First Reading: April 2, 2024
Second Reading: dispensed

RESOLUTION 2024 - 031

A RESOLUTION APPROVING A JOINT AGREEMENT BETWEEN THE BOARD OF COUNTY COMMISIONERS OF HAMILTON COUNTY, OHIO, AND THE BOARD OF TOWNSHIP TRUSTEES OF SYCAMORE TOWNSHIP, HAMILTON COUNTY, OHIO FOR THE INSTALLATION OF A TRAFFIC SIGNAL PREEMPTION SYSTEM IN SYCAMORE TOWNSHIP AND DISPENSING WITH THE SECOND READING

WHEREAS, the Board of Township Trustees is desirous of making improvements to Hamilton County signalized intersections within the township by adding Traffic Signal Preemption Systems, the Sycamore Township Preemption Project PID 119073; and

WHEREAS, the Board of Township Trustees desires to approve the Joint Agreement for the Installation of a Traffic Signal Preemption System between Hamilton County and Sycamore Township, for the Sycamore Township Preemption Project PID 119073;

NOW THEREFORE, BE IT RESOLVED by the Board of Township Trustees of Sycamore Township, State of Ohio:

SECTION 1. The attached Joint Agreement between Sycamore Township and Hamilton County for the Sycamore Township Preemption Project PID 119073 is hereby approved, and the Township Administrator is hereby authorized and directed to execute the Agreement on behalf of the Board.

SECTION 2. The Board of Township Trustees of Sycamore Township, by at least two-third vote of all of its members, dispenses with any requirement that this Resolution be read on two separate days and authorizes its passage upon one reading.

SECTION 3. This Resolution shall take effect on the earliest date allowed by law.

VOTE RECORD:

Mr. Kellums Aye Ms. Schwegmann Aye Mr. Weidman Aye

PASSED at a meeting of the Board of Township Trustees this 2nd day of April, 2024.

Thomas J. Weidman, Chairman

Tracy Schwegmann, Vice Chairman

Tracy Kellums, Trustee

AUTHENTICATION

This is to certify that this Resolution was duly passed and filed with the Sycamore Township Fiscal Officer this 2nd day of April, 2024.

Jonathan T. Deters
Sycamore Township Fiscal Officer

APPROVED AS TO FORM:

Lawrence E. Barbiere, Law Director

01 09 2025 Vol. 378 Page # 00021

HAMILTON COUNTY
ENGINEER'S OFFICE

January 9, 2025

Board of Hamilton County Commissioners
Todd B. Portune Center for County Government
138 East Court Street, Room 603
Cincinnati, Ohio 45202

Re: Joint Agreement between Hamilton County & Sycamore Township
For the installation of a Traffic Signal Preemption System
Located in Sycamore Township

Honorable Board:

Please find attached a Resolution and an original of a Joint Agreement between Hamilton County and the Board of Township Trustees of Sycamore Township for the installation of a Traffic Signal Preemption System in Sycamore Township.

The Township desires to install a traffic signal preemption system for use by fire emergency equipment in the traffic signals located as listed in Exhibit A, which requires the installation of certain equipment in the County's traffic signal controller that will permit the signal to be preempted by fire emergency equipment entering the intersection.

The County will be responsible for **none** of the cost involved in the installation of the equipment and/or the operation, maintenance, repair, replacement, or removal of the equipment.

The Township will be responsible for **all** of the costs involved in the installation of the equipment and/or the operation, maintenance, repair, replacement, or removal of the equipment.

Re: Joint Agreement between Hamilton County & Sycamore Township
For the installation of a Traffic Signal Preemption System
Located in Sycamore Township

This office recommends that your Honorable Board adopt the attached Resolution for the purpose of authorizing a Joint Agreement between Hamilton County and the Board of Township Trustees of Sycamore Township for said agreement.

Respectfully Submitted,

ERIC J. BECK, P.E.-P.S.
HAMILTON COUNTY ENGINEER

EJB/JTN/fel
Attachments

"On motion of Commissioner Driehaus, seconded by Commissioner Summerow Deters, the following resolution was adopted"....

RESOLUTION AUTHORIZING A JOINT AGREEMENT BETWEEN HAMILTON COUNTY AND SYCAMORE TOWNSHIP FOR THE INSTALLATION OF A TRAFFIC SIGNAL PREEMPTION SYSTEM IN SYCAMORE TOWNSHIP.

BY THE BOARD:

WHEREAS, the **TOWNSHIP** desires to install a traffic signal preemption system for use by fire emergency equipment in the traffic signals located as listed in Exhibit A, which requires the installation of certain equipment in the COUNTY's traffic signal controller that will permit the signal to be preempted by fire emergency equipment entering the intersection; and

WHEREAS, the **TOWNSHIP** has submitted documentation/information regarding the equipment to be installed in the controller, a copy of which is marked Attachment 1, is affixed hereto, and is incorporated herein by reference. The COUNTY has reviewed and approved the documentation/information submitted by the TOWNSHIP; and

WHEREAS, the **COUNTY** will permit the **TOWNSHIP** and/or the **TOWNSHIP's** qualified agents to install the equipment in the traffic controller at the intersection and inspect the installation of the equipment; and

WHEREAS, the **COUNTY** will be responsible for **NONE** of the costs involved in the installation of the equipment and/or the operation, maintenance, repair, replacement, or removal of the equipment; and

WHEREAS, the **TOWNSHIP** will have a qualified firm install and test the equipment prior to putting the preemption system into use and agree that the preemption system is not to be placed into use until the **COUNTY** has reviewed and approved the installation; and

WHEREAS, the **TOWNSHIP** will be responsible for **ALL** of the costs involved in the installation of the equipment and/or the operation, maintenance, repair, replacement, or removal of the equipment; and

WHEREAS, the **COUNTY** and the **TOWNSHIP** mutually agree that if the **COUNTY** determines that the traffic signal preemption system is no longer justified or that the equipment has fallen into disrepair and adversely affects the operation of the traffic signal, the **TOWNSHIP** will totally remove the equipment and restore the traffic signal to its original operation. If the **TOWNSHIP** does not remove the equipment when so directed by the **COUNTY**, the **COUNTY** will remove the equipment and restore the traffic signal's operation and will invoice the **TOWNSHIP** for the work performed. The **TOWNSHIP** will pay said invoiced amount to the **COUNTY** within thirty (30) days.

NOW, THEREFORE BE IT RESOLVED by the Board of County Commissioners of Hamilton County, Ohio, that the said Agreement be and the same hereby is approved.

BE IT FURTHER RESOLVED that the County Administrator be and he hereby is authorized and directed to execute the Agreement.

BE IT FURTHER RESOLVED that the Clerk of the Board be and she hereby is authorized and directed to certify a copy of the Resolution to the County Engineer and the County Auditor.

ADOPTED at a regular meeting of the Board of County Commissioners of Hamilton County, State of Ohio, this 9th day of January, 2025.

Ms. Driehaus, Yes Ms. Summerow Dumas, Yes Ms. Reece, Yes

CERTIFICATE OF CLERK

IT IS HEREBY CERTIFIED that the foregoing is a true and correct transcript of a Resolution adopted by this Board of County Commissioners in session 9th day of January, 2025.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of the Office of the County Commissioners of Hamilton County, Ohio, this 9th day of January, 2025.

Leslie Hervey, Clerk
Board of County Commissioners
Hamilton County, Ohio

Joint Agreement Between Hamilton County and Sycamore Township for the Installation of a Traffic Signal Preemption System in Sycamore Township

This JOINT AGREEMENT is entered into on this 9th day of January, 2025, by and between the Board of County Commissioners of Hamilton County, Ohio, hereinafter referred to as the "COUNTY", on behalf of the Hamilton County Engineer, hereinafter referred to as the "ENGINEER", and the Board of Township Trustees of Sycamore Township, hereinafter referred to as the "TOWNSHIP", acting by and through its duly authorized Township agent(s).

WHEREAS:

1) the TOWNSHIP desires to install a traffic signal preemption system for use by fire emergency equipment in the traffic signals located as listed in Exhibit A; and

2) the signal preemption system requires the installation of certain equipment in the COUNTY's traffic signal controller that will permit the signal to be preempted by fire emergency equipment entering the intersection; and

3) the TOWNSHIP has submitted documentation/information regarding the equipment to be installed in the controller, a copy of which is marked Attachment 1, is affixed hereto, and is incorporated herein by reference; and

4) the COUNTY has reviewed and approved the documentation/information submitted by the TOWNSHIP.

NOW, THEREFORE, the COUNTY and the TOWNSHIP agree that:

The COUNTY and/or the ENGINEER will:

1) permit the TOWNSHIP and/or the TOWNSHIP's qualified agent to install the equipment in the traffic controller at the intersection.

2) inspect the installation of the equipment.

3) will be responsible for **NONE** of the costs involved in the installation of the equipment and/or the operation, maintenance, repair, replacement, or removal of the equipment.

The TOWNSHIP will:

1) have a qualified firm install and test the equipment prior to putting the preemption system into use.

2) agree that the preemption system is not to be placed into use until the COUNTY has reviewed and approved the installation.

3) be responsible for **ALL** of the costs involved in the installation of the equipment and/or the operation, maintenance, repair, replacement or removal of the equipment.

The COUNTY and the TOWNSHIP mutually agree that:

1) if the COUNTY determines that the traffic signal preemption system is no longer justified or that the equipment has fallen into disrepair and adversely affects the operation of the traffic signal, the TOWNSHIP will totally remove the equipment and restore the traffic signal to the signal's original operation.

2) if the TOWNSHIP does not remove the equipment when so directed by the COUNTY, the COUNTY will remove the equipment and restore the traffic signal's operation and will invoice the TOWNSHIP for the work performed. The TOWNSHIP will pay said invoiced amount to the COUNTY within thirty (30) days.

This JOINT AGREEMENT shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

This left intentionally blank.

IN WITNESS WHEREOF, the COUNTY and the TOWNSHIP have signed this JOINT AGREEMENT as indicated in their respective acknowledgements below.

SYCAMORE TOWNSHIP:

By: _____

_____
Title

Approved as to Form:

By: L. E. Barbiere

Law Director
Title

The undersigned Fiscal Officer of Sycamore Township, County of Hamilton, Ohio, hereby certifies that the moneys required to meet the obligations of the Township under this agreement have been lawfully appropriated by the Township for such purpose and are in the treasury or in the process of collection to the credit of an appropriate fund, free from any previous encumbrances. This certificate is given in compliance with Sections 5705.41 and 5705.44.

This 2 day of April, 2024.

By: _____
Fiscal Officer

HAMILTON COUNTY:

By: _____
Hamilton County Engineer

Board of County Commissioners, Hamilton County, Ohio:

By: _____
County Administrator

Approved as to Form:

By: _____
Assistant County Prosecutor

EXHIBIT A

E Galbraith Rd – Jewish Hospital
E Galbraith Rd – Kenwood Rd
E Galbraith Rd – Kenwood Plaza - Indian Creek
E Galbraith Rd – Kenwood Collection - North Creek Drive
E Galbraith Rd – Lancewood Ct
E Kemper Rd – Conrey Rd
E Kemper Rd - Goldcoast
E Kemper Rd – N Lake Dr
E Kemper Rd – Snider Rd
Kenwood Rd – Sycamore Rd
Kenwood Rd – Kugler Mill Rd
Kenwood Rd – Happiness way
Kenwood Rd – Kenwood Towne Centre
Kenwood Rd – Orchard Ln
Kenwood – Plaza - American Way
Kenwood Rd – Euclid Ave
Plainfield Rd – Larchview Dr
Plainfield Rd – Donna Ln – Myrtle Ave
Reed Hartman Hwy – Fields Ertel Rd - Indian Springs Dr
Reed Hartman Hwy – Brookwood Retirement Community
Ronald Reagan Dr – Hosbrook Rd
Snider Rd – Cornell Rd

Fields Ertel Rd & McCauley Rd
(Currently being designed)

First Reading: April 2, 2024
Second Reading: dispensed

RESOLUTION 2024 - 031

A RESOLUTION APPROVING A JOINT AGREEMENT BETWEEN THE BOARD OF COUNTY COMMISIONERS OF HAMILTON COUNTY, OHIO, AND THE BOARD OF TOWNSHIP TRUSTEES OF SYCAMORE TOWNSHIP, HAMILTON COUNTY, OHIO FOR THE INSTALLATION OF A TRAFFIC SIGNAL PREEMPTION SYSTEM IN SYCAMORE TOWNSHIP AND DISPENSING WITH THE SECOND READING

WHEREAS, the Board of Township Trustees is desirous of making improvements to Hamilton County signalized intersections within the township by adding Traffic Signal Preemption Systems, the Sycamore Township Preemption Project PID 119073; and

WHEREAS, the Board of Township Trustees desires to approve the Joint Agreement for the Installation of a Traffic Signal Preemption System between Hamilton County and Sycamore Township, for the Sycamore Township Preemption Project PID 119073;

NOW THEREFORE, BE IT RESOLVED by the Board of Township Trustees of Sycamore Township, State of Ohio:

SECTION 1. The attached Joint Agreement between Sycamore Township and Hamilton County for the Sycamore Township Preemption Project PID 119073 is hereby approved, and the Township Administrator is hereby authorized and directed to execute the Agreement on behalf of the Board.

SECTION 2. The Board of Township Trustees of Sycamore Township, by at least two-third vote of all of its members, dispenses with any requirement that this Resolution be read on two separate days and authorizes its passage upon one reading.

SECTION 3. This Resolution shall take effect on the earliest date allowed by law.

VOTE RECORD:

Mr. Kellums Aye Ms. Schwegmann Aye Mr. Weidman Aye

PASSED at a meeting of the Board of Township Trustees this 2nd day of April, 2024.

Thomas J. Weidman, Chairman

Tracy Schwegmann, Vice Chairman

Tracy Kellums, Trustee

AUTHENTICATION

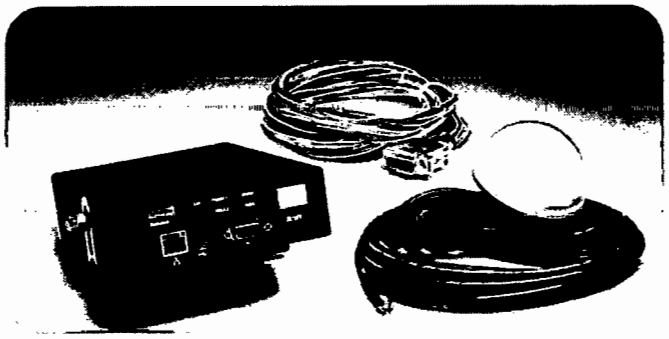
This is to certify that this Resolution was duly passed and filed with the Sycamore Township Fiscal Officer this 2nd day of April, 2024.

Jonathan T. Deters
Sycamore Township Fiscal Officer

APPROVED AS TO FORM:

Lawrence E. Barbiere, Law Director

Miovision Opticom® GPS-enabled vehicle equipment



The Opticom GPS-enabled system assists authorized priority vehicles through signalized intersections by providing temporary right-of-way through the use of common traffic controller functions.

The Opticom GPS-enabled system consists of the following matched components:

Vehicle Equipment

- Opticom 2100 high priority radio/GPS controlunit
  –OR–
  Opticom 2101 low priority radio/GPS control unit
- Opticom 1050 GPS/radio antenna
- Opticom 2171 vehicle interface cableIntersection Equipment
- Opticom 3100 GPS radio unit containing a GPSreceiver with antenna and a 2.4 GHz spreadspectrum transceiver with antenna
  –OR–
  Opticom 3101 GPS radio unit containing a GPS receiver and a 2.4 GHz spread spectrum transceiver, with Opticom 1050 GPS/radio antenna and Opticom 1072 GPS cable assembly
- Opticom 764 multimode phase selector
- Opticom 768 auxiliary interface panel
- Opticom 1040 GPS card rack or Opticom 760/770 card rack
- Opticom 1070 GPS installation cable

Opticom GPS-enabled vehicle equipment is mounted on the priority vehicle. Its GPS receiver obtains information from the constellation of global positioning satellites. This information is used to compute the location, speed and heading of the vehicle. This information, along with a priority request and the state of the vehicle's turn signal, is broadcast using the 2.4 GHz spread spectrum transceiver.

Opticom GPS-enabled system intersection equipment receives the radio transmission from the vehicle equipment. The intersection equipment then compares the information being received from the vehicle with the parameters stored in the intersection equipment's memory. If the vehicle is heading toward the intersection in a predefined approach corridor, is requesting preemption or priority and has met all other programmed parameters, the corresponding phase selector output is activated. This output is connected to the traffic controller.

When activated, the controller cycles to grant a green light to the requesting vehicle or holds the green, allowing the vehicle to pass through the intersection.

The Opticom 760 card rack or Opticom 770 gate opener provide the power and logic wiring for the Opticom 764 multimode phase selector, which plugs directly into a slot in the unit. The Opticom 768 auxiliary interface panel provides connections for monitoring green phases and provides additional priority control outputs as well as additional outputs for time synchronization and confirmation lights.

Features

Opticom GPS-enabled system vehicle equipment is intended for use on priority vehicles. The vehicle equipment kit consists of the compact Opticom 2100 or 2101 Radio/GPS control unit containing a GPS receiver and a 2.4 GHz spread spectrum transceiver, used with the Opticom 1050 GPS/radio antenna and the Opticom 2171 vehicle interface cable.

Opticom GPS-enabled vehicle equipment has the following features:

- Operates on 10-36 VDC
- Vehicle interface inputs 10-36 VDC
- Less than 2 amps peak current draw
- Configurable turn signal sense inputs with multiple activation options
- Speed pulse sense (future)
- Reverse/Neutral sense (future)
- 4 configurable outputs (future)
- 2 configurable inputs (future)
- Status indicators
  – On/Off switch
  – Status
  – Radio
  – Link
  – Priority
  – Disable
- Brightness level of indicators is photosensor controlled with separate settings for day and night

- Capability to control an Opticom IR emitter through a single control module
- Meets FCC part 15 Class A specifications
- Option to add dead reckoning unit (future)
- Additional GPS output in NMEA format for other onboard uses
- Vehicle identification encoding; selectable at installation
- 25-foot interface cable for installation flexibility
- Adapter available for upgrading from previous generation equipment without rewiring
- Available Windows configuration and maintenance software
- Configurable operating mode of disable input
  – Latching or non-latching
  – Disable trigger method
  – +12 VDC to ground
  – Ground to +12 VDC
- Configurable remote activation mode
  – Apply+ 10-36 VDC
  – Apply + 5VD
  – Apply ground
- Configurable activation method
  – Light bar and/or manual
- Accepts passenger count, and minutes late conditional priority input via J1708 from compatible onboard devices such as AVL and passenger counters.
- Internally records each system activation. Each entry contains:
  – Intersection name
  – Date and time of the activity
  – Vehicle class code vehicle ID, Agency ID
  – Channel called
  – Priority of the activity
  – Duration of the activation
  – If preempt requested, and reason if not
  – Turn signal status at the end of the call
  – Entry, exit and average speed
  – Relative priority level
  – Conditional priority level

Operating Parameters

- Temperature: -34°C to +74°C (-30°F to +165°F)
- Humidity: 5% to 95% relative
- High or low priorities selected by model
- User-programmable vehicle ID code, which is transmitted to intersection equipment
  – 254 agency IDs
  – 15 vehicle classes
  – 9999 vehicle IDs
  – Over 38 million combinations per priority level
- User-programmable reference vehicle name (up to 40 characters)
- Self-diagnosis
- Non-obstructed transmission at least 2,500 feet (762 m)
  - Turn signal monitoring transmitted to intersection
  - RS485/J1708 serial interfaces
  - GPS data output
  - Ethernet port
  - USB Port
  - RS-232 serial port

Physical Dimensions

Opticom 2100 or 2101 radio/GPS control unit

Length: 7.25 in. (18.4 cm)
Width: 5.44 in. (13.8 cm)
Height: 1.63 in. (4.1 cm)
Weight: 1.2 lb. (0.5 kg)

Opticom 1050 GPS/radio antenna

Diameter: 2.85 in. (7.2 cm)
Height: 1.4 in. (3.5 cm)
Cable Length: 15.0 ft. (4.6 m)
Weight with Cables: 0.6 lbs. (0.30 kg)

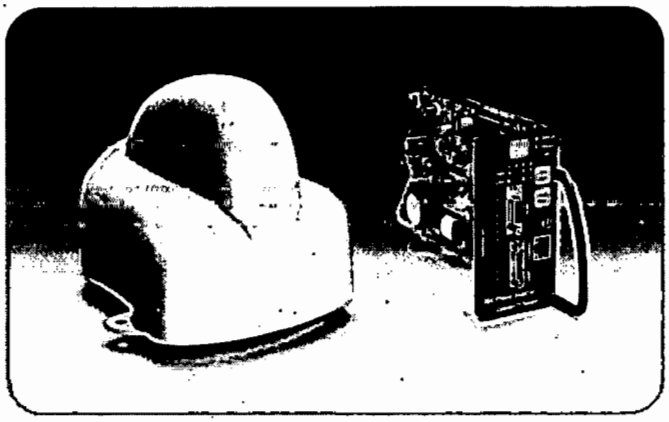
opticom by miovision

For more information, visit **help.miovision.com**,
email us at **support@miovision.com**,
or call us NA Toll-free at **1-855-360-7752**

MIOVISION

SYCAMORE TWP
QTY - 47
3100 INTERSECTION
ANTENNA

Miovision Opticom® GPS-enabled intersection equipment



The Opticom GPS System assists authorized vehicles through signalized intersections by providing temporary right-of-way through the use of common traffic controller functions.

The Opticom GPS system consists of the following matched components:

Intersection Equipment

- Opticom 3100 GPS Radio Unit containing a GPSreceiver, with antenna and a 2.4 GHz spreadspectrum transceiver, with antenna
  –OR–
  Opticom 3101 GPS Radio Unit containing a GPS receiver and a 2.4 GHz spread spectrum transceiver, with Opticom 1050 GPS/Radio Antenna and Opticom 1072 GPS Cable Assembly
- Opticom 764 Multimode Phase Selector
- Opticom 768 Auxiliary Interface Panel
- Opticom 1040 GPS Card Rack or OpticomModel 760 Card Rack or Opticom Model 770Card Rack
- Opticom 1070 GPS Installation Cable

Vehicle Equipment

- Opticom 2100 High Priority Radio/GPS ControlUnit
  –OR–
  Opticom 2101 Low Priority Radio/GPS Control Unit
- Opticom 1050 GPS/Radio Antenna
- Opticom 2171 Vehicle Interface Cable

Opticom GPS system intersection equipment consists of the compact, weather resistant RF-energy-emitting Opticom 3100 GPS Radio Unit containing a GPS receiver with antenna and a 2.4 GHz spread spectrum transceiver with antenna.

The radio unit is connected to an Opticom 764 Multimode Phase Selector via an 11-conductor radio/GPS cable.

The Opticom 764 Multimode Phase Selector can be installed directly into a CA/NY Type 33X input file or most NEMA traffic controllers equipped with priority phase selection software, or into virtually any other traffic controller equipped with priority phase selection inputs and related software.

When input file space is not available, an Opticom 760 Card Rack is required. An external 120 VAC power source provides the power that is required to operate the Opticom 764 Multimode Phase Selector. The phase selector provides power to the radio unit.

The Opticom 764 Multimode Phase Selector processes the signal from the Opticom 3100 GPS Radio Unit and activates outputs, which are connected to the preemption inputs on the traffic controller. There are four channel outputs accessible on the rear connector of the Opticom 764 Multimode Phase Selector and up to 12 additional channel outputs on the Opticom 768 Auxiliary Interface Panel.

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

In certain modes of operation, outputs may be activated that are dependent on the state of the requesting vehicle's turn signal. Another mode provides separate constant outputs for high priority and low priority. The use of an Opticom 768 Auxiliary Interface Panel is required to access these additional modes and outputs.

Features

- Four channels of detection
- Radio range of 2,500 feet
- User-settable range setting by ETA and/or distance
- Call bridging
- Precise preemption output pulse
- Optically isolated outputs
- Varied outputs depending on turn signal status of requesting vehicle
- High and low priority as well as probe frequency discrimination
- "First-come, first-served" priority within each priority level
- Low-priority output may be configured for first-come,

first-served or all-channel active

- Priority-by-class and priority-by direction setting via the interface software
- 10/100Mb Ethernet and USB 2.0 communication on the front panel
- RS232 communications front port, rear backplane and Auxiliary Interface Panel
- History log of most recent Opticom GPS system activities (10,000 entries)
- More than 38 million agency/class/vehicle code combinations
- Customizable ID code validation
- Two character display, LEDs and keypad to enable diagnostics and place test calls to each channel
- Flexible programming options for priority control parameters
- Direct installation into CA/NY Type 33X input files
- Compatible with most traffic controllers
- Tested to NEMA environmental and electrical test specifications
- Meets FCC part 15 Class A specifications

Physical Dimensions

Opticom 764 Multimode Phase Selector
Length: 7.0 in. (17.8 cm) x 8.2 in. (20.8 cm) including handle
Width: 2.3 in. (5.8 cm)
Height: 4.5 in. (11.4 cm)
Weight: 0.60 lbs. (272 g)

Opticom 3100 GPS Radio Unit
Length: 9.0 in. (22.9 cm)
Width: 6.5 in. (16.5 cm)
Height: 6.0 in. (15.2 cm)
Weight: 1.8 lbs. (0.816 kg)

Opticom 3101 GPS Radio Unit
Length: 8.0 in. (20.3 cm)
Width: 4.5 in. (11.4 cm)
Height: 2.7 in. (6.9 cm)
Weight: 1.7 lbs. (0.771 kg)

Opticom 768 Auxiliary Interface Panel
Length: 7.25 in. (18.4 cm)
Width: 4.5 in. (11.4 cm)
Height: 1.0 in. (2.5 cm)
Weight with cable: 1.4 lbs. (635 g)
Cable: 12 ft (3.6 m)

Opticom 1040 GPS Card Rack/Opticom 760 Card Rack/ Opticom 770 Card Rack
Length: 8.25 in. (21.0 cm)
Width: 5.25 in. (13.3 cm)
Height: 5.1 in. (12.9 cm)
Weight: 2.3 lbs. (1.043 kg)

Opticom 1050 GPS/Radio Antenna
Diameter: 2.85 in. (7.2 cm)
Height: 1.4 in. (3.5 cm)
Cable length: 15.0 ft. (4.6 m)
Weight with cables: 0.6 lbs. (0.30 kg)

Electrical

Opticom 764 Multimode Phase Selector

Voltage: 89 to 135 VAC, 60 Hz at up to 500mA or 24 VDC at up to 1 Amp

Environmental

Opticom 764 Multimode Phase Selector

Temperature: -37°C to +74°C (-34.6°F to +165.2°F)

Humidity: 5% to 95% relative

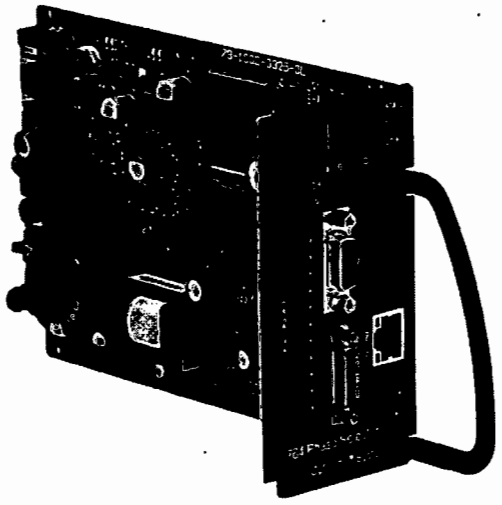
opticom by miovision

For more information, visit **help.miovision.com**,
email us at **support@miovision.com**,
or call us NA Toll-free at **1-855-360-7752**

MIOVISION

SYCAMORE TWP
QTY - 46
764 PHASE SELECTOR

Miovision Opticom® 764 Phase Sele



The Opticom 764 Multimode Phase Selector is a plug-in, four-channel, dual-priority, multimode encoded signal device designed for use with both Opticom infrared system (IR) emitters and detectors and Opticom GPS radio/GPS intersection units and vehicle equipment. It can be installed directly into the input files of Type 170 traffic controllers equipped with priority phase selection software and in virtually any other traffic controller equipped with priority phase selection inputs and related software. Phase selectors are powered from AC mains or 24 VDC and contain their own internal power supply to support Opticom IR detectors and Opticom GPS radio/GPS units.

The Opticom 764 Multimode Phase Selector may be used in IR only applications, GPS only applications, or IR and GPS applications simultaneously.

The Opticom 760 Card Rack is required when input file space is not available. When used in GPS only mode, the Opticom 1040 Card Rack may also be used.

Opticom 764 Multimode Phase Selector recognizes and discriminates among three distinct Opticom IR emitter frequency rates via Opticom detectors: high priority, low priority and probe priority. Within each of these three frequency rates, the 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. The Opticom 764 Multimode Phase Selector also recognizes three different priority levels transmitted by Opticom GPS vehicle equipment: high priority, low priority and probe priority. Within each of these three priority levels, the phase selectors further discriminate among 254 agency IDs, 15 classes of vehicle identification codes, with 10,000 individual vehicle codes per class — for more than 38 million total per priority level.

Opticom 764 Multimode Phase Selector internally records each system activation. Each entry contains:

- Intersection name
- Date and time of the activity
- Vehicle class code of the activating vehicle
- Activating vehicle's ID number
- Agency ID (GPS only)
- Channel called
- Priority of the activity•Final green signal indications displayed at theend of the call
- Time spent in the final greens
- Duration of the activation
- If preempt has been requested and reason if not
- Turn signal status at the end of the call (GPSonly)
- Entry, exit and average speed (GPS only)
- Relative priority level
- Conditional priority level

Features

IR only operation, GPS only operation, or simultaneous IR and GPS operation

- Four channels of detection
- Two auxiliary detectors per channel (IR)
- Records green signal displayed at end of preemption
- Compatible with encoded signal and non-encoded signal Opticom IR Emitters
- High and low priority as well as probe frequency discrimination
- Conditional priority for Transit Signal Priority (TSP) (when used with compatible AVL and/or passenger counter)
- "First-come, first-served" priority within each priority level
- Priority-by-class setting via the interface software
- Priority-by-direction setting via the interface software
- Direct installation into CA/NY Type 170 input files
- Automatic range setting using an encoded emitter (IR)
- Call bridging for both IR and GPS calls including mixed mode
- Low-priority output may be configured for first-come, first-served or all-channel active
- User-adjustable range setting up to 2,500 feet of operation
- Compatible with most traffic controllers

- 10/100Mb Ethernet communication on the front panel
- USB 2.0 communication on the front panel
- RS232 communications front port, and rear backplane and Auxiliary Interface Panel
- User-selected communications baud rate of 1,200 to 230,400 bits per second
- Customizable ID code validation
- Flexible programming options for priority control parameters
- Detailed current Opticom System parameter information
- History log of most recent Opticom infrared and GPS system activities (10,000 entries)
- 30,000 frequency/class/vehicle code ID combinations (IR)
- More than 38 million agency/class/vehicle code combinations (GPS)
- Front panel switches and diagnostic indicators for testing
- Accurate infrared signal recognition circuitry
- Precise output pulse
- Definitive call verification
- Regulated detector power supply (IR)
- Optically isolated outputs
- Two character display and keypad to enable diagnostics and test calls to each channel
- Display LED Indicators
- – High- and low-priority test calls
- – Reset to default parameters
- – Range setting
- User-settable range setting by ETA and/or distance (GPS only)
- Varied outputs depending on turn signal status of requesting vehicle (GPS only)
- IR detector inputs may be mapped to any channel
- Diagnostic test
- Advanced built-in diagnostics and testing
- Tested to NEMA environmental and electrical test specifications

Accessories

Opticom On-site Interface software package

- Opticom 768 Auxiliary Interface Panel
- Opticom 755 Four-Channel Adapter Card (optional)
- Opticom 760 Card Rack

Operating Parameters

Four dual-priority and probe frequency channels

- "First-come, first-served" for vehicles with the same priority level (high or low)
- Priority override: always higher over lower
- Opticom GPS Radio/GPS Unit input
- Opticom Infrared System Detector input(s): one per channel on the card edge connector and two auxiliary per channel through the Opticom 768 Auxiliary Interface Panel
- Optional interface software for flexible programming options and call history
- LED indicators
  - Status
  - Radio (GPS mode)
  - Link (GPS mode)
  - High signal/call per channel
  - Low signal/call per channel
  - Two-digit status display
- Two character display and keypad to enable diagnostics and test calls to each channel
- Voltage: 89 to 135 VAC, 60 Hz at up to 500mA or 24 VDC at up to 1 Amp
- Temperature: -37°C to +74°C (-34.6°F to +165.2°F)
- Humidity: 5% to 95% relative
- CE certified
- NEMA TS-2 compliance
- FCC compliance

Physical Dimensions

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

Width: 2.3 in. (5.8 cm)

Height: 4.5 in. (11.4 cm)

Weight: 0.60 lbs. (272 g)

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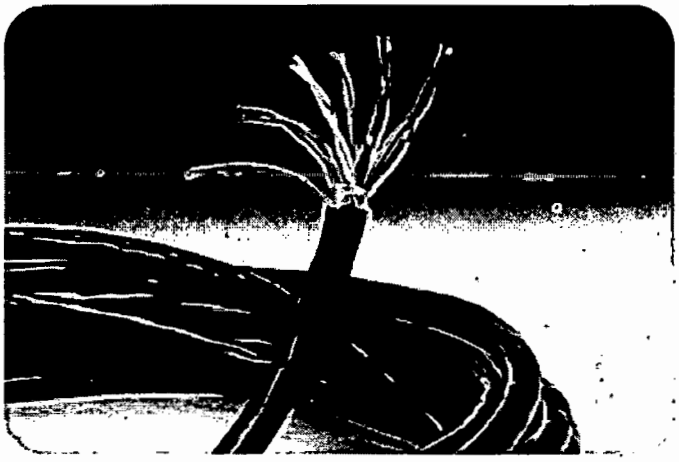
For more information, visit **help.miovision.com**,
email us at **support@miovision.com**,
or call us NA Toll-free at **1-855-360-7752**

MIOVISION

SYCAMORE TWP
QTY - 4000'
1070 GPS CABLE

Miovision Opticom® 1070 GPS Installation Cable



The Opticom 1070 GPS Installation Cable is designed and manufactured explicitly for use with Opticom Radio/GPS units. The Opticom 1070 GPS Installation Cable has ten (5-pair) color-coded twisted conductors, a conductive shield and drain, and a black PVC jacket.

This durable, high-quality cable carries the appropriate power to the Opticom Radio/GPS unit from the Opticom Phase Selector and delivers the necessary quality signal to the phase selector up to 250 feet (76 m).

Features and Benefits

- Optimized to interface Opticom Radio/GPS units to Opticom Phase Selectors
- Ensures effective range of at least 2,500 feet (760 m) with Opticom GPS System components
- Durable construction
  - Suitable for direct burial
  - Suitable for conduit and mast arm pull
  - Suitable for exposed overhead installation*

Operating Parameters

- 300 volt rating
- 90° C (194° F) temperature range
- Outer Jacket: Black SR-PVC, UV and moisture resistant
- Ten twisted pair conductors (5 pairs) AWG #20 (7 x 28) stranded, individually tinned copper:
  - Yellow/Yellow-Black
  - Blue/Blue-White
  - Orange/Orange-Green
  - Brown/Brown-White
  - Purple/Purple-White
- Aluminized polyester shield
- Drain wire AWG #22 (7 x 28) stranded, individually tinned copper
- Controlled electrical characteristics
- UL and cUL recognized

Physical Dimensions

- Outside diameter: 0.354 in. (9 mm)
- Minimum Bend Radius: 3.6 in (9.1 cm)
- Available in 500 ft., 1,000 ft., and 2,500 ft. (152 m, 305 m, and 760 m) spools

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