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DIGI-LUMEN Ultraviolet + Far-red Instruction Guide:

Using the UV + Far Red Channel on the Digi-Lumen 780 W or 888 W Extreme LED.

The Digi-Lumen 780 W or 888 W Extreme features an inbuilt driver and Dual Spectrum Ultraviolet (UV) + Far-Red (FR) technology. The UV and Far-Red diodes operate as a single supplemental channel—they cannot be controlled independently. Adjusting the channel applies the same percentage intensity to both UV and Far-Red simultaneously.

Key Features of the UV + Far-Red Channel

- UV (~395-400nm): Triggers stress responses that boost secondary metabolites (resins, terpenes, flavonoids).
- Far-Red (~730nm): Influences morphology, shade avoidance, stem elongation, and flowering responses.
- Combined Operation: One percentage setting controls both spectra. This simplifies use while delivering synergistic benefits.
- Primary Use: Supplemental to the main full-spectrum output for enhanced quality in flowering/fruitlet stages.

Preferred Controller: Digi-Lumen Enviro Pro

The Digi-Lumen Enviro Pro is the recommended controller. It offers a 5-inch touchscreen, mobile app support, and comprehensive environmental + lighting control, including 0-10V dimming signals for precise management of the 780 W or 888 W Extreme's channels.

Advantages:

- Independent or scheduled control of the UV + FR supplemental channel.
- Integration with temp, humidity, CO₂, VPD, and other sensors.
- Programmable timers, ramps, and automation (e.g., end-of-day FR boost).
- Ethernet/app connectivity for remote monitoring.

Safety Precautions

- UV light is invisible and can harm eyes/skin — avoid direct exposure. Use protective eyewear when the channel is active.
- Start low (10-20%) and monitor plants for stress.
- Limit UV exposure durations, especially at higher percentages.

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How to Operate the UV + Far-Red Channel

Manual Dimming (Basic Control)

- Use the onboard dimmer controls on the fixture for quick adjustments.
- Set the UV + FR knob to the desired percentage (0-100%). Both spectra activate at that level.

Preferred Method: Digi-Lumen Enviro Pro Controller (Advanced & Recommended)

1. Installation & Connection:

- Connect the 780 W or 888 W Extreme's control port (typically RJ9 or 0-10 V) to the Enviro Pro Controller using compatible cables. Daisy-chain multiple fixtures if needed.
- Power on the controller and fixture. The 5-inch touchscreen will display lighting controls.

2. Access Lighting Controls:

- Navigate to the Lighting or LED Control section on the touchscreen or app.
- You'll see separate sliders/channels for:
 - Main full-spectrum intensity.
 - UV + Far-Red supplemental channel (single control).

3. Set UV + Far-Red Percentage:

- Adjust the dedicated UV + FR slider or input field (0-100%).
- Example: Setting 40% runs both UV and Far-Red at 40% of max output.
- Save as a static setting or incorporate into automated schedules.

4. Programming Schedules (Best Practice):

- Create custom programs via the touchscreen or app.
- Example Flowering Schedule:
 - Main lights: 12/12 cycle at 80-100%.

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Programming Schedules (Best Practice) continued:

- UV + FR: Ramp to 30-50% during the last 2-4 hours of the light period or run a short 15-30 minute End-of-Day (EOD) boost at 50% or higher to trigger Far-Red responses.
- Use VPD/temp triggers for dynamic adjustments.
- Sunrise/sunset ramps available for smooth transitions.

Recommended Usage Schedules

- Vegetative: 10-25% UV + FR for 1-2 hours/day (optional, for compact growth).
- Early Flower: 20-40% during full cycle.
- Mid-Late Flower: 40-70% for metabolite enhancement.
- EOD Far-Red: 30-50% or higher for the final 15-30 minutes of lights-on.
- Note: Use 100% only with caution, strong monitoring, and for limited times.
- Monitor PPFD and plant response; adjust gradually.

Troubleshooting

- No Response: Verify 0-10 V cable connections and controller firmware. Ensure the fixture's dimming port is enabled.
- UV Not Visible: Confirm with a UV meter or fluorescent card.
- Controller Issues: Restart the Enviro Pro or check app connectivity. Refer to the ENVIRO PRO manual for sensor calibration and advanced settings.

The combination of the 780 W or 888 W Extreme's hardware and Enviro Pro controller delivers professional-level spectrum control for superior results.