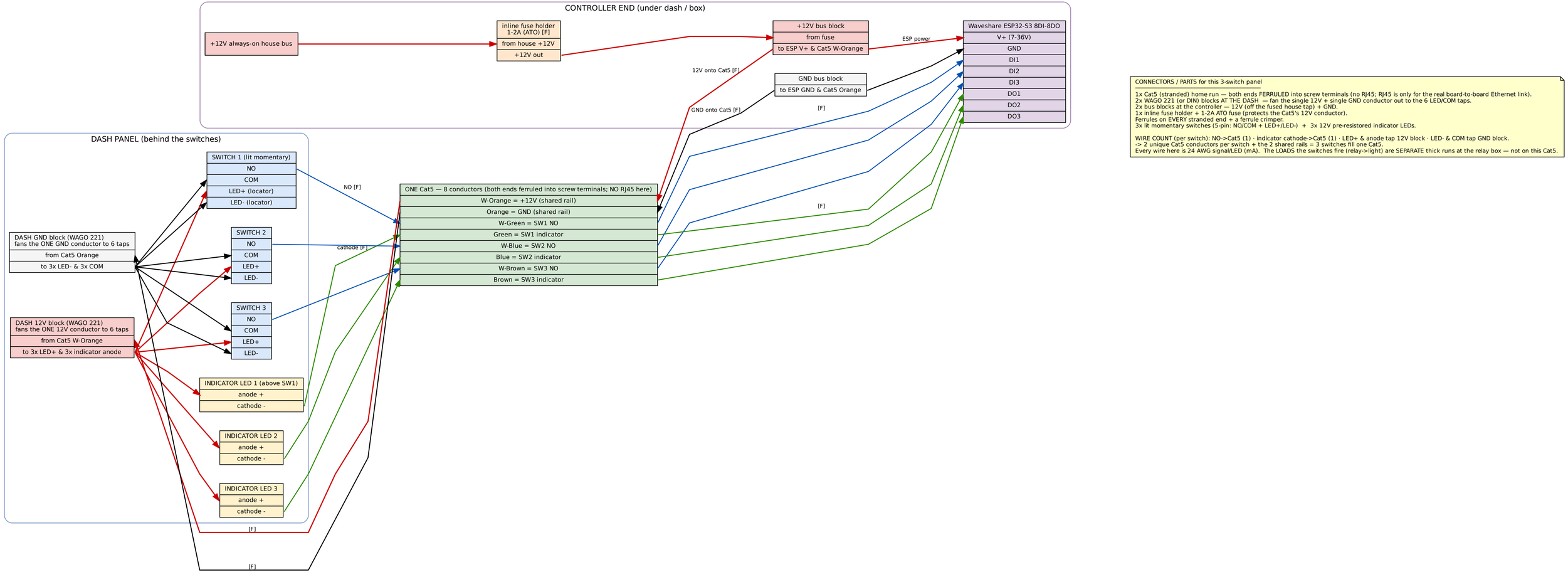
2014 RAM 1500 Carputer — FULL PHYSICAL WIRING: 3-switch dash panel, DIRECT to the Waveshare over ONE Cat5 (every wire + connector shown)
Each control point = a LIT momentary switch (4 pins: NO, COM, LED+, LED-) + a SEPARATE state-indicator LED (anode, cathode). All conductors are 24 AWG Cat5 (mA-level).
Every wire end into a screw terminal gets a FERRULE. Rails fan out on small terminal blocks (WAGO 221 / DIN). This is the 3-per-Cat5 budget, drawn physically. Scale: repeat per Cat5, or switch to a panel Modbus module for 8/Cat5.
LEGEND: red = +12V · black = GND · blue = switch contact (NO)→DI · green = indicator LED cathode→DO · [F] = ferrule



CONNECTORS / PARTS for this 3-switch panel

1x Cat5 (stranded) home run — both ends FERRULED into screw terminals (no RJ45; RJ45 is only for the real board-to-board Ethernet link).
2x WAGO 221 (or DIN) blocks AT THE DASH — fan the single 12V + single GND conductor out to the 6 LED/COM taps.
2x bus blocks at the controller — 12V (off the fused house tap) + GND.
1x inline fuse holder + 1-2A ATO fuse (protects the Cat5's 12V conductor).
Ferrules on EVERY stranded end + a ferrule crimper.
3x lit momentary switches (5-pin: NO/COM + LED+/LED-) + 3x 12V pre-resistored indicator LEDs.

WIRE COUNT (per switch): NO->Cat5 (1) · indicator cathode->Cat5 (1) · LED+ & anode tap 12V block · LED- & COM tap GND block.
-> 2 unique Cat5 conductors per switch + the 2 shared rails = 3 switches fill one Cat5.
Every wire here is 24 AWG signal/LED (mA). The LOADS the switches fire (relay->light) are SEPARATE thick runs at the relay box — not on this Cat5.