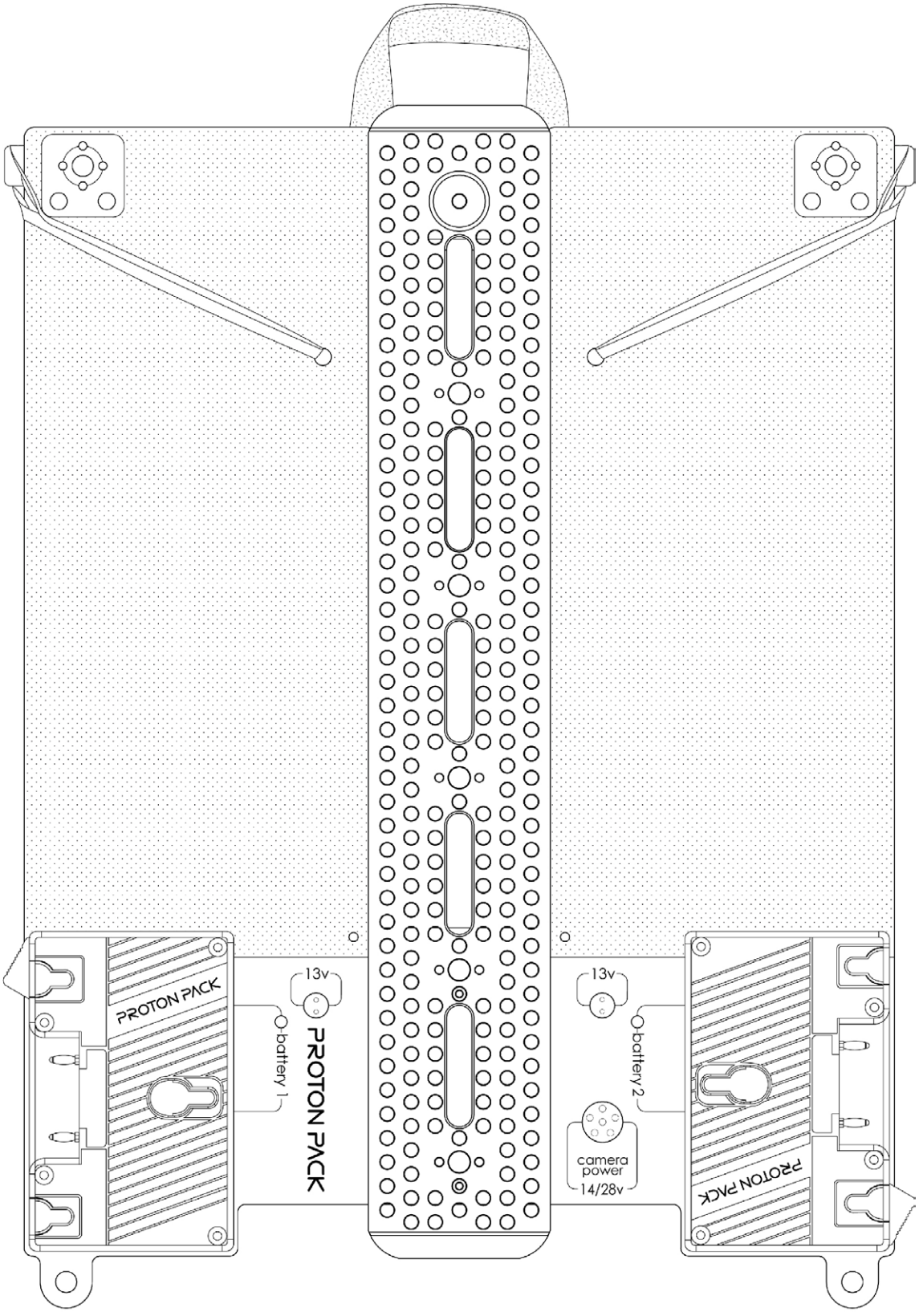
PROTON PACK

V2 USER MANUAL (draft 1.1)

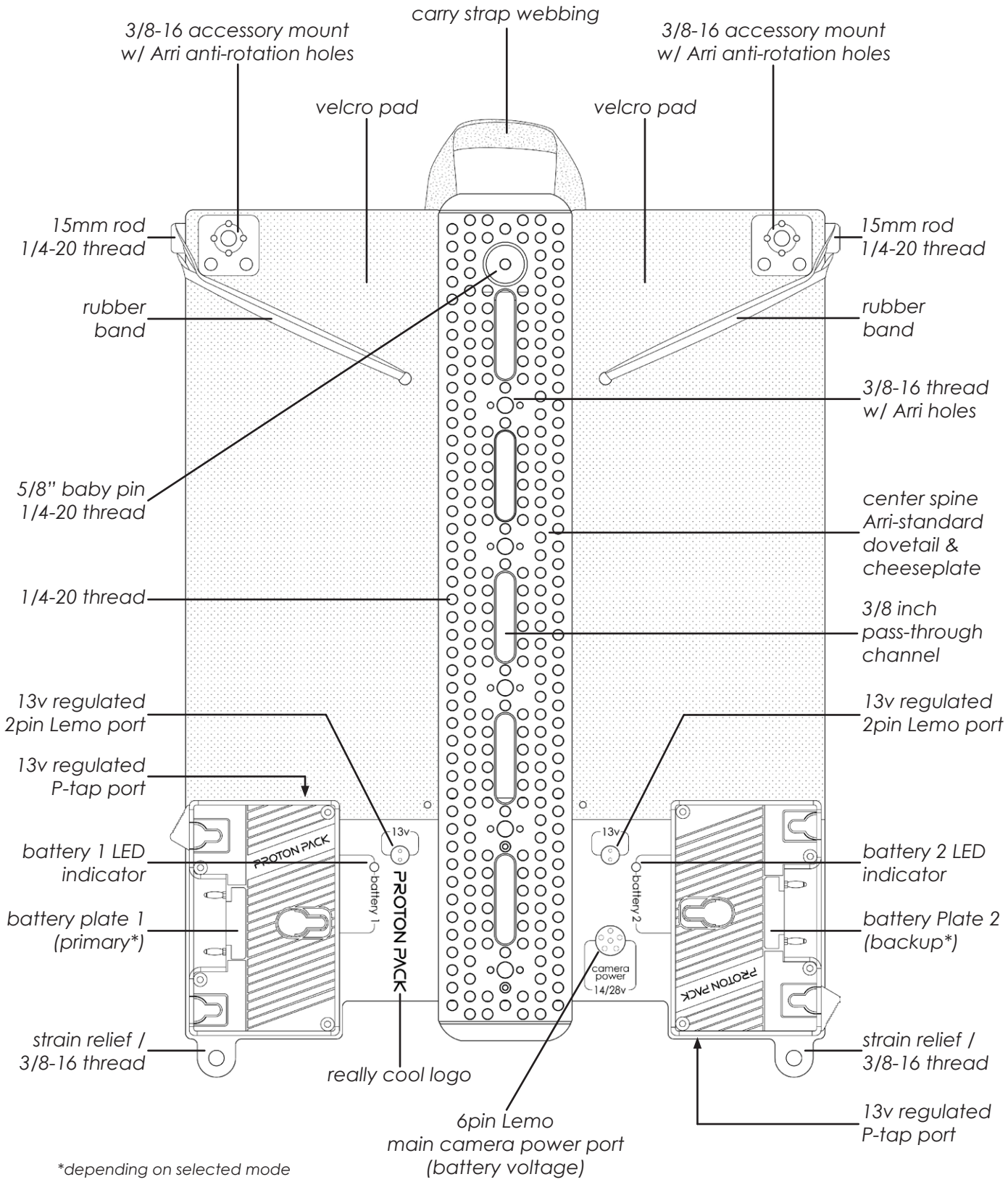


patent PENDING

Table of Contents

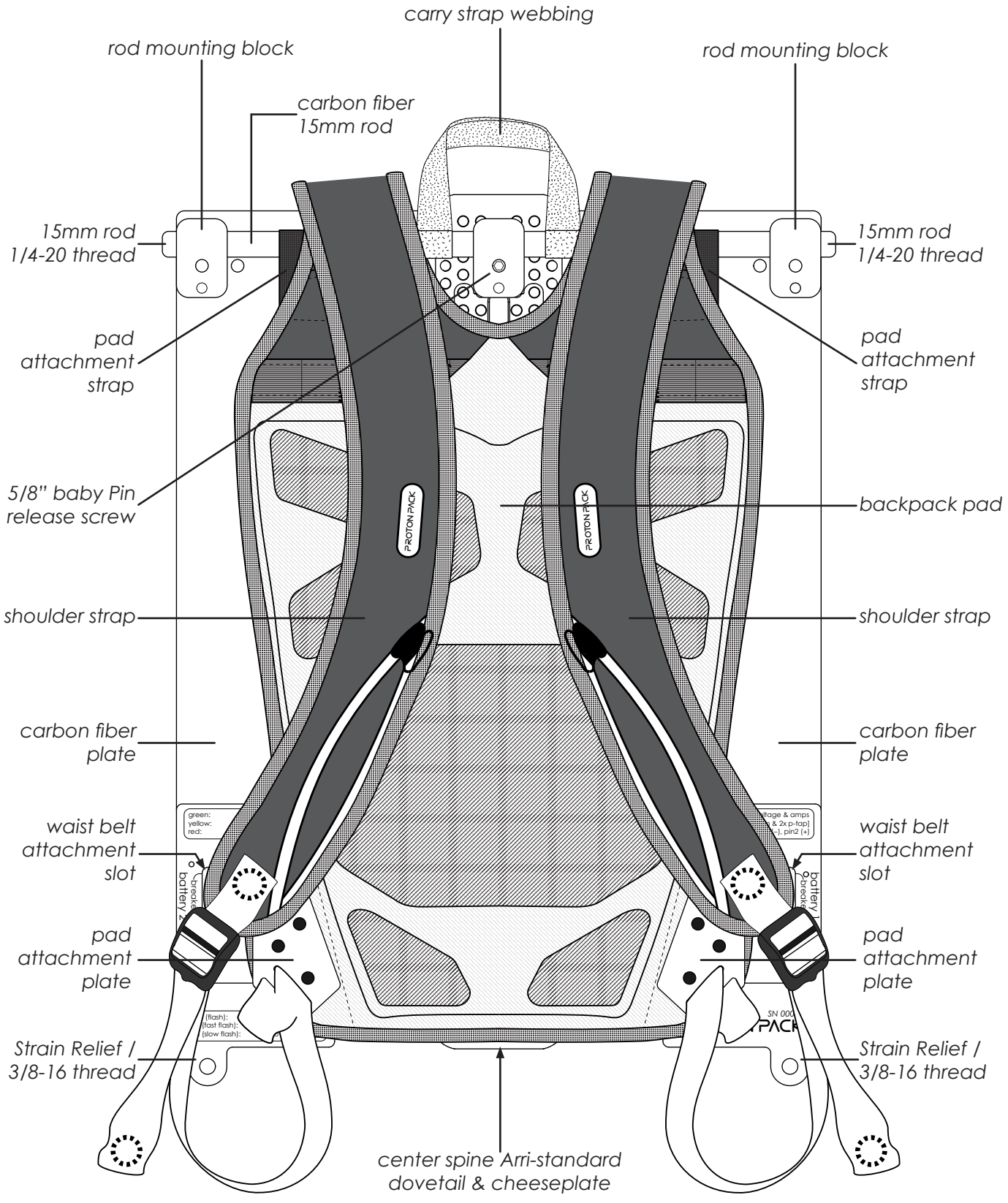
1. Product Features

A. Main Proton Pack Frame (exterior)



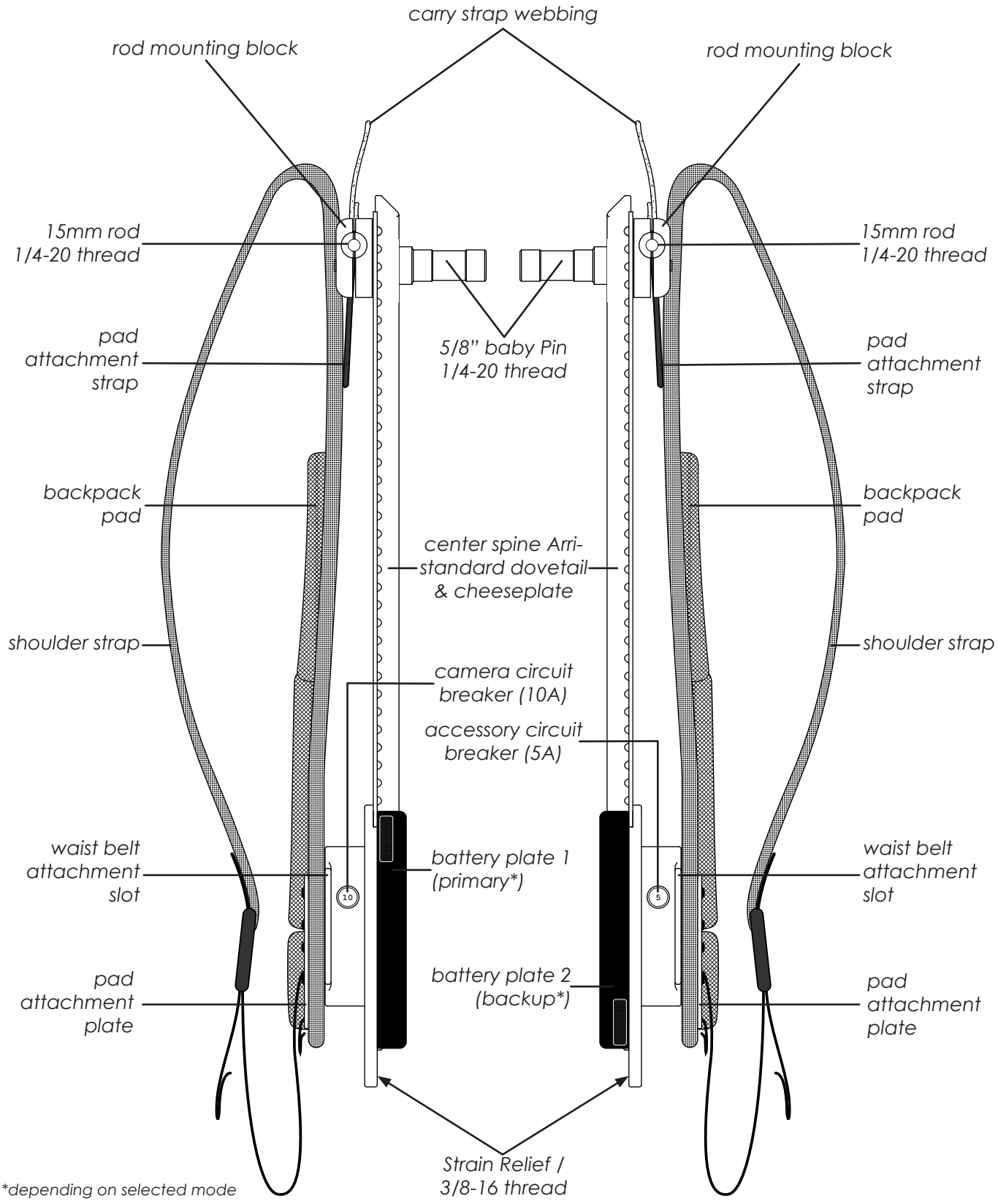
*depending on selected mode

B. Main Proton Pack Frame (interior)



C. Main Proton Pack Frame

(left-side) (right-side)



D. Proton Pack Power Pigtail Cables

14v 4pin XLR Pigtail

Pin#1 (–), Pin#4 (+)

14v(26v) 3pin XLR Pigtail

Pin#1 (–), Pin#2 (+)

28v 3pin XLR Pigtail

Pin#1 (–), Pin#2 (+)

E. Standard Kit Complete Contents

(1x) Proton Pack Backpack Rig

(1x) Hard Shipping Case with Padded Interior and Lid Organizer

(3x) Power Pigtail Cables

(1x) Removable Waist Belt

(1x) Rain Cover

(1x) Strain Relief Cable

(2x) Preston 7pin Motor Cables (straight to right angle)

(1x) 3pin Fischer Run/Stop extension cable (female plug to male plug)

(3x) SDI BNC Cables (straight to right angle)

(1x) 5pin Lemo timecode input cable (to BNC)

(1x) Rangefinder sensor cable (your choice: Cinetape/Sniper/Lightranger)

(1x) Standard four port P-Tap splitter box

(1x) Extra long four port P-Tap splitter box

2. Introduction & Basic Usage

A. General Description

Proton Pack is a backpack-worn camera accessories platform. It provides mounting options for:

- Batteries (gold mount or v-mount)
- MDR
- Wireless HD Transmitter
- Timecode generator
- Cinetape readout
- Focus Monitor

Handheld shooting and cramped spaces often require cameras to be made as small as possible. DPs often request that the camera be completely stripped-down. Proton Pack provides a solution to accomplish these builds without compromise to your normal work-flow.

Velcro surfaces and cheeseplates allow attachment for all of your professional accessories. Camera builds can now be reduced to only body, lens, & focus motor. Proton Pack's power system is ready for 14v or 28v cameras and provides regulated 13v breakout power (2x p-tap & 2x Lemos) for all peripherals.

B. Basic Usage

- Begin by choosing the appropriate power pigtail for your camera system. **<u>One of the three pigtial power cables MUST be installed at all times</u>** for the Pack to turn on and provide power from any output.
- For any camera that can accept ±12v DC power the **"14v" pigtails are always preferred as they maintain hot-swapability** when changing batteries. Pick the "14v" 4pin XLR or 3pin XLR pigtail based on the power cable included with your camera*. For ±24v camera systems (35mm film, Alexa LF/65, etc.) pick the "28v" 3pin XLR pigtail
- Install the power pigtail into the 6pin 2B Lemo "Camera Power" port on the Proton Pack main chassis.
- Strip down the camera body to the bare minimum of rigging (cage, baseplate, etc.). Leave only essential accessories for shooting and operating (lens, monitor, focus motor, hand grips, etc.)
- Using Velcro or other brackets, mount all required peripherals (Teradek/MDR/Cinetape/etc.) onto the Proton Pack frame (See fig. 1 for a typical arrangement).
- Run power for all peripherals (using their standard power cables) from the two 13v p-tap or two 13v 2pin Lemo ports on the Proton Pack.
- Connect your camera power cable to the Proton Pack Pigtail you installed earlier.
- Using the included long cables in your kit now make all other connections between camera and Proton Pack. We recommend starting at the camera side and taking up any additional slack in the cables at the Proton Pack frame.
- Once the umbilical is fully assembled, we suggest attaching the strain relief cable from umbilical to camera cage & also securing the umbilical to the Proton Pack using the strain relief loops at the bottom left or right corners.
- Attach batteries to both battery plates.
- Power on the camera and all accessories.
- With the Proton Pack worn by camera operator, AC or grip, now begin shooting.
- Change batteries as needed when indicated by the yellow "low voltage" LED.

fig. 1

*An 8 ft 6 in long camera power cable is ideal

3. Power System & Power Modes

A. Power System Introduction

Proton Pack can provide power for both 14v and 28v camera systems from the "camera power" port on the main chassis. This mode is automatically selected when installing either a 14v or 28v power pigtail cable. 14v mode has hot swap. **In 28v mode there is NOT full hot swap when changing batteries.** Camera power is a direct pass-through from your battery plates. Voltage and ampacity will be reflective of the batteries in use.

The system also has four built-in ports for powering peripherals/accessories. There are two Anton Bauer type p-tap ports and two standard 2pin Lemo ports. All four outputs are regulated at 13v DC and will provide that voltage regardless of 14v or 24v voltage mode.

Hot swapping can be configured in a "Priority" or "Parallel" protocol by flipping the small toggle switch located underneath "battery plate 2" (see fig. 2).

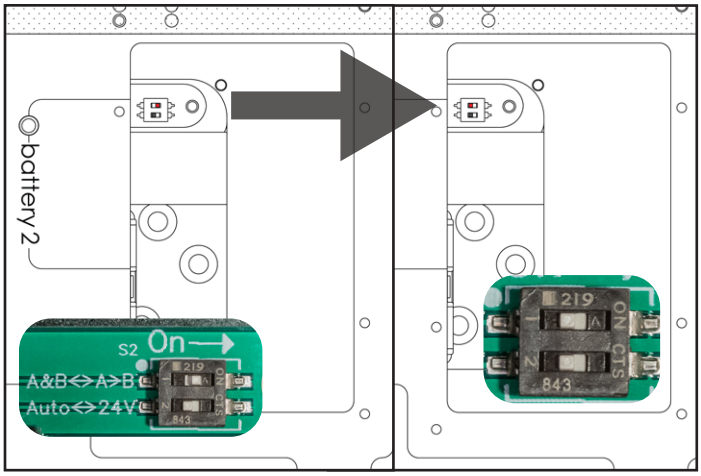


fig. 2

B. 14v "Priority" Power Mode

Choose this mode by installing one of the "14v" power pigtail cables and leaving the internal toggle switch set to "A-->B" (right position).

In this mode your Proton Pack will always prioritize "battery plate 1" (left-hand) when there is a healthy battery installed on that plate. "Battery plate 2" will constantly be kept in reserve as a backup if the primary battery should die or be removed.

Only the LED on the battery plate actively supplying power will be illuminated in this mode.

C. 14v "Parallel" Power Mode

This is the standard operating mode for your Proton Pack and it will ship to you with this mode preselected. If battery plate prioritization is *not* desired, your Proton Pack can be reconfigured to draw from both battery plates simultaneously. Choose this mode by installing one of the "14v" power pigtail cables and changing the internal toggle switch to "A & B" (left position) (see fig. 2).

In this mode the power system will actively favor whichever source has the higher voltage thus draining both batteries in a relatively symmetrical pattern. Hot swap will function as normal whichever battery is removed during a swap. It is recommended that batteries of approx. equal charge are used.

Both LEDs on the Proton Pack will be illuminated in this mode.

D. 28v Power Mode

Use this mode for film cameras and larger camera systems requiring > 24v. Choose this mode by installing the "28v" power pigtail (internal toggle switch has no effect in this mode). To achieve > 24v both batteries are configured in series so hot swap is NOT available in this mode. **Make sure to safely power down digital cameras before swapping batteries in 28v mode.**

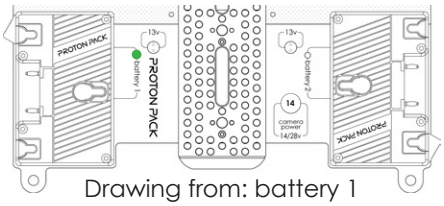
Both LEDs on the Proton Pack will be illuminated in this mode.

E. LED Indicators

There are two multi-color LEDs on the Proton Pack chassis, one for each battery input.

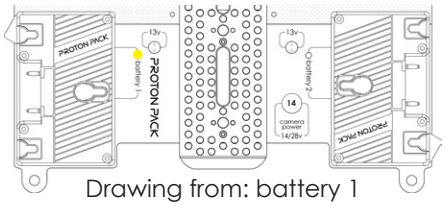
- **GREEN** = Good voltage (>13v / >26v)
- **YELLOW** = Low voltage (< 13v / < 26v)
- **RED** = Dead battery
- **OFF** = Battery not active or no battery present
- **BLUE FLASH** = Over current warning (>10A camera, >5A accessories)
- **RED FAST FLASH** = Electrical system fault
- **RED SLOW FLASH** = System overheat (>185 deg. F)

MODE: 14v, Priority



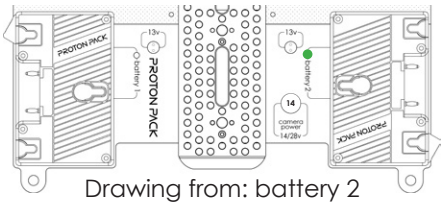
Drawing from: battery 1
Battery: good

MODE: 14v, Priority



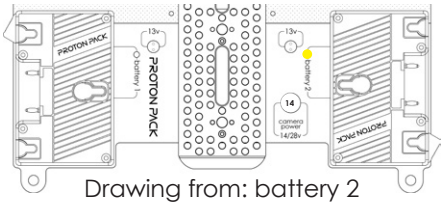
Drawing from: battery 1
Battery: low

MODE: 14v, Priority



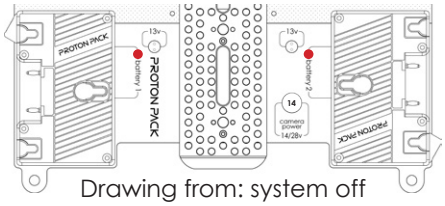
Drawing from: battery 2
Battery: good

MODE: 14v, Priority



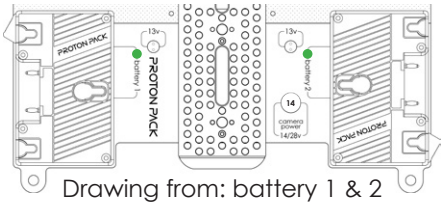
Drawing from: battery 2
Battery: low

MODE: 14v, Priority



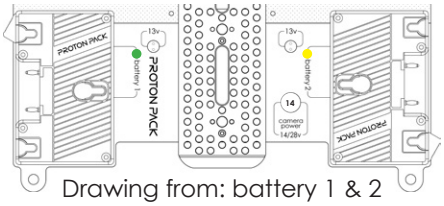
Drawing from: system off
Batteries: both dead

MODE: 14v, Parallel



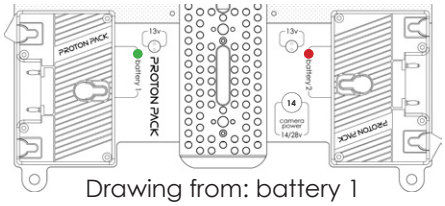
Drawing from: battery 1 & 2
Batteries: good

MODE: 14v, Parallel



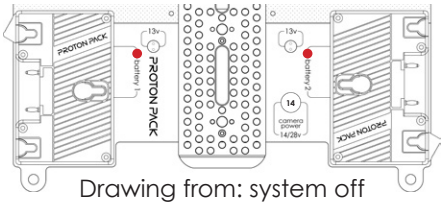
Drawing from: battery 1 & 2
Batteries: 1 good, 2 low

MODE: 14v, Parallel



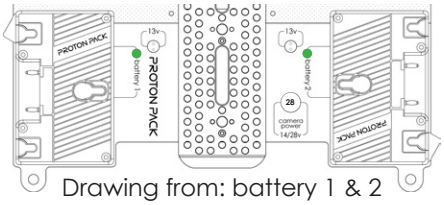
Drawing from: battery 1
Batteries: 1 good, 2 dead

MODE: 14v, Parallel



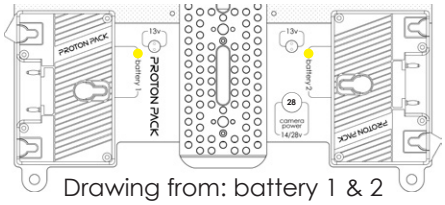
Drawing from: system off
Batteries: both dead

MODE: 28v



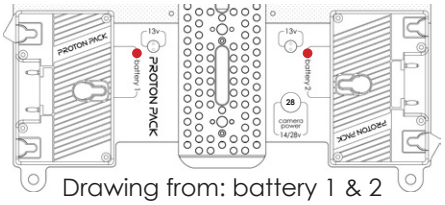
Drawing from: battery 1 & 2
Batteries: good

MODE: 28v



Drawing from: battery 1 & 2
Batteries: low

MODE: 28v



Drawing from: battery 1 & 2
Batteries: dead

F. Circuit Breakers

The camera output and the accessory output each have a resettable aviation-style pop breaker which can be accessed from either side of the Pack. If there is a short circuit or other electrical fault at the camera or on any of the accessories these circuit breakers will trip and protect the Proton Pack from damage.

In addition, these breakers can be manually pulled so as to intentionally cut power to the camera or on-board peripherals while leaving the batteries installed. This my be useful, for example, on a lunch break when it is desirable to power off all accessories, but it is inconvenient to remove the batteries.

- **CAMERA POP BREAKER:** 10A slow-blow (Klixon 7277-2-10)
- **ACCESSORY POP BREAKER:** 5A slow-blow (Klixon 7277-2-5)

---

4. Battery Plates

A. Standard Plates

Proton Pack comes standard with the customer's choice of pre-installed GOLD MOUNT or V-MOUNT battery plates. These are for use with 14v-standard battery systems only.

It is possible to purchase additional plate sets from backpackrig.com and these can be changed in the field by the user if necessary.

B. Swapping Battery Plates

STEP 1: Using a Phillips head screwdriver remove the eight M3 screws affixing battery plate 1 and battery plate 2 to the Proton Pack chassis (see fig. 3).

STEP 2: With a small flat head screwdriver depress the upper latch on the beige Hirose connector which attaches the battery plate to the main circuit board. Without releasing downward pressure on the latch, use the blade of the screwdriver to wiggle the male side of the connector away from the female header on the circuit board. Once loose from the header use the wire leads to gently pull the connector free from the case. Repeat this procedure on both battery plates (see fig. 4).

STEP 3: Perform the operation in STEP 2 in reverse. Gently guide the male plugs of your replacement battery plates into the case and slide them into the headers on the circuit board. Ensure a firm mating and engagement of the upper latches (see fig. 5).

STEP 4: Making sure not to pinch any wires, now reattach the replacement battery plates using the provided M3 screws. **IMPORTANT NOTE -** Battery 1 (righthand) Gold Mount plates utilize the lower M3 threaded holes, V-Mount plates use the upper M3 threaded holes on the chassis (see fig. 6).

fig. 3

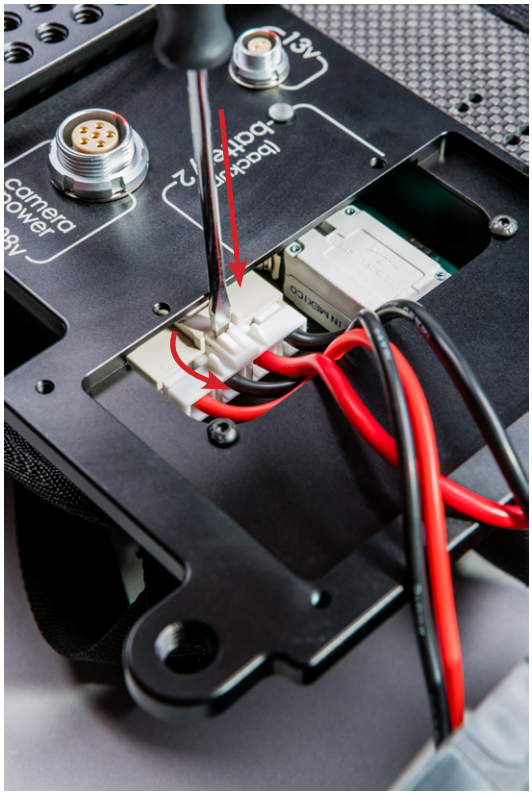


fig. 4

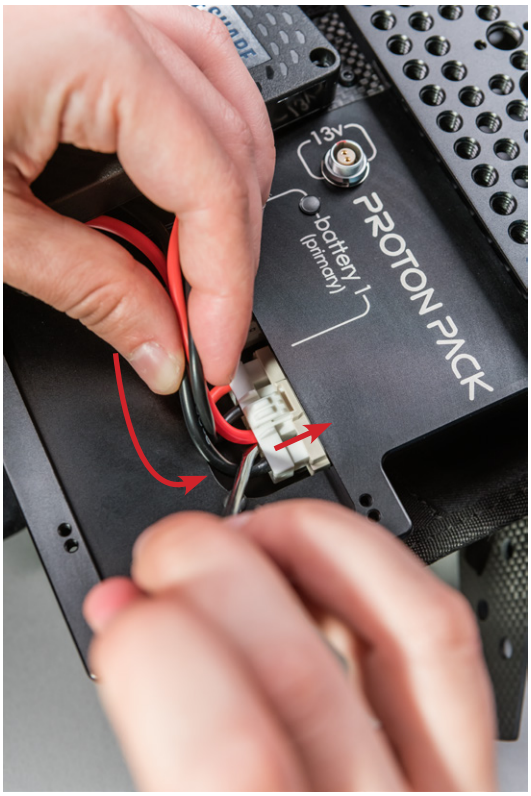


fig. 5

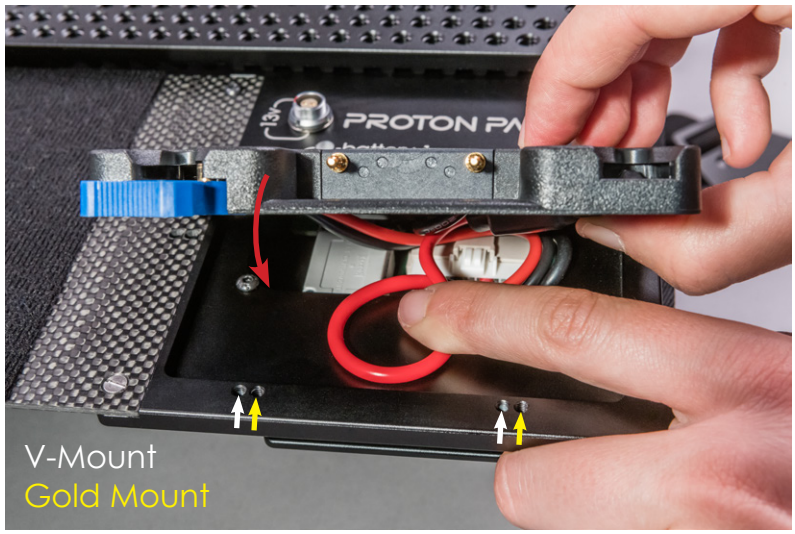


fig. 6

C. Use of 26v Batteries (advanced users only!)

Proton Pack is compatible with high voltage 26v-standard battery systems now available from Anton Bauer ("Dionic 26V") and Bebob ("Cine 12/24"). This will require swapping over to a 26v-standard battery plate, either: Anton Bauer "Gold Mount Plus," or Bebob "B-Mount." These plates will be available for purchase from backpackrig.com. Use of these batteries *will* allow hot-swap for 26v cameras. **This is for advanced use cases only, read all following steps before starting this conversion.**

STEP 1: Swap battery plates to Gold Mount Plus or B-Mount following steps in section 4(b).

STEP 2: ***Important - Before securing the right-hand battery (plate 2), change the toggle switch located underneath that plate to the "24V" (right-hand) position. Finish securing both battery plates.

STEP 3: Install the **yellow "14v" 3pin XLR power pigtail cable. Use only this specific pigtail cable in this mode!** Your Proton Pack will now provide 26v DC power & maintain hot swap capability during battery changes. P-tap and 2pin Lemo ports will still deliver 13v accessory power.

*****EXTREMELY IMPORTANT: DO NOT Use the red "28v" power pigtail cable when working in this mode! It will send upwards of sixty volts into the circuitry and completely fry your Proton Pack electronics. Despite the nomenclature miss-match, only use the yellow "14v" 3pin XLR pigtail with native 26v batteries!**

---

5. Peripheral Mounting

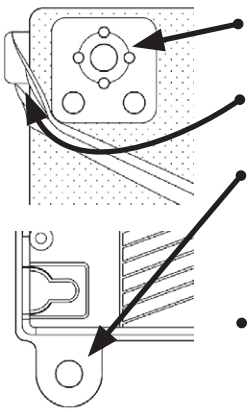
A. Using the Velcro Pads

There is a large carbon fiber plate on either side of the Proton Pack frame covered in low-profile, industrial-strength Velcro-brand loop-side fabric. Your accessory or peripheral device can be positioned anywhere you need on these pads by attaching a small piece of standard hook-side self-adhesive Velcro.

We recommend placing your video transmitter high up on the pack for better signal transmission. MDR units work best lower down, closer to the battery plates to facilitate the most direct path for focus/iris motor cables. Timecode and/or rangefinder readout boxes can be positioned wherever there is room for a sensible fit.

B. Proton Pack Hard Mounts

Proton Pack has a variety of built-in hard mounting points for attaching accessories which you may prefer to bolt-on, or position with an Israeli arm or other bracket. Use these attachment points as you would with any standard camera cage.



- (2x) 3/8-16 accessory mount w/ Arri anti-rotation holes (upper left & right corners)
- (2x) 1/4-20 threaded hole in 15mm rods (upper left & right corners)
- (2x) 3/8-16 threaded holes on the "strain-relief" loops (lower left & right corners) note: these holes are especially useful for adding baby pins to the lower portion of the frame when it is helpful to rig the entire backpack onto a dolly, car hood or jib.
- (1x) Center spine cheesplate with many, many, many 1/4-20 threaded holes & five 3/8-16 Arri anti-rotation holes.
- (1x) 5/8 standard baby-pin with 1/4-20 threaded hole (top of center spine)

C. Using the Center Spine Dovetail

Proton Pack is equipped with an Arri-standard sliding dovetail as part of it's center cheese-plate spine. Camera systems like the Sony Venice Rialto and Arri Alexa-M may take advantage of this dovetail profile for mounting the camera body on the operator's back.

STEP 1: Using a 5/32 imperial Allen wrench, loosen the "5/8" baby Pin release screw by approx. 1.5 - 2 turns. This is located on the interior of the frame, just above the backpack pad (see fig. 7)

STEP 2: Now loose enough to unscrew by hand, remove the baby pin at the top of the center spine and set it aside.

STEP 3: Re-tighten the "5/8" baby Pin release screw.

STEP 4: Attach any Arri-type baseplate (Arri BP-8, BP-12, etc.) to the bottom of your camera body.

STEP 5: Sliding downward from the top of the backpack, attach the camera body to the dovetail and lock it in place.

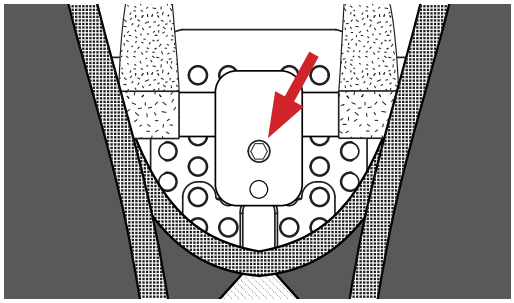
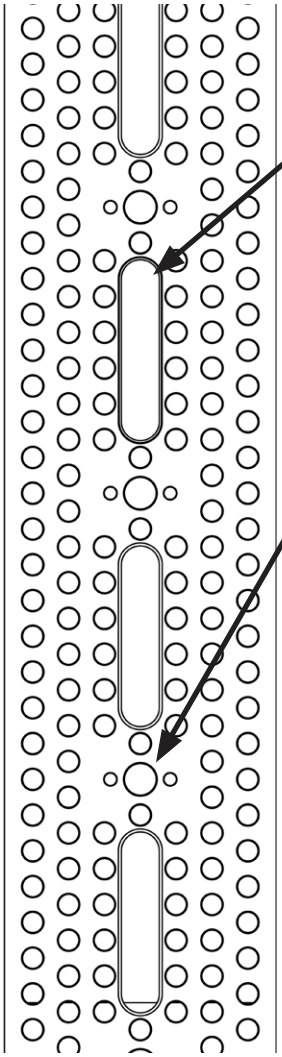


fig. 7

STEP 6 (optional): If desired (and presuming there is enough clearance) reattach the baby pin by repeating steps 1 and 2.

D. Using the Center Spine Cheeseplate



The Proton Pack central spine is equipped with five 3/8 inch pass-through channels, five 3/8-16 Arri pattern holes as well as at least several thousand 1/4-20 threaded holes.

Pass-Through Channels:

By inserting a 3/8 inch bolt from the rear/interior of the cheese-plate spine it is possible to attach a quick release or camera body directly to the surface of the spine exactly as you would with any normal tripod quick release plate (see fig. 8).

To access the back of the spine often it will be possible to simply reach your hand in the gap behind the backpack pad from the side of the frame. If more room is required, detach the bottom portion of the backpack pad (see section 7(A), pg. 17) and fold it up out of your way.

3/8-16 Arri Anti-Rotation Hole Patterns:

Attach any 3/8 inch accessory featuring Arri-standard anti-rotation pins to the front face of the spine (see fig. 9).

Additionally, it is possible to insert the two included steel pins from the interior of the plate and thread them into the rear of the M3 anti-twist holes using a 1.5mm Allen wrench. Now female-threaded accessories with anti-rotation holes can be hard mounted to the face of the plate with a standard 3/8-16 screw (see fig. 10).

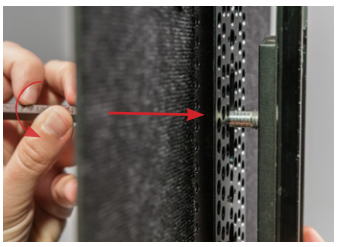


fig. 8

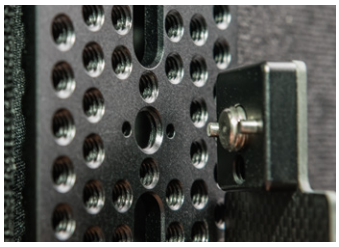


fig. 9

fig. 10

6. Proton Pack Accessories

A. Using the Strain Relief Cable

Your Proton Pack ships with an included strain relief cable. It is intended to be utilized at the camera body to create a flexible connection between camera cage and the cable umbilical. This will avoid tugging and potential damage to the connectors on your camera.

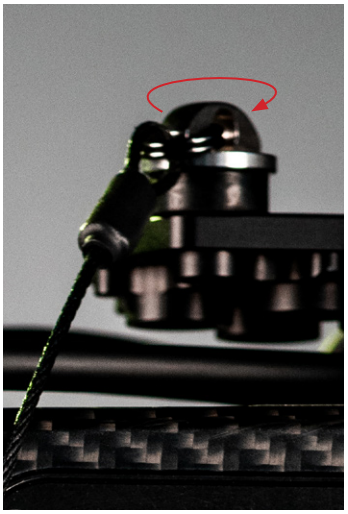


fig. 11

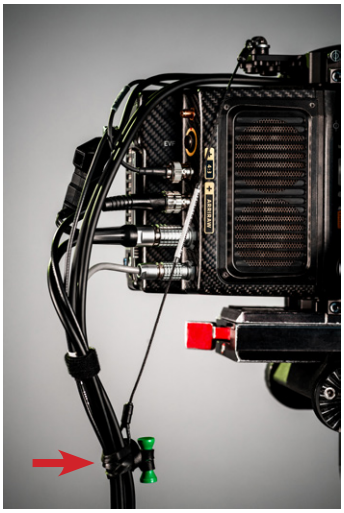


fig.12

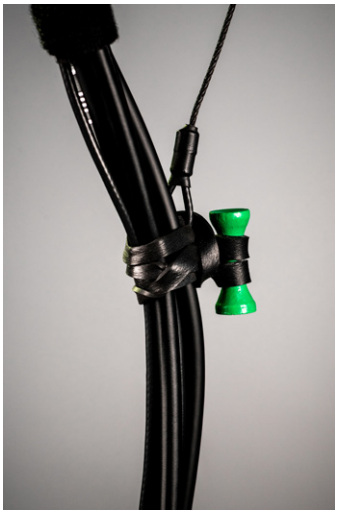


fig.13

STEP 1: Attach the strain relief cable to the camera using the built-in 1/4-20 threaded ring. If possible pick a spot near the top of the camera adjacent to the majority of the main camera connection ports (see fig. 11).

STEP 2: Pick an attachment point on the umbilical just slightly farther from the camera than the end of strain relief. The strain relief is 12 inches long so we recommend picking a spot about 14-16 inches down the length of the umbilical (see fig. 12).

STEP 3: Use the pre-attached rubber tie to wrap around the umbilical at the spot selected in step 2. The umbilical should now be affixed firmly to the end of the strain relief. There should be just enough slack above the connection point so that the weight of the umbilical is transferred directly to the camera cage, avoiding stress on the connectors (see fig. 13).

B. Using the Rain Cover

Use the included rain fly to protect your Proton Pack from the elements. Simply unpack the cover from its built-in storage sack and wrap it around the Proton Pack frame making sure all devices and batteries are completely covered. Secure the cover in place by pulling tight the cinch cord.

C. Attaching the Waist Belt

Every Proton Pack comes with a lightweight waist belt included. Many operators choose to forgo this option, but it is easy to attach if added support is desired for heavier builds or more acrobatic movement.

fig. 14

STEP 1: Retrieve the waist belt from the lid of your kit and un-loop the webbing from the two tri-glides on either end of the belt (see fig. 14).

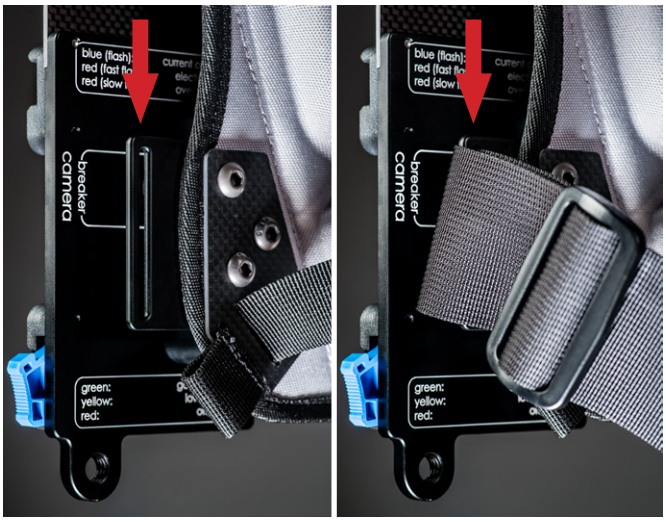


fig. 15

STEP 2: Slip the free end of the waist belt webbing through the attachment slot on either side of the frame interior (see fig. 15).

STEP 3: Feed the open end of the waist belt back through the tri-glide and ensure a secure connection.

D. Attaching the Heavy Lift System

The "Heavy Lift" system is a new set of accessories for Proton Pack now available at backpackrig.com. The set includes a full-size backpacking-style waist belt and two supplementary shoulder pads for more support and comfort when shooting with heavy Sony Venice Rialto or Alexa-M-style camera bodies attached to the frame.

STEP 1: Detach the standard shoulder strap webbings from the shoulder pads (see fig. 16)

STEP 2: Remove the eight black 1/4-20 screws from the base of the backpack pad and set aside the two small carbon fiber pad attachment plates (see section 5(A)). You can leave the webbings attached to these plates (see fig 20).

STEP 3: Position the heavy lift waist belt and use the original black 1/4-20 screws to affix it to the frame through the eight silver grommets. These will line up exactly with the pad attachment holes on each side (see fig 17).

STEP 4: Attach the horizontal 3/4 in. webbings to their respective cinches on either side of the waist belt and pull these tight (see fig. 18).

STEP 5: Attach the vertical webbings on either side of the heavy lift waist belt to the shoulder strap cinches (see fig. 16).

STEP 6: Matching the logical curve of the straps, add the supplementary pads on either shoulder strap using the Velcro flaps (see fig. 19).

fig. 16

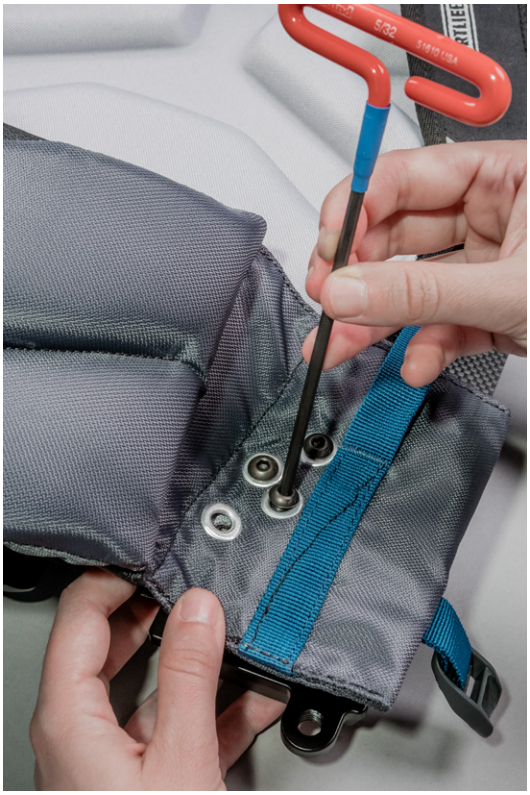


fig. 17

fig. 18

fig. 19

7. Care & Maintenance

A. Removing & Cleaning the backpack pad

Periodically it may be necessary to remove the backpack pad either for cleaning or to access the interior of the dovetail spine (for access alone, follow just STEP 1 & fold the pad up out & of the way).

STEP 1: Using a 5/32 Allen wrench, remove the eight black 1/4-20 screws on the pad attachment plates at either side of the lower portion of the backpack pad (see fig. 20).

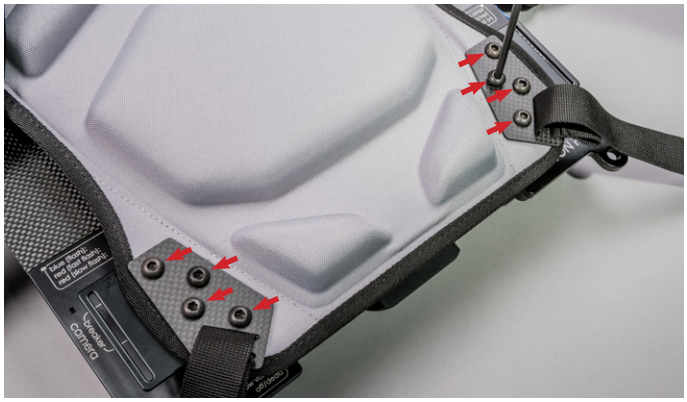


fig. 20

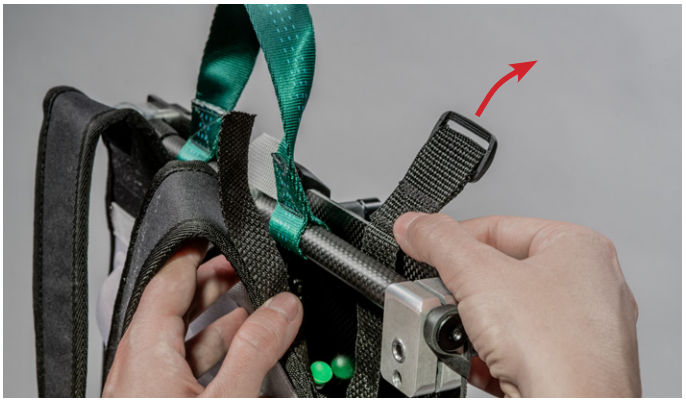


fig. 21

STEP 2: Remove the two black pad attachment straps at the top portion of the backpack pad which affix it to the horizontal 15mm carbon fiber rod (see fig. 21).

STEP 3: Using a 3/16 imperial Allen wrench, loosen the "5/8" baby Pin release screw" by approx. 1.5 - 2 turns. This is located on the interior of the frame, just above the backpack pad (see fig. 7)

STEP 4: Now loose enough to unscrew by hand, remove the baby pin at the top of the center spine and set it aside.

STEP 5: Now unscrew the "baby Pin release screw" all the way so that the center rod bracket is free from the center spine.

STEP 6: Release the gray webbing strap at the top center of the backpack pad by sliding it out between the rod bracket and the dovetail spine. The backpack pad is now fully disconnected from the Proton Pack frame (see fig. 22).

STEP 7: Pull away the carbon fiber pad attachment plates from the bottom of the backpack pad and unloop their straps from the shoulder pads. The backpack pad can now be machine washed on cold and air dried (see fig. 23).

fig. 22

fig. 23

B. Accessing the Internal Electronics Case

It may be necessary to open the electronics case in the Proton Pack lower chassis in order to replace circuit breakers, replace connectors, or to make software updates.

STEP 1: Using a 5/32 Allen wrench, remove the eight black 1/4-20 screws on the pad attachment plates at either side of the lower portion of the backpack pad (see fig. 20).

STEP 2: Using a Phillips head screwdriver remove the eight M3 screws affixing battery plate 1 and battery plate 2 to the Proton Pack chassis (see fig. 3).

STEP 3: With a small flat head screwdriver depress the upper latch on the beige Hirose connector which attaches the battery plate to the main circuit board. Without releasing downward pressure on the latch, use the blade of the screwdriver to wiggle the male side of the connector away from the female header on the circuit board. Once loose from the header, use the wire leads to gently pull the connector free from the case. Repeat this procedure on both battery plates (see fig. 4).

STEP 4: Using a spanner wrench or small needle-nose pliers, unscrew the chassis-mount collars on the two 13v 2pin Lemo ports as well as on the main camera power Lemo port. Set aside the collars and lock washers in a safe place (see fig. 24).

fig. 24

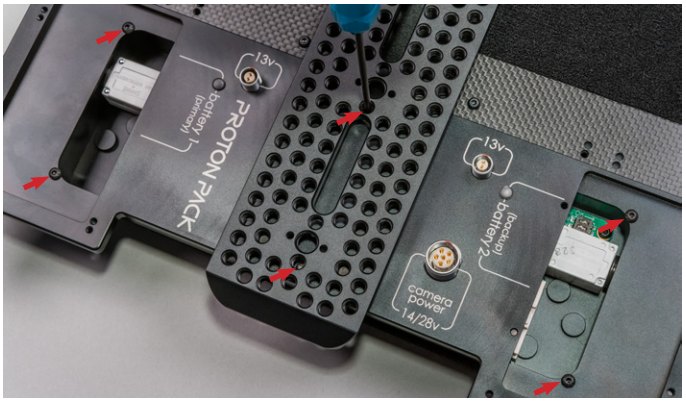


fig. 25

STEP 5: Using a 2mm Allen wrench remove the six M3 screws which affix the electronics case to the Proton Pack chassis. Four black screws are immediately visible at the corners of the case (right under the battery plates). Two silver screws are located in the case center beneath the dovetail spine. These can be unscrewed by passing the Allen wrench through the corresponding 1/4-20 holes in the spine (see fig. 25).

STEP 6: The electronics case is now free to drop away from the back of the main chassis. Encourage the attached Lemo connectors through the chassis as you lift the Proton Pack frame away from the case.

C. Replacing Circuit Pop Breakers

With the electronics case open it is easy to replace the circuit pop breakers should those become faulty.

STEP 1: From the outside of the case, using a small crescent wrench, unscrew the pop breaker's mounting nut and set that aside along with the lock washer (see fig. 26).

STEP 2: Wiggle the now free-floating pop-breaker through the side of the case so that there is slack in the red connecting wires and the terminal screws can be made accessible (see fig. 27).

STEP 3: With a small screwdriver unscrew the two terminal connections. Be careful to keep track of the small 6-32 screws and lock washers. (see fig. 28).

STEP 4: Replace the old circuit breaker with either **KLIXON 7277-2-10** (for camera output) or **KLIXON 7277-2-5** (for accessories output).

STEP 5: Replace the two red wire leads, securing them with the terminals screws, and feed the breaker back out through the side of the case.

STEP 6: Replace and tighten the breaker's outer lock washer and mounting nut as in STEP 1.

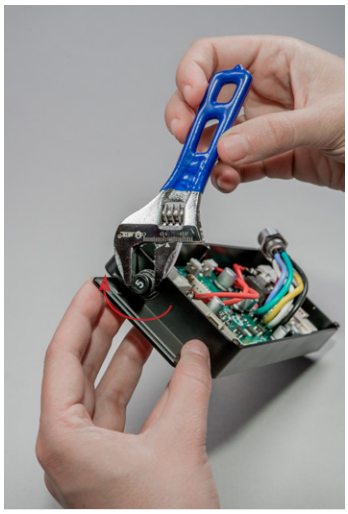


fig. 26

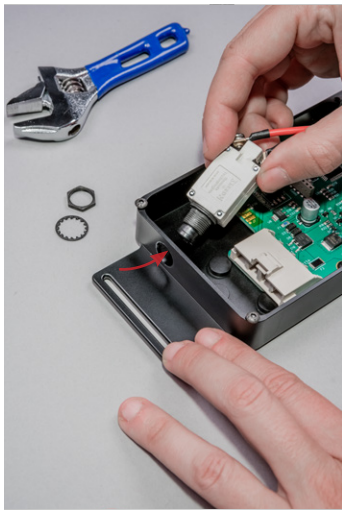


fig. 27

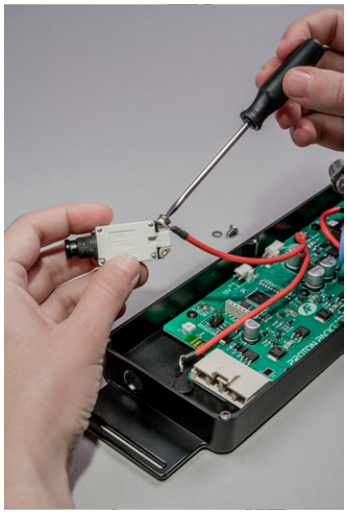


fig. 28

D. Replacing Battery Plate Fuses

Each Proton Pack battery plate is equipped with a 15A slow-blow mini ATM blade fuse. Should one of these be blown or become faulty it is easily replaced in the field.

STEP 1: Detach the battery plate with the blown fuse from the chassis. Use a Phillips head screwdriver to remove the eight M3 screws affixing the battery plate and set them aside (see fig. 3).

STEP 2: On the battery plate's main positive (red) input wire you will see a black over-molded fuse holder. Open the rubber dust cap and pull out the faulty fuse. Several backup fuses have been included with your Proton Pack kit, but any **15A 32V MINI ATM BLADE FUSE** will fit. Push a new fuse into the holder and close the cap (see fig. 29 & 30).

STEP 3: Making sure not to pinch any wires, now reattach the battery plate using the M3 screws. **IMPORTANT NOTE -** Gold Mount plates utilize the lower M3 threaded holes, V-Mount plates use the upper M3 threaded holes on the chassis (see fig. 6).

fig. 29

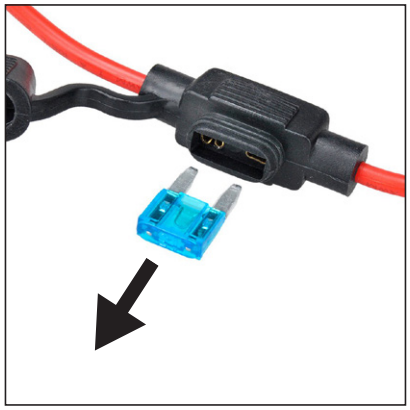


fig. 30

***NOTE -** Proton Packs sold after Jan. 1st, 2022 may not include these ATM fuses on the battery input. Do not be alarmed if you do not see this component in your system.

8. Technical Information

A. Proton Pack Specifications

PROTON PACK DIMENSIONS (L x W x D):

17.75 x 13.5 x 3.5in (45 x 34.3 x 9cm)

PROTON PACK "NAKED" WEIGHT:

5lbs 1oz

POWER OUTPUTS:

Main camera power port (14v pigtail installed) = 16v-12v unregulated battery pass-through voltage

Main camera power port (28v pigtail installed) = 28v-24v unregulated battery pass-through voltage

2pin Lemo accessory power ports = 13v regulated voltage

P-Tap accessory power ports = 13v regulated voltage

PROTON PACK OPERATING VOLTAGE:

35v max total input to the circuit board

PROTON PACK OPERATING AMPERAGE:

15a max output from main camera power port (this will vary depending on the brand & health of your batteries)

6a max output from all combined accessory power ports (p-tap & 2pin Lemo)

HOT SWAP FUNCTIONALITY

14v pigtails: YES (hot swap is available)

28v pigtail: NO (combined battery power won't hot swap, voltage will drop to single battery output)

CASE DIMENSIONS (L x W x H)

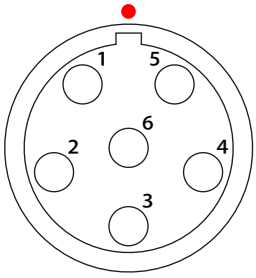
22.3 x 20 x 8.3in (56.6 x 50.8 x 21.1cm)

COMPLETE KIT SHIPPING WEIGHT WITH CASE & STANDARD ACCESSORIES:

20lbs

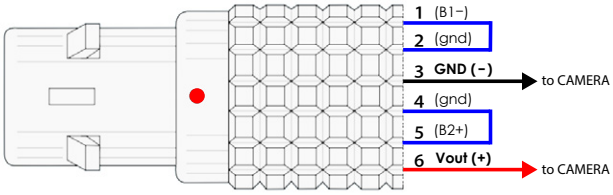
B. Pinouts

MAIN CAMERA POWER PORT: **LEMO ECG.2b.306**

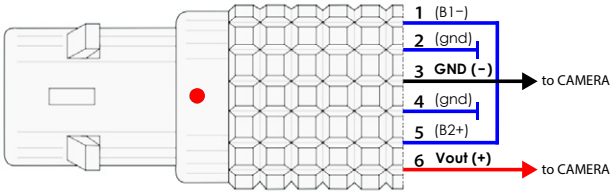


1 = Config. (B1−) [blue]
2 = Config. (GND) [green]
3 = **GND (−)** [black]
4 = Config. (Sin +) [yellow]
5 = Config. (B2+) [white]
6 = **Vout (+)** [red]

POWER PIGTAIL PLUGS: **LEMO FHG.2b.306**

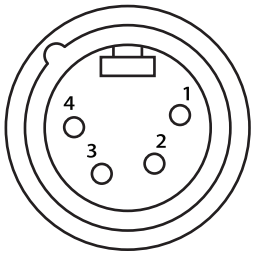


14v Parallel Config. Hot Swap Pigtails

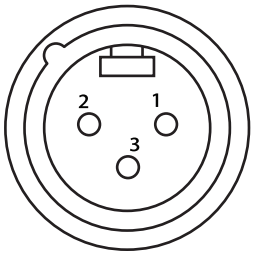


28v Series Config. Non Hot Swap Pigtails

POWER PIGTAIL OUTPUT PORTS: **FEMALE XLR (4pin & 3pin)**

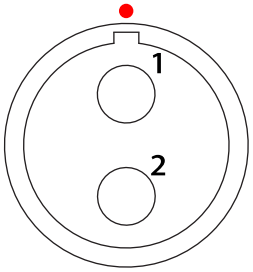


1 = **GND (−)**
4 = **Vout (+)**



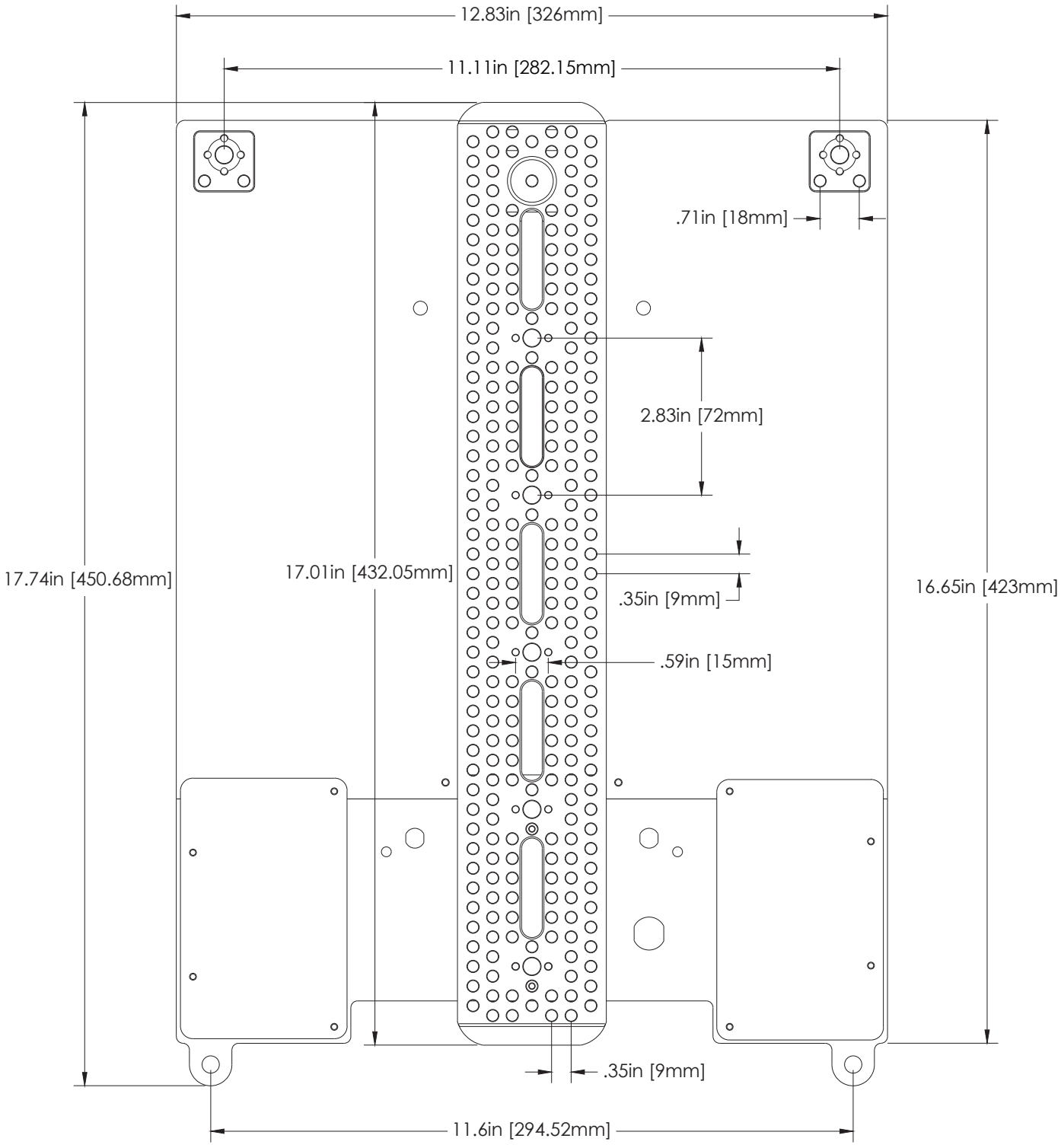
1 = **GND (−)**
2 = **Vout (+)**

ACCESSORY POWER PORTS: **LEMO ECG.0B.302.CLL**



1 = **GND (−)**
2 = **Vout (+)**

C. Detailed Dimensions



(drawing not to scale)