

THE CLAIM

A supply sold on its own claims *power supply (PWR-BUS-OUT)*, plus PWR-DC12 or PWR-A6 for a domain it takes at an entry or makes at outlets; a supply that makes only ± 6 V claims PWR-A6 alone. A built-in supply is part of the enclosure's claim.

EIS draft, power supply (PWR-BUS-OUT)

EIS draft, power supply (PWR-BUS-OUT, PWR-DC12-OUT)

EIS draft, power supply (PWR-A6-OUT)

WHAT IT PUBLISHES

FIGURE	ID
<i>Current on each rail, in total and per outlet</i>	PWR-002
<i>Ripple and noise on each rail, peak-to-peak</i>	SUP-001
<i>Whether and where 0 V is bonded to protective earth</i>	GND-003
<i>PWR-DC12: entry variant, current, input range</i>	DC-001 PWR-001 DC-002
<i>PWR-DC12 or ± 6 V outlets it makes: current per outlet, protection</i>	SUP-009 DC-012

- ☐ Keep the claim line and these figures in one claim file, `eis-claim.yaml`; `eis claim` checks it.

READ

6.1 power, 6.2 supplies, 6.3 0 V, 6.4 the bus, 6.7 PWR-DC12, 6.8 PWR-A6. Annexes G, O.

READING THIS SHEET

- shall ☐ recommended ○ may

IDs omit the EIS- prefix. Italic lines are informative notes. This reference is informative: the clauses and the register govern.

RAILS AND OUTPUT

- +12 V and -12 V at every header it feeds, and +5 V if it provides it. BUS-001
- Publish each rail's current rating and its ripple and noise. PWR-002 SUP-001
- A plug-and-socket output does not mate with reversed polarity. SUP-002
- An output on quick-connect tabs or screw terminals marks each terminal with its rail. SUP-003
- ☐ Constant-current or hiccup limiting, not foldback: a row is a large capacitive load.
- ☐ Bring the rails up in an order that avoids reverse stress on modules.
- ☐ Setpoint within ± 1 %; load regulation within ± 1 % from 10 % to 100 % load.

Short-circuit, reverse-swing, and overshoot limits, the ripple limits, and the ripple method are on the cards that follow.

PWR-A6 OUTLETS · 6.8

- A6-VH3: JST VH, 3 circuits on 3.96 mm; pin 1 +6 V, 2 0 V, 3 -6 V; marked ± 6 V. A6-001 A6-007
- Holds each rail at 5.75 to 6.25 V from no load to its rating. A6-002
- ☐ Clamp the outlet so a failed pass element cannot put the input on a module; a linear source, under 5 mV.

Ripple below 20 mV (SUP-007); each entry draws at most 1 A per rail.

WIRING AND CHASSIS GROUND

- Row wiring: 6.3 mm tabs, ring studs, or a clamp block, published; stranded 105 °C 16 AWG (14 above 5 A, 12 above 8 A), crimped; 0 V at least the rail gauge; 14 AWG earth ring on bare metal. PWR-005 PWR-006 PWR-007 PWR-008

0 V AND PROTECTIVE EARTH

- Publish whether 0 V is bonded to protective earth, and where. GND-003

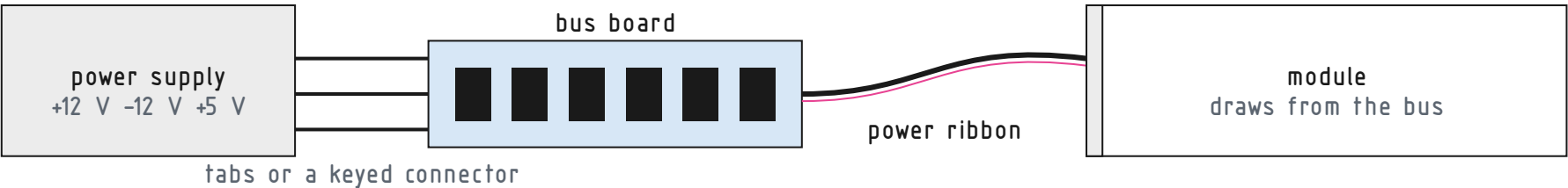
One bond between 0 V and earth in a system, at the supply; mains wiring and supply safety are outside EIS.

DC INPUT · PWR-DC12

- Publish the DC entry variant, the max continuous current at 12 V (taken at the entry or delivered at each output), and the min and max input voltage. DC-001 PWR-001 DC-002
- Marked beside it: polarity symbol, nominal voltage, max current. DC-011
- A DC entry never uses the pinout of a 10-pin or 16-pin power header. DC-003
- A barrel DC entry, DC-BAR21 or DC-BAR25, is center positive. DC-004
- A multi-pin DC entry implements the tabled pin functions. DC-005
- ☐ Above 5 A, a multi-pin entry rather than a barrel.
- The DC rail's -V is the supply's 0 V. GND-001

VARIANT	FORM, REFERENCE	A	PINS
PART			
DC-BAR21	2.1 × 5.5 barrel	2.5 typ.	center +
DC-BAR25	2.5 × 5.5 barrel	5 typ.	center +
DC-VH2	JST B2P-VH or B2PS-VH	10	1 +V · 2 -V
DC-DIN4	Kycon KPJX-4S-S	15	1 ₄ +V · 2,3 -V · 5 shell, opt.
DC-MF6	Molex 39-30-1060	24	1,2,3 +V · 4,5,6 -V
DC-MF8	Molex 39-30-1080	28	1,2,3 ₄ +V · 5,6,7,8 -V

EIS · From the supply to the module: what each part owes

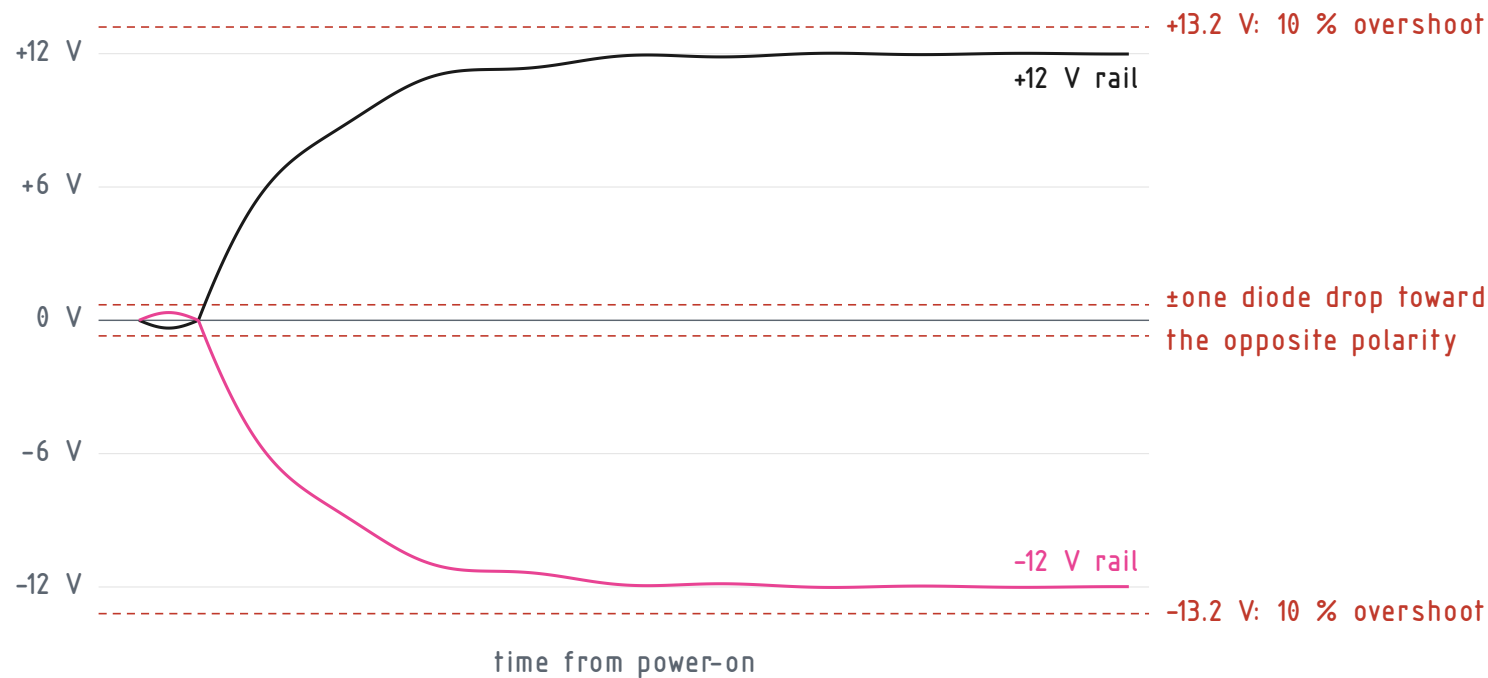


Power supply	Bus board	Ribbon	Module
Publishes each rail's rating (PWR-002) and its ripple and noise (SUP-001), below 150 mV (SUP-007).	+12 V and -12 V, and optionally +5 V, at every header (BUS-001).	At most 400 mm, at least 28 AWG (BUS-015).	Draws only ±12 V, and +5 V if it needs it (BUS-006).
Survives a short (SUP-004); no reverse swing (SUP-005); overshoot ≤ 10 % (SUP-006).	Publishes its rail totals and the limit per header (PWR-002), at most 2 A per rail (BUS-012).	Marked conductor on -12 V (BUS-004); keyed (BUS-005).	Publishes its maximum current on each rail (PWR-001).
Keyed connector (SUP-002), or terminals marked with their rail (SUP-003).	A link joins CV to CV and gate to gate (BUS-014).		At most 2 A per rail through one header (BUS-008); never feeds a rail (PWR-004).
			Survives a reversed ribbon (BUS-009).

The installer adds a module only while each rail's sum fits the bus board and the supply (ASM-001).

From the supply to the module: what each part owes (6.4).

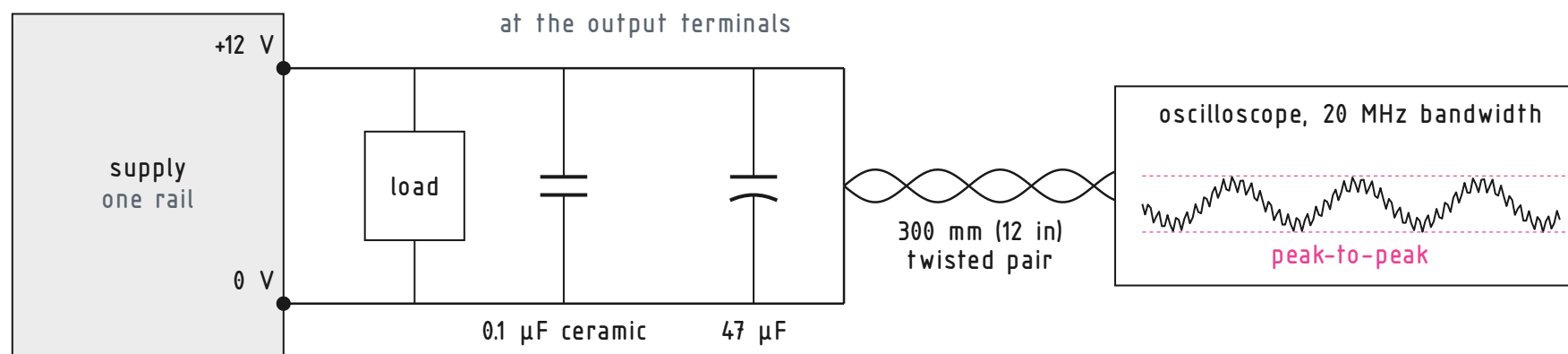
EIS · A supply's rails at power-up



At start-up no rail overshoots its nominal voltage by more than 10 % (SUP-006). During power-up, power-down, or a fault, no rail swings more than one diode drop toward the opposite polarity (SUP-005). Each rail survives an indefinite short to 0 V (SUP-004). The traces are illustrative.

The limits a supply's rails keep at power-up (6.2).

EIS · Measuring ripple and noise

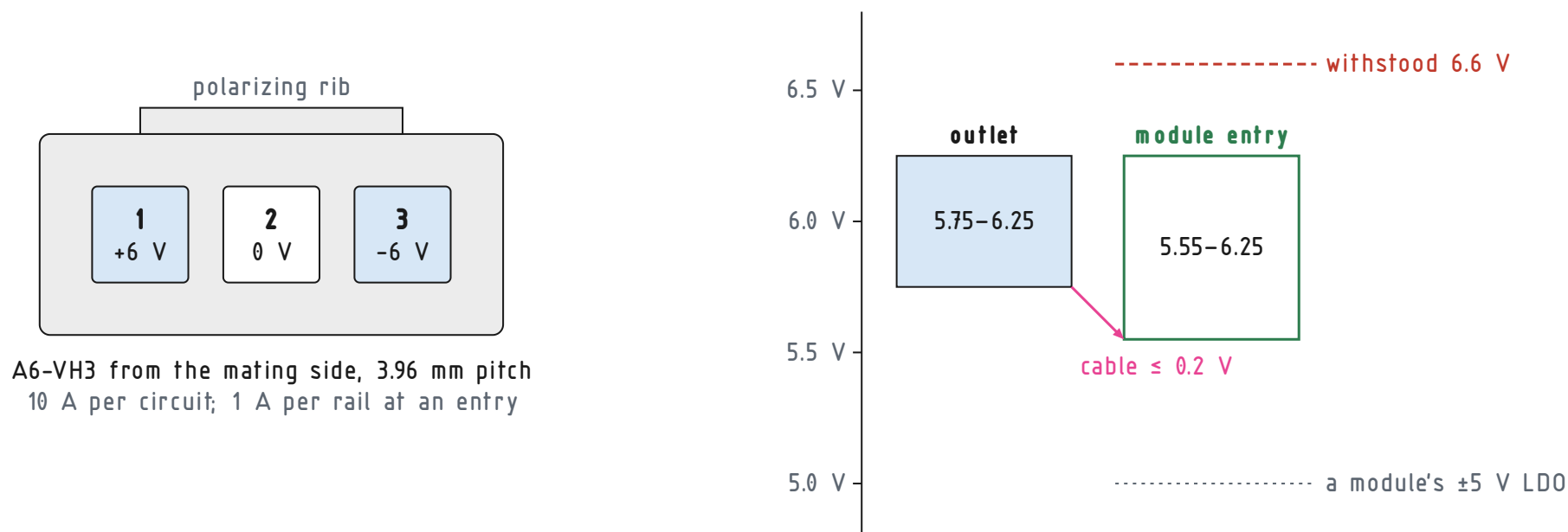


Each rail is loaded at the maker's stated test current and measured at the supply's output terminals, or at test points the product publishes, with 0.1 μF in parallel with 47 μF across the measurement point and a 300 mm (12 in) twisted pair to a 20 MHz oscilloscope.

The supply publishes the peak-to-peak figure for each rail (SUP-001); every rail stays below 150 mV (SUP-007). A linear or post-regulated supply, typically under 10 mV, suits a row of MOD-VIDEO modules.

How ripple and noise are measured (6.2).

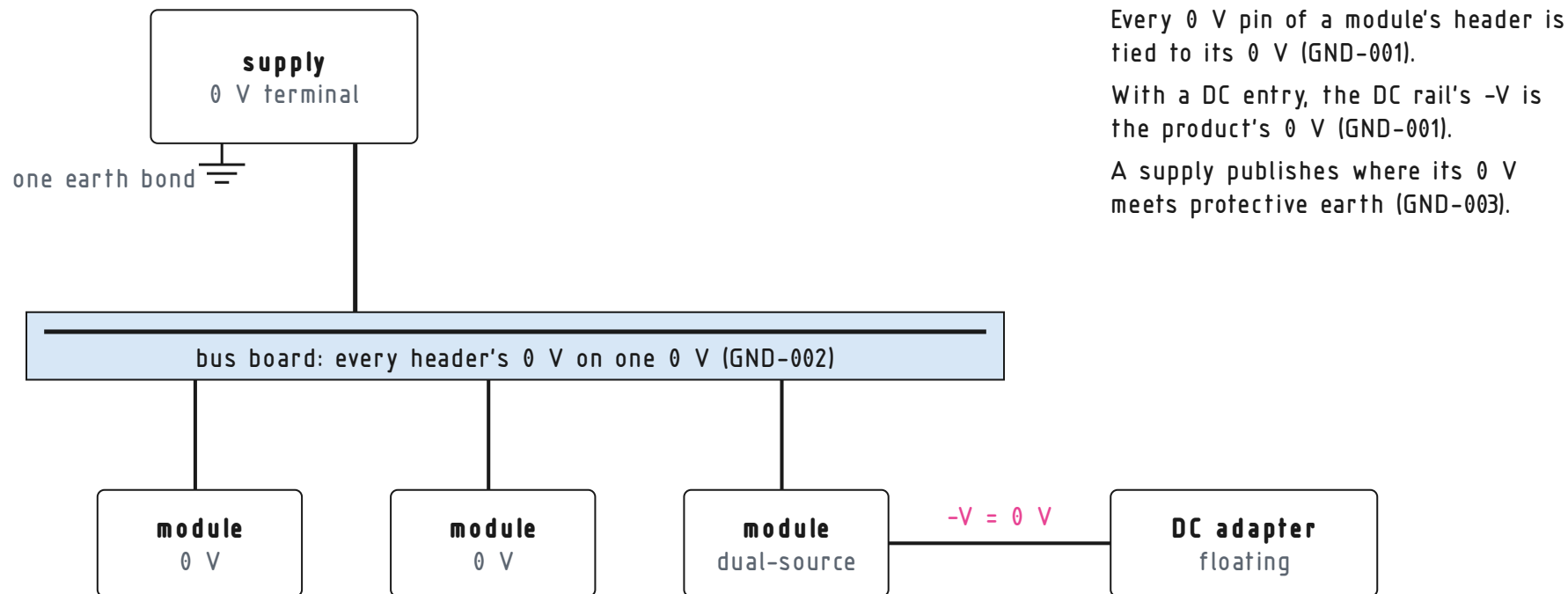
EIS · PWR-A6: the A6-VH3 entry and the voltage window



One connector for PWR-A6 only (A6-001). An outlet holds its window to its rating (A6-002); a module works across the entry window (A6-003), survives 6.6 V (A6-004), and draws at most 1 A per rail (A6-005).

PWR-A6: the A6-VH3 entry, its pins, and the voltage window from the outlet to the module (6.8).

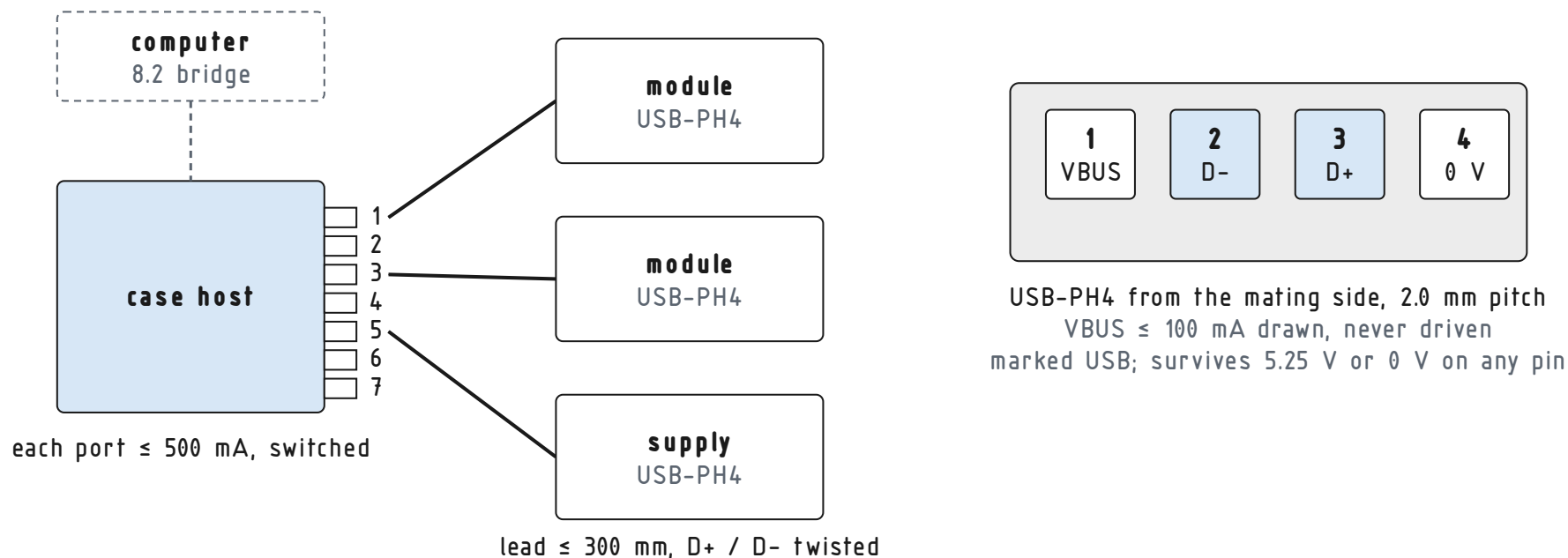
EIS · Grounding: one 0 V for the bus, the DC rail, and the jacks; one bond to earth



Patch sleeves and coax shells join the 0 V of the products they connect. A second earth bond makes a loop: hum on audio, slow bars on a picture.

The 0 V of a row: one bond to earth, one reference for the bus, the DC rail, and the jacks (6.3).

EIS · CTRL-USB: a case host, its ports, and the USB-PH4 port behind each product

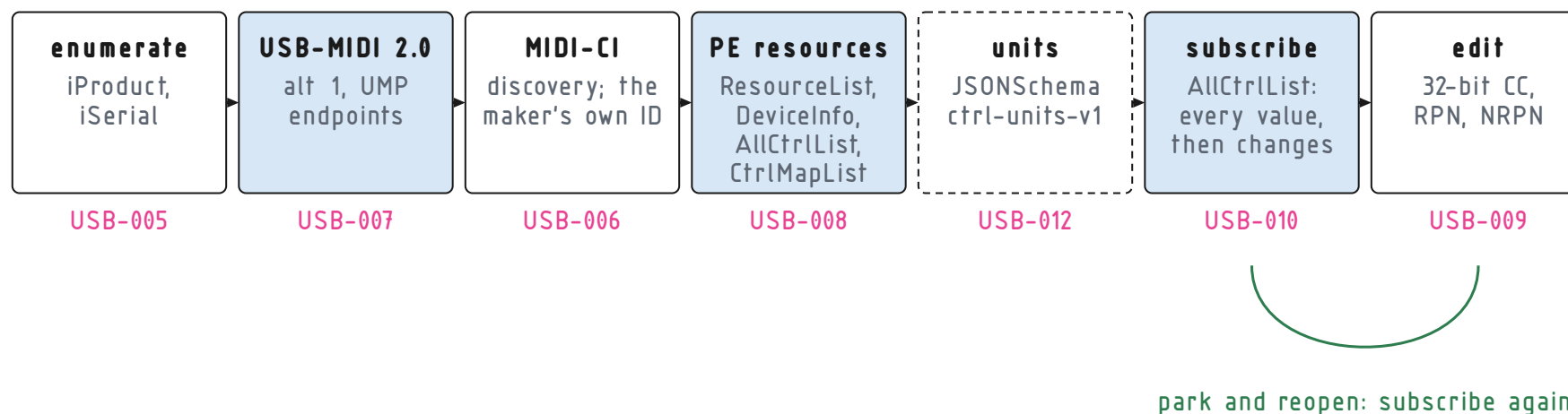


A USB 2.0 full-speed device on USB-PH4 (USB-001), marked and robust (USB-002), drawing ≤ 100 mA from VBUS (USB-003); a straight lead (USB-004).

The host limits and switches each port (USB-013) and numbers it (USB-014).

A case host, its ports, and the CTRL-USB ports of the modules behind the panels (8.1).

EIS · CTRL-USB: what a case host asks a device, from enumeration to edited values



The host knows no product: it lists and sets controls with these standard steps alone (USB-015). Units are optional; without them it shows a percentage, the step, or the map's titles. A device keeps working when parked (USB-011) and the host subscribes again when it reopens it (USB-016).

From enumeration to edited values: the discovery a host makes on a CTRL-USB device (8.1).