



# BlueTOAD® Spectra

The most advanced traffic-monitoring system on the market



Combines discoverable and non-discoverable bluetooth to deliver the most most advanced travel-time system



Up to 3Xs more matches when compared to WI-FI



Combines interactive, real time speed and congestion maps with automated Performance Measurement reports

BlueTOAD® is the most advanced traffic-monitoring system on the market, directly measuring travel times using cost-effective, non-intrusive roadside technology.

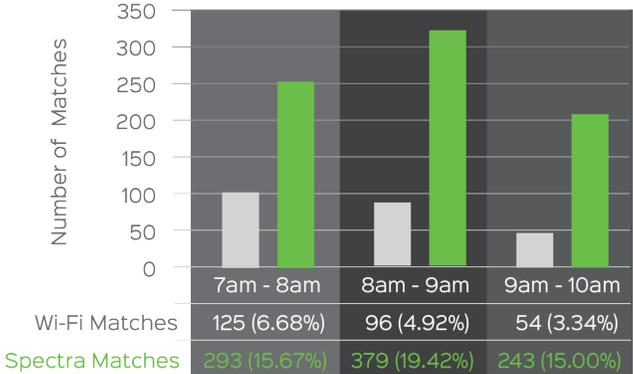
### BlueTOAD Spectra Detector

Now, advancements have been developed to increase the number of Detects and Matches, introducing BlueTOAD Spectra, which enables detection of “Non-Discoverable” (Paired) segments of Bluetooth signals along side BlueTOAD’s industry leading detection of “Discoverable” (unpaired) Bluetooth devices. With the combination of discoverable and non-discoverable Bluetooth detection, testing has shown significant increases in detection and matches.

When a phone pairs up to a vehicle it is rendered “undiscoverable” and undetectable by a standard Bluetooth detector. However, BlueTOAD Spectra is able to detect that paired device adding significantly to detection density. Spectra only detects 6 characters of the non-discoverable MAC address further enhancing privacy, not the usual 12

characters. With the number of States legislating use of “hands-free” mode, this new detector, coupled with the existing Bluetooth detector offers a greater amount of data, and significant increases in Origin/Destination metrics.

BlueTOAD Spectra vs. Wi-Fi- Matches (AM)



Hourly Comparison

■ Wi-Fi Matches ■ Spectra Matches (%) Match Rate



## BlueARGUS™ – BlueTOAD Travel-Time-Based Performance Software

BlueARGUS is the most comprehensive database manipulation software, now optimized for travel-time data and dashboard-based visualization with BlueTOAD Spectra. Get richer insight to changing traffic patterns and trends. BlueARGUS/Spectra combined is optimized for any agency's need- city traffic department, county, state, MPO or engineering service provider.

BlueARGUS provides:

- Interactive, Real Time Speed Maps & XML
- Real Time Signal, Phase and Timing (SPaT) and Connected Vehicle Data
- Report Scheduler
- Historical Data Reports including; Pair/Route Reports, Comparison Reports, Travel-Time Reliability Reports and Enhanced Origin & Destination Studies

## Specifications

### BLUETOAD SPECTRA ETHERNET

Power Specifications	Power over Ethernet (PoE) IEEE 802.3af standard
	PoE Voltage: 48 VDC 110/230 VAC supply to injector
DC Power	DC Supply Current: @ 12V - Typical 150 mA @ 12V - Maximum 250 mA
	DC Supply Voltage: Minimum - 9.5 vdc Maximum - 50 vdc
AC Power	100/230 VAC 50 Hz to 60 Hz
Operating Range	-40° C to +85° C
Processor	Real Time Microcontroller 8GB Removable microSD Card
Connectivity	PoE - Ethernet 10 BASE-T / 100 BASE-T Static or DHCP IP Addressing (Only one Ethernet connection needed per unit)
Bluetooth	Non-Discoverable 2.4 GHz Demodulator Discoverable CSR Bluecore 4 Class 1
Bluetooth Radio (adjustable) Transmit	
Power Range	-90 dBm to +20 dBm
Antennae	Bluetooth: (2) - 2 dBi Omni
NEMA 4X Enclosure	10 in. x 3.0 in. x 3.0 in.
Weight	< 5 lbs.

### BLUETOAD SPECTRA CELLULAR

Power Specifications	Solar Power SOW, 17.5 Vmp Solar: 33 in x 21 in x 2 in, Weight: 17.3 lbs.
	Solar Power 85 W, 17.9 Vmp Solar: 47 in x 21 in x 2 in, Weight: 17.6 lbs.
	Battery: 60/20 Ah Gel Sealed
DC Power	DC Supply Current: @ 12V - Typical 250 mA @ 12V - Maximum 500 mA
	DC Supply Voltage: Minimum - 9.5 VDC Maximum - 50 VDC
Power over Ethernet (PoE)	IEEE 802.3af standard PoE Voltage: 48 VDC 110/230 VAC supply to injector
AC Power	100/230 VAC 50 Hz to 60 Hz
Operating Range	-40° C to +85° C
Processor	Real Time Microcontroller 8GB Removable microSD Card
Connectivity	4G LTE CAT4 Supports all legacy non-4G technologies
Bluetooth	Non-Discoverable 2.4 GHz Demodulator Discoverable CSR Bluecore 4 Class 1
Bluetooth Radio (adjustable) Transmit	
Power Range	-90 dBm to +20 dBm
Antennae	Bluetooth: (2) - 2 dBi Omni LTE: MIMO Receive Diversity
GPS	Passive Ceramic
NEMA 4X Enclosure	12.14 in x 10.26 in x 7.15 in
Weight	(with battery & mounting brackets): 48 lbs

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