Accessories

The Stalker Phodar SE-1 can be outfitted as either a permanently mounted unit on a utility pole or overpass, or a tripod-mounted portable configuration. Its IP67 case lets it stand up to any weather in any season. And its modular design lets the operator provision the unit to fit the environment.

Mounting Brackets
Phodar Bracket: 200-1081-00
Strobe Bracket: 200-1081-01

This mounting bracket is especially designed to mount the Phodar or Strobe Illuminator to a utility pole or street light standard. It can also be used to attach either unit to a horizontal structure such as an overpass with slight user modification.

Strobe Illuminator
200-1035-00

The Strobe Illuminator is used in environments where supplemental lighting is needed. The Xenon strobe light is rated at 100,000 shots.

Rugged Tripod
015-0611-00

This heavy-duty tripod easily supports the weight of the Phodar. Besides providing a stable platform, it folds down to 18cm in length.

Tripod Mount
015-0612-00

This is mount is required to attach the Phodar to the Rugged Tripod.

Touchscreen Control
015-0614-00

The touchscreen is used to program the Phodar in the field. It displays the Phodar’s configuration screens and accepts touch input.

AC Adapter
155-2443-00

This AC Adapter is useful when the Phodar is permanently installed.

USB External ANPR
015-0619-50

Plugging into one of the Phodar’s three USB ports, External ANPR assists the Phodar’s main evidence application in identifying the target vehicle’s number plate for use in the Evidence Browser.

Automated and reliable photo/video traffic violation enforcement for collection and ticketing

- Easy, wizard-guided setup
- Monitor up to 32 vehicles traveling in both directions on a multi-lane roadway
- Meets or exceeds all current market requirements in the European Union
- Produces high-quality Smart Evidence photos and video, including vehicle indication, number plate, driver facial characteristics, and road plan
- Manage using external touch screen monitor or thru a TCP/IP remote connection

A sophisticated, compact 3D tracking radar, high-resolution camera, video analytics, and a powerful embedded processor for automated traffic enforcement and ticketing.
Flexible Monitoring Options

The Stalker Phodar SE-1 is designed for traffic surveillance and violation evidence collection using the newest 3-Dimension tracking type Doppler radar, video analytics, and high-resolution cameras. The combination of these elements enables monitoring of up to 32 vehicles traveling in both directions on a multi-lane roadway.

The Stalker Phodar controlling software produces a series of high-quality Smart Evidence Photos, including all necessary information about the violation. The Smart Evidence file can be used by back office software for automatic ticketing systems.

- Versatile tripod mounting
- Local or remote operation across 4 lanes of traffic
- Automatic monitoring of up to 32 vehicles
- Ensure successful certification in any country.

Advanced encryption and data protection algorithms secure data from manipulation. Using TCP/IP access, it is possible to control multiple devices at one control center. When permanently mounted, the system can be controlled over a TCP/IP Remote connection.

- Pre and Post Recording
- TCP/IP, 3xUSB, 4xI/O
- Built-in GPS
- Tracking speed of up to 32 objects
- Accuracy +/- 3km/h to 100km/h
- Resolution 5 MPixel (2448 x 2050)
- Communication 1Gb Ethernet, Ethernet switch
- Intuitive Setup Wizard
- Dynamic setup for the device, includes guided steps for configuring the device.
- Auto Calibration Automatic Angle Calibration.
- Auto Evidence Export. Automatic evidence export to USB and/or remote server.
- Remote Admin Available through RemoteDesktop as well as HTTPS by any browser.
- Statistics
- Vehicle lane identification, speed and distance tracking.
- Local or remote operation
- Dedicated computer with touchscreen.
- Upgrades
- Red light, ANPR module.

Software Features
- Statistics
- Vehicle lane identification, speed and distance tracking.
- Remote Admin
- Available through RemoteDesktop as well as HTTPS by any browser.
- Auto Evidence Export
- Automatic evidence export to USB and/or remote server.
- Auto Calibration
- Automatic Angle Calibration.

Other
- Accessories
- Pole mounting brackets, heavy duty tripod, lens filters, AC adapter, 12V Battery, IR illuminator, strobe illuminator, LCD monitor with touchscreen.
- Modules
- WiFi, built-in GPS, GSM, additional camera, shock sensor, angle calculator.
- Upgrades
- Red light, ANPR module.

Intuitive Setup Wizard

The Stalker Phodar’s setup wizard guides the user through a step-by-step process for configuring the device. Since the device can be mobile, custom parameters can be stored and retrieved whenever device is rebooted, the settings remain unchanged. During setup, the operator is guided by the Wizard through all device settings necessary to set or adjust before evidence collection.

Local or remote operation

Locally, the system is controlled with a Graphical User Interface which gives access to all features including browsing of collected evidence, export to external device, calibration and setup, log check, statistics, and live work preview.

When permanently mounted, the system can be controlled over a TCP/IP Remote connection. Using TCP/IP access, it is possible to control multiple devices at one control center. Advanced encryption and data protection algorithms secure data from manipulation and ensure successful certification in any country.

Flexible Monitoring Options

The Stalker Phodar monitors traffic three ways.

- Side of the roadside. Usually tripod- or utility-pole-mounted.
- Over the road. Center of the roadway with gantry or bridge mounting.
- Mobile vehicle. Parked vehicle on the side of the roadway.

Features

- Protection class IP67
- Mass Storage SSD 128GB-500GB
- Communication 1Gb Ethernet, TCP/IP, 3xUSB, 4xI/O
- Resolution 5 MPixel (2448 x 2050)
- Accuracy +/- 3% from 100km/h
- Tracking speed of up to 32 objects
- Pre and Post Recording
- Built-in GPS
- Tracking speed of up to 32 objects
- Accuracy +/- 3% above 100km/h
- Resolution 5 MPixel (2448 x 2050)
- Communication 1Gb Ethernet, Ethernet switch
- Intuitive Setup Wizard
- Dynamic setup for the device, includes guided steps for configuring the device.
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Strobe Specifications

Guide number (meters, 100ISO) 60 (1)
Maximum distance, 400ISO, 52.8 42m (1)
Vertical beam spread 12°
Horizontal beam spread 20°
Strobe duration <300 μs (2)

Electrical

12VDC (10.8 - 15 VDC)
Rated energy per shot 60J (3)
Stored energy 475 J
Emission peak power 350 kW
Peak supply current 4A@12V
Stand-by consumption 2.5W
Built-in fuse 5A (Time-lag T)
Lifespan of the lamp 100 000 shots (2) (4)
Lifespan of electronics (except the lamp) MTBF 50,000 hours, or 3,000,000 shots

Dynamic

Minimum interval between 2 shots 0.02 s
Guaranteed number of shots in a 50 Hz burst 3 shots (2)
Guaranteed number of shots in a 5 Hz burst 4 shots (2)
Guaranteed number of shots in a 1 Hz burst 6 shots (2)
Minimum repeat rate, 24/24h 0.33 Hz (2)

Physical

Minimum interval between 2 shots 0.02 s
Guaranteed number of shots in a 50 Hz burst 3 shots (2)
Guaranteed number of shots in a 5 Hz burst 4 shots (2)
Guaranteed number of shots in a 1 Hz burst 6 shots (2)
Maximum repeat rate, 24/24h 0.33 Hz (2)

Notes:

(1) given at rated energy, and for pictures of vehicles, slightly under exposes in order to reduce the adverse effect of highlights like reflections on shiny parts.

(2) given at rated energy.

(3) given at rated energy, and for pictures of vehicles, slightly under exposes in order to reduce the adverse effect of highlights like reflections on shiny parts.

(4) given at 30% loss of light emission.
Phodar Specifications

**Set**

- Architecture: Modular
- Protection Class: IP 67
- Operating temperature: -30°C to +60°C
- Power Consumption: <3.2A 12VDC
- Power Supply: 10.8 – 15VDC optional 230VAC
- Dimensions: 18.4 cm (h) x 22.9 cm (w) x 33.7 cm (d)
- Weight: 6.0 Kg

**Processing Unit**

- Operating system: Embedded OS (Linux)
- Processor: Industrial 1 GHz AMD G-Series Fusion Dual-Core 64-bit x 86 CPU
- Memory: 4GB
- Storage: 128 – 256 GB Internal SSD
- Communication: 3xUSB, CAN, I/O, GbE, Optional WiFi, GSM

**Internal Camera**

- Resolution: 5 MPixel (2448 x 2050)
- FPS: up to 15fps
- Sensor: 2/3" CCD Color / B&W
- IR-Cut Filter: Color sensor, Yes / black & white sensor, No.
- Lens: Megapixel 25 mm, 35mm, 50mm, 75mm

**Internal Radar**

- Maximum Range (Truck): typically 240m
- Maximum Range (Car): typically 160m
- Max. Range (Pedestrian): typically 60m
- Azimuth: 30dB Limits ±6 degree
- Elevation: 30dB Limits ±4 degree
- Max. Az. Field of View: ±18 degree
- Measurement Speed: 2 km/h – 299 km/h
- Accuracy in operating conditions: < ± 3km/h to 100 km/h
- Accuracy in laboratory conditions: < ± 1km/h to 100 km/h
- Accuracy of distance measurement: < 2.5% (10m .. max range)
- Tracking objects: up to 32 objects simultaneously
- Operating frequency: 24 GHz, K Band

**Software**

- Remote Administration: Yes
- Evidence Recording: Automatic
- Pre-Recording: Yes
- Post-Recording: Yes
- Encryption: Yes

Evidence Review and Ticketing

The SE-1 is ideally suited as the evidence collection module of a turnkey enforcement solution, including ANPR, and ticketing and collection applications. A variety of video formats and communications protocols ensure compatibility with numerous back-end systems. In some cases, a customer's end-to-end project can be achieved through careful consultations and planning. Given the right supporting infrastructure, the SE-1 can be expanded for red light enforcement and secondary violation capture such as cell phone usage or seat belt compliance.

The Stalker Phodar stores violation records internally. Violation records can be reviewed and selected for copying through its USB port. Additionally, violation records can also be archived to USB or to FTP. Each violation record contains a synopsis the data pertinent to an individual violation. Each violation records includes:

- Date and time of the violation
- Evidence Number
- Vehicle ID
- Number of photos
- Speed limit at location
- Direction of the vehicle shown as arrow
- Maximum speed of the vehicle in Measurement Zone
- Difference between Limit and Captured Speed.
- Copy Status
- Status
- Cropped Vehicle and cropped number plate (if ANPR is enabled)

Evidence Review and Ticketing

**Smart Evidence Photo generated for printing and ticketing**

More violation details are available by opening a detailed Evidence Window. Video evidence can be reviewed frame by frame. The violator is easily identified with a special orange box overlaid in the video. A Road Plan view is rendered showing the Phodar settings at the time of the infraction. The Evidence Window contains basic violation information, and a Smart Evidence Photo can be generated for printing and ticketing.

The Evidence Window includes:

- Progress bar showing number of Photos in the evidence;
- Current photo
- ID: The Violator vehicle ID
- EvID: unique for the device Evidence ID
- Y: Distance from the Radar in meters
- Lane: Lane number
- Orange Speed: The current Speed on selected image
- Red MAX Speed: Maximum speed on the violator in region of measurement
- NP: ANPR Visualization

**Automatic Number Plate Recognition - ANPR**

By licensing through a 3rd party software provider, the Phodar SE-1 has the option of processing the ANPR internally, externally using a USB dongle, or built into the back office software. Each option embeds the ANPR metadata into the evidence files.
In this sequence, sophisticated tracking algorithms follow a speeding motorcycle changing lanes along a narrow, crowded highway.