



Satloc G4

Installation Guide

Part No. 875-0307-000 Rev. C

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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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)	806-1052-000#	1
A21 air antenna	150-0056-01	1
Antenna cable, TNC-TNC 5 m	052-0005-000#	1
Kit, lightbar-V, mounting, air	710-0029-002	1
Lightbar, L7 CAN	806-2022-000#	1
Lightbar, L8 CAN	806-4401-000	1
Kit, G4 cables (see Table 1-2)	880-1040-000	1
Kit, G4 cockpit parts (see Table 1-3)	880-1041-000	1
9" Touchscreen	750-0133-001#	1
USB hub kit (see Table 1-4)	710-0119-000	1
Manual, Installation Guide, Satloc G4 (this manual)	875-0307-000	1
Manual, Quick Reference Guide, IntelliTrac	875-0313-000	1

Table 1-2: G4 parts list - cables

Component	Part Number	Qty
GPIO cable	051-0301-000#	1
Power cable / Relay	054-0139-000#	1
Lightbar cable	051-0298-000#	1
Video cable - Power/data - VGA	054-0140-000#	1
Comports cable	051-0299-000	1
USB Type-A cable 5m (connect USB hub or USB flash drive to G4)	051-0295-000	1
USB Type-A cable 3m (connect USB hub or USB flash drive to G4)	051-0296-000	1
Cable RF-X - TNC (M)	052-0005-000#	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 Thumbdrive, 16GB Sandisk	520-0021-01	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
Conn, Recpt, USB-A	400-0127-000#	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 - Satloc Cloud, Internet and HQ Connectivity - optional

Component	Part Number	Qty
Wireless USB network adapter	750-6015-000	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 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).

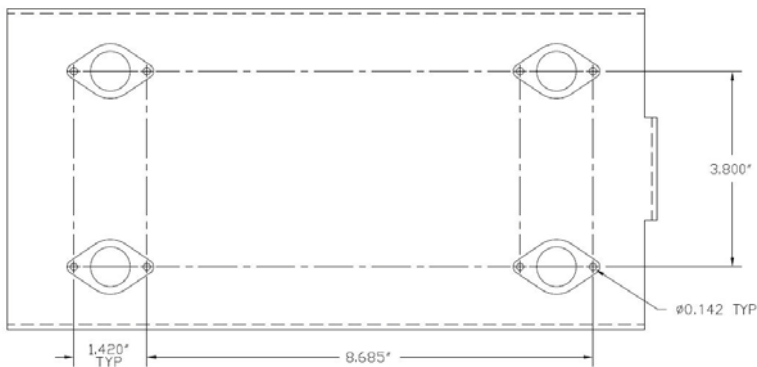


Figure 2-2: CPU vibration-damper mounting template

2. Using suitable fasteners, secure the base plate feet (and the base plate*) to the mounting surface.
3. Slide the CPU/upper plate assembly onto the base plate from the latch end and apply the latch.
4. 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 of the aircraft where it is:

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

⚠ 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. To hard mount the touchscreen on the cockpit dashboard use the following instructions.



Figure 2-3: Touchscreen (not to scale)

To mount the touchscreen you will require the following tools:

- Electric drill and 1/8" drill bit
- Marker pen
- Phillips head screw driver
- Four #8 screws for hard mount

Hard Mounting the Touchscreen

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

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

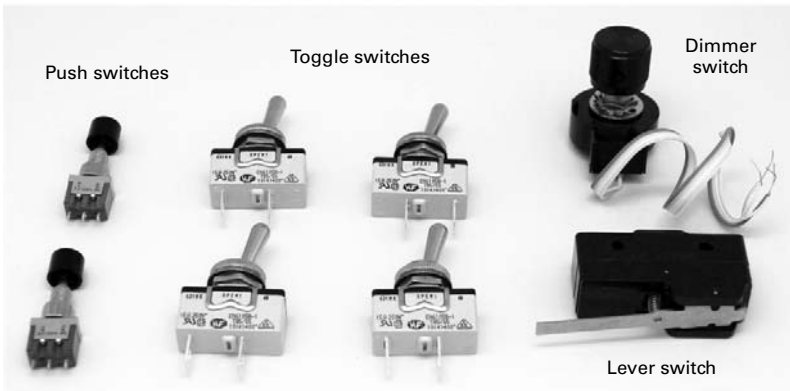


Figure 2-5: Cockpit switches

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 lightbar 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 051-0301-000#) 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 054-0139-000)
- The lightbar dimmer switch 075-0033-000 (connect the switch to GPIO cable 051-0301-000#).

Note: If you use the power/dimmer/switch panel you will need to install a fuse (not supplied - 7.5 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.

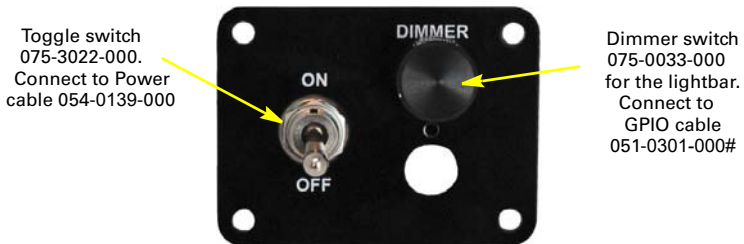


Figure 2-6: Power/dimmer/switch panel with switches installed (no fuse)

⚠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 for aircrafts. The term ‘aircraft’ is used in this section.

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

⚠WARNING: Do not obstruct the view of, or access to other instruments or the flying 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.	Screw, #8-32 (attach item 1 plate to lightbar)	675-1100-000	2
2.	Bracket – 1”	602-1007-000	4
3.	Bracket – 3”	602-1008-001	2
4.	Backing plate (use with item 8 if required)	601-1045-000	2
5.	#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)	6
		678-1038-000 (washer)	6
		676-1016-000 (nut)	6
6.	#10-32 x 1/2” bolt, washer, and nut set (bolt item 1 plates to item 3 or 4 brackets)	675-1086-000 (bolt)	4
		678-1038-000 (washer)	4
		676-1016-000 (nut)	4
7.	#10-32 x 1¼” (and ¾” - optional) bolt, washer, and nut set. (Bolt item 3 or 4 bracket to vehicle - use item 5 backing plates if necessary.)	675-1085-000 (1¼” bolt)	4
		675-1084-000 (¾ bolt)	4
		678-1038-000 (washer)	4
		676-1016-000 (nut)	4

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

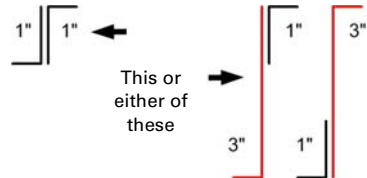
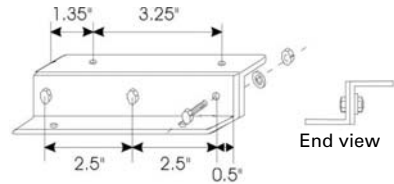
- Phillips screwdriver
- 3/16” Allen wrench and 3/8” wrench
- Electric drill and 1/4” drill bit
- Marker pen

⚠ 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.

1. Assemble the two sets of 1” brackets* using the #10-32 x 5/8” bolt, washer, and nut sets.

*

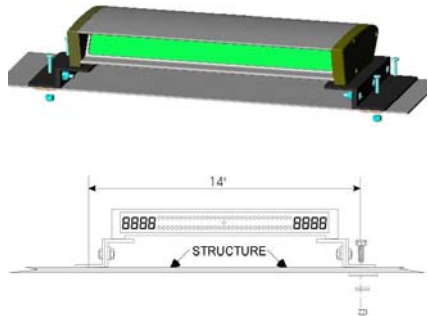
Substitute a 3” bracket for one of the 1” brackets if added height is needed.



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



3. Using the assembled lightbar and brackets as a template, mark the four mounting hole locations on the surface of the vehicle.
4. Using a 1/4" drill bit, carefully drill the four holes.
5. 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
6. 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 150-0056-01 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 aircraft.

Note: Satloc recommends flush mounting the antenna to the roof of the aircraft. Satloc recommends installing the antenna on the centerline of the aircraft, with an unobstructed view of the sky and horizon, I.E. on top of the cockpit.

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 dimensions (Appendix A) as a guide 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.
 - Do not coil excess cable length. Doing so can introduce noise, and cause signal degradation.
-

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

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 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 3-1: 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.

Connecting Switches

For the provided switches, 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 the GPIO cable (PN 051-0187-000) or power cable (see step 7-i "About the Power Cable Harness" on page 23. See also Appendices B and C, pages 29-30.

The switches and their uses are as follows.

- a. Two push switches to control swath advance and mark functions (PN 075-4002-000).

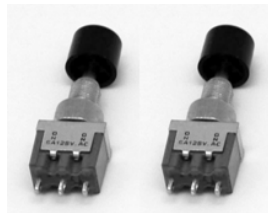


Figure 1a: Push switches - swath advance and mark functions

- b. Four toggle switches to control power and the left center and right booms (PN 075-3022-000).



Figure 1b: Toggle switches - power and boom controls (left, center, right)

- c. A lever switch for boom pressure control (PN 075-4001-000).

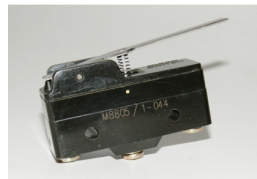


Figure 1c: Lever switch - boom pressure control

- d. An encoder (dimmer - not visible) and knob for lightbar dimming (PN 075-0033-000) and PN 679-1010-000). These can be attached to plate PN 601-1226-000 and are all part of cable PN 054-0139-000. See "Power Panel Installation" on page 10.



Figure 1d: Dimmer (behind) and knob -with plate PN 601-1226-000

⚠ WARNING: General cable connection warnings:

- Turn off power before connecting or disconnecting cables.
- Finger tighten cable connections—do not use tools.
- Do not route cables alongside power generator wire and other high-noise electric sources (will cause interference).
- Ensure no chafing of cables can occur.
- Do not kink or force cables into sharp bends.
- Store excess cabling with at least a six-inch bend radius; if coiling cables, flatten out the loops into (coiling in circles introduces noise).
- Avoid routing cables near high-temperature components (for example the exhaust, exhaust manifold).
- Cross the antenna cable (if necessary) at 90° to any other cable (prevents cross-interference).

1. Connecting the GPIO cable.

The GPIO cable CC comprises several individual wires: for the spray on/off switch, the swath advance switch, a serial port (DB9) connector (Figure 1a). Reference Appendix B for more details on connecting GPIO cables.

- a. Connect the Conxall connector end of CC to the CPU serial port labeled 'GPIO'.

⚠ WARNING:

Do not connect spray on/off leads to a flow system if it contains live voltage. Connection to a DC volt-age will damage the circuit.

- b. Connect CC's spray on/off switch cable leads to the provided momentary lever switch CO (Figure 1b). Use the switch in conjunction with your spray data collection functionality of G4. See also step 5, "Connecting to the Flow Control Port" Page 22.

- c. 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.

- d. 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.



Figure 1a: GPIO cable
PN 051-0301-000 and CPU 'GPIO'
port

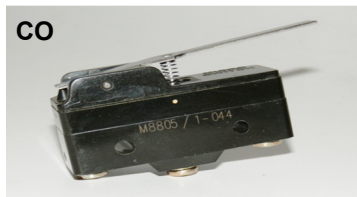


Figure 1b: Lever switch
PN 075-4001-000



Figure 3-1: GPIO cable
PN 051-0301-000

e. Using cable wire group 2 to connect to the dimmer switch ('Encoder') 075-0033-000) switch.

1. Connect the Dimmer_VCC (red/black) wire to the red wire of the switch.
2. Connect the Dimmer_Data1 (white/black) wire to the orange wire of the switch.
3. Connect the Dimmer_Data2 (green/black) wire to the yellow wire of the switch.
4. Connect the Dimmer_Gnd (black/white) wire to the green wire of the switch.

f. Using cable wire group 3, connect the Spray On/Off (white) and the Ground 2 (black) wires to the lever switch (075-4001-000).

g. (Optional) Connect CC's swath advance cable leads to push switch CP to control swath advances remotely.

2. Connecting the lightbar cable.

a. Connect the Conxall connector of the lightbar cable **LB** to the CPU port labeled 'LIGHTBAR' (Figure 2).

b. Connect the metal Bendix connector on **LB** to the matching connector on the back of the lightbar.



Figure 2: Lightbar cable PN 051-0298-000 and CPU 'LIGHTBAR' port

3. Connecting the antenna cable.

Connect the antenna cable **CD** between the socket on the left side of **CA** (Figure 3).



Figure 3: Antenna cable 052-0005-000# and CPU antenna connection

4. (Optional) Connecting keyboard and/or mouse

For troubleshooting purposes, for example, you can connect a keyboard and a mouse directly or indirectly (through an extension cable) to the USB ports on the side of the CPU or to the USB hub (Figure 4).



Figure 4: USB ports for input devices

- 5. Connecting to the flow control port.** Connect the cable that comes with your flow control system - IntelliFlow or IntelliGate - to the flow control port (Figure 5).



Figure 5: CPU 'FLOW' port and flow control cable

6. Connecting the video (VGA) cable.

- Connect the Conxall connector on video cable **SB** to the CPU serial port labeled 'DISPLAY' (Figure 6).
- Connect the other end of **SB** to the connector on the back of the touchscreen.



Figure 6: Video (screen) cable PN 054-0140-000 and CPU 'DISPLAY' port

⚠ WARNING: Power cable: source and polarity.

- 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 (-).

⚠ WARNING: Power cable: and CEMF

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

- Electric fan brakes and air conditioners
- Starter relays and 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 G4 system. Use a 47 V, 5 W Zener Diode (1N5368 or equivalent).

7-i. About the power cable harness.

The power cable harness **CE** includes a power panel (**CG**) that has (Figure 7-i):

- An ON/OFF switch (**CH**) with a built-in 12 A (max) circuit breaker that prevents voltage spikes and reverse polarity from damaging the system.
- A dimmer switch (**CI**) and knob (**CJ**) to control the lightbar's brightness.

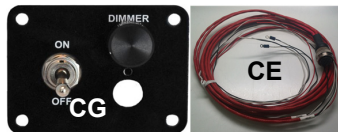


Figure 7-i: Power cable harness PN 054-0139-000 and CPU 'POWER' port

NOTE: CE's ON/OFF switch powers the CPU and the touchscreen. The dimmer switch on the power panel controls lightbar brightness.

7-ii. Connecting the power cable harness.

- Connect the Conxall connector of power cable harness CE to the CPU port labeled 'POWER' (Figure 7-ii).
- Connect the red and black power leads to a suitable power source that can supply between 10 and 36 V.



Figure 7-ii: Power cable harness PN 054-0139-000 and CPU 'POWER' port

8. Connecting the comports cable.

The comports cable **CF** 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.

- Connect the Bendix connector end of **CF** to the CPU port labeled 'COMPORTS.'
- Use the three comport connectors to connect to peripherals that interface with the G4, such as AgLaser, AIMMS 20, AutoCal, a satellite modem.
- Use relay #1, C2 and C1, and its ground connector, as backup/extra relay for the automatic spray on/off function.
- Use CF's two 12 V out connections and grounds as convenient power sources for peripherals.

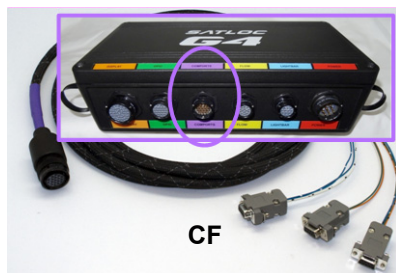


Figure 8: Comports cable PN 051-0299-000 and CPU 'COMPORTS' port

9. Installing the USB panel mount and connecting the USB extension cable.

The G4 system comes with a 4 GB USB drive (CK) for transferring files (and a USB drive [CQ] with MapStar loaded). To provide easy access to one of the CPU's USB side ports, box 900-1057-000 includes USB socket panel mount CL and extender cables UA and UB (Figure 9).

- Using your own hardware, attach panel mount CL accessibly to a cockpit surface with gasket CM between the panel mount and the mounting surface.
- Install extender cable UA or UB between the panel mount and one of CA's USB ports.

NOTE: You can use the other USB side port for a peripheral device such as a wireless modem, tracking device, keyboard or mouse.



Figure 9: USB panel mount and cover, gasket and extender cable

10. Powering the system.

The ON/OFF switch on the power panel (CG) provides power to the CPU and to the touchscreen (but note that the touchscreen has its own ON/OFF power button, which works so long as the lever switch is ON—Figure 10). See step 7-i, “About the power cable harness.” on page 23 and step 7-ii “Connecting the power cable harness.” on page 23.

- Turn on the aircraft's main power source (aircraft 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 Windows-based IntelliTrac software.



Figure 10: 'Power panel' of power cable harness PN 054-0139-000

NOTE: Refer to the *IntelliTrac Quick Reference Guide* (PN 875-0313-000, supplied with this kit) and the *IntelliTrac User Guide* (PN 875-0308-001) for detailed descriptions of the software features and step-by-step instructions on how to use them for basic and advanced operations.



Chapter 4: Operating G4

Powering the System

Inserting and Removing the USB Flash Drive

Using the Touchscreen Controls

Adjusting the Lightbar Brightness

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 23) 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 18), the G4 system comes with a 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. 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.

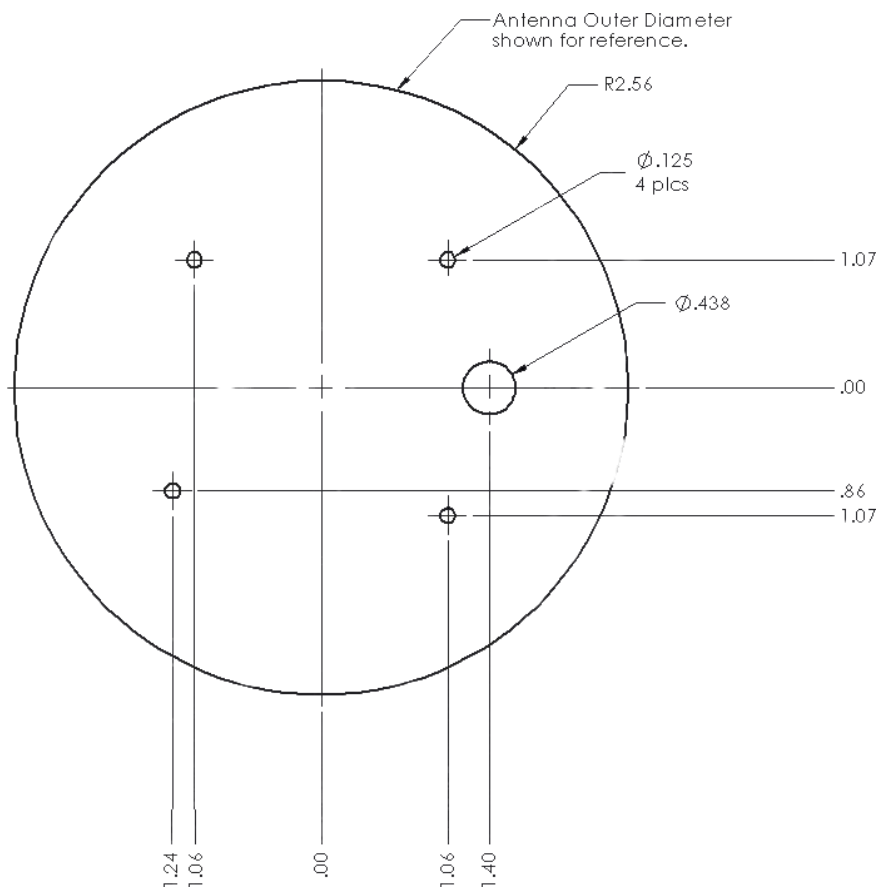
- The up and down arrows control the lightbar brightness. The range is 0-100.
- The light on the left indicates that the screen is switched on.

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 10).

Appendix A: Antenna Mounting Dimensions

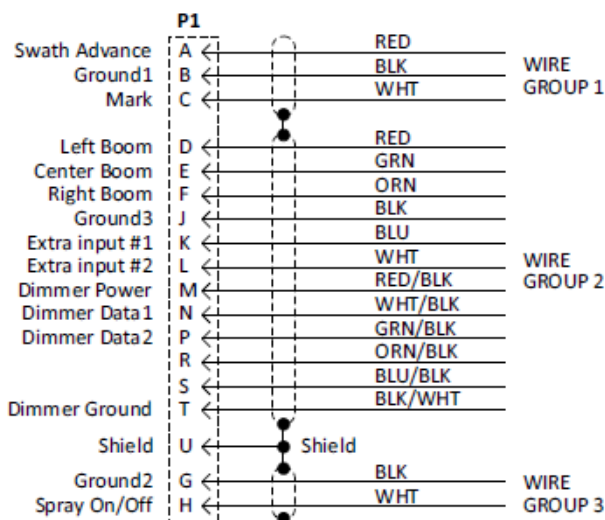
This is not a template. Instead, it gives the mounting dimensions. When mounting the antenna, measure off the center, where zero initiates.



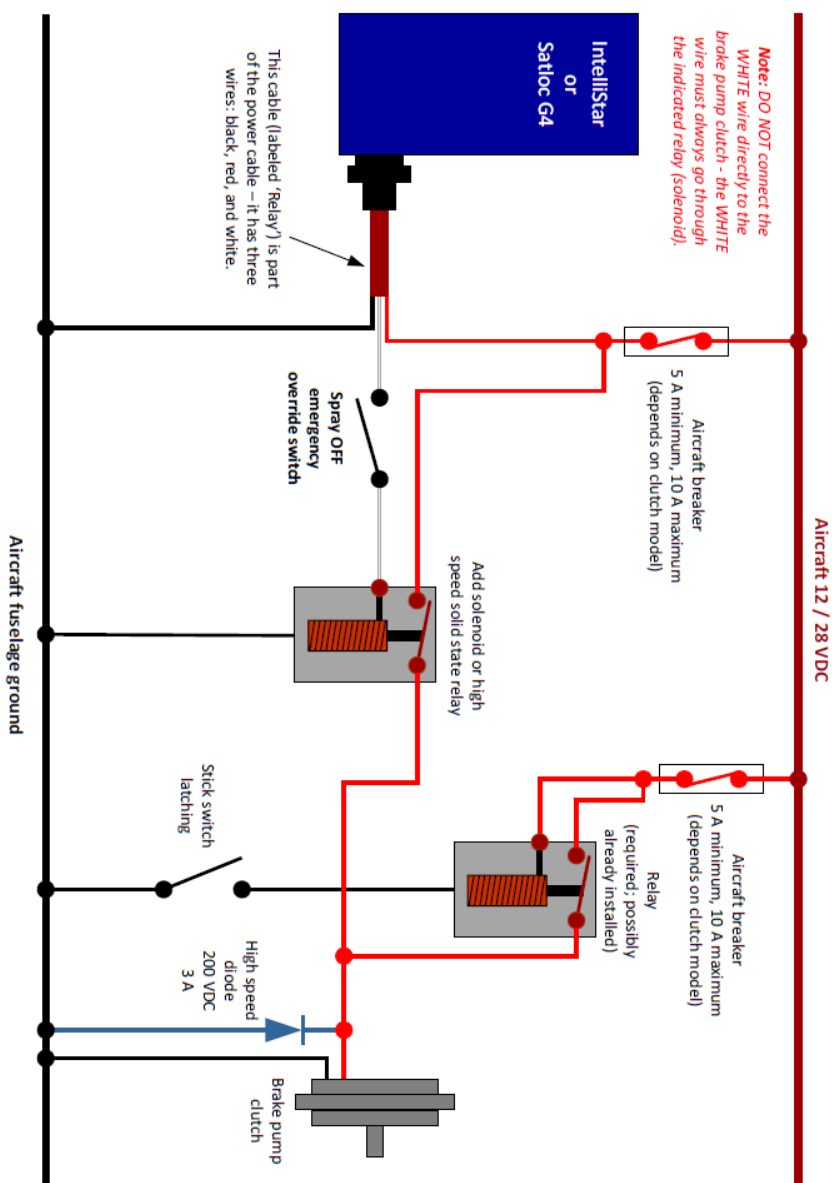
Appendix B: GPIO Connections

To connect the GPIO cable (all items optional).

1. Connect the Bendix connector end of cable (part number 051-0187-000#) to the CPU port labeled "GPIO".
2. Using cable wire group 1, connect the Swath Advance (red) and the Mark (white) wires to each of the two PNL SPDT 125V 6A RB (part number 075-4002-000) switches. Also connect the Ground 1 (black) wire to both switches (or existing switch in aircraft stick).
3. Using cable wire group 2, connect the Left Boom (red), Center Boom (green), and Right Boom (orange) wires to each of the three TGL SPST 15A SCR TERM (PN 075-3022-000) switches. Also, connect the Ground 3 (black) wire to both of these switches (or existing aircraft switch).
4. Using cable wire group 2 to connect to the Encoder (PN 075-0033-000#) switch.
 - a. Connect the Dimmer Power (red/black) wire to the red wire of the Encoder.
 - b. Connect the Dimmer Data1 (white/black) wire to the orange wire of the Encoder.
 - c. Connect the Dimmer Data2 (green/black) wire to the yellow wire of the Encoder.
 - d. Connect the Dimmer Ground (black/white) wire to the green wire of the Encoder switch.
5. Using cable wire group 3, connect the Spray On/Off (white) and the Ground 2 (black) wires to the STR-SPDT MOM CONT PST 15A SLDR LUG (part number 075-4001-000#) switch (or alternative switch).



Appendix C: Spray OFF Cable Connections



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