



Modulation FAQ — LambdaBeam & LambdaMini

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1 LambdaBeam — Diode lasers

1. **Supported modes:** Analog, Digital, Combined, Constant Power.
2. **Rise/Fall time (PowerBox):** ≈ 150 ns (typical).
3. **Pulsed: No** (CW). Use an external signal source (e.g., function generator) for pulses.
4. **Interfaces / bandwidth:**
 - (a) **PowerBox:** Low-Speed terminal up to **200 kHz**; MMCX coax up to **1.5 MHz**.
 - (b) **PowerController:** BNC up to **500 kHz**.
5. **Digital behavior:** default **0%** \leftrightarrow **100%**; PowerController can switch between two user-defined power levels (**PO** / **P**).
6. **Power adjustment during modulation: Yes** (Analog or Combined mode).
7. **Stand-alone: Yes** (Combined mode on PowerBox; selectable mode on PowerController via BNC).
8. **Note:** complete **zero emission** cannot be guaranteed during very fast modulation.
9. **Recommendation:** for fastest edges and highest repetition rates use external **AOM/EOM**.

2 LambdaBeam — DPSS (e.g., 532 nm)

1. **Internal modulation:** significantly **limited** vs. diodes.
2. **Pulsed: No** (CW). For defined pulses use external signal + external modulator (**AOM**).
3. **Performance: Slower response**, reduced HF performance.
4. **Note:** complete **zero emission** cannot be guaranteed during fast modulation.
5. **Stand-alone: Yes**; consult support for controller/config details.

3 LambdaBeam — Wavelock

1. **Direct internal modulation: Not supported.**
2. **Recommendation:** use external **AOM** for modulation when needed.
3. **Control:** power/parameters typically via controller; not applicable as power adjustment or modulated output unwanted for this laser type.

4 LambdaMini (Evo)

1. **External modulation input: None** (USB-controlled CW Laser. Power can be controlled via [Ltune](#) or serial).
2. **Pulsed: No** (CW). For modulation use external **AOM/EOM** + external control electronics.
3. **Stand-alone: No** external modulation interface; control via **USB/software**.

5 General notes

1. **Ltune:** device control, mode selection, power and temperature only — **not** a pulse generator.
2. For defined pulses (repetition rate, pulse width, custom waveforms): use external function/arbitrary waveform generator; lasers follow external signal within controller limits.
3. Systems with **VHG / VBG / FBG** stabilization typically **are unsuitable for direct modulation** vs. diode lasers — discuss requirements with support.

For technical questions contact [support](#).