



Global Traffic
Technologies

Opticom™ Infrared System

Opticom™ Model 792 Emitter

An Opticom™ Infrared System Matched Component Product

October 2007

Description

The Opticom™ Model 792 Emitter is a compact, lightweight, weather-resistant encoded signal device intended for use on priority and probe frequency vehicles. The Opticom model 792 consists of a flash-tube/reflector and housing assembly with an integral power supply and the required cables. The Opticom model 792 converts 12 VDC vehicle battery power to the high voltage required for operation of the unit. Accessory switch devices are also available. The operation of the device may be customized through its interface software.

The encoded signal pattern (composed of the individual vehicle class code and vehicle identification number) generated by the Opticom model 792 is determined after installation through the use of interface software.

The Opticom model 792, when installed on authorized service and maintenance vehicles, may also be configured to utilize the automated range-setting feature of Opticom™ 700 Series Phase Selectors and Opticom™ 450 Series Discriminators. This feature refines and simplifies individual intersection setup and maintenance techniques.

The Opticom model 792 separates precisely timed pulses of high-intensity light in the infrared and visible wavelengths at the base flash rate of approximately 10, 12 or 14 Hz. It also interleaves programmed encoded pulses that carry the vehicle class and ID number information. These energy pulses are sensed and processed by other Opticom™ Infrared System components to cause activation of the system.



Opticom™ Model 792 Emitter

Description of Models

Opticom™ Model 792H Emitter: a high-priority emitter

Opticom™ Model 792L Emitter: a low-priority emitter

Opticom™ Model 792T Emitter: a low-priority emitter, equipped with a visible light filter

Opticom™ Model 792R Emitter: a range-setting emitter for high priority, low priority or probe frequency

Opticom™ Model 792HF Emitter: a high-priority emitter with filter

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Features

- Discrete, penetrating infrared communication
 - Directional
 - Consistent, day and night transmission
 - All-weather performance
- Compact, single source system
- High- and low-priority operation as well as probe-frequency capability
- Encoded signal transmission
 - High priority: 10,000 discrete vehicle IDs (10 classes of vehicles and 1,000 individual codes available within each class)
 - Low priority: 10,000 discrete vehicle IDs (10 classes of vehicles and 1,000 individual codes available within each class)
 - Probe frequency: 10,000 discrete vehicle IDs (10 classes of vehicles and 1,000 individual codes available within each class)
- Remote range-setting capability
- Compliancy with FCC part 15, subpart J, Class A regulations for electromagnetic interference
- RS485, J1708 serial interface
- Low power consumption
- Improved installation flexibility
 - Mounts directly on vehicle
 - Incorporates into many lightbars
- Automatic emitter disable, indicated by slow flashing of the emitter switch's indicator light
- Self-diagnostic with visual feedback through the switch's indicator light
- Cumulative flash counts available through the interface software
- Grating for precise directionality control
- Optional light-blocking filter

Accessories



Opticom™ Switch Models
793B (bottom left),
793S (bottom right),
793R (top right)



Opticom™ Model 790 CS
Configuration Software
and cables

- Switches
 - Rocker-type switch for knockout/panel mounting (with simple mounting bracket) (model 793B)
 - Three versions of fully enclosed push-button switches (with dashboard mounting bracket)
 - On/Off only (model 793S)
 - On/Off for high-priority, low-priority and probe frequency with range setting
- Automated range-setting control
- Interface software kit
 - Cables
 - Interface software CD

	Model 793S Switch	Model 793B Switch	Model 793R Switch	Customer- Supplied Switch
Opticom™ Model 792H Emitter	High Priority/Off	High Priority/Off	Not Available	High Priority/Off
Opticom™ Model 792L Emitter	Low Priority/Off	Low Priority/Off	Not Available	Low Priority/Off
Opticom™ Model 792T Emitter	Low Priority/Off	Low Priority/Off	Not Available	Low Priority/Off
Opticom™ Model 792R Emitter	Not Available	Not Available	High and Low Priority/Off/ Probe Frequency and Range Setting	Not Available

Operating Parameters

- High- or low-priority and probe-frequency operation selected by model and switch combination
- 10,000 vehicle codes available in high priority
- 10,000 vehicle codes available in low priority
- 10,000 vehicle codes available in probe frequency
- Automated range-setting feature selected by model
- Isolated power supply and emitter for positive or negative ground vehicle power system
- Less than 5 amps peak current draw
- Self-diagnostic
- Precisely controlled high-priority flash rate of 14 Hz
- Precisely controlled low-priority flash rate of 10 Hz
- Precisely controlled probe-frequency flash rate of 11 Hz

- Transmission range up to 2,500 feet (762 m) with clear lens and up to 1,800 feet (549 m) with visible light filter
- Electrical
 - Input voltage: 10 to 16 VDC
 - Current: less than 5 amps
- Environmental
 - Temperature: -30° F (-34° C) to +165° F (+74° C)
 - Relative Humidity: 5% to 95%

Physical Dimensions

- **Depth:** 3.5 in. (8 cm)
- **Width:** 5.8 in. (14 cm)
- **Height:** 3.7 in. (9 cm)
- **Weight:** 1.9 lb. (.8 kg)

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GTT warrants future system operability coverage as described herein. The warranties set forth in this document shall not apply to (A) incandescent lamps (confirmation lights) or (B) to any Opticom infrared system components which have been (1) repaired or modified by persons not authorized by GTT; (2) subjected to incorrect installation, misuse, neglect or accident; (3) damaged by extreme atmospheric or weather-related conditions; or (4) subject to events or use outside the normal or anticipated course.

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