



# Intelligent Road Studs™

## Hardwired Systems

Astucia's Hardwired Intelligent Road Stud (IRS) Systems have been specifically developed to reduce the number of road accidents and increase safety for all road users.



The innovative and flexible design of Astucia Hardwired studs provides drivers with advance understanding of the road ahead, giving them more time to react accordingly.

Suitable for a wide range of applications from Dynamic Lane Marking to Pedestrian Crossing Systems, the revolutionary Intelligent Road Studs are effective in all lighting conditions, making them the clear choice when it comes to improving safety on our roads.

### LIGHTING THE WAY

When used in conjunction with road capacity and expansion schemes, Dynamic Lane Marking using Astucia Hardwired studs can increase highway capacity and reduce congestion.

The studs are also used to successfully increase safety at a number of busy

Bus Interchanges where passenger protection poses a concern.

The installation of flashing in road warning studs highlights the pedestrian crossing areas and also have the added effect of slowing the buses as they pass through the station.

Astucia Hardwired studs are increasing safety around the world, being installed in locations including Ireland, France, Holland, Australia and California.

### COST EFFECTIVE

Easy to install, the Intelligent Road Studs embedded in the road and so are unobtrusive to motorists, motorcyclists, cyclists and pedestrians alike. With low maintenance and low power consumption they are leading the way forward in traffic guidance and hazard warning.

### KEY BENEFITS

- Proven increase in safety at pedestrian, railway and tram crossings
- Increased road capacity and reduction in congestion when used with dynamic road marking schemes
- Highly visible and newsworthy contribution to road safety and traffic management
- Effective additional driver safety aid when used in conjunction with street light reduction schemes

### KEY FEATURES

- Up to 1000m visibility
- Modular design / upgradeable
- Programmable functionality
- Low maintenance
- Low power consumption
- Profile less than 4mm
- Integration with and activation by 3rd party traffic control devices
- Particularly effective in poor weather conditions
- Pedestrian, cycle and motorcycle friendly





**APPLICATIONS INCLUDE**

**Dynamic Lane Marking Systems**

- Lane Delineation and Control
- Tidal / Contra Flow - lane reversal (including one way systems)
- Congestion relief / reduction
- Optimisation of road capacity
- Toll and Terminal Plazas - such as for: bridges, tunnels, ferries and airports

**Crossing Systems**

- Pedestrian Crossings (including Traffic Light Interface)
- Level / Railway and Tram Crossings

**Others**

- Speed Control / Traffic Calming - by way of strobe sequencing
- Roundabouts - the highlighting of, and to indicate travel direction
- Lane Control - such as: use of hard shoulder, bus / taxi lanes
- General Hazard Warning, Priority / Direction Indication & Traffic Management

**SOLUTIONS INCLUDE**

**Incident detection**

Technology to identify and warn of incidents in the flow of traffic.

**Queue detection and warning**

Detection and warning of queues or slow moving traffic using a combination of Golden River and Astucia technology.

**Vehicle area cordon**

Providing high visibility delineation of immediate hazards to passing foot and road traffic, helping to increase the safety of those within the proximity of a potentially hazardous situation.

**Tunnel delineation**

Astucia studs can be used to enhance lane delineation and allow for contra flow arrangements in tunnels. In addition the system can be used to provide advance warning of incidents.

**Fog delineation**

Astucia high brightness hard wired road studs provide enhanced delineation during periods of poor visibility whether during day or night from activation by an external fog sensor.

**ALSO AVAILABLE:**

For traffic guidance and hazard warning applications requiring an independent solar powered solution, please refer to Astucia's **SolarLite** road stud range.

**SPECIFICATIONS**

|                      |                                                    |
|----------------------|----------------------------------------------------|
| Technology           | LED                                                |
| Power                | Mains                                              |
| Configuration        | Uni-directional<br>Bi-directional (night use only) |
| No. of LEDs          | 14 (day and night),<br>5 (night only)              |
| Standard Colours     | Amber, Red, White and Green                        |
| Frequency            | Constant or synchronised 2Hz                       |
| Control              | Microprocessor Activated                           |
| Activation           | Isolated closed contact                            |
| Power Consumption    | 1W                                                 |
| Road Placement       | Embedded (snow ploughable)                         |
| Projection           | 4mm (0.157")                                       |
| Housing              | Nylon 66                                           |
| Water Ingress Rating | IP68                                               |
| Temp. Rating         | -40°C to +75°C<br>(-40°F to +167°F)                |
| Dimensions           | Ø114 x 91mm<br>(Ø4.48" x 3.58")                    |
| Weight               | 850g (30 oz)                                       |
| Load Rating          | Depressible                                        |

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