



Global Traffic
Technologies

Opticom™ Infrared System

Opticom™ Models 752E and 754E Phase Selectors

Opticom™ Infrared System Matched Component Products

October 2007

Description

The Opticom™ Model 752E Phase Selector is a plug-in, *two-channel*, dual-priority, encoded signal device designed for use with Opticom™ Infrared System Emitters and Detectors. The Opticom™ Model 754E Phase Selector is a plug-in, *four-channel*, dual-priority, encoded signal device designed for use with Opticom emitters and detectors. Both meet CE requirements. Opticom models 752E and 754E are powered by an external 24 VDC power supply and contain their own internal power supply to support Opticom detectors.

Opticom™ Model 760E Card Rack is required. Opticom™ Model 739 Detector Cable is required to connect either Opticom phase selector to any Opticom detector.

Opticom models 752E and 754E recognize and discriminate among three distinct Opticom emitter frequency rates via Opticom detectors: high priority, low priority and probe frequency. Within each of these three frequency rates, the Opticom phase selectors further discriminate among 10 classes of vehicle identification codes, with 1,000 individual vehicle codes per class—10,000 total per frequency rate.



Opticom™ Model 752E Phase Selector (left) and
Opticom™ Model 754E Phase Selector (right)

Opticom models 752E and 754E internally record each activation of the system. Each entry contains the:

- Intersection name
- Date and time of the activity
- Vehicle class code of the activating vehicle
- Activating vehicle's ID number
- Channel called
- Priority of the activity
- Final green signal indications displayed at the end of the call
- Time spent in the final greens
- Duration of the activation

Opticom™ Models 752E and 754E Phase Selectors

Opticom™ Models 752E and 754E Phase Selectors also include RS232 interface capability to communicate with computers or controllers. Optional interface software is available for system setup and maintenance.

The primary Opticom™ Detector inputs and power outputs are on the card edge connector. Two additional auxiliary detector inputs are available for each channel through a front panel connector. The connector also contains signal indication sensing inputs.

Each channel delivers a constant output for high-priority activation and a pulsed output for low-priority activation. A high-priority signal received on any channel will override any low-priority activation.

The probe frequency does not place a call request to the signal controller, but does log vehicles by ID number when they are in range.

Features

- Four channels of detection with the Opticom model 754E
- Two channels of detection with the Opticom model 752E
- Two auxiliary detectors per channel
- Green sensing when used with the Opticom™ Model 759 Auxiliary Interface Panel
- Compatibility with encoded signal and non-encoded signal Opticom™ Emitters
- High and low priority as well as probe vehicle discrimination
- “First-come, first-served” priority within each priority level
- Priority-by-class setting via the interface software
- Automatic range setting using an encoded emitter
- User-adjustable range setting from 60 to 760 meters (200 to 2,500 feet) of operation
- Easy installation
- Compatibility with most traffic controllers
- Computer-based interface
 - RS232 communications front port, and rear backplane
 - User-selected communications baud rate of 1,200 to 9,600 bits per second
 - Customizable range setting
 - Customizable ID code validation
 - Flexible programming options for priority control parameters
 - Detailed current Opticom™ Infrared System parameter information
 - History log of most recent Opticom infrared system activities (1,000 entries)
- 30,000 frequency/class/vehicle code ID combinations
- Front panel switches and diagnostic indicators for testing
- Erasable write-on pads for phase or movement labeling
- Possible configuration for operating without computer
- Crystal controlled circuitry
 - Accurate infrared signal recognition circuitry
 - Precise output pulse
 - Definitive call verification
- Regulated detector power supply
- Optically isolated outputs
- Multi-function test switch
 - High- and low-priority test calls
 - Reset to default parameters
 - Range setting
 - Diagnostic test
- Advanced built-in diagnostics and testing
- Meets CE requirements
- Opticom™ Model 755 Four-Channel Adapter Card (optional)

Accessories



Opticom™ Model 832 Communications Daughter Board

- ITS Link Interface software package
- Opticom™ Model 832 Communications Daughter Board

Pin Index

- Card edge – 44-pin STD on the main PCB

Pins Function

A	24 VDC ground
B	+ 24 VDC input
D	Channel A primary detector input
E	Detector 24 VDC power output
F	Channel A output, collector (+)
H	Channel A output, emitter (-)
J	Channel B primary detector input
K	Detector ground
L	Earth ground
P	Channel C primary detector input (not used model 752E)
R	Detector 24 VDC power output
S	Channel C output collector (+) (not used model 752E)
T	Channel C output emitter (-) (not used model 752E)
U	Channel D primary input (not used model 752E)
V	Detector ground
W	Channel B output collector (+)
19	TxD (output)
X	Channel B output emitter (-)
Y	Channel D output collector (+) (not used model 752E)
21	RxD (input)
Z	Channel D output emitter (-) (not used model 752E)

- Din connector – mini 6-pin female
(front panel)

Pins	Function
1	RxD (data in)
2	Ground
3	TxD (data out)
4	RTS
5	CTS
6	Shield

- D-shell connector – 44-pin male
(front panel)

Pins Function

1	Phase 1 green input
2	Phase 2 green input
3	Phase 3 green input
4	Logic ground
5	Logic ground
6	Not used
7	Channel B preempt output
8	Not used
9	Not used
10	General purpose 1 output
11	General purpose 2 output
12	Clock set (-) controller and input
13	Channel A auxiliary detector 2 input
14	Channel B auxiliary detector 2 input
15	Channel B auxiliary detector 1 input
16	Phase 4 green input
17	Phase 5 green input
18	Phase 6 green input
19	24 VDC detector power output
20	24 VDC detector power output
21	Channel D preempt output
22	Channel C preempt output
23	Channel A preempt output
24	Not used
25	Not used
26	General purpose 3 output
27	General purpose 4 output
28	Channel A auxiliary detector 1 input
29	Channel C auxiliary detector 2 input (not used model 752E)
30	Channel C auxiliary detector 1 input (not used model 752E)
31	Phase 7 green input
32	Phase 8 green input
33	Not used
34	Detector ground
35	Detector ground
36	Not used
37	Not used
38	Clock set (+) input
39	Not used
40	Not used
41	Not used
42	Not used
43	Channel D auxiliary detector 2 input (not used model 752E)
44	Channel D auxiliary detector 1 input (not used model 752E)

Operating Parameters

- Four dual-priority, and probe frequency, channels (754E)
- Two dual-priority, and probe frequency, channels (752E)
- “First-come, first-served” for vehicles with the same priority level (high or low)
- Priority override: always higher over lower
- Opticom™ Infrared System Detector input(s): one per channel on the card edge connector and two auxiliary per channel through the auxiliary function harness
- Optional interface software for flexible programming options and call history
- LED indicators
 - Power on
 - High signal/call per channel
 - Low signal/call per channel

- Multi-function test switch to enable diagnostics and test calls to each channel
- Temperature: -37° C to +74° C (-34.6° F to +165.2° F)
- Humidity: 5% to 95% relative
- Voltage: 24 VDC ± 5%

Physical Dimensions

Length: 7.0 in. (17.8 cm)
8.2 in. (20.8 cm) including handle

Width: (Model 752E) 1.1 in. (2.8 cm)
(Model 754E) 2.3 in. (5.8 cm)

Height: 4.5 in. (11.4 cm)

Weight: (Model 752E) 0.53 lbs. (240 g)
(Model 754E) 0.57 lbs. (260 g)

Important Notice to Purchaser:

EXCEPT FOR THE LIMITED WARRANTIES SET FORTH IN THIS DOCUMENT, GLOBAL TRAFFIC TECHNOLOGIES (GTT) MAKES NO OTHER WARRANTIES AND EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE.

GTT will, at its sole option, repair, replace or refund any amounts paid for any Opticom™ Infrared System component found to be defective in materials or manufacture within five (5) years from the date of shipment from GTT. See “Warranty and Extended Coverage” for details and limitations of the coverage plan. GTT will provide a functioning replacement component at a standard charge per unit for an additional five (5) years.

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) 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) subjected to events or use outside the normal or anticipated course.

IN NO EVENT SHALL GTT BE LIABLE FOR ANY INJURY (INCLUDING, WITHOUT LIMITATION, PERSONAL INJURY), DEATH, LOSS, OR DAMAGE (INCLUDING, WITHOUT LIMITATION, PROPERTY DAMAGE), WHETHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL OR OTHERWISE, ARISING OUT OF THE USE OR INABILITY TO USE, REPAIR OR FAILURE TO REPAIR, ANY GTT PRODUCT, REGARDLESS OF THE LEGAL THEORY ASSERTED. THE REMEDIES SET FORTH IN THIS DOCUMENT ARE EXCLUSIVE.

Sale and use of the Opticom infrared system is expressly restricted to authorized agencies of government customers, within their specific jurisdictions. However, because the infrared signal generated by the Opticom infrared system is not exclusive, GTT does not warrant exclusive activation by purchaser. Authorized users who desire to use or coordinate use of the Opticom infrared system with that of other jurisdictions must first obtain the prior written approval of each authorized user in the jurisdiction where use is sought.



Global Traffic
Technologies

Global Traffic Technologies, LLC
7800 Third Street North
St. Paul, Minnesota 55128-5441
1-800-258-4610
651-789-7333
www.gtt.com

Global Traffic Technologies Canada, Inc.

157 Adelaide Street West
Suite 448
Toronto, ON M5H 4E7
Canada
1-800-258-4610

Opticom is a trademark of Global Traffic Technologies, LLC.
Used under license in Canada.
Please recycle. Printed in U.S.A.
© Global Traffic Technologies, LLC 2007
All rights reserved.
75-0500-4550-1 (A)