

StreamLine TM Installation For modules 4645 4655 4665 4675



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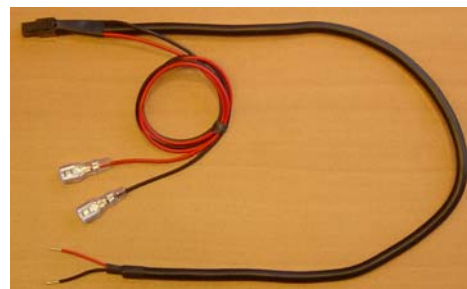
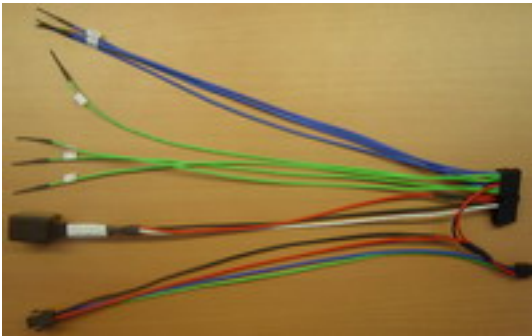
1 Contents of the StreamLine Set

1. StreamLine Module



Also required are:

2. StreamLine TM Wiring Loom
3. StreamLine GPRS/GSM Antenna
4. StreamLine GPS Antenna
5. StreamLine Power Cable



3

1.1 Camera option

The camera is optional to the system. The camera kit includes the camera cable and the camera. The camera has a resolution of 640 x 480.

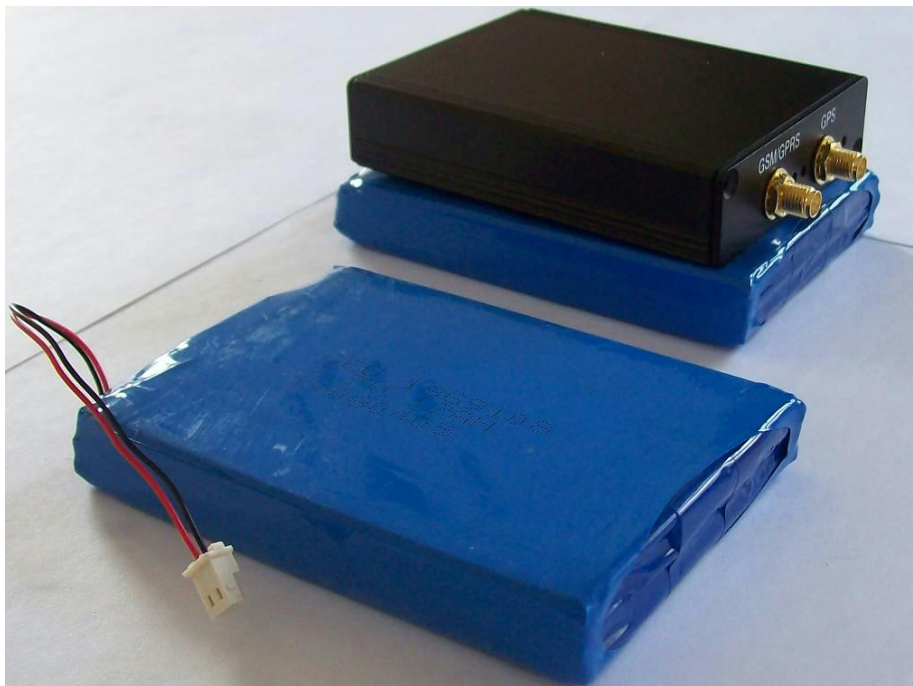
5. StreamLine Camera

6. StreamLine Camera cable



1.2 UPS option

The StreamLine unit can be equipped with an UPS (uninterrupted Power Supply) option. A 3.7 Volt Li-Ion battery is used for this purpose, which automatically is charged when the StreamLine is connected to its main power supply and will take over when the main power supply is removed.



1.3 LCD Display Option

With the LCD Display, the user can download menu's to the StreamLine and have these menu's run on the LCD Display. The user can provide standard responses or type in free text to be send to the server. Also, the LCD display is equipped with a i-Button, which can be used for identification.



2 Introduction

The StreamLine has a special easy to install design. These installation instructions should provide enough information for a professional automotive mechanic to quickly and successfully mount the equipment.

Installation by an authorized mechanic is recommended. As with any accessory the mechanic must make crucial choices, such as the location and installation method for the StreamLine module, where to drill holes, and how to place cables, etc. Only experienced and professional mechanics are trained to make the right choices. Wrong choices may cause damage to your asset or injuries.

Note! It is recommended to take sufficient safety precautions. Improper installation of any accessory may damage your assets and/or cause injuries. Both the manufacturer and the importer specifically disclaim any liability for injury or loss resulting from the installation of the StreamLine.

3 Installing the SIM card

This installation procedure describes how to install the SIM card. Please note that it is recommended to first install the SIM card, before making the cable connections.

3.1 Which type of SIM card can be used?

It is recommended to purchase a SIM-card with subscription at your local provider. Although you can use a prepaid card as well, it is not recommended to do so.

Also, when selecting a SIM-card, consider the area operation of the module. Selecting a SIM-card which causes the least roaming costs are preferred.

3.2 SIM Card Settings

The StreamLine unit you received requires the use of a GPRS enabled SIM card, that is able to connect to the internet. WAP enabled SIM cards cannot be used with StreamLine.

The PIN code on this card must be disabled, or set to '0000'. When a PIN code is active, this can be removed by inserting your SIM card in a phone and remove the PIN code from there.

3.3 Inserting the SIM card

The StreamLine unit can be opened by loosening the two screws located at the front of the unit [picture 1]. Make sure that there are no cables connected to the main unit. The front with circuit board can now be easily removed from the rest of the unit. Locate the SIM area and gently push the SIM card into its place [picture 2]. Close the unit with the screws that were removed earlier. CAUTION: there's only one way to fit the printed circuit board into the housing. Don't use excessive force!



Picture 1 - StreamLine front side



Picture 2 - SIM card location

3.4 APN

For a GPRS connection, the APN is needed. Please contact the sim card provider for the APN details. You will need Access Point Name, Username and Password. This information must be entered in the transmission section of the StreamLine Settings Software.

Also, you can set the APN by sending a SMS to the StreamLine for DriveRight.

SMS command: 000000SALP=APN,Username,Password

Eg. Etisalat UAE 000000SALP=mnet,mnet,mnet

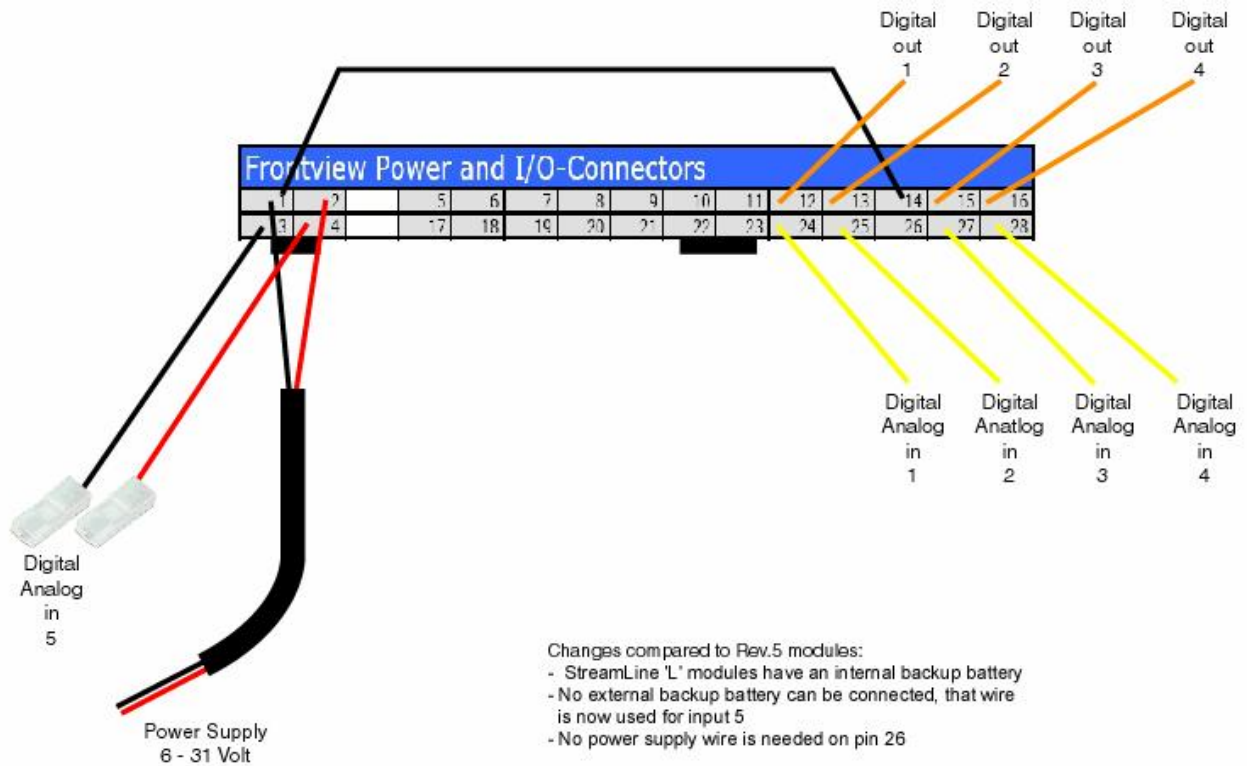
If no username or password is needed..

Eg. Unicef UAE 000000SALP= apn.unicef.com,,

4 StreamLine installation

With the optional StreamLine™ Wiring Loom, the connections can be made to the external devices. The wiring is numbered, so it will be easy to find the right cable to connect.

Use the StreamLine Power Cable to connect the module to the power supply.



4.1 General

With reference to your application, follow the next steps:

- Make sure there is no power during the installation.
- The StreamLine must be installed inside. If installation outside is needed, use of a water proof housing (IP65) is needed.
- Mount the GPS antenna, so that it has a clear view of the sky. Any metal obstructions may interfere with satellite reception.
- The antenna must be at least three (3) feet away from any cellular or CB antenna. Close proximity to a transmitting antenna may degrade or disrupt GPS reception.
- Secure double-sided tape, velcro, or magnetic mounting.
- To use the GPS magnetic mount you must remove the aluminium base plate to expose the antenna's neodymium magnets.
- Route the GPS antenna cable to the StreamLine Module.
- Connect the GPS Antenna to the StreamLine Module.
- Route the GSM antenna cable to the StreamLine Module.
- Connect the GSM Antenna to the StreamLine Module.
- Secure the StreamLine Module in place using the provided cable ties, velcro tape, or double-sided tape.
- Connect 6-31 Volt to the red power wire and ground to the black wire.

4.2 Connecting the digital inputs

The digital inputs are numbered with I1,I2,I3 and I4. A digital input is basically a detection of a switch. For example, it can be a detection of door open/door close. From the power supply, connect to the switch and from the switch connect to one of the digital inputs. When the switch closes, the input will be detected by the StreamLine as a high. When the switch is open, the input will be detected by the StreamLine as a low.

Note: Input 5 can be used for motion detection trigger. When input 5 is connected to the switched Voltage, a motion trigger can be activated.

4.3 Connecting the digital outputs

The digital outputs are numbered with O1,O2,O3 and O4. The digital outputs are Open Collector, ground switched. The maximum current per output is 500 mA. The outputs are optically isolated. To connect a device to an output: Connect the power to the + side of the device and the ground wire to one of the outputs. When the output becomes active, the ground wire is connected to ground. Based upon the settings of the StreamLine, these outputs can be controlled. Please refer to the StreamLine Settings User Manual.

4.4 Connecting the Optional Camera

To connect the camera, simply connect it to the available mini-din connector. The camera has been preset for an optimal sharp image. Please note that rotating the lens will cause a blurred image.

4.5 Connection the Optional UPS

The L versions from the StreamLine support the internal backup battery. There are several options, eg. 1Ah, 2.4Ah, 3.5Ah, 12Ah.

4.6 Connecting the Optional LCD Display

With the optional serial display, many functions are possible. From the server, menu's can be downloaded to the StreamLine and messages can be transferred between the server and the LCD display and vv.

5 Programming the StreamLine

To program the StreamLine, there are 2 possibilities:

- Use of the StreamLine TM Desktop Kit. This kit includes a power supply and a StreamLine TM Serial Setup Cable.
- Use of the Internet Portal Software

With the first possibility, a setting file is created on the pc which can be send to the StreamLine using the StreamLine TM Serial Setup Cable.

5.1 Setting up the StreamLine using the StreamLine TM Desktop Kit

It is recommended to program the StreamLine before installation. The programming is required, to be able to use the extra functions StreamLine delivers. This can be an interval for live tracking, remote control of engine start or a camera. Please refer to the StreamLine manual for detailed setup possibilities.

To be able to setup the StreamLine, please download the latest version of the StreamLine Settings Software from the website: <http://www.yourstreamline.com/>

After downloading the software, connect the StreamLine TM power cord. Then connect the StreamLine Serial Cable and the other side to the serial port of the pc. Now, you are able to change the settings of the StreamLine.

In the settings program, it is possible to setup the download, which is possible in several ways:

- On a daily basis at a certain time
- By calling to the StreamLine from a known phone number. When the StreamLine recognizes the number, the send the DriveRight data to the server. (Can also be used for emergency download of the data)
- When the vehicle enters a certain area
- and many more

6 Testing proper functioning

When all connections are made, you are ready for testing. Login to your account on the StreamLine Portal and check if data is received as expected. When this is not the case, this can be a settings problem, a SIM-Card problem, a connection problem or a installation problem.

The StreamLine shows 3 leds, providing status information.

LED	FLASHING	CONTINUOUS
RED	<i>* 1 flash per second:</i> PIN code ok <i>* 2 flashes per second:</i> PIN problem or no SIM present <i>* 1 flash per 2 seconds:</i> IP problem (e.g. not GPRS enabled)	Connected to server
YELLOW	<i>* 1 flash per second:</i> No satellites found <i>* 2 flashes per second:</i> at least 1 satellite found, no fix <i>* 5 flashes per second:</i> fix achieved, but trying to get a better fix	GPS fix successful
GREEN	N/A	N/A

6.1 Troubleshooting

For GPRS problems, check if:

- the GSM antenna is connected to the correct connector
- the SIM card is inserted
- the PIN code is disabled or set to '0000'
- the SIM card is GPRS enabled and is allowed to connect to the internet (not WAP). Please contact your provider to double check the SIM card setup. Some providers need to change the setup, which can take several hours before activation.

For GPS problems, check if:

- the GPS antenna is connected to the correct connector
- Start by placing the GPS antenna at a location where it has an unobstructed view at the sky, preferably outdoors
- Observe the yellow LED: when it flashes once or two times per second, StreamLine is scanning for satellites

When no GPS is received, it may be the case that the antenna is not installed correctly, or that it is the first time to get a fix. Note: The first time to fix for GPS will take some time (max. 10 minutes).

7 Specifications

7.1 Specifications StreamLine TM

7.1.1 Data communication

GPRS/GSM Modem		Quad band (SL4)	
Frequency		900 / 1800 MHz	
RF Power		2W @ 900 MHz Class 4 1W @ 1800 MHz Class 1	
Data	GPRS	Class 8 max. 85.6 kbps	Class 10 max. 85.6 kbps
	CSD	Max. 14.4 kbps	
	Coding Schemes	CS1 to CS4	
SMS		Mobile Originated & Mobile Terminated	
		Cell Broadcast (CB – DRX)	
		EMS (Concatenated Messages)	

7.1.2 Navigation (depends on ordered model)

GPS Receiver	12 channel parallel		
Frequency	L1 1574.42 MHz		
Acquisition Time	Autonomous	TTFF	< 6 sec (valid almanac, position, time and phemeris) < 30 sec (valid almanac, position, time) < 40 sec (no valid data)
	Assisted	TTFF	< 6 sec @ -137 dBm < 30 sec @ -150 dBm
Position Accuracy	Autonomous	5 meter (50% probable) 10 meter (95% probable)	
	Assisted	20 meter (50% probable) 50 meter (95% probable)	
Signal Detection	-152 dBm		
Acquisition And Tracking Sensitivity	-142 dBm		
Antenna	Passive or active with short-circuit detection		

7.1.3 Electrical

Operating Voltage	6-31V Power Supply. UPS function thru: Red/Black Wire = To emergency battery pack (optional)		
Power Consumption	<50 mW average, Approx. 9 W peak during data transmission Consumption depends on amount of GPRS traffic and navigation parameters		
External Connections	Serial Communication	3x RS232 in/out (full level RS232)	
	IO	4 x digital out, Open Collector, 500 mA Max. (O1,O2,O3,O4)	
		4 x digital in (I1,I2,I3 and I4)	
		<ul style="list-style-type: none"> • S1, serial port 1 • S2, serial port 2 • S3, serial port 3 • C1, mini din connector for camera • P1, power in • Power supply for UPS (A,B) • power supply for Bluetooth module 	

7.1.4 Physical

Outside Dimensions	Size	80.0 x 67 (3.15 x 2.64 inch)
	Height	20.0 mm (0.79 inch)
	Weight	
Connections	GPRS/GSM	SMA
	GPS	SMA
	Power/IO	Molex 43045-2412 , 43045-0412

7.1.5 Environmental	
Enclosure	Aluminium with black anodised finish
Operating Temperature	-20 Celcius to +70 Celcius (-4F to + 158F) non-condensing
Storage Temperature	-40 Celcius to +80 Celcius (-40F to + 185F) non-condensing
7.1.6 Solar Panel	
Panel	Thin film solar cells
Nominal Voltage	16.8 Volt
Output Power	2.1 Watt
Size	144.0 x 293.0 mm (5.67 x 11.54 inches)
Weight	-142 dBm
Connection	Bi-directional 19200/115200 baud ESD protected RS-232 interface
7.1.7 Camera	
Sensor	Omnivision
Resolution	Up to 640 x 480
Format	JPEG file
Colour Depth	16 bits
Lens	f4.0 / F 2.2
7.1.8 LCD Display	
Display	LED backlit STN 16x2 LCD
Installation bay	5.25" half-height drive-bay mounting bracket available (optional)
Mechanical	<ul style="list-style-type: none"> • 110.5(W) mm x 35.0(H) mm PCB Outline • 61.0(W) mm x 15.8(H) mm Viewing Area • 56.2(W) mm x 11.2(H) mm Active Area • 2.95(W) mm x 5.55(H) mm Character Size
i-Button	RS-232 to Dallas Semiconductor 1-Wire bridge functionality
Connection	Bi-directional 19200/115200 baud ESD protected RS-232 interface

8 Warranty and repair information

One year limited warranty.

We warrant our products to be free of defect in material and workmanship for the period of one year from the date of original purchase. While we make every effort to carefully manufacture our products to the highest standards of quality, occasionally parts may be found to be missing, defective or damaged.

If you have a defective part, return the product to us, shipping charges pre-paid. Include proof of purchase and a written explanation of the trouble. During the warranty period, we will, at our option, either repair or replace the product free of charge.

This warranty does not cover damage due to improper installation or use, negligence, accident, or unauthorized service, or to incidental or consequential damages beyond the products themselves. Implied warranties are limited in duration to the life of this limited warranty.

Changes or modification not expressly approved in writing by the producer may void the user's authority to operate this equipment.