



Satloc G4 Installation Guide

Part No. 875-0307-000 Rev. A1



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

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Hemisphere GPS Precision GPS Applications

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6,111,549	6,397,147	6,469,663	6,501,346	6,539,303
6,549,091	6,631,916	6,711,501	6,744,404	6,865,465
6,876,920	7,142,956	7,162,348	7,277,792	7,292,185
7,292,186	7,373,231	7,400,956	7,400,294	7,388,539
7,429,952	7,437,230	7,460,942		

Other U.S. and foreign patents pending.

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Contents

Chapter 1	Getting Started	1
	Parts Lists	2
	Component Weights	4
	Planning the Installation	4
Chapter 2	Mounting the Components	5
	Mounting the CPU	6
	Mounting the Touchscreen	8
	Mounting the Touchscreen Using the Ram Ball Mount	9
	Hard Mounting the Touchscreen	10
	Installing Cockpit Switches	10
	Using the Power/Dimmer/Switch Panel	11
	Mounting the Lightbar	12
	Mounting the Antenna	15
Chapter 3	Connecting the CPU	17
	Warnings	18
	General Cable Connection Warnings	18
	Antenna Cable Warning	18
	GPIO Cable Warnings	18
	Connections Diagram	19
	Connecting Cables	20
	Connecting the GPIO Cable	20
	Connecting the Comports Cable	21
	Connecting the Lightbar Cable	21
	Connecting the Antenna Cable	21
	Connecting a Keyboard and/or Mouse	21
	Using the Flow Control Port	21
	Connecting the Video (LVDS) Display Cable	22
	Connecting the Power Cable	22
	Connecting the USB Hub and USB Extension Cable	23
Chapter 4	Operating G4	25
	Powering the System	26
	Turning the CPU and Screen On	26
	Inserting and Removing the USB Flash Drive	26
	Using the Touchscreen Controls	26
	Adjusting the Lightbar Brightness	27
	Calibrating the Touchscreen	27
	Turning the System Off	27

Index 29

End User License Agreement 31

Warranty Notice 34



Chapter 1: Getting Started

Parts Lists

Component Weights

Planning the Installation

The G4 is a modular system that features a powerful CPU in a rugged aluminum box. The CPU contains a serial port for each module. Each module of the system connects to the CPU via a specific cable.

The system modules that ship with the G4 and connect to the CPU are:

- 9" color touchscreen
- Lightbar
- Antenna
- Optional switches (spray on/off, swath advance)

▲WARNING: Read this entire manual before beginning installation. Failure to follow the instructions in this manual could void your warranty.

Pay careful attention to safety reminders and warnings to eliminate the possibility of personal injury or damage to the system. Comply with all electrical connections and requirements to prevent damage to the system.

Parts Lists

Review the contents of your G4 purchase to ensure the components are not damaged.

Table 1-1: G4 main parts list

Component	Part Number	Qty
Satloc G4 (CPU)	806-1040-000	1
Template, for mounting the G4 (CPU)	875-0309-000	1
A21 air antenna	804-3036-000	1
Antenna cable, TNC-TNC 5 m	052-0005-000	1
Kit, lightbar-V, mounting, air	710-0029-002	1
Lightbar, IntelliStar, CAN	806-1040-000	1
Kit, G4 cables (see Table 1-2)	880-1040-000	1
Kit, G4 cockpit parts (see Table 1-3)	880-1041-000	1
Kit, MapStar for Windows	710-0021-000	1
9" touchscreen	750-0133-000	1
USB hub kit (see Table 1-4)	710-0119-000	1
Manual, Installation Guide, Satloc G4 (this manual)	875-0307-000	1
Manual, User Guide, IntelliTrac	875-0308-000	1
Manual, Quick Reference Guide, IntelliTrac	875-0313-000	1

Table 1-2: G4 parts list - cables

Component	Part Number	Qty
GPIO cable - HA2	051-0187-000	1
Power cable - PR1, HA2	054-0104-000	1
Lightbar-VI cable	051-0181-000	1
Video cable - Power/data	054-0141-000	1
Comports cable	051-0299-000	1
USB Type-A cable - 5m (to connect USB hub or USB flash drive to G4)	051-0295-000	1
USB Type-A cable - 3m (to connect USB hub or USB flash drive to G4)	051-0296-000	1

Table 1-3: G4 parts list - cockpit parts

Component	Part Number	Qty
Switch - dimmer (Encoder, optical, 2CH, 5V, 600EN-128, CBM) (Lightbar dimmer switch - connects to power cable 0104 and can be installed in power/dimmer/switch panel 1226)	075-0033-000	1
Switch - toggle, SPST, 15A, screen terminal (1. Left, right and center booms - connect with GPIO cable 0187; 2. Power on/off - connects with power cable 010 and can be installed in power/dimmer/switch panel 1226)	075-3022-000	4
Knob, 1/4" shaft, 3/4" dia x 0.62 (ht), aluminum, black (Use with lightbar dimmer switch 'Encoder' - 0033)	679-1010-000	1
USB flash drive	750-1107-000	1
Switch - push, SPDT 125V 6A RB (Swath advance and mark - connect to GPIO cable 0187)	075-4002-000	2
Switch - lever, SPDT MOM CONT (Boom pressure - connect to GPIO cable 0187)	075-4001-000	1
Power/dimmer/switch panel (Mount fuse [not supplied], power on/off switch 3022 and dimmer 0033 - optional)	601-1226-000	1
Cover, USB flash drive, splash-proof	675-0152-000	1

Table 1-4: G4 parts list - USB hub

Component	Part Number	Qty
Assembly, USB hub	805-0012-000	1
Cable, USB Power, USB hub	054-0142-000	1

Table 1-5: G4 parts list - HQ Connectivity - optional (if HQ service required)

Component	Part Number	Qty
Antenna 14dBi, outdoor directional	150-0027-000	1
Wireless USB network adapter	750-1111-000	1
Wireless - 150N Router	750-1112-000	1
USB SoundWave 7.1 audio adapter	750-1113-000	1
Verizon USB modem 4G Pantech	750-1114-000	1
Microsoft LifeCam	750-1115-000	1
Low loss outdoor N-Plug extension cable, 30 ft	050-0068-000	1

Component Weights

Table 1-6: Component weights

Component	Weight
CPU	10.75 lb (4.9 kg)
Touchscreen	2.75 lb (1.2 kg)
Lightbar V1	4.2 lb (1.91 kg)
Complete cable set	7.45 lb (3.4 kg)
Antenna	0.75 lb (0.34 kg)

Planning the Installation

⚠ WARNING: Before beginning the installation, plan it by considering:

- Cable lengths
- Clearance space
- Power source
- Aircraft/vehicle structure
- Visibility
- Balance (air installations)

In planning your installation locations, see Chapter 3, “Connecting the CPU” for a visual overview of how the components are connected.



Chapter 2: Mounting the Components

- Mounting the CPU
- Mounting the Touchscreen
- Installing Cockpit Switches
- Using the Power/Dimmer/Switch Panel
- Mounting the Lightbar
- Mounting the Antenna

Before mounting (installing) any components, read the short section “Planning the Installation” on page 4.

WARNING: Review all warnings in Chapter 3, “Connecting the CPU” before attempting to connect any of the components together using the supplied cables. Connecting cables improperly can damage your system.

WARNING: Consider using existing hardware and hardware locations. Avoid drilling holes that may damage other equipment (such as structural frame members, electrical cables, or fluid lines).

Where hardware, such as screws, washer and nuts, is not provided for a particular mounting or installation, you will need to provide the hardware appropriate to your particular needs.

Mounting the CPU

Install the CPU in any location inside the aircraft or vehicle that has the necessary room and is sheltered from the elements, for example in a storage compartment, in the cab, behind the seat. The CPU must have sufficient clearance to be accessible for attaching/removing cables (to or from all sides) and for inserting and removing the USB flash drive (however, see “Inserting and Removing the USB Flash Drive” on page 26).

The G4 CPU comes installed on its quick-release slide tray.

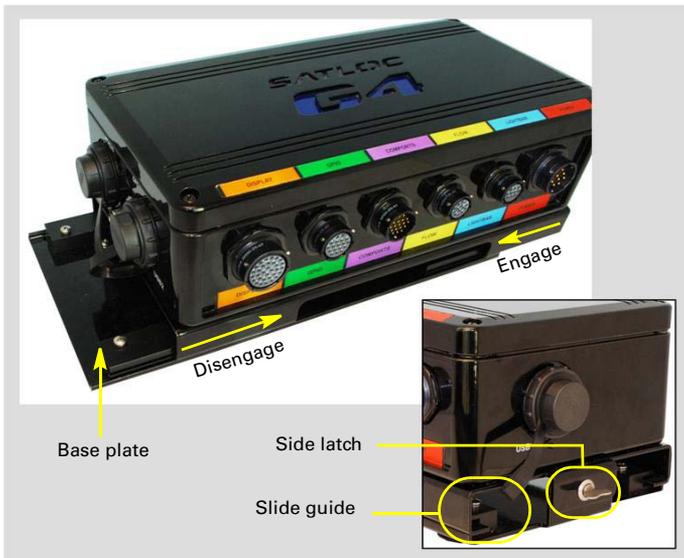


Figure 2-1: CPU on its quick-release slide tray

WARNING: Do not mount the CPU vertically. The CPU must be mounted on a horizontal surface.

To install the slide tray and CPU:

1. Release the side latch and slide the CPU and the attached upper slide plate from the base plate (slide and detach toward the side latch end—you need to slide it only far enough to clear the short slide guides).
2. Using the template supplied, mark and drill eight holes in your selected (horizontal) mounting surface for the four vibration-damper feet on the base plate.

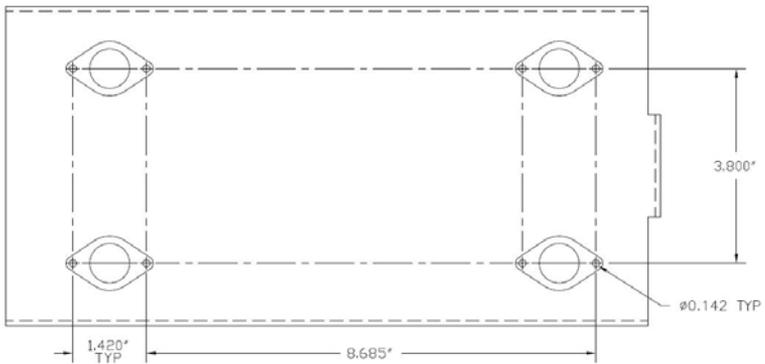


Figure 2-2: CPU vibration-damper mounting template

3. Using suitable fasteners, secure the base plate feet (and the base plate*) to the mounting surface.
4. Slide the CPU/upper plate assembly onto the base plate from the latch end and apply the latch.
5. Connect the free end of the G4 grounding strap to the airframe ground (the other end of the strap is attached to bottom of the G4).

Note: *You can detach the feet from the base plate and mount them separately then remount the base plate if preferred.

Mounting the Touchscreen

Mount the touchscreen inside the cockpit or cab of the aircraft or vehicle where it is:

- Easily visible while flying or driving
- Within arm's reach of the operator (pilot or driver)

WARNING: Do not obstruct the view or access to other instruments or the flying or driving visibility of the operator.

Normally, the console is located in the front center of the cockpit, just below the normal line of sight, and within the operator's reach. There are two options for mounting the touchscreen. The first uses a mounting arm comprising two balls and sockets. This option provides an all-axis installation which allows more mounting versatility. The second option is to hard mount the touchscreen on the cockpit dashboard.



Figure 2-3: Touchscreen and ball mount (not to scale)

Table 2-1: Touchscreen mounting kit

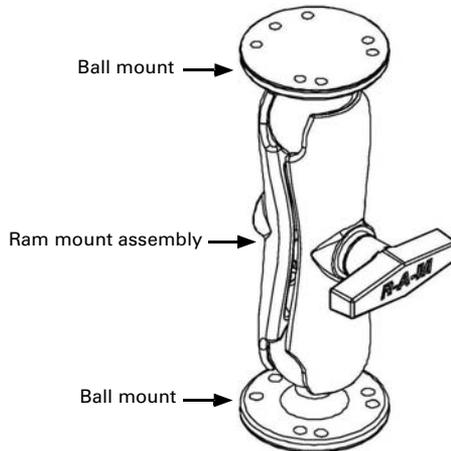
Description	Part Number	Qty
Mount, Ram-101U	603-1004-000	1
8-32 Self locking hex nut	676-1018-000	3
#8 Flat washer, stainless	678-1010-000	6

To mount the touchscreen you will require the following tools:

- 4 mm (5/32") hexagon socket screw key (Allen key/wrench)
 - Electric drill and 1/8" drill bit
 - Marker pen
 - Phillips head screw driver
 - Three #8 screws (for ram ball mount)
- or
- Four #8 screws (for hard mount)

Mounting the Touchscreen Using the Ram Ball Mount

1. Determine where you would like to mount the console. It should be located within easy reach and visibility of the operator.
2. Loosen the knob and remove the ball mount(s) from the Ram ball mount assembly.



Note: The display console you received might have one of the ball mounts already attached to the back of the display. If it has, proceed to step 4.

3. Attach one of the ball mounts to the back of the console, using the screws provided (see Note above).



4. Attach the second ball mount to your selected location, using screws of an appropriate length.
5. Once the base is securely attached to a surface of the aircraft, reattach the ball mount assembly to the back of the console.
6. Tighten the mechanism with the turn handle when the display is in the desired position.

Hard Mounting the Touchscreen

1. Determine where, within easy reach and visibility of the operator, you want to mount the touchscreen.

Note: The touchscreen you received might have one of the ball mounts already attached to the back of the display. If so, you must remove the Ram ball before proceeding.

2. Put #8 screws of the appropriate length through the four corner holes and through the dashboard.

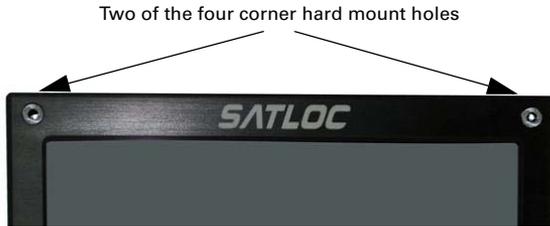


Figure 2-4: Touchscreen hard mounting holes

WARNING: Use only #8 screws when hard mounting the touchscreen. Larger screws could crack or otherwise damage the screen.

3. Attach nuts to the screws to secure the display console in place.

Installing Cockpit Switches

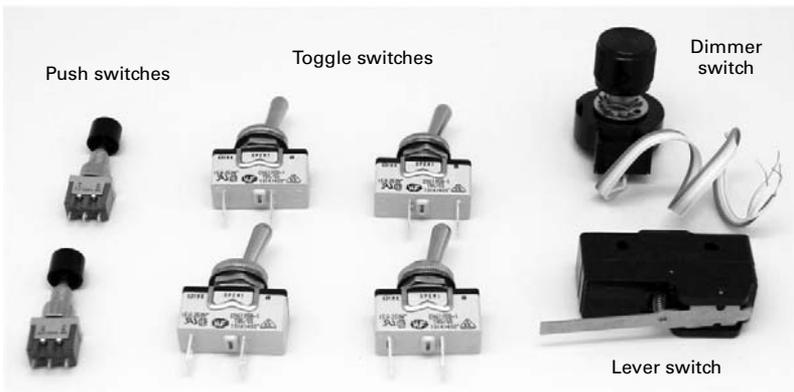


Figure 2-5: Cockpit switches

Individual switches are provided as follows (see also Table 1-3 on page 3)

- Two push switches to control swath advance and mark functions (part number 075-4002-000)

- Four toggle switches to control power and the left, center and right booms (part number 075-3022-000)
- A dimmer switch (and knob) for screen dimming (part numbers 075-0033-000 and 679-1010-000)
- A lever switch for boom pressure control (part number 075-4001-000)

Find appropriate locations in your cockpit to mount the individual switches. They must be within easy reach of the operator and in an area where they can be connected to GPIO cable (part number 051-0187-000) or power cable (see “Using the Power/Dimmer/Switch Panel” following).

WARNING: Do not obstruct the view of, or access to other instruments, or the flying or driving visibility of the operator.

Using the Power/Dimmer/Switch Panel

Use of the ‘power/dimmer/switch’ panel 601-1226-000 is optional. You can use it to mount, in the pre-drilled, labelled holes:

- One of the On/Off toggle switches 075-3022-000 (connect the switch to power cable 054-0104-000)
- The lightbar dimmer switch 075-0033-000 (connect the switch to GPIO cable 051-0187-000).

Note: If you use the power/dimmer/switch panel you will need to install a fuse (not supplied - 5 amp recommended). There is a hole in the panel for a fuse holder.

When mounting the panel—within easy reach of the operator—use the appropriate hardware (not supplied) for the selected location or mounting surface.

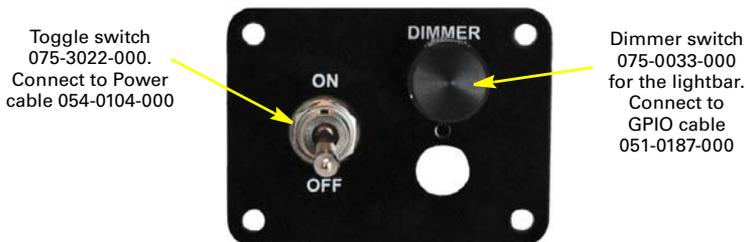


Figure 2-6: Power/dimmer/switch panel with switches installed (no fuse)

WARNING: Do not obstruct the view of, or access to other instruments or the flying or driving visibility of the operator.

Mounting the Lightbar

The lightbar installation is the same for aircraft and ground vehicles. The term 'vehicle' is used for both in this section.

Mount the lightbar in front of the cockpit or cab at a comfortable viewing distance. You can mount the lightbar either inside or outside of the cockpit or cab.

⚠ WARNING: Do not obstruct the view of, or access to other instruments or the flying or driving visibility of the operator.

The lightbar mounting kit—part number 710-0029-002—contains these items:

Table 2-2: Lightbar mounting kit

Item	Description/Usage	Part Number	Qty
1	Flat panel plate	603-1005-000 (right side) 603-1006-000 (left side)	2
2	Screw, #8-32 (attach item 1 plate to lightbar)	675-1100-000	2
3	Bracket – 1"	602-1007-000	4
4	Bracket – 3"	602-1008-001	2
5	Backing plate (use with item 8 if required)	601-1045-000	2
6	#10-32 x 5/8" bolt, washer, and nut set (bolt two x item 3s together, or an item 3 and an item 4 together).	675-1083-000 (bolt) 678-1038-000 (washer) 676-1016-000 (nut)	6 6 6
7	#10-32 x 1/2" bolt, washer, and nut set (bolt item 1 plates to item 3 or 4 brackets)	675-1086-000 (bolt) 678-1038-000 (washer) 676-1016-000 (nut)	4 4 4
8	#10-32 x 1 3/4" (and 3/4" - optional) bolt, washer, and nut set. (Bolt item 3 or 4 bracket to vehicle - use item 5 backing plates if necessary.)	675-1085-000 (1 3/4" bolt) 675-1084-000 (3/4" bolt) 678-1038-000 (washer) 676-1016-000 (nut)	4 4 4 4

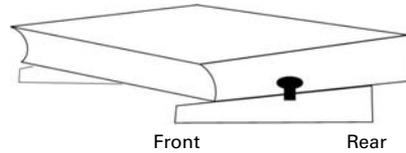
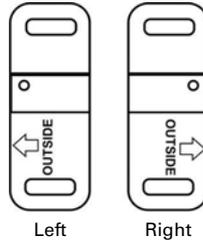
To mount the light bar you will need the following tools:

- Phillips screwdriver
- 3/16" Allen wrench and 3/8" wrench
- Electric drill and 1/4" drill bit
- Marker pen

Complete the following steps to mount the lightbar.

1. Secure the left and right flat panel plates to the lightbar using the two #8-32 screws.

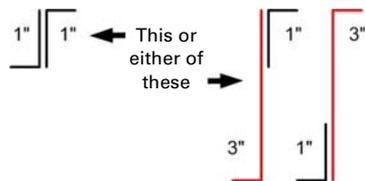
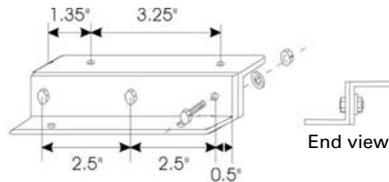
Note: The screw holes are offset to the outside edge of the plate. Also, the front of the lightbar faces the thin edge of the plate and the rear of the lightbar rests on the thick edge of the plate.



Front of lightbar towards the thin edge of the sloped plates.

WARNING: If you have the left and right plates reversed it is still possible to line up the plates so the arrows are pointing “outside.” However, the screw holes on the lightbar and the flat panel plate will not line up if you have them reversed.

2. Assemble the two sets of 1” brackets* using the #10-32 x 5/8” bolt, washer, and nut sets.
*Substitute a 3” bracket for one of the 1” brackets if added height is needed.

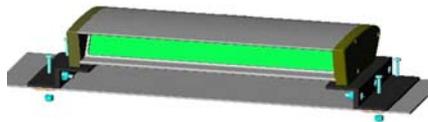


3. Attach the left and right brackets to the lightbar plates using the four #10-32 x 1/2" bolt, washer, and nut sets.

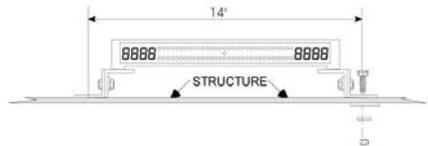


4. Using the assembled lightbar and brackets as a template, mark the four mounting hole locations on the surface of the vehicle.
5. Using a 1/4" drill bit, carefully drill the four holes.

6. Using #10-32 bolts, washers, and nuts secure the lightbar to the vehicle. Use the 1 3/4" or 3/4" bolts depending on if you are mounting the lightbar on a thick or a thin mounting surface



7. If required, attach the backing plates to the underside of the mounting surface for additional reinforcement. The backing plates provide additional support to prevent the bolts from pulling through the surface under vibration.



Mounting the Antenna



Antenna position is critical to system performance. These conditions must be met for proper system operation:

- Mount the antenna at least 5 ft (1.524 m) from transmitting antennas of any frequency.

WARNING: Positioning the antenna less than 5 ft (1.524 m) from transmitting antennas of any frequency may cause overloading of RF circuits.

- Mount the antenna at the highest practical point that will give a good view of the horizon.
- The positions that the receiver calculates are at the positions of the antenna. So, if using a swath guidance system, mount the antenna on the center line of the vehicle

Note: Hemisphere GPS recommends flush mounting the antenna to the roof of the vehicle.

To mount the antenna you will need the following tools:

- Phillips screwdriver
- Four #8-32 screws
- Electric drill, 1/8" drill bit and 7/16" drill bit
- Marker pen

Complete the following steps to mount the antenna.

1. Use the A21 antenna mounting template to mark the mounting and antenna connector hole locations on the outer surface of the vehicle.
2. Using a 1/8" drill bit, carefully drill the four screw holes.
3. Using a 7/16" drill bit, carefully drill the hole for the antenna connector.
4. Use four #8-32 thread screws to secure the antenna to the surface of the vehicle.



Chapter 3: Connecting the CPU

Warnings
Connections Diagram
Connecting Cables

Warnings

Heed all warnings before continuing. Failure to do so could void your warranty.

General Cable Connection Warnings

▲WARNING:

- Turn off power before connecting or disconnecting cables. Failing to do so can damage the system.
 - Finger-tighten all cable connections. Do not use any tools.
 - Do not route cables alongside power generator wire and other high-noise electric sources. This will cause interference.
 - Do not kink or force cables into sharp bands. This can damage the cable.
 - Store excess cable length with at least a 6-inch bend radius.
 - Do not coil the cables. This will introduce noise in the system.
 - Avoid high-temperature exposure (for example exhaust, manifold) when routing cables.
-

Antenna Cable Warning

▲WARNING:

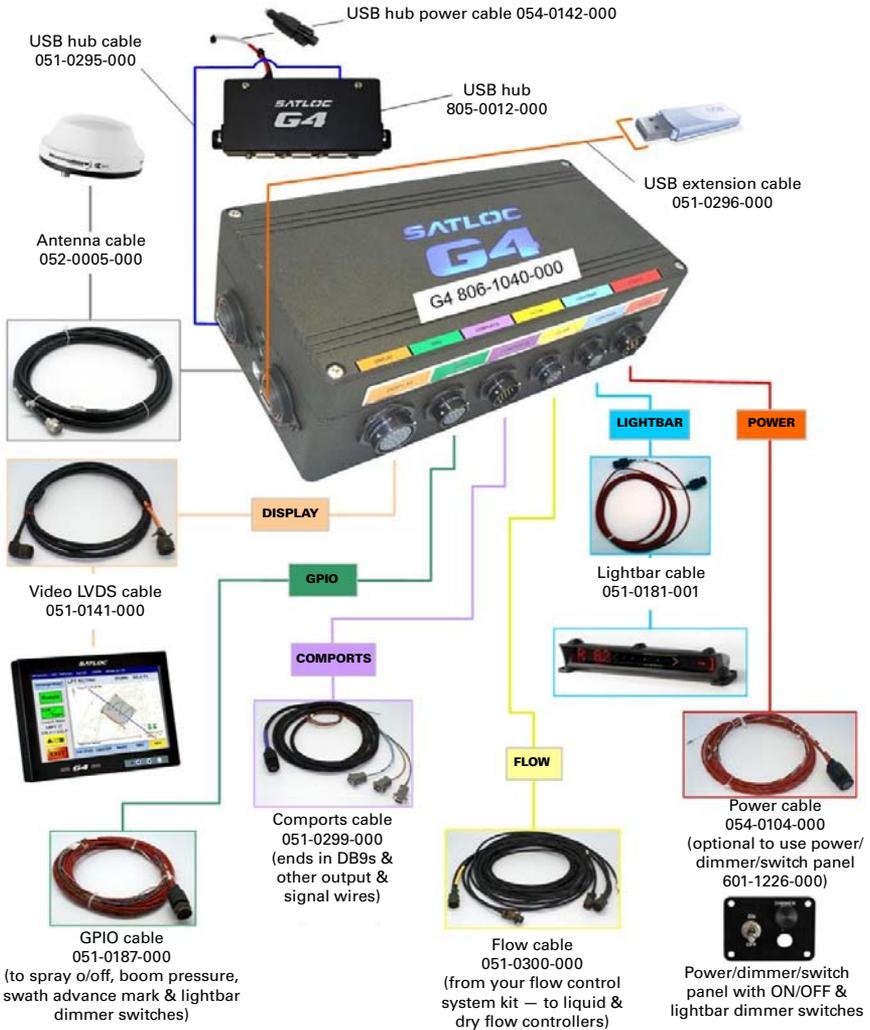
- Never connect or disconnect the antenna cable with the power on.
 - Do not route the antenna cable with any other radio system cables. This will cause interference. Keep 12 inches apart.
 - If you must cross the antenna cable with other cables, do so at a 90° angle. This will prevent interference between systems.
-

GPIO Cable Warnings

▲WARNING: Do not connect Spray On/Off leads to a flow system if it contains live voltage.

Connections Diagram

The following diagram provides a visual representation of the connections of the G4 system. Refer to this diagram when planning your installation, and again when you are ready to connect the components.



Connecting Cables

You install each G4 cable between the CPU and a modular component, for example the antenna cable or the touchscreen, or a peripheral device such as AgLaser. Each cable is labeled with its name and part number and the connections are color coded. And because each cable can fit only one port on the CPU it is impossible to connect a cable to the wrong port—just line up a connector with its matching pins and gently insert and turn.

Note: Tighten the connectors until they lock into place.

Connecting the GPIO Cable

The GPIO cable includes several individual cables that connect to the switches you installed in the cockpit for Swath Advance, Mark, Booms, Spray On/Off, and the lightbar dimmer. The cable has three individual wire groups coming off the Bendix connector.



Figure 3-1: GPIO cable - 051-0187-000

The GPIO cable connections

1. Connect the Bendix connector end of cable 051-0187-000 to the CPU port labeled "GPIO".
2. Using cable wire group 1, connect the Swath Advance (red) and the Marks (white) wires to each of the two push switches (075-4002-000). Connect the Ground 1 (black) wire to both these switches.
3. Using cable wire group 2, connect the Left Boom (red), Center Boom (green), and Right Boom (orange) wires to each of three toggle switches (075-3022-000). Connect the Ground 3 (black) wire to both of these switches.
4. Using cable wire group 2 to connect to the dimmer switch ('Encoder') 075-0033-000) switch.
 - a. Connect the Dimmer_VCC (red/black) wire to the red wire of the switch.
 - b. Connect the Dimmer_Data1 (white/black) wire to the orange wire of the switch.
 - c. Connect the Dimmer_Data2 (green/black) wire to the yellow wire of the switch.
 - d. Connect the Dimmer_Gnd (black/white) wire to the green wire of the switch.
5. Using cable wire group 3, connect the Spray On/Off (white) and the Ground 2 (black) wires to the lever switch (075-4001-000).

Connecting the Comports Cable

The comports cable comprises three comport connectors for peripheral items that interface with the G4, connections for future development, backup/supplementary relays, and 12 V connections and grounds for easy power hook up to peripherals.



Figure 3-2: Comports cable - 051-0299-000

The comports cable connections

1. Connect the Bendix connector end of cable 051-0299-000) to the CPU port labeled "COMPORTS"
2. Use the three comport connectors to connect to peripherals that interface with the G4, such as AgLaser, AIMMS 20, AutoCal, a satellite modem.
3. Use relay #1, C2 and C1, and its ground connector, as backup/extra relay for the automatic spray on/off function
4. Use the two 12 VCC out connections and grounds as convenient power sources for peripherals.

Note: The 1 PPS (Pulse Per Second) connector is for later development.

Connecting the Lightbar Cable

1. Connect the Conxall connector of the lightbar cable, part number 051-0181-000, to the CPU port labeled 'LIGHTBAR'.
2. Connect the metal Bendix connector on the lightbar cable to the matching connector on the back of the lightbar.

Connecting the Antenna Cable

Connect the antenna cable, part number 052-0005-000 between the socket on the left side of the CPU and the A21 antenna.

Connecting a Keyboard and/or Mouse

You can connect a keyboard and a mouse that have USB connectors directly or indirectly (through an extension cable) to the USB ports on either side of the CPU.

Using the Flow Control Port

Connect the flow cable 051-0300-000 (that comes with your flow control system) to the flow control port. Connections are for dry flow and for liquid flow.

Connecting the Video (LVDS) Display Cable

1. Connect the Conxall connector on the video cable, part number 054-0141-000, to the CPU serial port labeled 'DISPLAY'.
2. Connect the other end of the cable to the lower connector on the back of the touchscreen.



Connecting the Power Cable

You can mount an On/Off switch, to connect the power cable (part number 054-0104-000) to, in the power/dimmer/switch panel 601-1226-000. See "Using the Power/Dimmer/Switch Panel" on page 11.



Figure 3-3: Power cable - 054-0104-000

⚠ WARNING:

- Do **not** connect to a power source of less than 10 V.
 - Do **not** use a cigarette lighter as a permanent power source.
 - Do **not** reverse the polarity of the power leads—incorrect installation can damage the system. Connect RED to POSITIVE (+) and BLACK to NEGATIVE (-).
 - **Do** install a circuit breaker (not supplied) to prevent voltage spikes and reverse polarity from damaging the system. See step 3 following.
-
1. Connect the Conxall connector of power cable 054-0104-000 to the CPU port labeled 'POWER'.
 2. Connect the black (ground) and white (power) leads to a toggle on/off switch (075-3022-000) and mount the switch appropriately, using power/dimmer/switch panel 601-1226-000 if preferred. You can also use the panel to add a fuse to the power cable circuit.
 3. Connect the toggle switch to a suitable power source that can supply between 10 and 36 V (for example, vehicle battery, generator). You will need to install a circuit breaker (not supplied) to prevent voltage spikes and reverse polarity from damaging the system.

⚠ WARNING: (Air Installation) A potential problem when installing an electronic system in a vehicle is counter-electromotive force (CEMF). CEMF is caused when relays or solenoids connected to the common vehicle DC power bus are de-energized. The voltage produced may exceed 400 V. CEMF can be produced by equipment such as:

- Electric fan brakes
 - Air conditioners
 - Starter relays
 - Electric pump relays
-

To eliminate CEMF, install diodes at the relays and solenoids that cause the CEMF and at the power supply cable connection of the SLX system. Use a 47 Volt, 5 Watt Zener Diode (1N5368 or equivalent).

Connecting the USB Hub and USB Extension Cable

The USB Hub: Using cable 051-0295-000 connect USB hub 805-0012-000 to one of the CPU's USB ports. This gives you three USB ports to use for the wireless modem, the Wi-Fi modem and, for example, a cockpit camera. Mount the hub conveniently and connect the two-pin end of power cable 054-0142-000 to it. Connect the two loose wire ends to a convenient power source within the aircraft or ground vehicle.



Figure 3-4: USB 3-port hub with power and CPU cables

The USB Extension Cable: Connect extension cable 051-0296-000 to the CPU's other USB port. Route the cable in the cockpit and mount it to use as a single USB port for a USB flash drive or other USB peripheral (such as a keyboard or mouse). See also "Inserting and Removing the USB Flash Drive" on page 26.



Chapter 4: Operating G4

- Powering the System
- Inserting and Removing the USB Flash Drive
- Using the Touchscreen Controls
- Adjusting the Lightbar Brightness
- Calibrating the Touchscreen
- Turning the System Off

Now that the system is installed and connected, you are ready to turn it on and use the USB, adjust the display and lightbar brightness, and calibrate your touchscreen.

Powering the System

The ON/OFF lever switch on the power panel (see “About the Power Cable” on page 26) provides power to the CPU and to the touchscreen. When the panel lever switch is turned on the touchscreen is powered directly (even though it has its own power button).

Turning the CPU and Screen On

Turn on the vehicle’s main power source (vehicle battery, generator, other) and set the ON/OFF lever switch on the power panel to ON. This powers up all components. When the system is powered up it will start the Window-based IntelliTrac software.

Note: Refer to the IntelliTrac User Guide for detailed descriptions of the software features and step-by-step instructions on how to use them for basic and advanced operations.

Inserting and Removing the USB Flash Drive

In addition to the 3-port USB hub (see “Connecting the USB Hub and USB Extension Cable” on page 23), the G4 system comes with a 4GB USB flash drive for logging and for transferring files. It also comes with an extension cable so you can access a USB port in the CPU remotely (the CPU has two USB ports, one to connect to the 3-port hub). You can plug the extension cable into the USB port not used for the hub and run the cable up to, and secure it in, a convenient location in your cockpit or cab. You can then connect the USB flash drive to the CPU through the extension cable.

Note: Shut down the IntelliTrac application before you remove the USB. Also, if you leave the USB connected directly into the G4 for prolonged periods, install the splash-proof cover supplied.



Using the Touchscreen Controls

This section provides a brief description of the functions of the buttons and lights on the control panel area of the touchscreen.



Figure 4-1: Touchscreen controls

- The power button (on the right) switches the screen on and off while the G4 CPU is powered (through its own On/Off power switch). The screen is

automatically switched on when you power up the G4 even if it was last switched off at its own button.

- The up and down arrows control the lightbar brightness. The range is 0-100.
- The light on the left indicates that the screen is switched on.

Adjusting the Lightbar Brightness

Adjust the lightbar brightness for night operation by turning the lightbar dimmer switch 075-0033-000 (the DIMMER control knob on power/dimmer/switch panel 601-1226-000 if used - see "Using the Power/Dimmer/Switch Panel" on page 11).

Calibrating the Touchscreen

The touchscreens is shipped properly calibrated. Touchscreen calibration ensures that the cursor is placed exactly under your finger when you touch the screen.

If you need to recalibrate your touchscreen:

1. Power on your G4 system.
2. In the Disclaimer window press **OK**.
3. On the IStarLaunchG4 startup screen press **RETURN to Windows Desktop**.
4. Press **Start > Control Panel > Tablet PC Settings**. The Tablet PC Settings window appears.
5. On the Display tab press **Calibrate**. The calibration screen appears.
6. Tap the center of the cross hairs each time it appears (four times). After the fourth press a message box appears asking "Do you want save the calibration data?"
7. Press **Yes**.
8. Close the Tablet PC Settings window and the Control Panel window.
9. On the desktop double-tap the **IStarLaunchG4** shortcut to start IntelliTrac.

Turning the System Off

Before turning off the touchscreen or the main power source, it is important to shut down Windows by following this procedure.

1. Press the **Start** button in the lower left hand corner of the Windows screen.
2. Press **Shut Down**.
3. Highlight the **Shut Down** choice then press **OK**.
4. Wait until you see the message "It's now safe to turn off your computer."
5. Shut down power to the touchscreen by pressing the power button.
6. Turn off system power.

Index

A

- antenna
 - mounting 15
- antenna cable
 - connecting 21
 - warnings 18

C

- cables
 - connecting 20
 - connections diagram 19
 - parts list 3, 3
 - warnings 18
- calibrating, touchscreens 27
- cockpit switches
 - installation 10
 - parts, listed 3
- components, weight of 4
- connections
 - antenna cable 21
 - cables 20
 - cables, diagram 19
 - GPIO cable 20
 - lightbar cable 21
 - mouse and keyboard 21
 - power cable 22
 - to flow control port 21
 - USB hub and USB extension cable 23
 - video (VGA) cable 22
- control panel, understanding 26
- CPU
 - installation 6
 - installing, clearance 6
 - introduction to 6
 - mounting, vertically 6, 7
 - powering 26
- CPU slide tray, installation 7

D

- display, *see* touchscreen

F

- flash drive, *see* USB
- flow control
 - IntelliFlow 21
 - IntelliGate 21
 - port, using 21

G

- GPIO cable
 - connecting 20
 - warnings 18
- grounding strap 7

H

- hard mounting the touchscreen 10
- HQ, connectivity parts 4

I

- installation
 - see also* "mounting"
 - antenna 15
 - CPU 6
 - CPU slide tray 7
 - CPU, clearance 6
 - lightbar 12
 - planning 4
 - power panel 11
 - touchscreens 8
- IntelliFlow, using the flow control port 21
- IntelliGate, using the flow control port 21

K

- keyboard, connecting 21
- kits and switches, parts list 3

L

- lightbar
 - brightness, adjusting 27
 - cable, connecting 21
 - installation 12
 - mounting kit 12
- list
 - cables 3, 3
 - parts 2

M

- mounting
 - CPU 6
 - kit for touchscreen 8
- mouse, connecting 21

P

- parts
 - cables, listed 3, 3

- HQ connectivity 4
- kits, listed 3, 3
- list 2
- planning, installation 4
- power
 - cable, connecting 22
 - panel 11
 - powering CPU and screens 26
 - switching system on and off 27
 - touchscreen 26

R

- Ram ball mount 9

S

- shutting down 27
- switches and kits, parts list 3

T

- touchscreen
 - calibrating 27
 - control panel, understanding 26
 - hard mounting 10
 - mounting kit 8
 - mounting using Ram ball mount 9
 - mounting, general 8
 - powering 26, 26

U

- USB
 - extension cable, connecting 23
 - hub, connecting 23
 - inserting and removing 26

V

- video (VGA) cable, connecting 22

W

- warnings
 - antenna cable 18
 - cable connections 18
 - GPIO cable 18
- weight, of components 4

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OBTAINING WARRANTY SERVICE. In order to obtain warranty service, the end purchaser must bring the Product to Hemisphere GPS approved service center along with the end purchaser's proof of purchase. Hemisphere GPS does not warrant claims asserted after the end of the warranty period. For any questions regarding warranty service or to obtain information regarding the location of any Hemisphere GPS approved service center, contact Hemisphere GPS at the following address:

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