SHEET A1 # PI A BOX **PAGE 1 OF 2**

ALUMINUM · CXCESNS | MAIN ISLAND | BOTH CAN BUSES | WIRED TO LIGHTNING COPPER

THE BOX CXCESNS aluminum junction box, 11.8 x 8.3 x 3.9 in, IP66, silicone gasket, four lid screws. Two on hand, identical: mark Pi A before anything goes in. Scrape to bare metal under the lid screws and at the bond stud.

WHERE Inboard aft of the settee, glued to the hull below the waterline for cooling. Back face flat on the hull, no hole in that face. Page 1: the computer stack and radios.

1 **Compute module (CM5)** HAVE
Raspberry Pi CM5, 8 GB / 32 GB: a bare green board about 2.2 x 1.6 in with two dense connectors underneath. Boots from its own built-in memory. Two on hand, one per box.

2 **Carrier board** CHECK FIRST
The board the CM5 plugs into. Two on hand (tracker), but v10.1 names neither model. The order log shows one Geekworm X1500; the Compute Bay Plan calls Pi B's a CM5 IO Board Rev 2. Pi A's must run the 4 TB drive and the Hailo together: prove both slots on the bench before wiring.

3 **4 TB NVMe SSD** ON THE WAY
WD Blue SN5000 4 TB: a gum-stick card 0.87 x 3.15 in (M.2 2280), label on top. Screws flat into the carrier's first M.2 slot. Shipped Sep 23, due Sep 28; no delivery mail yet.

4 **Hailo-8L AI card** HAVE
Hailo-8L M.2 module, Mouser part HM21LB1C2LAE: a small M.2 card in the second slot. Three bought; this one flies, the other two are Boat 2 stock.

5 **CAN FD HAT** HAVE
Waveshare 2-CH CAN FD HAT, SKU 17075: a Pi-sized board on the 40-pin header with two CAN (boat data wire) channels, 5 kV isolation and screw terminals. Terminator jumpers OFF. Not the small blue SN65HVD230 boards.

6 **Watchdog WD-A** HAVE
Arduino Nano Every with headers (ABX00033), a small blue board about 1.8 x 0.7 in. Holds Pi A's power on, cycles it after the set silence, holds the motor kill line. Tracker: three on hand.

7 **Watchdog regulator** CHECK FIRST
The BOM names a wide-input regulator, Traco TSR 1-2450E class (a 3-leg part about the size of a small transistor). No purchase is logged for it. Check what is meant before fitting.

8 **GPS A** HAVE
hiBCTR NEO-7M module (u-blox NEO-7M chip, SMA jack), from the 4-pack of Sep 9. Position only. Its antenna is one of the four AEDIKO waterproof active antennas on a deck pad; only the coax comes in (entry 11). Check SMA, not RP-SMA.

9 **IMU A** CHECK SHELF
Adafruit BNO085 9-axis motion sensor board (#4754), about 1 x 0.7 in. Bolted rigid. Three shipped Sep 10, no delivery mail.

10 **dAISy AIS receiver** HAVE
Wegmatt dAISy 2+ dual-channel AIS receiver on USB, with an SMA jack. Delivered Aug 21. Plugs into one of Pi A's two USB ports; always on.

11 **dAISy antenna jumper** CHECK FIRST
The antenna is the Eifagur stubby VHF (PL-259 plug, 16 ft RG-58), below deck, outside the box. It needs one SMA to SO-239 jumper (Wire and Cable Buy List D2): count the shelf.

12 **USB isolator** HAVE
DSD TECH SH-G01A (ADuM3160 inside): a small board, USB-B in, USB-A out. On the hub box lead (entry S), so it covers everything on the hub. Clamp each USB cable within 2 in.

13 **Iridium A isolator** CHECK FIRST
EC Buying ADuM1201 board: a small board with an 8-pin chip and a gap printed across the middle. On the Iridium A serial line. Three 3-packs ordered, two delivered: count the bag.

14 **Optocoupler, alive line** CHECK FIRST
Passes the 'main island alive' signal to WD-B as light (entry 6). Neither guide nor tracker names a part. A1 and A2 both say 'optocoupler inside'; one is enough. Five Fafeicy 8-channel opto boards are on hand; whether one is used here is not written.

LEAVE OUT Any network switch (the TSW202 at the stern is the only one), the EBYTE wing radio and its whip, the LoRa bonnet (Boat 2 stock), the RTL-SDR, the ZED-F9P, a quad serial board, VE.Direct USB cables, a secure chip, a blade fuse block.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A1 **PI A BOX** **PAGE 2 OF 2** ALUMINUM · CXCESNS | MAIN ISLAND | BOTH CAN BUSES | WIRED TO LIGHTNING COPPER

WHERE Page 2: power, sensors and mounting. Fed 16/2 from its own 10 A breaker at the bar (line 10, end stud). No load current passes through the box except its own feed.

1 **24 V to 5 V converter, 5 A** CHECK FIRST
The box's main 5 V rail. No model is named in v10.1. On hand: two Klnuoxj 24 V/12 V to 5 V 5 A step-down boards (Aug 16). Pi A, Pi B, both nodes and both Iridium boxes each need a 5 V converter, so count what is on hand before fitting.

2 **TVS diode** HAVE
1.5KE33CA surge-clamp diode: black body with wire legs, a stripe at one end, printed 1.5KE33CA. Across the 24 V input. Chanzon 20-pack on hand; check the bag is not the 1N5408 flybacks.

3 **INA226 current meter** CHECK FIRST
INA226 board with its shunt, on the box feed: the only branch meter left (Compute Bay sec 11). Not on the tracker. The order log shows three INA226 sent back Sep 8: check one is left before fitting.

4 **Terminal strip** HAVE
DIN rail (the snap-on mounting rail, 1.4 in or 35 mm wide) cut to length, with screw terminal blocks and end stops. The guides name Dinkle DK2.5N blocks; the order log shows other kits bought instead: two DIN terminal block kits (Aug 16), an Erayco UK2.5B kit (Aug 25), a MELIFE 30-piece kit (Sep 2), VAMRONE 4 in rails and uxcell end stops.

5 **Humidity board** HAVE
AHT30 temperature and humidity board, a small board with a white sensor. Ten bought Aug 16.

6 **Desiccant** HAVE
wisedry 50 g silica gel packs, ten to a bag. Pending: whether Pi A needs one once its back sits on the cold hull, settled with the hull measurements.

7 **Board plate** CHECK FIRST
1/8 in (3 mm) G10 sheet (stiff fiberglass board), about 11.2 x 7.6 in, on the ledge holes. The tracker lists G10 stock as 1/4 and 3/8 in only: check 1/8 in is on hand. Standoffs: M3 black nylon, 580-piece kit (Aug 1), bolted through with nuts.

8 **Carrier bracket** HAVE
1/8 in 6061 aluminum L-bracket, about 3 x 3 x 4 in, two slotted base holes; the carrier stands upright on it. Cut from aluminum on hand (two 6 x 12 x 1/8 in sheets, Sep 25).

9 **CM5 heat path** CHECK FIRST
Flat aluminum block on the CM5, then Thermal Grizzly Minus Pad 8 (gray soft sheet, 3.9 x 3.9 in) at 0.04 and 0.08 in (1.0 and 2.0 mm), stacked, to the hull-glued back wall. Wave spring in the clamp. Pending notes no receipt for the CM5 heat blocks.

10 **Bond stud** CHECK FIRST
1/4-20 stud through a 1/4 in hole, carrying one 6 AWG wire to the lightning copper; the CAN shield drain lands here. Pi A only, never Pi B. No line names the stud itself; 6 AWG lugs and wire are on hand.

THROUGH THE WALL 10 entries + vent + bond stud: PG9 x1 (24 V feed) · PG7 x6 (CAN control drop, CAN house drop, motor controller serial and kill, Iridium A serial, alive line to Pi B, hub box USB lead S) · RJ45 coupler x1 (Ethernet to the TSW202 port 7) · SMA bulkhead x2 (GPS A, dAISy) · vent · 1/4-20 bond stud. Entries 7, 9, 10, 13, 14 not drilled. One mix-31 ferrite (clip-on magnetic collar) glued outside each entry.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A1a USB HUB BOX

SMALL BOX · NOT PICKED | BESIDE PI A | NO CAN BUS | OWN 5 A BREAKER

THE BOX Not picked: the Electronics plan says 'the hub's small box: to buy'. Plastic or metal not decided (plastic takes a vent). On hand with no job written: a YINGXINELCT cast aluminum box 8.66 x 5.71 x 3.15 in and a Fielect aluminum box 7.40 x 4.72 x 3.07 in (Sep 7), plus small Zulkit and LeMotech boxes.

WHERE Beside Pi A. Its only data lead is one USB cable into Pi A (entry S), through the USB isolator. Fed 16/2 from its own 5 A breaker at the bar (line 12), so a hub fault cannot trip Pi A. The battery watchman's USB lead plugs in here.

1. **Powered USB hub** BUY
   Metal, screw-mount, cable fixed to it, at least 4 ports, with a 5 V input jack. Candidate: Waveshare industrial 4-port, Amazon B09H7R2BRY, about $30 (tracker Buy list).
2. **24 V to 5 V converter** HAVE
   DROK sealed converter, 11 to 90 V in, 5 V 6 A out, Amazon B0C4L66SZ9, $17.95: a small black sealed block with wire leads. Feeds the hub's 5 V jack, so Pi A feeds nothing. The order log says both DROKs came Sep 28; the Parts tab still says on the way.
3. **24 V to 12 V converter** HAVE
   YRDZXG 24 to 12 V 5 A (60 W) sealed converter, ASIN B0D14YRQM3, the third of five. Bench test first: no-load draw, and 12 V out at 29 V in. Feeds only the BaroVUE 10 and HygroVUE 10. Order log: the 3-pack came Sep 28 (Parts tab: on the way).
4. **Fuse for the 24 V line** CHECK FIRST
   One fused 24 V line feeds both converters; A1a sets the size at fit-out, while BOM 15.4 puts the 12 V converter behind a 1 A fuse. Holder: a sealed inline ATC/ATO holder (nine on hand, seven booked to solar and surge modules). Fuse: JOREST blade kit.
5. **TVS diodes x2** HAVE
   One at each converter input. 1.5KE33CA surge-clamp diode: black body with wire legs, a stripe at one end, printed 1.5KE33CA. Across the 24 V input. Chanzon 20-pack on hand; check the bag is not the 1N5408 flybacks.
6. **RS-485 adapter, DO sensor** BUY
   FTDI USB-RS485-WE-1800-BT: a USB plug on a 6 ft cable ending in bare wires. DigiKey, $33.70. Check the shelf first. FTDI chip only, never CH340.
7. **SBE 45 adapter** WAITING
   Read the SBE 45 label when it lands (about Oct 26). RS-232: FTDI USB-RS232-WE-1800-BT, about $25 to $30 (a guess). RS-485: a second USB-RS485-WE-1800-BT, $33.70. Never shares the DO sensor's line.
8. **SDI-12 USB adapter** CHECK SHELF
   From Tindie (LiuDr Electronic Solutions), $60, shipped Sep 10, no delivery mail. Reads the BaroVUE 10 and HygroVUE 10; set the HygroVUE to address 1 first.
9. **Science line surge parts** NOT PICKED
   The tracker carries 'science line surge protection, called for, no part picked' for the DO sensor and SBE 45 lines. Where it sits is not written.

THROUGH THE WALL Not counted yet (Pending: hub box entries and vent). At least: 24 V feed, USB lead to Pi A, the watchman's USB lead, the DO sensor, the SBE 45, the SDI-12 sensor cable, and a vent if plastic.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A2 PI B BOX

ALUMINUM · CXCESNS | EMERGENCY ISLAND | BOTH BUSES, ISOLATED | FLOATS · NO BOND STUD

THE BOX The second CXCESNS aluminum box, 11.8 x 8.3 x 3.9 in, IP66. No bond stud, ever.
WHERE A few feet from Pi A, bolted through the settee panel. All entries on the bottom face. Powered only from the emergency bank, negative left floating. Plastic glands, a plastic RJ45 coupler, plain UTP cable: nothing conductive touches the wall.

1 **Compute module (CM5)** HAVE
The second Raspberry Pi CM5, 8 GB / 32 GB. Same as Pi A's.

2 **Carrier board** CHECK FIRST
The second carrier on hand. Compute Bay Plan: a CM5 IO Board Rev 2 with one M.2 slot. Check which of the two carriers is which before marking boxes.

3 **256 GB NVMe SSD** HAVE
fanxiang S500 Pro 256 GB, a gum-stick M.2 card, delivered Sep 10. Holds Pi B's copy of the boat's state.

4 **CAN FD HAT** HAVE
The second Waveshare 2-CH CAN FD HAT, SKU 17075. Its 5 kV isolation is what lets Pi B sit on both buses and still float.

5 **Watchdog WD-B** HAVE
Arduino Nano Every (ABX00033). Holds Pi B's power, runs its wake schedule, reads the lightning detector on a 7-core lead, keeps the strike log.

6 **Watchdog regulator** CHECK FIRST
Same open point as Pi A's: Traco TSR 1-2450E class named, nothing bought.

7 **24 V to 5 V converter** CHECK FIRST
Pi B's own converter, on the floating negative. No model is named in v10.1. On hand: two Klnuoxj 24 V/12 V to 5 V 5 A step-down boards (Aug 16). Pi A, Pi B, both nodes and both Iridium boxes each need a 5 V converter, so count what is on hand before fitting.

8 **Fuse** CHECK FIRST
Compute Bay 4.2 puts a fuse in Pi B's feed; A10 fuses that feed on the emergency bank's DIN strip. The docs do not say whether a second fuse sits in this box.

9 **TVS diode** HAVE
1.5KE33CA surge-clamp diode: black body with wire legs, a stripe at one end, printed 1.5KE33CA. Across the 24 V input. Chanzon 20-pack on hand; check the bag is not the 1N5408 flybacks.

10 **Terminal strip** HAVE
Short DIN strip, as in Pi A: every field wire lands here first.

11 **GPS B** HAVE
The second hiBCTR NEO-7M, on emergency power. Its AEDIKO antenna sits on the pylon; coax in by entry 9.

12 **IMU B** CHECK SHELF
The second Adafruit BNO085 (#4754). Shipped Sep 10, no delivery mail.

13 **Iridium B isolator** CHECK FIRST
ADuM1201 board, as in Pi A. Count the bag.

14 **Optocoupler, alive line** CHECK FIRST
See Pi A: one optocoupler on the link, box not written.

15 **Humidity board and desiccant** HAVE
AHT30 board and one wisedry 50 g silica gel pack.

16 **Plate, bracket, heat path** CHECK FIRST
As Pi A (1/8 in G10 plate, L-bracket, Minus Pad 8 stack), but the CM5 block presses on a SIDEWALL. Same checks: 1/8 in G10 on hand, heat block receipt.

THROUGH THE WALL 8 entries + vent, all on the bottom face: PG7 x6 (emergency bank feed, CAN control, CAN house, Iridium B serial, alive line from Pi A, AS3935 7-core lead; entry 7 is a blank spare) · plastic RJ45 coupler x1 (Ethernet to TSW202 port 8, UTP) · SMA bulkhead x1 (GPS B) · vent. No bond stud. Ferrite outside each entry.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A3 CENTRAL NODE PAGE 1 OF 2

PLASTIC · TICONN · ABOUT 16 x 12 x 6 IN | CONTROL BUS | NEAR THE BATTERY | RELEASES · LOADS · STEERING

THE BOX TICONN IP67 outdoor box, about 16 x 12 x 6 in (BOM about $52; TICONN boxes bought Aug 16). Size it once the boards are laid out (Pending: node box sizes).

WHERE Near the battery box, the main bus board and the compute boxes. Every field wire lands on the DIN rail first. No soldering on the boat; one-time bench soldering only. Page 1: the brain, the relays and the release parts.

1 **Nucleo (the node brain)** CHECK FIRST
STM32 NUCLEO-G431KB: a narrow board about 2 x 0.7 in, part number printed on it. Mike has two (Sep 26), no order mail found: check each says G431KB. The G431RB (a bigger Nucleo-64) stays on the bench. Before burn-in, take off the four solder links (A4, A5, A2, A7).

2 **Nano screw carrier** HAVE
AITRIP Nano screw-terminal adapter: green board, two rows of screw terminals; the Nucleo plugs in. Two 6-packs bought Aug 16, one went back Sep 8.

3 **CAN transceiver board** HAVE
Alinan SN65HVD230 3.3 V CAN board, small and blue. Four on hand (Aug 24).

4 **CAN surge module** HAVE
Taidacent RS-12V/2S DIN-rail surge module, 12 V: a narrow DIN block with screw terminals, on the CAN drop. Two from Sep 7: this one and Release Node B's.

5 **MCP23017 expander** CHECK FIRST
Waveshare MCP23017 board, $12.74: 16 more on/off lines over the I2C (two-wire chip) link. Drives relay channels 1 to 4 and 6 to 12 and the steering cut coil; reads the Water Witches, the release bus and the drive fault. Never a release line. Order log: came Sep 28 (Parts tab: on the way). The guides want a screw-terminal version: check its plug.

6 **Expander pull-downs** CHECK FIRST
Pull-down resistors under the expander's output screws, so a reset reads OFF. Value not written. A MelkTemn 2,600-piece 1/4 W resistor kit is on hand (Sep 1).

7 **24 V to 5 V converter, potted** CHECK FIRST
Feeds the Nucleo and the logic. No model is named in v10.1. On hand: two Klnuoxj 24 V/12 V to 5 V 5 A step-down boards (Aug 16). Pi A, Pi B, both nodes and both Iridium boxes each need a 5 V converter, so count what is on hand before fitting.

8 **DIN rail and terminals** HAVE
DIN rail (the snap-on mounting rail, 1.4 in or 35 mm wide) cut to length, with screw terminal blocks and end stops. The guides name Dinkle DK2.5N blocks; the order log shows other kits bought instead: two DIN terminal block kits (Aug 16), an Erayco UK2.5B kit (Aug 25), a MELIFE 30-piece kit (Sep 2), VAMRONE 4 in rails and uxcell end stops.

9 **Relay module 1** HAVE
HiLetgo 24 V 8-channel relay module: a long board with eight blue relay cans and screw terminals. Channels 1 to 8; channel 5 (release enable) is driven from a Nucleo pin.

10 **Relay module 2** CHECK SHELF
Same HiLetgo part, on the expander: channel 9 camera UV-C, 10 Orion-Tr, 11 puller reverse, 12 bilge pump 2. The order log shows two HiLetgo orders in August: look before buying.

11 **MOSFET switch modules** CHECK FIRST
One per release channel 1 to 6 (MOSFET: a transistor switch), 3.3 V input, own gate pull-down. The guides say dual-MOSFET boards from 5-packs; the order log shows the ANMBEST packs returned Aug 25 and nine 2-packs of '600 W MOS tube' modules bought instead. Count.

12 **Release fuse holder** CHECK FIRST
Compute Bay 10.3 still puts a Littelfuse FHAC0002ZXJ sealed ATO holder in the release feed. Since Sep 28 the feeder is on a 30 A breaker at the bar; the docs do not say if this fuse stays. The tracker still says 25 A fuses.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A3 CENTRAL NODE PAGE 2 OF 2

PLASTIC · TICONN · ABOUT 16 x 12 x 6 IN | CONTROL BUS | NEAR THE BATTERY | RELEASES · LOADS · STEERING

WHERE Page 2: the cord pullers, steering, sensors and the charging stop.

1 **Opto input board** HAVE
Fafeicy 8-channel optical isolation board: eight opto chips in a row. One used: reads the two Water Witch pump outputs (24 V = pump running) and the release bus readback. Five bought Aug 16.

2 **Puller reversing relays x4** HAVE
MY2NJ-type 24 V DC relays, 8-pin, clear case with LED, each in a screw-terminal DIN socket. Amazon B0GY3ZM4YB, $41.20 for four, here Sep 26. Read coil + and - on the relay and the socket pin numbers before wiring.

3 **1N5408 flyback diodes x4** HAVE
CHANZON 1N5408: black body, wire legs, silver stripe. One per puller, at its reversing relay's input (MOSFET side to release bus), under the screws. None on the burn wires.

4 **Puller fuse holders** BUY
MECCANIXITY UK5 DIN fuse holders for 1/4 x 3/4 in (5 x 20 mm) glass fuses, 6-pack with end stops, four used. Amazon B0DSW8RTTP, price not checked.

5 **Puller fuses** BUY
QBGTFAK slow-blow 5 x 20 mm glass fuse kit, 0.5 to 10 A, Amazon B09685NBKH. One per puller; the size is set at the one-puller bench test.

6 **Steering drive** HAVE
Pololu G2 High-Power Motor Driver 24v13 (item 2992), a small board printed 24v13. Order log: came Sep 28 (Parts tab: on the way). At the bench, solder on its two power terminal blocks and one 8-way screw strip on the logic row.

7 **Logic screw strip** HAVE
Hxchen 8-way 0.1 in screw terminal block, 20-pack ($13.99), for the drive's logic row. Order log: came Sep 28.

8 **Steering power-cut relay** HAVE
HiLetgo 24 V 30 A one-channel relay module: one big relay can on a small board. Wired closed when unpowered, so the actuator stays fed. One of those on hand.

9 **Wiper resistor** HAVE
One 1k 1/4 W resistor from the MelkTemn kit, under DIN screws in the actuator's green wiper line to pin A1.

10 **BME280 barometer** HAVE
BME280 board (pressure, temperature, humidity), small. Two delivered Sep 10. Reads outside pressure through the box's vent.

11 **Humidity board** HAVE
AHT30 temperature and humidity board.

12 **DS18B20 chains x2** HAVE
Waterproof DS18B20 temperature probes, a steel bullet on a lead. Chain 1: the six battery probes (the battery trip). Chain 2: compartment air. About 8 probes in all.

13 **TVS diode** HAVE
1.5KE33CA surge-clamp diode: black body with wire legs, a stripe at one end, printed 1.5KE33CA. Across the 24 V input. Chanzon 20-pack on hand; check the bag is not the 1N5408 flybacks.

14 **Charging stop landing** HAVE
Two DIN terminals beside relay 8. The thin battery positive and the one run from the five Victron cables land here; the 1k resistor and the joining of the five cables are at the main bus board, not in this box.

LEAVE OUT Burn-wire short relays, INA226 meters, a VE.Direct reader, gas sensor boards, confirm switches, a photocell relay, a third relay module, a second opto board.

THROUGH THE WALL About 14 entries + vent: PG7 x3 (CAN control drop, camera UV-C feed 27, Orion-Tr remote 28) · PG9 x3 (24 V feed, two 1-wire chains, remote on/off bundle 22) · PG11 x5 (release trunks 3 and 4, steering in 12 and out 13, aft trunk 14; 15 only if needed) · PG13.5 x2 (six 16/2 switched-load runs) · release feeder 2a, PG11 or PG13.5 once the 12/2 jacket is measured · vent. Spares 17, 20, 25 not drilled.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A4

BMS BOX (THE WATCHMAN BOX)

PLASTIC IP65 · AS BOUGHT | BESIDE THE BATTERY BOX | NO BUS | WATCHES, CONTROLS NOTHING

THE BOX Small IP65 plastic box with mounting plate (Battery Box Guide: QILIPSU class). Two Raculety IP65 and two QILIPSU boxes were bought in August; the docs do not say which one this is.

WHERE On a glued pad beside the battery box, above lid level, never inside it. Its two boards watch the pack and control nothing: if they die, charging carries on and only the readings stop. The two shunts sit on the main bus board; only their thin leads come here.

1 **Battery watchman** HAVE
Electrodacus SBMS0: a bare green board with a row of plugs (cell plug W0 to W8, shunt plug, XT1). Received Aug 27. Reads the 8 group voltages, both shunts and the pack temperature.

2 **WiFi/USB add-on board** CHECK SHELF
Electrodacus WiFi/USB board for the SBMS0, paid by PayPal Sep 2, no mail trail. Required: the battery percentage reaches Pi A only through its USB lead.

3 **Balancer** HAVE
JKBMS JK-B2A8S 2 A active balancer with its balance harness. Talks to nothing; it only evens out the eight groups.

4 **XT1 thermistor lead** HAVE
DROK 10K 3950 probe, 1 m waterproof lead (3-pack, Sep 1). The probe is trapped on a cell face in the battery box; its lead lands on SBMS0 pins 3 and 4. Calibrate in ice water first.

LEAVE OUT Charger wiring, the 1k resistor, a terminal strip, the EXTIO4 charge pause, a humidity board, gas sensors.

THROUGH THE WALL 4 holes + vent: PG13.5 (signal bundle in: nine taps, XT1, DS18B20 chain) · PG9 (shunt sense and supply leads) · PG7 (USB lead to the hub box) · PG7 (DS18B20 chain out to the central node) · vent. Entries 2 and 5 not drilled. Tie each harness to the plate at its plug; dielectric grease on the plug seals only.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A6 AFT JUNCTION

PLASTIC · TICONN · ABOUT 12 x 8 x 5 IN | ON NO BUS | STERN | PASSIVE · NO NUCLEO

THE BOX TICONN IP67 outdoor box, about 12 x 8 x 5 in, on hand. About 14 entries (15 if the second trunk is drilled): measure before the loom.
WHERE At the stern, side by side with the network switch box (sheet A6a), which takes every network cable. A patch panel: post cables, deck sensors and switched loads land on DIN terminals. Fed from its own 20 A breaker, always on.

1 **Motoring-white relay** `HAVE`
HiLetgo 24 V 30 A one-channel relay module; its coil runs from central node channel 7.

2 **Wind meter 5 V regulator** `ON THE WAY`
Pololu D36V6F5, 5 V 600 mA, a tiny green board. Just after the wind sensor's fuse. Solder its terminal block on at the bench, then pot it. Never 24 V into the Calypso. The tracker says on the way (due Sep 29); the Electronics plan says three on hand.

3 **Post feed fuses** `CHECK FIRST`
One blade fuse per post feed in sealed holders. Sizes and holder count not written; the nine holders on hand are mostly booked to solar and surge modules.

4 **DIN rail and terminals** `HAVE`
DIN rail (the snap-on mounting rail, 1.4 in or 35 mm wide) cut to length, with screw terminal blocks and end stops. The guides name Dinkle DK2.5N blocks; the order log shows other kits bought instead: two DIN terminal block kits (Aug 16), an Erayco UK2.5B kit (Aug 25), a MELIFE 30-piece kit (Sep 2), VAMRONE 4 in rails and uxcell end stops.

LEAVE OUT The network switch, its supply and the RJ45 couplers (in the switch box, sheet A6a); the Ethernet surge protectors (on their own board near the deck, sheet A6a); the cooling plate (not needed now); photocell relay, weather pod, shaft sensors, the Netgear switches. Open (Pending): A6 still sends the science group out of this box, but the newer bus board table feeds the wet lab from its own breaker through central node relay 2. Open: whether the switch's 24 V is jumpered across from this box or runs to the switch box on its own.

THROUGH THE WALL About 14 entries + vent: PG7 x5 (wind, lights, encoder A, bow lantern; entry 5 plugged) · PG9 x3 (24 V feed, bilge leads; 17 plugged) · PG11 x4 (three load bundles out, trunk to the node; 15 only if needed) · PG13.5 x2 (switched-load runs in) · vent. Entries 1, 2, 6 to 8 and 20 to 24 moved to the switch box.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A6a

NETWORK SWITCH BOX

ALUMINUM · CXCESNS | BESIDE THE AFT JUNCTION | GLUED TO THE HULL | NOT ON THE LIGHTNING COPPER

THE BOX CXCESNS aluminum box, 11.8 x 8.3 x 3.9 in, IP66, the same as the two compute boxes. Ordered by Mike Oct 3; price not checked.
WHERE At the stern, side by side with the plastic aft junction box. Glued by its back face to the hull for cooling, like the Pi A box. Every network cable ends here. The box is wired to nothing: no wire, screw or metal fitting joins it to anything else. Inside: only the switch, its supply and the SFP module; nothing lightning-related.

1 **Network switch** HAVE
Teltonika TSW202: DIN-rail managed PoE+ switch (PoE: power down the network cable), 8 ports plus 2 SFP slots, printed TSW202. Bought Sep 7. Firmware pinned, auto-update off, boot state all ports ON. Always on, never on a relay.

2 **SFP module** HAVE
10GTEK SFP-T copper module (a plug-in network module), two bought Sep 8. One in SFP slot 9 for Starlink.

3 **48 V supply** HAVE
Mean Well DDR-120B-48 DIN-rail DC-DC, 120 W, 24 V in. Bought on Amazon Aug 23. Set to 54.0 V, then seal the trimmer with paint.

4 **RJ45 couplers** HAVE
Alrhso IP67 Cat6 panel couplers, two per pack, five packs (Aug 16). Nine used here; Pi B's must be plastic. Wall jacks, one per cable (Mike, Oct 3). A premade 6 in to 1 ft patch cord from each to its switch port; no coils in the box.

5 **TVS diode** HAVE
At the 48 V supply's input. 1.5KE33CA surge-clamp diode: black body with wire legs, a stripe at one end, printed 1.5KE33CA. Across the 24 V input. Chanzon 20-pack on hand; check the bag is not the 1N5408 flybacks.

6 **Near the deck, not in this box: Ethernet surge protectors x5** ON THE WAY
Ubiquiti ETH-SP-G2 (outdoor-rated): a small plastic box with two RJ45 jacks and a ground lead. Ordered Oct 1. On a small board on a bulkhead near the deck, where the outside cables first come inside: two post cameras, Starlink, foredeck fisheye, interior camera. Short premade Cat6 runs down to this box's wall jacks. The underwater camera and the light driver get none.

7 **Near the deck, not in this box: surge board and ground bar** NOT PICKED
A small board for the five protectors, with a small tinned bus bar for their grounds and one 6 AWG wire, short and straight, a foot or two at most, to the lightning copper. Open: where the copper runs near that bulkhead; check at the boat. No part named or bought.

LEAVE OUT No cooling plate: the aluminum box is glued straight to the hull. No bond stud: the box stays off the lightning copper.

THROUGH THE WALL About 10 entries + vent: RJ45 couplers x9 (ports 1 to 8, SFP 9) · PG9 (24 V feed for the switch; open whether it is a jumper from the plastic box or its own run) · vent. No ground lead entry. SFP 10 not drilled. Network cables are premade: check each plug passes its deck holes and glands, or use a split gland.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A7

MOTOR CONTROLLER BOX (VESC A)

BOUGHT SEALED ENCLOSURE | CONTROL BUS | COCKPIT WEB, AT THE MOTOR | ONE CONTROLLER ON BOAT 1

THE BOX A bought sealed enclosure (tracker: 'VESC boxes' HAVE, $80). The model is not named in the docs; the BOM line still says 'primary + backup' though Boat 1 has one.

WHERE On the cockpit web at the motor. The only motor controller on Boat 1: losing it costs time, not the trip, because the wing sails the boat.

1. **Motor controller** CHECK SHELF
   Flipsky 75200 Pro V2.0, aluminum circuit board, power-button version, $154 by PayPal Sep 5, no delivery mail. Sits on the cooling plate. Find pin 1 on each plug with a meter.
2. **Shorted plug** CHECK FIRST
   A crimped plug that joins IGNITE to BAT+ on the power-switch plug (pins GND, IGNITE, BAT+), so the board runs whenever the battery is on. Plug type not written: read it off the board.
3. **COMM plug leads** HAVE
   JST-PH 2.0 mm 8-pin pairs with 26 AWG leads, ten pairs (Sep 2). Splits to the serial backup and the motor sensor.
4. **CAN plug leads** HAVE
   Kidisoii JST-GH 1.25 mm kit, 2 to 10 pin, pre-crimped 28 AWG. Use the 5-pin: CANH, CANL, GND only. Order log: came Sep 28 (Parts tab: on the way).
5. **Motor sensor mating plug** ON THE WAY
   ELITE.CITI Metri-Pack 150 8-way sealed pair, 20-22 AWG, $14.81, due Oct 2 to 8. Mates the ME1616's grey sensor pigtail.
6. **Sensor divider resistors** CHECK FIRST
   10k from the sensor and 18k to ground on sin and on cos, crimped in the harness and potted, unless the bench check shows the tops stay under 3.2 V. 18k not confirmed in the kit.
7. **Bus capacitors x4** HAVE
   Nichicon 1,000 uF 63 V capacitors (cans), on a small G10 board. Order log: came Sep 28 (Parts tab: on the way).
8. **Power posts x2** HAVE
   MGI SpeedWare 3/8 in power junction posts, $18.95, rated 160 A. The 2 AWG feed, the controller's 8 AWG leads and the capacitor board land here. Redraw the bank for them.
9. **Cooling plate** WAITING
   Aluminum plate through the box floor, set in heat-carrying epoxy, wired to nothing. Size not set (Pending: cooling plate size).
10. **Phase clamp ferrite** HAVE
    One 1.0 in mix-31 snap-on clamp over all three phase leads, just outside the wall.
11. **Input TVS** CHECK FIRST
    The box sheet draws the battery leads in through a TVS; the Electronics plan lists none here. The docs do not agree.

LEAVE OUT A precharge resistor (Mike, Sep 29), VESC B and its contactor (Boat 2 only).

THROUGH THE WALL 8 holes: PG7 x3 (CAN control drop, serial and kill to Pi A, motor sensor lead) · PG16 x5 (battery + and -, three phase leads). A ferrite on each entry; the one big clamp over the three phases.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A9

BATTERY BOX

PLYWOOD · BUILT, CELLS IN | MAIN BANK | NO BUS · NO ELECTRONICS | NO HEATERS · NO GAS SENSORS

THE BOX 3/4 in okoume plywood box, glassed, per the Battery Box Building Guide. Lid on 24 E-Z Lok inserts and 1/4-20 screws.
WHERE The main bank. Built and glued in; the cells are in for good (Sep 24). Nothing that thinks lives here: only cells, links, probes and harness ends.

1 **Cells x32** HAVE
EVE MB31 314 Ah LiFePO4, 8S4P, in the box. Four more stay ashore at half charge.

2 **Pack compression set** HAVE
G10 end plates, three 3/8-16 rods in PEX sleeves, 3/8 in Belleville (cone spring) washers, spacer blocks, mica sheets. Fitted with the cells.

3 **Cell nut washers, M6** ON THE WAY
PATIKIL M6 x 12 mm 304 cone spring washers, one under every cell nut, 64 needed. One 50-pack here; the second due Sep 30.

4 **Stack-to-stack link** HAVE
One flexible insulated jumper across the center gap at the aft end.

5 **Lid hold-down foam** CHECK FIRST
CloudBuyer strip 1 x 3/4 in, 13 ft, here. The spec is medium closed-cell neoprene 1-1/2 in wide: check it on one batten before gluing all three.

6 **Lid gasket** HAVE
WOD closed-cell sponge rubber tape, 3/8 x 3/4 in, 30 ft roll.

7 **Tap wire fuses x9** CHECK FIRST
A fusible link (a 30 AWG wire that melts like a fuse) at the ring end of every tap wire W0 to W8. Tracker: fusible links HAVE; count nine.

8 **Pack temperature probes x6** HAVE
DS18B20 probes on cell faces: the battery trip. Their chain leaves in the signal bundle.

9 **XT1 thermistor** HAVE
The DROK probe of the watchman box, held hard on a cell face, not in box air.

10 **Glands and vent** HAVE
Two PG16 and one PG13.5 nylon glands (on hand), and one IP68 breather screw (Sep 14).

11 **Relief stub** HAVE
1-1/2 in Sch 40 PVC stub, a Dometic/Sealand 1-1/2 in duckbill (OEM 385310076) lips out, and a PVC coupling clamping it. No screen.

12 **Main fuse** HAVE
300 A Class T fuse and block (JIAKUPA kit), bolted OUTSIDE the aft wall, + side, mid-height.

LEAVE OUT Do not re-propose: heaters, gas sensors, a high-water sensor, an overboard duct, a burst membrane, a rim doubler, a bug cap or flame mesh.

THROUGH THE WALL 5 holes + fuse bolts: PG16 x2 (2 AWG mains, aft wall) · PG13.5 x1 (signal bundle) · M12 vent (aft wall) · 2 in relief stub hole (forward wall, high) · the main fuse's bolts, bedded in sealant if they go through.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A10

EMERGENCY BANK

BOUGHT BATTERY · NO BOX BUILT | EMERGENCY ISLAND | NO BUS | PLASTIC CASE · FLOATS

THE BOX Dyness 24V 100Ah LiFePO4, plastic case, 20.9 x 8.11 x 8.54 in, 42.6 lb. Everything lands on its M8 (5/16 in) posts or on a small fused DIN strip beside it.

WHERE The battery is its own enclosure: no gland, no hole schedule. It feeds Pi B, Iridium B and the detector, and stays apart from the main bank.

1. **The battery** HAVE
   Dyness 24V 100Ah, built-in 100 A BMS, not the Bluetooth version. Here and strapped in.
2. **Shelf and straps** HAVE
   Chocked shelf and two straps over the top (BOM: here).
3. **30 A ANL fuse** HAVE
   Renogy 30 A ANL fuse with holder, $12.65, within a few inches of the + post. Order log: came Sep 28 (Parts tab: on the way).
4. **Post boots** BUY
   Insulating boots for the M8 posts, red and black. Not bought; or tape the posts.
5. **Fused DIN strip** CHECK FIRST
   Small DIN strip beside the battery: feeds to Pi B and Iridium B, the 75/10 in, the Orion-Tr in (its own 10 A fuse). Fuse holders and other sizes not named.
6. **Orion-Tr charger** HAVE
   Victron Orion-Tr Isolated 24/24-5, blue case, here Sep 25. Within about a foot of the battery, dry, upright, on wood or G10, no bond wire.
7. **SmartSolar 75/10** HAVE
   Victron SmartSolar 75/10, blue case, beside the Orion-Tr.

THROUGH THE WALL No glands, no vent, no hole schedule: this battery is not a built box.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A15

RELEASE NODE B

PLASTIC · QILIPSU · SMALL | HOUSE BUS END | STERN, NEAR THE TRANSOM BOXES | SECOND RELEASE CHAIN

THE BOX QILIPSU junction box with mounting plate (B07FFPJ82R), small, about $18. Two bought Aug 16. Size it once the boards are laid out.
WHERE At the stern. Fires horn B of drogue boxes 1 and 2, so the central node is not the only box that can release. Fed 12/2 from its own 30 A breaker (stud 2). Its cables leave by their own glands on their own route.

1 **Nucleo (the node brain)** CHECK FIRST
STM32 NUCLEO-G431KB, the second of the two Mike has; check it says G431KB. Five pins used.

2 **Nano screw carrier** HAVE
AITRIP Nano screw-terminal adapter.

3 **CAN transceiver board** HAVE
Alinan SN65HVD230, one of the four on hand.

4 **CAN surge module** HAVE
Taidacent RS-12V/2S, the second of the Sep 7 pair.

5 **24 V to 5 V converter, potted** CHECK FIRST
No model is named in v10.1. On hand: two Klnuoxj 24 V/12 V to 5 V 5 A step-down boards (Aug 16). Pi A, Pi B, both nodes and both Iridium boxes each need a 5 V converter, so count what is on hand before fitting.

6 **Fuse** CHECK FIRST
A15 still lists 'fuse'; the feeder is now a 30 A breaker at the bar. The docs do not say what this fuse guards or its size.

7 **Enable relay** HAVE
HiLetgo 24 V 30 A one-channel relay module. The only thing that puts 24 V on this node's release bus.

8 **MOSFET switch modules** CHECK FIRST
Two channels, horn B of each drogue box. Same count question as the central node's.

9 **Mini DIN strip** HAVE
A short DIN strip: every field wire lands here first.

10 **TVS diode** HAVE
1.5KE33CA surge-clamp diode: black body with wire legs, a stripe at one end, printed 1.5KE33CA. Across the 24 V input. Chanzon 20-pack on hand; check the bag is not the 1N5408 flybacks.

LEAVE OUT Shorting relays, an opto board, a humidity board, flyback diodes (burn wires need none). Entries 5 to 8 not drilled.

THROUGH THE WALL 4 entries + vent: PG7 (CAN house drop) · PG11 or PG13.5 (12/2 feeder; measure its jacket) · PG7 x2 (drogue box 1 and 2, horn B) · vent. Never share a gland with the central node's cables.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET A17

WING BOX

SMALL BOX · NOT PICKED | FOOT OF THE MAST CAN | OWN CAN LINK, OFF BOTH BUSES | STOPS A MAST STRIKE

THE BOX Not picked: material, size, holes and vent are all open (Pending: the wing box's holes and what it talks to).

WHERE The hull end of the slip ring (the turning electrical joint, Rion HC2549, due about Oct 20). Every ring wire gets a fuse or surge part at its entry. Fed 16/2 from its own 5 A breaker (line 14), then the box's own 5 A fuse.

1 **5 A fuse and holder** CHECK FIRST
On the 24 V pair to the trim actuator: a sealed inline ATC/ATO holder (count the nine on hand) and a 5 A blade.

2 **TVS diode** HAVE
Across the ring's 24 V pair. 1.5KE33CA surge-clamp diode: black body with wire legs, a stripe at one end, printed 1.5KE33CA. Across the 24 V input. Chanzon 20-pack on hand; check the bag is not the 1N5408 flybacks.

3 **Surge modules x2** ON THE WAY
Taidacent RS-12V/2S, 12 V (Amazon B0BGL675ND), $21.98 each, ordered Sep 26: one on the trim actuator's CAN pair, one on the tip wind meter's RS-485 pair.

4 **Third surge module** BUY
Same Taidacent part, about $22, for the wing compass's own RS-485 pair (rings 3 and 4, item 351, Oct 1).

5 **Tip meter RS-485 reader** WAITING
DAOKI TTL to RS-485 board, 5-pack, Amazon B08M3DG3TH, about $10 (a guess). On hold: what reads the tip meter is still open.

6 **Compass RS-485 reader** NOT PICKED
A second reader like the tip meter's, for the WitMotion HWT905 compass (item 351).

7 **Trim actuator CAN talker** NOT PICKED
Whatever talks to the Thomson Electrak MD on its own short CAN link. Open in every guide.

LEAVE OUT Out since Oct 1 (item 351): the Amphenol PST360 angle sensor and its Pololu D36V6F5 5 V supply. The guides (Wing Power System 8.7 and 11, Electronics plan A17, BOM) still list them; the PST360 is on the Send back tab.

THROUGH THE WALL Not set. At least: the ring's lead (24 V pair, CAN pair, tip meter RS-485, compass RS-485), the 24 V feed from the bar, the lines on to the Pi, and a vent if plastic.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET DB

DROGUE BOXES 1 AND 2

FIBERGLASS AND PLASTIC | ON THE TRANSOM | TWO RELEASE CHANNELS EACH | NO SWITCH ON THE LID

THE BOX Two bought Sep 28: a VEVOR fiberglass box 19.7 x 15.7 x 7.9 in ($74.01, due Oct 2) and a QILIPSU UL94-V0 16.4 in box ($82.15, here Sep 30), probably the second. Pack a drogue in before stripping any metal; measure the transom width up high.

WHERE One per drogue, on the transom. Each lid is held by one strap over two horns. Horn A fires from the central node, horn B from Release Node B; either one alone cuts the strap. Per box unless it says otherwise.

1 **Jordan series drogue** HAVE
OceanBrake, 80 cones on yellow line, bridle and chain tail; arrived Sep 25. Check the chain tail came.

2 **Lid** HAVE
4 layers of 1708 glass, or the box's own door stripped with 2 layers inside.

3 **Sewn hinge** ON THE WAY
1/8 in Amsteel Blue (on hand) sewn through, covered with PKS Dacron sail tape, 3 in x 5 ft, one roll due Oct 1 to 7 (two were planned: check one covers both).

4 **Lid strap** HAVE
1/8 in Amsteel Blue, about 4 ft, rubbed with candle wax, figure 8 stopper knots.

5 **Horns and ledge** HAVE
Cut from 1/4 in G10 sheet, horns glued to the lid with EPDM strip in the grooves.

6 **Nichrome coils x6** HAVE
Nichrome 80, 28 AWG (or 30 AWG, the bake-off decides), three coils per horn, about 37 turns on the strap.

7 **Coil lead crimps** CHECK FIRST
Nichrome tails crimped to tinned copper leads, never soldered, each crimp potted in epoxy. Crimp part not named.

8 **Potted wire pass-throughs x2** CHECK FIRST
One epoxy-sealed pass-through per channel, low on the transom, separate routes. Part and hole size not written.

9 **Ejector pad** HAVE
2 in PE foam sheet, 16 x 12 in (2-pack bought).

10 **Strap hole liners** HAVE
1/4 in OD x 1/8 in ID PTFE tube, a few inches per box.

LEAVE OUT No microswitch on the lid, no bridle switch: the speed drop and the aft camera confirm.

THROUGH THE WALL Two potted pass-throughs per box (horn A, horn B). No vent.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.

SHEET SMALL

SMALL BOXES

ONE TO THREE PARTS EACH | IRIDIUM · DETECTOR · STARLINK | TRANSOM STRIP · LIGHT DRIVER | WING TIP

WHERE Boxes with only a few parts. Each name starts with its box. Iridium A sits near Pi A on the main bank (own 5 A breaker, stud 7); Iridium B near Pi B on the emergency bank.

1. **A11 Iridium A and B: modem x2** CHECK FIRST
   RockBLOCK 9603N on its carrier, SparkFun, Jul 31. One was shipped to Gunnison, CO: confirm both are here and are the external-antenna version.
2. **A11 Iridium A and B: 5 V converter x2** CHECK FIRST
   Potted 5 V converter each. No model is named in v10.1. On hand: two Klnuoxj 24 V/12 V to 5 V 5 A step-down boards (Aug 16). Pi A, Pi B, both nodes and both Iridium boxes each need a 5 V converter, so count what is on hand before fitting.
3. **A11 Iridium A and B: TVS x2** HAVE
   1.5KE33CA at each converter input.
4. **A11 Iridium boxes themselves** NOT PICKED
   'Small plastic box' each, 3 glands + vent. No model named.
5. **A11 outside: stub arrestors** BUY
   One PolyPhaser TSX-NFF here (Aug 24). The second: pay the Fairview hold order WFM215964 ($95.97) unless a count finds two. Antennas: Maxtena M1621HCT-P-SMA x2, delivered Aug 11.
6. **A12 Detector: AS3935** HAVE
   SparkFun lightning detector, SEN-15441, a small red board. In a tiny plastic box within 3 ft of Pi B, touching no metal. One PG7 + vent. Box not named.
7. **A13 Starlink: the dish** HAVE
   Starlink Mini, shipped Aug 6. Its deck enclosure is not named. No heater. RJ45 coupler and a PG9 for power.
8. **A16 Transom terminal box** HAVE
   Box on hand (about 12 x 8 x 5 in). Inside only a DIN strip, one landing per conductor, labels at both ends. Glands: PG11 x4, PG9 x3 (one plugged), vent.
9. **Light driver dry box** BUY
   PoE Texas AT-LED-24V driver (bare board, here Sep 10) for the two 4 in disc lights, on switch port 6. Its small dry box is still to buy (Electronics plan sec 8).
10. **Wing tip box: 5 V converter** HAVE
    The second DROK sealed 24 to 5 V converter, for the tip wind meter and the compass. Order log: came Sep 28.
11. **Wing tip box: 1 A fuse** CHECK FIRST
    A sealed inline holder with a 1 A fuse on the tip branch. Holder not named.
12. **Wing tip box itself** NOT PICKED
    A small sealed box at the tip; the tip mount drawing still has to place it. Joins are crimped heat-shrink splices, no solder.

THROUGH THE WALL Glands: Iridium A and B PG7 x3 each + vent; detector PG7 x1 + vent; Starlink RJ45 coupler + PG9; transom box as above.

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SHEET NB NOT IN A BOX, OR NOT ON BOAT 1

SO NOTHING ARRIVES WITHOUT A HOME

WHERE These parts have no enclosure of ours, or the box is deleted. Sort them to the spot named.

- **A5 FSESC box:** deleted on both boats. Do not buy, do not build.
- **A8 VESC B box:** Boat 2 only, with its phase contactor. Boat 1 sails with one controller.
- **A14 em-trak B921:** AIS transponder, its own sealed case on the house bus (shipped Sep 16, no delivery mail). Power on relay channel 4.
- **A14 Ewellix CAHB-22:** steering actuator, no bus and no box: its cable runs to the central node, entries 12 and 13.
- **Main bus board:** not a box: breakers, MEGA fuses, the two shunts, the five solar fuses, the two battery surge modules, the 1k charging-stop resistor. See the bus board drawing.
- **CAN bus power:** two YRDZXG 24 to 12 V converters at the compute multiport, one per bus, each behind its own 5 A breaker. No box written.
- **Solar surge modules x5:** NanQue Type 2 DIN units on a short rail below the charge controllers, on the bus board (due Oct 2).
- **Camera port:** Axis P1245 main unit inside, the LM317 regulator (on hand) and the three UV-C LEDs (due Oct 19 to 23) at the port. No box written.
- **Wet lab electrics:** XWST 24 V converter (due by Oct 4), the valves, pumps and the board that reads the pressure sensor and temperature probe. No box written.
- **Wing angle sensor:** PST360: no job since Oct 1, Send back tab.

STATUS KEY, SOURCES Pending Amendments v10.2, the v10.1 guides and Box Wiring Sheets, and the order tracker as saved 2026-10-02. HAVE here. ON THE WAY ordered. CHECK SHELF shipped, no delivery mail. BUY not ordered. CHECK FIRST verify before fitting. WAITING needs a check or answer first. NOT PICKED no part chosen yet.