USB connector.
Software CD, USB cable and power adaptor included	A CD containing programming instructions for Linux <sup>®</sup> and Windows <sup>®</sup> operating systems and a GUI monitoring and control program containing an API DLL com object is included with the UFC-6000. Also included are a 2.7ft. USB cable, and a 5V <sub>DC</sub> AC/DC power adaptor suitable for US, EU and UK power systems with a USB type A female connector.



For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

Wide Frequency Range

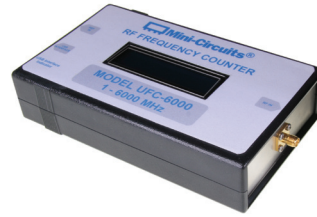
# RF Frequency Counter

1 - 6000 MHz

1-6000 MHz

## Features

- Small, light weight
- Wide frequency Range
- Uses external or internal reference
- Can be operated remotely using a PC with USB interface or independently
- 16X2 Character LCD
- Compatible with 32/64-bit Windows® or Linux® operating systems, as well as LabVIEW®, Delphi®, C++, C#, Visual Basic®, and .NET software <sup>1</sup>
- Friendly Windows® Graphical User Interface



Installation CD with Software included

## UFC-6000

Order P/N	Description	Price	Qty.
<b>UFC-6000</b>	<b>Frequency Counter</b>	<b>\$495.00 ea.</b>	<b>(1-4)</b>
FC-CD	Software CD	Included	1
USB-CBL-AB-3+	2.7 ft. USB cable	Included	1
USB-AC/DC-5	AC/DC 5V <sub>DC</sub> Adapter	Included	1

## Applications

- Lab Test equipment
- Automated Test capability

RoHS compliant in accordance with EU Directive (2002/95/EC)

## Mini-Circuits Frequency Counter Program for USB Frequency Counter



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Rev. B  
M132108  
EDR-9851/5MP  
UFC-6000  
RAV  
110810  
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## Electrical Specifications

Parameter	Test Conditions	Min.	Typ.	Max.	Units
Frequency range	-	1	-	6000	MHz
Frequency Resolution <sup>2</sup>	1 - 40 MHz	-	1	-	Hz
	40-190 MHz	-	10	-	
	190-6000 MHz	-	100	-	
Frequency Accuracy (@1 sec measurement sample time) <sup>2, 3</sup>	1 - 40 MHz	-	±2	-	Hz
	40-190 MHz	-	±20	-	
	190-1400 MHz	-	±200	-	
	1400 - 6000 MHz	-	±800	-	
Frequency Aging	Using internal Reference	-	-	±1.0	ppm/year
Sample time <sup>4</sup>	-	0.1	1	3	Sec
Input Impedance	-	-	50	-	Ω
Input VSWR	1 - 1500 MHz	-	1.1	-	:1
	1500-6000 MHz	-	1.3	-	
Input Power	1 - 5 MHz	-23	-	+13	dBm
	5 - 4500 MHz	-28	-	+13	
	4500 - 6000 MHz	-15	-	+13	
Reference In Frequency	-	-	10	-	MHz
Reference In Impedance	-	-	50	-	Ω
Reference In Power	-	-5	-	+10	dBm
Supply Voltage	Supplied through the USB port	-	5	-	V <sub>DC</sub>
USB current draw	-	-	250	300	mA

Note 2: The Frequency counter's default mode is 'Auto Range' which automatically selects the correct frequency range. When the frequency range is known, the user can improve response time by manually selecting the frequency range by a software function through the GUI interface, or user programming.

Note 3: Accuracy shown using external 10 MHz reference synchronized to test signal. Using Internal Reference adds 2 ppm of tested frequency to the accuracy values shown.

Note 4: Software function set by user, default option 1 Sec.

## Connections

Reference Input	(BNC-Female)
Signal Input	(SMA-Female)
USB Port	(USB B female)

## Absolute Maximum Ratings

Parameter	Ratings
Operating Temperature	0°C to +50°C
Storage Temperature	-20°C to +60°C
Max. Supply Voltage (V <sub>USB</sub> )	6 V <sub>DC</sub>
Max safe input power (Reference input).	+13dBm
Max safe input power (Signal input).	+16dBm
DC voltage input (Signal input)	-50V <sub>DC</sub> to 50V <sub>DC</sub>

Permanent damage may occur if any of these limits are exceeded.

## Minimum System Requirements (For remote operation)

Parameter	Requirements
Interface	USB HID
Host operating system	<b>32 Bit operating system:</b> Windows 98 <sup>®</sup> , Windows XP <sup>®</sup> , Windows Vista <sup>®</sup> , Windows 7 <sup>®</sup> <b>64 Bit operating system:</b> Windows Vista <sup>®</sup> , Windows 7 <sup>®</sup> <b>Linux<sup>®</sup> support:</b> 32/64 Bit operating system
Hardware	Pentium <sup>®</sup> II or higher



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## Accessories Included



**USB Cable: USB type A(Male) to USB type B(Male)**

- MCL P/N: USB-CBL-AB-3+ (2.7ft.)

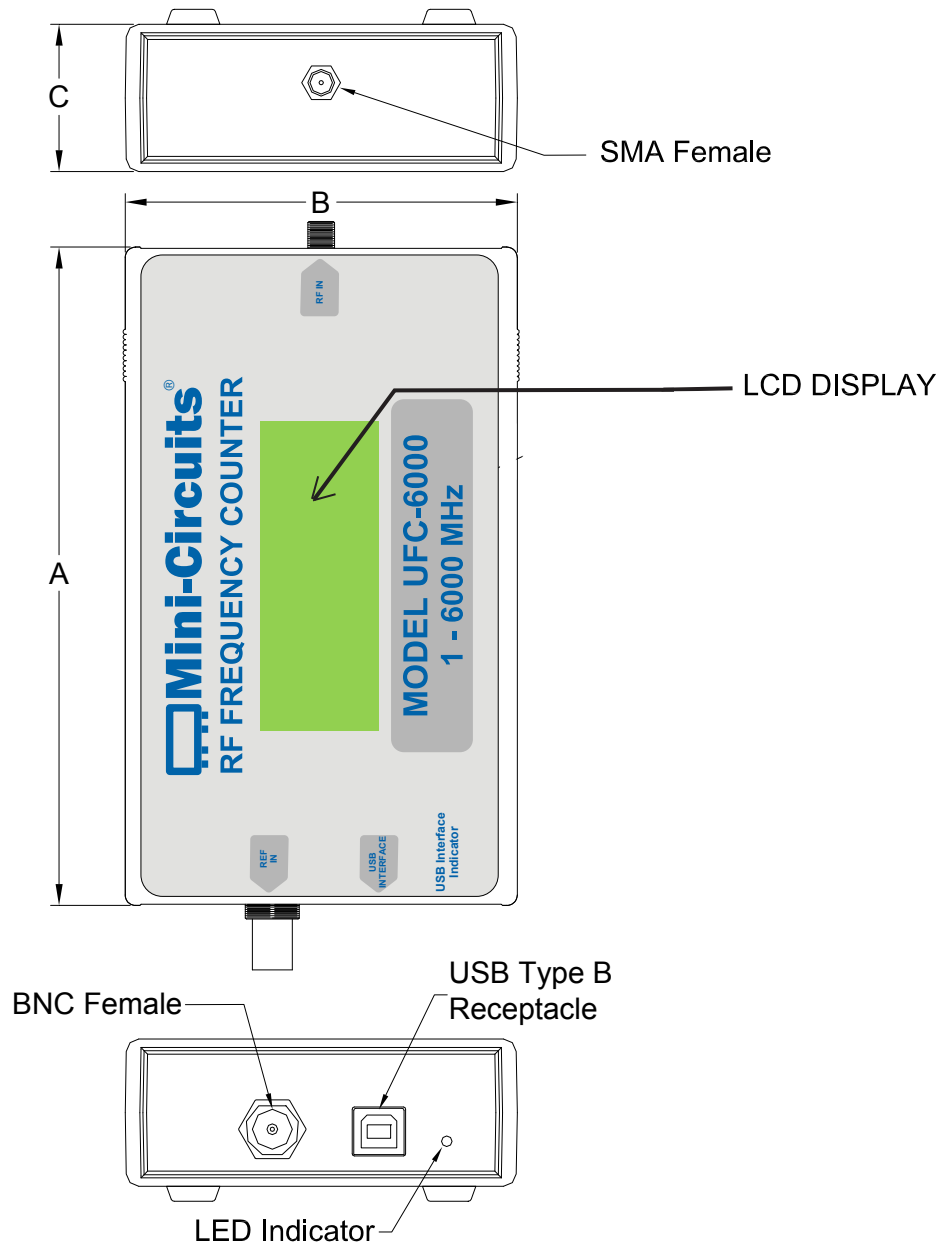


**AC/DC 5V<sub>DC</sub> Power Adaptor with US, EU and UK  
two pin power connectors**

**(I<sub>max</sub>=1A, Operating Temp. 0°C to +45°C)**

- MCL P/N: USB-AC/DC-5

## Outline Drawing (LJ1577)



### Outline Dimensions ( $\frac{\text{inch}}{\text{mm}}$ )

A	B	C	WT. GRAMS
6.16	3.68	1.38	300
156.5	93.5	35.1	

## Ordering Information

Model Number	Description
UFC-6000	Frequency Counter
FC-CD	Software CD (included in UFC-6000)
USB-CBL-AB-3+	2.7 ft. USB Cable (included in UFC-6000)
USB-AC/DC-5	AC/DC +5V power adaptor with USB connector (included in UFC-6000)

## Accessories Information

Model Number	Description
USB-AC/DC-5	AC/DC +5V power adaptor with USB connector
USB-CBL-AB-3	2.7ft. USB cable
USB-CBL-AB-7+	6.8 ft. USB Cable
USB-CBL-AB-11+	11 ft. USB Cable