

# The Hummingbird™



## PORTABLE PILOT SCANNER

### KEY APPLICATIONS:

- Measures correlated signal strength ( $E_c/I_o$ ) of IS-95 base stations
- Verification of neighbor lists
- Optimization of Cell sites
- Verifies PN assignments
- Confirms handoff thresholds
- Analysis of coverage areas
- Measures pilot pollution

### FEATURES:

- Scans all 512 base stations in less than one (1) second
- Measures CDMA correlated signal strength ( $E_c/I_o$ )  $\pm 1.0$  dB
- Derives Base Station ID's via internal Sync Channel demodulation
- Reports Base Station System Time
- Internal Lithium Ion rechargeable battery
- Graphic LCD display with backlighting
- Serial Port (RS-232C) connection for external control and downloading measurements
- Removable ATA Flash Card for data storage
- "Playback" allows engineer to review problem spots with markers
- Portable instrument for both indoor and outdoor applications
- Does not require GPS reception



- ▶ Fast
- ▶ Sensitive
- ▶ Lightweight
- ▶ Low Cost
- ▶ Self-contained
- ▶ Removable Data Storage

The Hummingbird™ is just one of many exceptional design solutions from Berkeley Varitronics. Call us today for more information:

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**BERKELEY  
VARITRONICS  
SYSTEMS**

# The Hummingbird™

## PORTABLE CDMA SCANNER



### SPECIFICATIONS

#### HUMMINGBIRD™ RF PERFORMANCE:

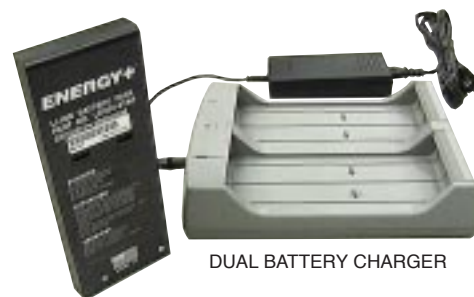
<b>FREQUENCY RANGE</b>	PCS model Cellular model	1930-1990 MHz (Bands A through F) 865-897 MHz
<b>IF BANDWIDTH</b>	1.25 MHz	
<b>MEASUREMENT ACCURACY</b>	Ec/Io	± 1 dB @ 25C° ± 2 dB (0-50C°)
<b>RECEIVER NOISE FIGURE</b>	< 7.5 dB	
<b>ANTENNA INPUT SENSITIVITY</b>	> -90 dBm	
<b>MAXIMUM SAFE INPUT</b>	+10 dBm	

#### CDMA PROCESSING:

<b>PN GENERATOR SEQUENCES</b>	IS-95 I and Q Pilot
<b>MINIMUM Ec/Io</b>	-20 dB
<b>CORRELATION LENGTH</b>	1024 chips (for both I and Q)
<b>MINIMUM PILOT POWER DETECTABLE</b>	-20 dB
<b>BASE STATIONS SCAN RATE</b>	< 1 sec.
<b>DISPLAY UPDATE RATE</b>	< 1 sec.
<b>BASE STATION IDENTIFICATION</b>	Direct IS-95 BS ID demodulation
<b>TIMING ACCURACY</b>	Absolute (derived from the signal)
<b>TIMING JITTER</b>	± 200 ns

#### GENERAL SPECIFICATIONS:

<b>SOFTWARE</b>	CDMA Chameleon included (Windows 95/98)
<b>DATA RETENTION</b>	Removable ATA Flash
<b>OPERATING TEMPERATURE RANGE</b>	0-50C°
<b>STORAGE TEMPERATURE RANGE</b>	-40-50C°
<b>DIMENSIONS</b>	W = 5.5" L = 11" H = 3.5" High
<b>WEIGHT</b>	4 pounds
<b>POWER</b>	Internal battery External +12VDC @ 0.5A
<b>CHARGER</b>	External dual battery fast charger for Li-Ion batteries



DUAL BATTERY CHARGER