

# Rhino II™



## RUBIDIUM-LOCKED FREQUENCY SOURCE

The **Rhino II™** Rubidium-Locked Frequency Source is designed for both laboratory and field use where GPS reception may be unavailable, such as indoors or in large cities.

The **Rhino II** outputs the following buffered (50 Ω) reference signals:

- 10 MHz (8 individually buffered outputs)
- 19.6608 MHz (IS-95 clock multiple)
- 1 PPS (1 pulse per second)
- 1/2 PPS (odd/even second)
- Adj. PPS (phase adjustable to CDMA base station offsets 0-511)

### OPTIONAL TTL OUTPUTS INCLUDE:

FREQUENCY 10 MHz **RUBIDIUM STANDARD**

FREQUENCY 13 MHz GSM **GSM CLOCK**

FREQUENCY 19.6608 MHz **CDMA**

FREQUENCY 2.048 MHz **2 X EI**

FREQUENCY 3.6864 MHz **W-CDMA**

**STABILITY**  
1E - 11

**ACCURACY**  
1E - 12



The **Rhino II** includes an internal 8-channel GPS (Global Positioning System) receiver that can be used to synchronize the 1 PPS, 1/2 PPS and Adj. PPS signals to IS-95 base station GPS time. An internal battery allows **Rhino II** to be synchronized and then be moved without loss of synchronization. All functions are controllable via front panel LCD or RS-232 from a PC.

### FOR LABORATORY USE

**Rhino II** provides precision reference frequencies including many used by popular CDMA test equipment. An internal battery protects against loss of lock during AC power interruptions, or the unit may be unplugged and moved to another location without losing synchronization.

### FOR FIELD USE

**Rhino II** is a precision frequency source for field use. It is also ideal in situations with limited or no GPS coverage. It directly connects to upgraded BVS equipment such as Super Eagle™, Eagle™ and Falcon™ (PN Scanners). The internal battery conditions vehicle power and acts as an un-interruptible Power Supply (UPS) for the **Rhino II** and the PN scanners.

The **Rhino II** is just one of many exceptional design solutions from Berkeley Varitronics.

Call us today for more information:  
**(732) 548-3737** / Fax: (732) 548-3404  
Internet: [www.bvsystems.com](http://www.bvsystems.com)  
E-mail: [info@bvsystems.com](mailto:info@bvsystems.com)



### MODEL 66000 SPECIFICATIONS

#### CLOCK REFERENCE SOURCE

- Internal rubidium atomic clock stability 1E - 10/day (after 48 hours warm-up time)
- Accuracy of rubidium standard frequency 1E - 12 after 24 hours training by GPS (Absolute while trained)
- Stability of rubidium standard frequency 1E - 11 while trained by GPS  
1E - 10/day after training

#### OUTPUTS

- 10 MHz 8 Outputs (BNC, Female) 50  $\Omega$  individually buffered  
Sine wave  
1 VPP nominal
- 1PPS (BNC, Female) 1 pulse per second  
50  $\Omega$  buffered  
TTL level
- 1/2 PPS (BNC, Female) Odd/Even Second (1 pulse, high-level, per even second)  
50  $\Omega$  buffered  
TTL level
- Serial Port (DB-9, Male) RS-232
- **CDMA SPECIFIC OUTPUTS**
- 19.6608 MHz (BNC, Female) 16 x 1.2288 MHz  
50  $\Omega$  buffered  
TTL level
- Adj. PPS (BNC, Female) Phase adjustable PPS  
Can be set to align with CDMA base station offsets  
Base station 0-511 or PN offset 0-32,767  
50  $\Omega$  buffered TTL level
- Optional TTL outputs 13 MHz GSM  
3.6864 MHz W-CDMA  
2,048 MHz  
10 MHz

#### POWER

- DC 12 - 14 VDC @ 5 Amps
- AC 110 VAC 50-60Hz @ 1 Amp
- Internal Battery Powers unit for up to 30 minutes

#### STATUS INDICATORS

- Green Power LED
- Green Rubidium Lock LED
- Orange Battery Power LED
- Red Battery Low LED
- Backlit LCD 2 x 16 characters

#### PHYSICAL

- Dimensions 12" x 8" x 5"
- Weight 12 lbs.



Rhino Back Panel