

BAOFENG DM-32UV HEAVEN

LM2596 DC-DC Converter Power Guide

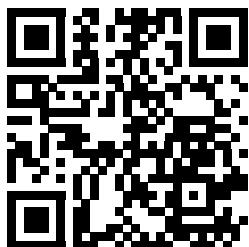
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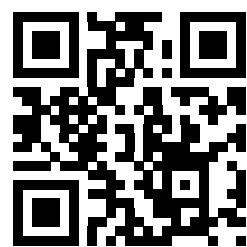
GitHub Repo

<https://github.com/Iceburgh746/BAOFENG-DM-32UV-HEAVEN>



Amazon LM2596 Module

<https://a.co/d/06BR53Qe>



Goal: Power a DM-32UV from a 12V source by regulating down to a safe battery-equivalent voltage using an LM2596 buck converter.

1) Safety + Quick Start

Rule #1: Do not connect the radio until you verify output voltage and polarity with a multimeter.

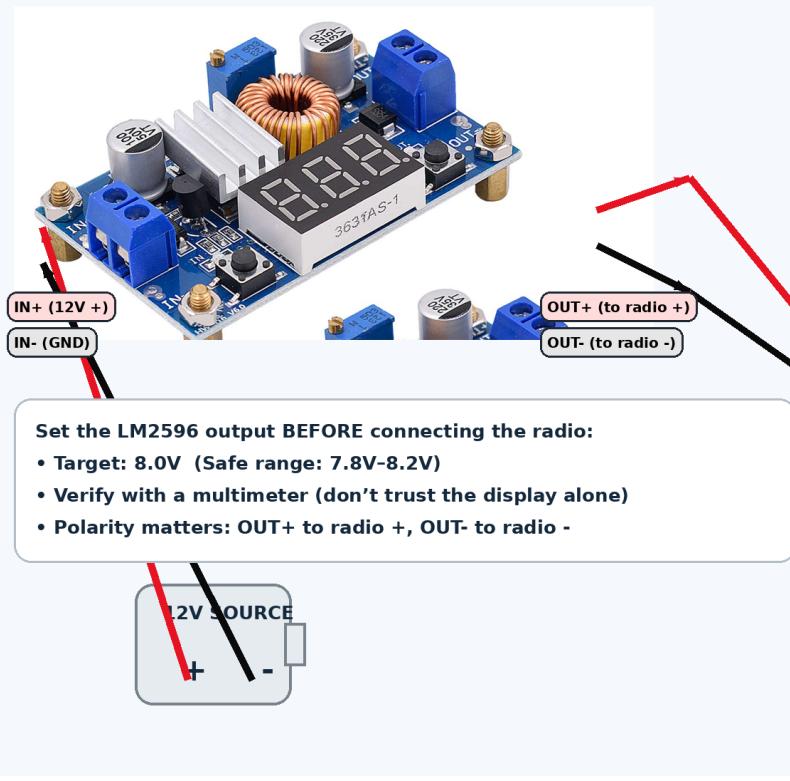
- **Set OUT to 8.0V** (working range 7.8V–8.2V).
- Do **not** exceed 8.4V.
- Polarity matters: **OUT+** → radio +, **OUT-** → radio -.
- Use a module rated **3A+**. Add cooling for heavy transmit duty cycle.
- Add an **inline fuse** on the 12V input (close to the source).

Note: Many handhelds use a 2-cell Li-ion pack (7.4V nominal / 8.4V full). If your DM-32UV battery label states something different, follow the label.

2) Full Color Hookup Illustration (Photo + Callouts)

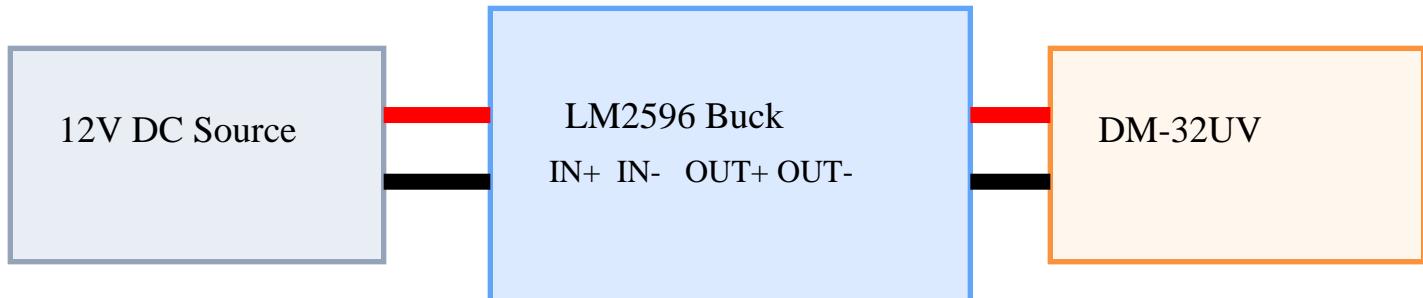
LM2596 → DM-32UV Wiring (Illustration)

WRCX212



This illustration shows the **12V source → LM2596 IN**, and **LM2596 OUT → DM-32UV path**. Red wires are positive, black wires are negative.

3) Clean Wiring Diagram (Color Schematic)



Connections: 12V+ → IN+ (red), 12V- → IN- (black). OUT+ (red) → radio +, OUT- (black) → radio -.

4) Set Voltage First (Calibration)

Target OUT: 8.0V (verify with multimeter).

- 1 Connect 12V source to **IN+** / **IN-**. Power on.
- 2 Measure **OUT+** and **OUT-** with a multimeter (DC volts).
- 3 Turn the trim potentiometer slowly until the meter reads **8.0V**.
- 4 Let it run 5 minutes, re-check voltage (thermal drift).
- 5 Power off. Only then connect the radio.

Hookup:

- 1 Connect **OUT+** to the radio's positive battery contact / eliminator.
- 2 Connect **OUT-** to the radio's negative battery contact / eliminator.
- 3 Power on: verify receive first; then a short transmit test while watching heat.

5) Reliability Upgrades (Highly Recommended)

- **Inline fuse (~3A)** on the 12V input lead (near the source).
- **Output capacitor 470 μ F–1000 μ F** across OUT+ / OUT- to reduce ripple.
- **Heatsink + airflow** for repeated transmit or high power.
- **18 AWG wire** or thicker to reduce voltage drop.
- **Ventilated enclosure** so the module can't short against tools/metal.

If the module runs hot on transmit: improve cooling, shorten transmit duty cycle, or move to a higher-current buck converter.

6) Pre■Power Checklist + Troubleshooting

Checklist:

- Multimeter confirms OUT voltage is **8.0V**.
- Polarity verified: OUT+ is really positive.
- Fuse installed on 12V input.
- Wires secured (no loose strands).
- Module mounted so it can't short or flex.

Troubleshooting:

- **Radio reboots on transmit:** output voltage droop — use thicker wire, shorten leads, add capacitor, improve input supply.
- **Buzz / noise:** add output capacitor, ensure good grounds, keep wires short, consider ferrite on leads.
- **Converter gets very hot:** duty cycle too high or current too high — add heatsink/airflow or upgrade converter.
- **Voltage won't adjust:** trim pot range/board variant — confirm IN voltage and that you're turning the correct pot.

Repository and module link are on the cover page (QR + clickable).