

INTELLIGENT DEVICES – “Delivering the promise”

Intelligent Devices has announced at the ITS Show in Phoenix, Arizona, a new method for integrating existing traffic signal controllers into modern communication systems. This new approach to the integration of Traffic Controllers is a world first, and promises to deliver new efficiencies in coordinating traffic signals, and thereby reducing congestion, pollution and travel times.

What’s the problem?

In the USA, the overwhelming majority of intersection controllers use proprietary protocols for communication with Central. This means that new Central control systems, which can provide better information about conditions in the street, and optimize signal timings and coordination, cannot be used with the existing signal infrastructure as everything talks a different “language”.

What’s the solution?

The solution was for manufacturers, traffic engineers and to agree on a common “language” for talking to traffic controllers. Over the last decade, this has been achieved with the adoption of NTCIP (the National Transportation Communication for ITS Protocol). This now

provides a universal method for talking to controllers from Central, from different manufacturers and different software vendors.

So why hasn’t this worked?

Up until now, the only method for a City or State authority to achieve the benefit of NTCIP was to replace all their existing controllers (which are working fine at controlling the intersection) with new controllers. This is an enormous expense, and in a time of budget constraint has not been possible. In addition, all the agency personnel are trained in the operation of the installed base of controllers, and there is tremendous resistance to change a working (although inefficient) system.

So what’s the solution now?

As an early adopter of NTCIP, Intelligent Devices over the past several years has released a series of trail blazing products, aimed at making NTCIP easy and practical to implement. DeviceTester for NTCIP, along with its associated scripts and test procedures, has made it easy to verify that devices and Central systems are NTCIP

conformant. The IDI family of embedded controllers has been deployed in thousands of field devices (signs, cameras, sensors and weather stations) to make these devices NTCIP conformant.

Intelligent Devices has used this experience to bring simplicity to the NTCIP interface to signal controllers, which is recognized as the most complex of the ITS devices to control. The steps to NTCIP success are

- 1) Use DeviceTester for NTCIP, and the associated scripts and Test Procedure for signal controllers, to establish a benchmark test for a NTCIP interface for your traffic controller.
- 2) Buy traffic controllers in the future that comply with these tests, to ensure future compatibility of new intersections.
- 3) Install IDI Interface modules to provide a NTCIP interface to the installed base of traffic controllers, and test this interface with the same test defined in Step 1.
- 4) Use Intelligent Control (or another NTCIP Central) to

monitor and control intersections.

What are the possibilities?

Using NTCIP interface controllers, a number of possibilities open up to Cities and States that want to improve their "Score" in managing their traffic

- 1) NTCIP traffic controllers can be purchased with confidence, and tested to ensure that all the equipment deployed is conformant to the same NTCIP standard, is reliable, and is functionally equivalent.
- 2) Monitoring and control of legacy controllers can be cost-effectively converted to NTCIP, and so existing brands and controllers models

can be installed into the future without future compatibility problems.

- 3) Legacy installed controllers can be brought on-line to the Central one arterial or suburb at a time. There is no need to replace existing controllers, with all the disruption and associated stress.
- 4) Conversion of the existing controllers does not need the intersection to be placed in flash at all. The public will not even know it is happening!
- 5) Traffic data is collected in the same way for all controllers, making export and import from Traffic Timing software simple and effective.
- 6) Arterials that cross jurisdictional

boundaries, with different types of controllers, can now be coordinated. This includes crossing 170/Nema controller boundaries.

- 7) Older controllers can now be upgraded to high speed communication, without changing the controller.
- 8) None of the new maintenance, training and complexity problems that come with purchasing a new controller type.

Where can you see this ???

Intelligent Devices has a fully functional, coordinated arterial with a legacy 170 controller, and two competing brands of Nema controllers, operational in Booth 1212. Come and see it and be amazed!

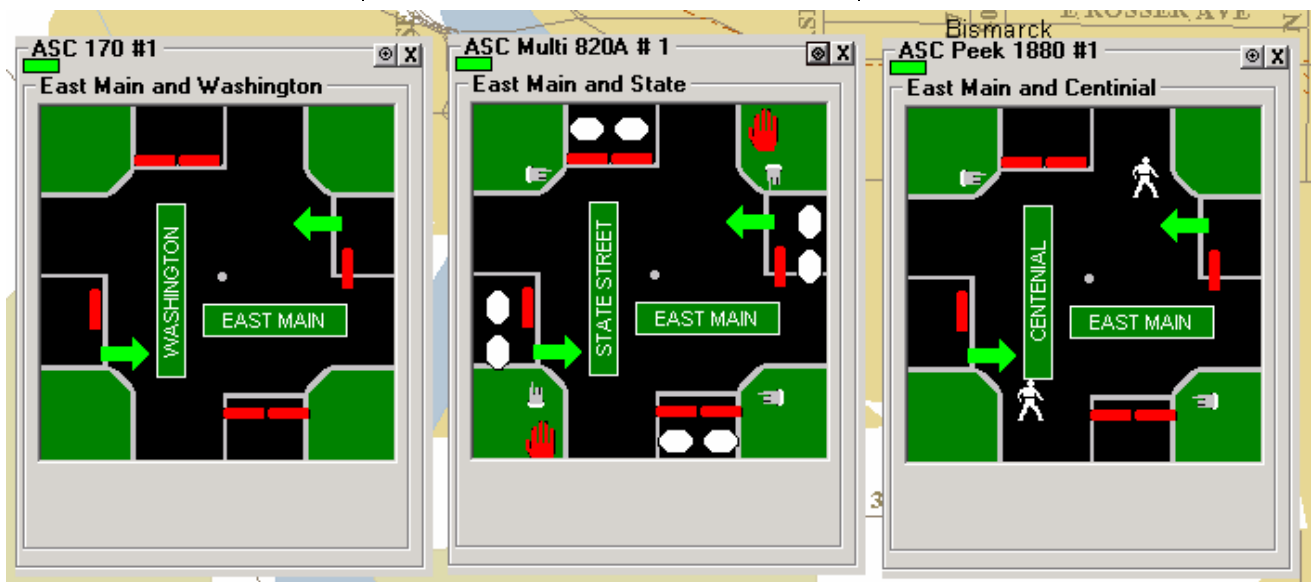


Fig.1 Intelligent Control display showing a 170, and two different brands of NEMA controllers running coordination.