OPTICOM™ INFRARED SYSTEM - MODEL 795H LOW-PROFILE LED EMITTER FOR EPL9000

EPL9000 OPTICOM

1. Description
The Opticom™ Infrared System Model 795 Low-Profile LED Emitter is a LED preemption emitter designed for use in low profile light bars.* This product is intended for use only inside of a light bar. It is not intended to be installed in an unprotected environment.

The Model 795 is intended to be installed by Original Equipment Manufacturers (OEMs) or an OEM approved light bar installer only. This document is intended for use by OEM and their approved installers only. This manual is not intended for use by end users. The OEM should modify its lightbar manuals to document proper programming, testing, use, and maintenance of the Model 795 and provide this information to the end users.

2. Intended Use
The system is intended to assist authorized priority vehicles through signalized intersections by providing temporary right-of-way through vehicle operator interface to the system and through the use of common traffic controller functions.

3. OEM Technical Support
If the OEM has questions about the use, installation or operation of the Model 795, please contact the Global Traffic Technologies (GTT) Technical Service department at 1-800-258-4610. OEMs should direct their end customers to the OEM technical support contacts in order to answer specific questions about how the Model 795 is installed and wired into their lightbars.

*The method of using the components of the Opticom™ Infrared system may be covered by U.S. Patent Number 5172113. Other U.S. and foreign patents pending.

4. Electrical Specifications

Input Voltage Range:	10 - 32 Vdc
Current Consumption:	200mA@13.5Vdc (nominal)

Power should be connected to a point that will provide sufficient voltage and current.

A 1 amp fuse is required to protect vehicle wiring (not included).

> ⚠ **CAUTION**
> **Install a 1-amp fuse in series with the red wire. Failure to install the correct size fuse may damage the unit and vehicle wiring and void the warranty.**

5. Connector Details
The Model 795 is equipped with a 7.5" pigtail with an 8-pin Tyco/AMP connector. The OEM shall provide the harness to mate with the Model 795 connector.

> ⚠ **CAUTION**
> **Do not cut off the connector. Cutting off the connector will void the warranty. It will also prevent end users from programming their emitter.**

The part numbers to construct a mating connector are:
Connector Shell: Tyco /AMP, 794941 Qty 1
Connector Pins: Tyco/AMP, 770903 Qty 7

Bulk cable is available from GTT in 1000' spools. The part number of this cable is 79-1000-0182-0. If this cable is not used, GTT recommends that stranded wire 18-22 AWG with colors matching the Model 795 cable be used when building a mating harness. **All seven wires should be included in the mating harness to provide all possible functions to the end user.**

6. Connector Pin Out

Connector End View
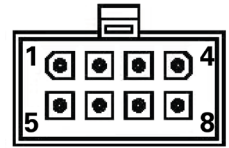
FRONT VIEW

CONNECTOR PIN ASSIGNMENTS

PIN #:	WIRE COLOR:	DESCRIPTION
1	WHITE W/ BLACK STRIPE	SERIAL COMMUNICATION (B)
2	WHITE	DISABLE (INPUT)
3	ORANGE	RANGE SETTING ENABLE
4	RED	+12Vdc
5	NOT USED	NOT USED
6	BLUE	SERIAL COMMUNICATION (A)
7	BLACK	DC GROUND
8	GREEN	DC RETURN FOR INDICATOR LIGHT

- RED wire is used to supply +12 Vdc to power the emitter

- BLACK wire is used to provide DC power ground

- WHITE wire is the input for the disable feature (See section 9)

- GREEN wire is a DC return for an indicator light (See section 10)

- GRAY and BLUE wires are used for J-1708 communications (See Section 11)

- ORANGE wire is used for range setting. This wire is typically not used in emergency vehicles. GTT recommends that this wire be pinned out but left unconnected.

Important Information: ───────

• Warning devices are strictly regulated and governed by Federal, State and Municipal ordinances. These devices shall be used ONLY on approved vehicles. It is the sole responsibility of the user of these devices to ensure compliance.

OPTICOM™ INFRARED SYSTEM - MODEL 795H LOW-PROFILE LED EMITTER FOR EPL9000

EPL9000 OPTICOM

7. Switch connections

GTT recommends that the emitter be wired so that it may be controlled by the control box that operates the rest of the lightbar. If that is not done, then GTT recommends that a separate lighted switch be used to control the emitter. See Section 10 for details on why a lighted switch is needed.

Standalone switches are available from GTT:

• The Model 793B is a lighted rocker style switch which may be panel mounted or mounted using the include L-Bracket.

• The Model 793S is a lighted fully enclosed push-button switch which is dash mounted.

8. Disable Wiring

The use of a disable switch is highly recommended so that emergency vehicle drivers do not need to remember to shut off their emitter when arriving at the scene. Without using this feature, nearby intersections may be unnecessarily held in preemption by vehicles at the scene.

The disable function is entered when the white wire transitions either from +12Vdc to ground or from a floating state to ground. When installing the Model 795 Emitter the OEM should provide sufficient wire/cable length to allow the end user to connect the white wire as described.

The operation mode of the disable function may be programmed using ITS Link/790-CS. See section 10 of this document and the 790-CS help file for more details.
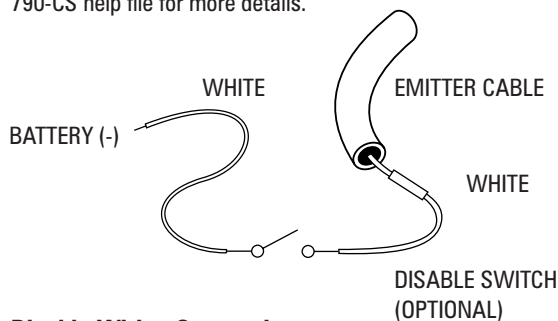
Disable Wiring Connection

9. Indicator Light

The use of an indicator light either in a switch or standalone is highly recommended. The indicator light, when controlled by the green wire in the Model 795 harness, will allow the user to determine if the emitter is:

• Operating normally
   o Steady Indication

• In disable mode
   o Flashes once every two seconds

• Has failed
   o Flashes two times per second

The green wire provides a DC return for the indicator light. When +12Vdc is provided to one side of an indicator and the green wire is connected to the other side (or to the light terminal of a lighted switch, the emitter will control the behavior of the indicator light. When installing the Model 795 Emitter the OEM should provide sufficient wire/cable length to allow the end user to connect the green wire as described above.

10. J-1708

The Model 795 emitter has a J-1708 compliant communications port. This port may be used to communicate between the Model 795 emitter and devices such as a control module, MDT, AVL system, or onboard computer. The communication protocol for the Model 795 is available from GTT. Contact Technical Service to obtain this document.

11. Emitter programming

Using ITS Link Suite /790-CS and the Model 795 emitter programming cable the user may program the following parameters into the emitter:

• Vehicle Class Number

• Vehicle ID number

• Disable Operating Mode

• Visible LEDs behavior

ITS Link Suite /790-CS is available for download at: http://www.gtt.com/Tech-Support-Tools/Software-Downloads.
Version 3.1 or later is required to support the Model 795.

The part number for the 795 programming cable is 79-1000-0157-0. A serial extension cable is also needed. The GTT part number for this cable is 26-1014-5721-1.
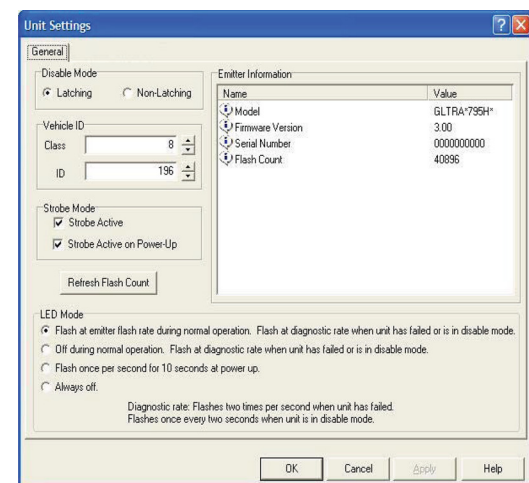**See the ITS Link help file for more details.**
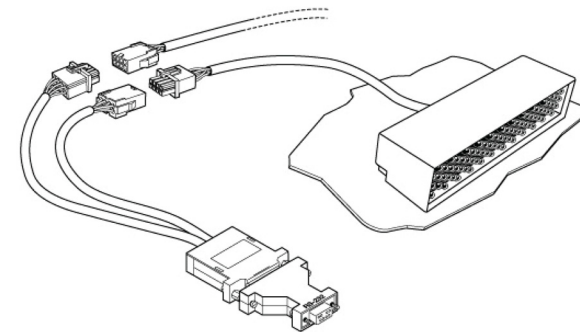
Programming Cable Assembly
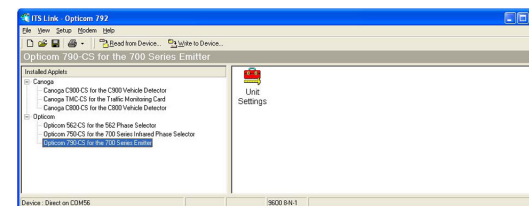
ITS Link/790-CS Screen

790-CS Unit Settings Screen