

# Raven™



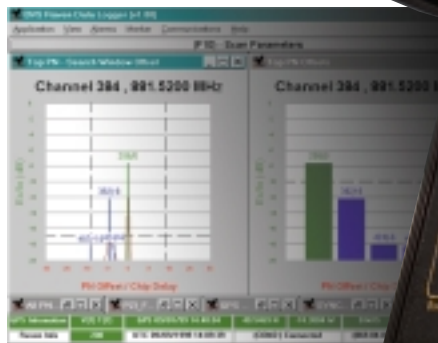
## CDMA PN SCANNER

The Raven™ is a portable, PN scanner used to measure and record (Ec/Io) IS-95 coverage of CDMA base stations. Raven measures active CDMA networks or it may be used in conjunction with CDMA transmitters such as the Crocodile™ or Gecko™ which are placed throughout an area of interest. The transmitters may be set to different base station PN offsets and the Raven

will measure and record their true Ec/Io signal. These CDMA signals are then grouped and displayed on a laptop PC via USB or RS-232 ports according to user parameters. Raven includes internal GPS receiver for LAT and LON recording, but does not require GPS acquisition for operation. Available in both Cellular and PCS frequencies.

### KEY APPLICATIONS:

- Measures correlated signal strength (Ec/Io) of all 512 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 (Ec/Io)  $\pm 1.0$  dB
- Derives Base Station ID and UTC from Sync Channel
- Demodulates Sync and Paging channels using BVS' proprietary LSI chips
- Decodes layer III messages from paging channel
- Built-in graphic LCD for display of vital parameters
- Complete data output via both USB and RS-232 ports to any laptop PC
- Includes 8-channel differential GPS receiver, however does not require GPS reception
- "Dead reckoning" navigational option available

Raven is just one of many exceptional design solutions from Berkeley Varitronics Systems. Call us today for more information:

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## SPECIFICATIONS

### RAVEN™ RF PERFORMANCE:

FREQUENCY RANGE	PCS model 1930-1990 MHz (Bands A-F) Cellular model 869.04-893.97 MHz (A and B Bands)
IF BANDWIDTH	1.25 MHz
MEASUREMENT ACCURACY	Ec/lo ± 1 dB @ 25 C° ± 2 dB (0 to 50 C°)
RECEIVER NOISE FIGURE	< 7.5 dB
ANTENNA INPUT SENSITIVITY	> -117 dBm PCS Tracking > -120 dBm Cellular Tracking
MINIMUM SIGNAL ACQUISITION	-110 dBm PCS Acquisition -115 dBm Cellular Acquisition
MAXIMUM SAFE INPUT	+13 dBm

### CDMA PROCESSING:

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

### GENERAL SPECIFICATIONS:

SOFTWARE	Raven Data Logger & CDMA Chameleon included
DATA RETENTION	PC laptop storage via USB and RS-232 ports
OPERATING TEMPERATURE RANGE	0 to 50 C°
STORAGE TEMPERATURE RANGE	-40 to 50 C°
DIMENSIONS	W=6.5" L=8.5" D=3.25"
WEIGHT	5 pounds
POWER	External 1A @ +12VDC
INTERNAL GPS (included)	Motorola 8-channel differential capable receiver