ICITE®
"INTELLIGENT CABINET INTERFACE TO TRAFFIC EQUIPMENT"

DA-DATA AGGREGATOR™
DA-300

Rev. 15 Nov 2016

3510 East Atlanta Avenue, Phoenix, AZ 85040 USA   +1.480.968.6407   www.editraffic.com

---

EBERLE DESIGN, INC.

MORE THAN 37 YEARS OF TRUSTED TRAFFIC SAFETY MONITORING PRODUCTS

- US-based designer manufacturer of reliable mission-critical safety monitoring products to enhance and augment traffic control systems.

- Products include intersection safety monitors, (MMU/CMU), vehicle detectors, power supplies, flashers, load switches and other vital infrastructure devices for transportation professionals to integrate, automate, measure and better manage highways and signalized intersections.

- Global market leader in design and manufacture of inductive loops and loop amplifiers (per IHS Research, Dec 2014)

- Provides more than 850 different products for safety monitoring of intersections and railways, vehicle detection, parking/access control, Automatic Vehicle Identification (AVI), prefabricated loops for roadway and railway detection

- **ISO 9001:2008 registered Engineering and Manufacturing facilities in Phoenix, Arizona and Reno, Nevada USA**

THE EDI
SAFETY LEGACY

- Eberle Design has more than 4 million active devices deployed in traffic cabinets worldwide

- Those devices perform more than 2 billion error-free transactions every 24 hours

- WE HELP TO prevent accidents, injuries and fatalities AT SIGNALIZED INTERSECTIONS

THE EDI
VALUE PROPOSITION

>37 YEARS OF SUCCESS

1. JUST-IN-TIME SUPPLY
2. HIGH RELIABILITY
3. EXTREME SERVICE
4. FAIR PRICING
5. PROVIDE CUSTOMIZED SOLUTIONS TO OUR PARTNERS

WHAT IS *ICITE®* AND THE DATA AGGREGATOR-DA™?

iCITE® - Intelligent Cabinet Interface to Traffic Equipment

DA-Data Aggregator™
- **A hardware platform that is data and communications-rich for multiple applications.**
- Can transform any* traffic cabinet into a 24/7/365 permanent traffic count station (up to 32 channels of input)
- Can interface with any *iCITE Ready™* Cloud-based provider of Performance Measures data (w/API)
- Real-time traffic data can be obtained from the traffic cabinets, controllers, detectors and/or MMU/CMUs

iCITE Ready™

*Initially limited to Type 170/2070, NEMA TS-1, TS-2, ITS, and ATC cabinets

EDI — EBERLE DESIGN INC.

ICITE® DATA AGGREGATOR DA-300

- *Detector Interface* provides a way to get accurate detector counts from inductive loops

- *Sync pulse* generated by GPS to provide a way to keep controller time up to date.

- *SDLC Communications* now capable of retrieving valuable information about the cabinet.

EDI — EBERLE DESIGN INC.

HOW DOES *ICITE®* INTERFACE?

ALL TYPES OF TRAFFIC CABINETS, CONTROLLERS & DETECTORS

Cabinet/Controller Types:

- NEMA TS-1, Type 1 & Type 2
- NEMA TS-2
- Type 170 & Type 2070 (CALTRANS Style 33X cabinets)
- ITS Cabinets (Houston style)
- ATC Cabinets
- School Flash Cabinets

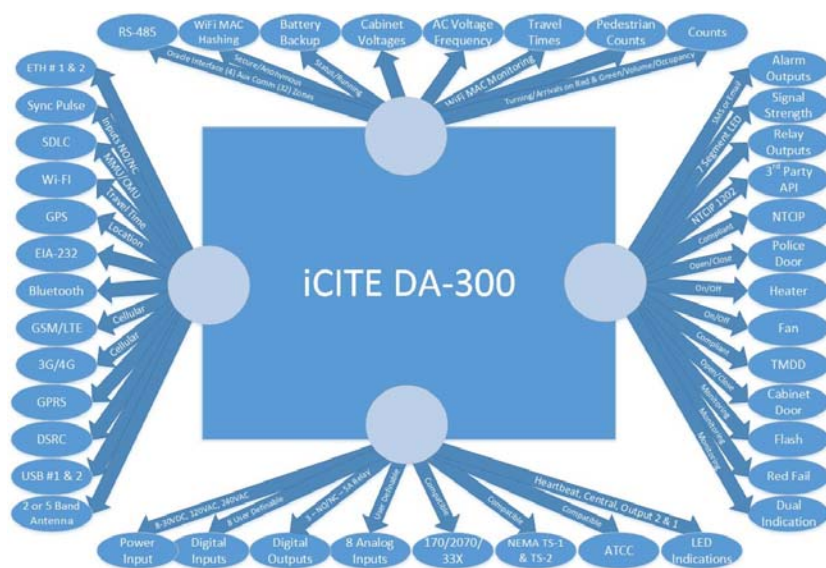
HOW DOES *ICITE®* INTERFACE?

ALL TYPES OF TRAFFIC CABINETS, CONTROLLERS & DETECTORS

Detection Technology Interfaces: (w/ APIs)

- Inductive Loop Detectors
- Video Vehicle Detectors
- Magnetometer Detectors
- Laser Detectors
- Thermal Imaging Detectors
- Infrared Detectors
- Radar & Microwave Detectors
- Hybrid- Video + Radar Detectors
- Piezo Electric Sensors
- Wi-Fi based travel time
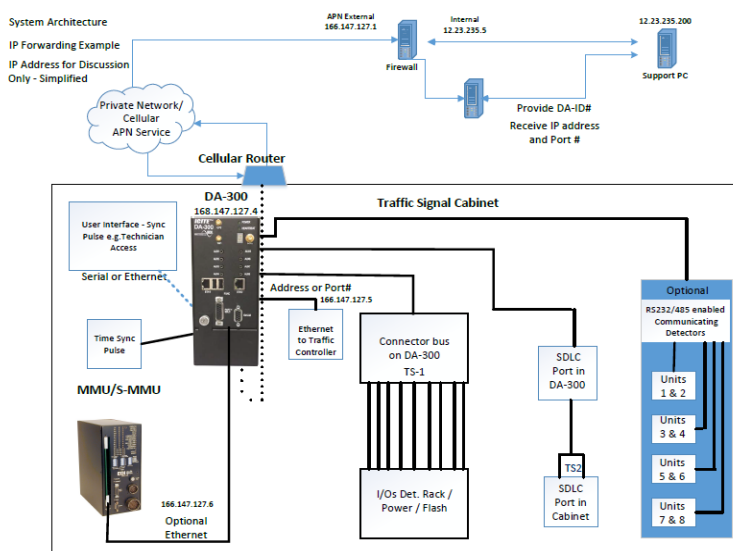- Bluetooth based travel time

ICITE® DA-300 PROVIDES "BIG TRAFFIC DATA"

ICITE® DA-300 SOLUTION DIAGRAM

GET SMART WITH *ICITE*®
iCITE® DA-300- Creating a Smart Traffic cabinet

City Traffic Engineer / Traffic Signal Supervisor needs- *

- Real-time traffic data- traffic counts, turning movement counts, split timing, phase interval timing
- Remote traffic cabinet connectivity- isolated intersections not connected to the central ITS system (cellular)
- Traffic data aggregation that is traffic cabinet and detection technology agnostic.
- Provides a GPS-based sync pulse for non-interconnected intersection timing synchronization
- Travel time analytics by route or segment (Wi-Fi or Bluetooth-based)
- Origin-Destination data
- Alarm generation and notification for an intersection in a "Flash" or "Failure" condition
- Alarm generation and notification for intersection loss of primary power or communications (cellular rollover-on-demand available)

- **Provided through an iCITE Ready™ data analytics partner using the iCITE DA-300 hardware platform**

iCITE Ready™

GET SMART WITH *ICITE*®
iCITE® DA-300- Creating a Smart Traffic cabinet

City Traffic Engineer / Traffic Signal Supervisor needs- *

- Passes any IP-based cabinet-generated data to the Cloud-based server (UDP or TCP-IP)**
- Alarm generation and Notification for detectors on "recall/fail", cabinet door "open/closed", fan & heater status, internal cabinet temperature
- Provide real-time status of an intersection's battery back-up system (BBS)
- Obtains real-time traffic data from the traffic controller, detectors, and/or MMU/CMU, BIU, SIU via SDLC,
- Provides required traffic count studies at each intersection per US FHWA requirements
- Provides 2015 FAST Act Performances Measures / MOE data per US FHWA requirements
- Provides Purdue Coordination Diagram per phase and/or approach
- 2048-bit encryption to ensure device and network security

- **Provided through an iCITE Ready™ data analytics partner using the iCITE DA-300 hardware platform**

iCITE Ready™

** Requires system-specific integration and interoperability testing.

GET SMART WITH *ICITE®*
iCITE® DA-300- Creating a Smart Traffic cabinet

Traffic Planner / Traffic Consultant needs- *

- Real-time traffic data- traffic counts, turning movement counts, split timing, phase interval timing
- Traffic data aggregation that is traffic cabinet and detection technology agnostic.
- Travel time analytics by route or segment (Wi-Fi or Bluetooth-based)
- Origin-Destination data
- Obtains traffic data from the traffic controller, detectors, and/or MMU/CMU, BIU, SIU using either SDLC, Ethernet, RS-232, RS-485
- Passes any IP-based cabinet-generated data to the Cloud-based server (UDP or TCP-IP)**
- Provides required traffic count studies at each intersection per US FHWA requirements
- Provides 2015 FAST Act Performances Measures / MOE data per US FHWA requirements
- Provides Purdue Coordination Diagram per phase and/or approach
- Provides 2048-bit encryption to ensure device and network security

- **Provided through an iCITE Ready™ data analytics partner using the iCITE DA-300 hardware platform**

iCITE Ready™

** Requires system-specific integration and interoperability testing.

## ENABLING AUTOMATED TRAFFIC SIGNAL PERFORMANCE MEASURES (ATSPM)

WHAT DATA DO YOU NEED TO DO THE JOB?

Goal	Context	Objective and Strategy	Performance Measure
Safety	Traffic demand: Light, moderate, heavy, congested	• Safety Transfer Right of Way	• Yellow and Red Actuations, • Arrivals on Red • Ped/Bike Delay
Good State of Repair	Network: CBD, Urban, Suburban (Linear Arterial, Grid, Interchange)	• Detector Monitoring • Health Monitoring • Asset Management	• Detector Failures • Preemption Details • Comm Failures • Alarms
Mobility	User mix: peds, bike, transit, vehicle, freight	• Smooth flow • Equitable distribution of green time, • Queue management • Frequent service of peds and bikes	• Purdue Coordination Diagram • Split Failure • Ped/bicycle delay vehicle delay • Queue length • Split Monitor
Quality Customer Service	Organizational capability	• Validate & Report Attainment of Objective	• Travel Time • Turning Movement Counts

www.fhwa.dot.gov/innovation/everydaycounts/edc_4

EDI
EBERLE DESIGN INC.

PURDUE COORDINATION DIAGRAM
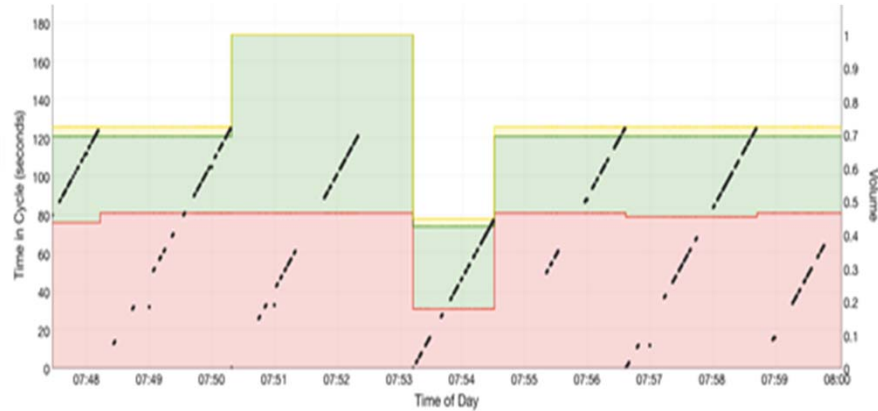
Time-Space diagram shows arrivals on Green, Amber and Red indications

---

GET SMART WITH *ICITE*®

ICITE® DA-300 - CREATING A SMART TRAFFIC CABINET

Performance Measures / Data Analytics Provider needs- *

- Provides a traffic-hardened hardware platform designed to easily integrate into any Type 170/2070, NEMA TS-2, TS-2, ITS or ATC cabinet
    - NEMA Environmental compliance -40°F to 176° F 0-95% Non-Condensing
    - Device QPL/APL listed with Texas DOT

- Designed by the largest manufacturer of traffic control peripheral electronics- more than 4 million devices operational globally
- Communicates with NEMA TS-2 MMUs manufactured by Eberle Design and Reno A&E (proprietary communications protocols)
    - Connects via SDLC port and receives all NEMA TS-2 SDLC messages
    - Connects via Ethernet and receives all Ethernet transmissions from the MMU
    - Connects via Serial port and receives all information via EDI ECcom or Reno A&E RAEComm software

- Provides the ability to gather necessary traffic data from legacy traffic controllers without SDLC or Ethernet-enabled communications
- Provides raw parsed traffic data to existing central ATMS or data analytics providers with simplified cabinet connectivity*

* Provided through an *iCITE Ready*™ data analytics partner using the iCITE® DA-300 hardware platform to an API
** Requires system-specific integration and interoperability testing

GET SMART WITH *ICITE®*

ICITE® DA-300 - CREATING A SMART TRAFFIC CABINET

Performance Measures / Data Analytics Provider needs- *

- Provides either Wi-Fi or Bluetooth receiver options available on the DA-300 hardware platform
- Obtains traffic data from the traffic controller, detectors, and/or MMU/CMU, BIU, SIU using either SDLC, Ethernet, RS-232, RS-485
- Passes any IP-based cabinet-generated data to the Cloud-based server (UDP or TCP-IP)**
- Facilitates required traffic count studies at each intersection per US FHWA requirements
- Facilitates 2015 FAST Act Performances Measures / MOE data per US FHWA requirements
- Facilitates Purdue Coordination Diagram per phase and/or approach
- Provides 2048-bit encryption to ensure device and network security
- Provides environmentally hardened GSM/GPRS/LTE 3G or 4G PTCRB and carrier certified modems (T-Mobile, AT&T, Verizon, Rogers)
- Provides a 5-Band antenna (Cellular, GPS, Wi-Fi, Bluetooth and DSRC)
- Standard 2-year factory hardware warranty. Extended warranty packages are available
- Custom APIs will be developed for IP-addressable / communications-enabled detection and central ATMS solution providers

* Provided through an *iCITE Ready*™ data analytics partner using the iCITE® DA-300 hardware platform to an API
** Requires system-specific integration and interoperability testing

---

GET SMART WITH *ICITE®*

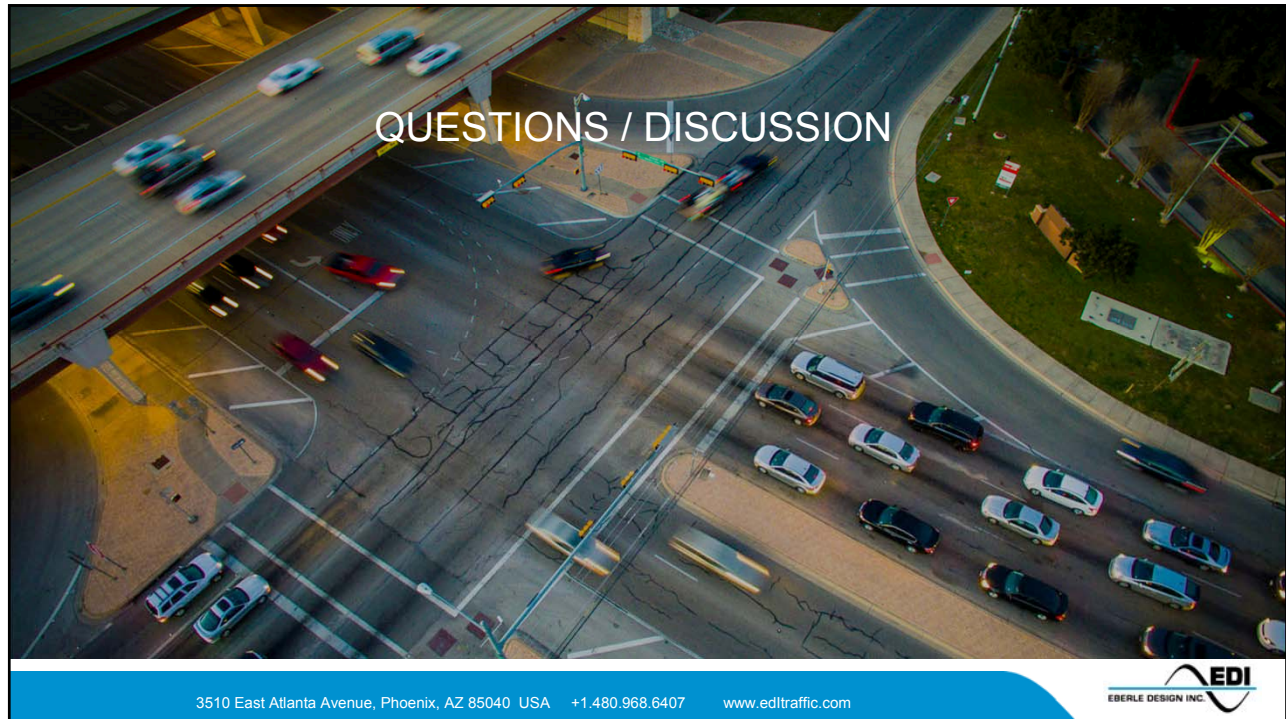CURRENT **iCITE Ready**™ ADVANCED DATA ANALYTICS PARTNERS

Acyclica

+1.303.859.4216
www.acyclica.com
1610 Wynkoop, Suite 200
Denver, Colorado 80202

The Traffic Group®

+1.410.931.6600
www.trafficgroup.com
9900 Franklin Square Drive, Suite H
Baltimore, Maryland 21236

QUESTIONS / DISCUSSION

3510 East Atlanta Avenue, Phoenix, AZ 85040 USA   +1.480.968.6407   www.editraffic.com

---

ICITE® / DATA AGGREGATOR PROGRAM CONTACTS

Strategic Alliances & Partnerships / International Sales / iCITE® Product Management Lead
Dr. Bill Sowell, EDI/RAE Vice President-Business Development
Phone: +1.480.968.6407 ; Email: wsowell@editraffic.com

Product Development / Engineering Lead
Mr. Joseph Dudich, EDI/RAE Vice President- Engineering
Phone: +1.602.396.1284; Email: JDudich@editraffic.com

iCITE® Product Management, Product Training & Technical Support
Mr. Tim McCall, Product Manager
Phone: +1.602.396.1287; Email: TmCCall@editraffic.com

EDI Sales / iCITE® Authorized Reseller Network
Mr. Jon Muilenberg, EDI Sales Director
Phone: +1.602.396.1950; Email: jmuilenberg@editraffic.com

EDI Sales / iCITE® Authorized Reseller Network
Mr. John Shearer, EDI Sales Manager
Phone: +1.602.245.3758; Email: jshearer@editraffic.com

Reno A&E / iCITE® Authorized Reseller Network
Mr. Matt Zinn, RAE Sales Manager
Phone: +1.602.396.1947; Email: Mattz@renoae.com