AUTOPOS PRO v7.5 – User Manual

Enhanced Symmetric Sequences & Position Generator for grandMA3

Developed by: My Light Plugin

1. Introduction

AUTOPOS PRO v7.5 is a specialized Lua plugin designed for **grandMA3** consoles and onPC systems. It enables lighting programmers and operators to rapidly generate, preview, apply, and store complex Pan/Tilt positions, geometric patterns, and symmetric sequences across any fixture group—eliminating tedious manual programming.

Key Highlights

- **Touch-Optimized UI:** Large, clear popup menus designed for fast navigation on console touchscreens without needing a physical numeric keypad.
- **4 Operation Modes & 11 Geometric Styles:** From clean linear fans and smooth curves to complex double spirals, dense grids, and controlled random distributions.
- **Smart Symmetry Engine:** Instantly mirror positions across the center of your rig or generate paired symmetric random looks.
- **Reproducible Randomness:** Built-in Random Seed control lets you lock in a specific random look or generate fresh variations on every click.
- **One-Click Preset Storage:** Automatically finds the next available slot in your Position Preset Pool (PresetPool 2) and saves your look with custom or auto-generated labels.

2. System Requirements & Compatibility

- **Software:** grandMA3 Software
- **Hardware:** grandMA3 Full-Size, Light, Compact, Replay Unit, or grandMA3 onPC.
- **Prerequisites:** Your showfile must contain at least one **Group** with patched fixtures supporting **Pan** and **Tilt** attributes.

3. Installation Guide

1. Copy the AUTOPOS PRO.xml file (and its accompanying .lua file, if exported separately) into your grandMA3 plugins directory:
    - **On USB Drive:** grandMA3/gma3_library/datapools/plugins/
    - **On Windows/macOS (onPC):** MALightingTechnology/gma3_x.x.x/shared/resource/lib_plugins/
2. Open your showfile in **grandMA3**.
3. Open a **Plugins Pool** window.
4. Edit an empty Plugin slot (e.g., Edit Plugin 1), tap **Import**, select **AUTOPOS PRO**, and confirm.
5. Close the editor. The plugin is now ready to run by tapping its pool object.

4. Quick Start Workflow

1. **Launch:** Tap **AUTOPOS PRO** in your Plugins Pool.
2. **Select a Group:** Tap **9. >> SELECT GROUP <<** and choose your target fixture group from the list.
3. **Configure Parameters:** Choose your desired **Pattern Type**, **Pan/Tilt Ranges**, **Style**,

Symmetry, and **Seed**.

4. **Generate:** Tap **7. >> GENERATE <<** to immediately apply the calculated Pan and Tilt values to your fixtures in the Programmer.
5. **Save (Optional):** Tap **8. >> SAVE PRESET <<** to store the active positions directly into your Position Preset Pool (Preset 2.x).

5. Main Menu Reference

When you launch the plugin, the main window displays the active fixture count and group path in the title bar (AutoPos v7.5 - [X] fix | [DataPool/Group]), followed by 11 interactive options:

1. Pattern type (Operation Modes)

Defines the overarching logic used to distribute positions across the selected fixtures:

- **Sequential:** Applies the chosen Style (Option 4) progressively from the first fixture in the group to the last.
- **Sequential Symmetric:** Applies the chosen Style mirrored symmetrically from the outer edges toward the center of the group.
- **Radial:** Distributes fixtures in opposing balanced pairs around a central origin point (Pan 0 / Tilt 0 if the fixture count is odd).
- **Random:** Assigns independent random Pan and Tilt coordinates to every fixture within your defined min/max limits.

2. Pan Range

Sets the minimum and maximum horizontal boundaries (in degrees) for the generated positions.

- **Hard Limits:** -360° to +360° (Default: -270° to 270°).
- **How to adjust:** Select **Min PAN** or **Max PAN**. Choose a quick preset increment (every 45°) from the touch list, or select **Custom value...** to type an exact number.

3. Tilt Range

Sets the minimum and maximum vertical boundaries (in degrees) for the generated positions.

- **Hard Limits:** -180° to +180° (Default: -135° to 135°).
- **How to adjust:** Select **Min TILT** or **Max TILT**, pick a 45° step preset, or tap **Custom value...** for precision input.

4. Style (11 Geometric Patterns)

(Used when Pattern Type is set to Sequential or Sequential Symmetric)

1. **Linear:** Spreads fixtures evenly in a straight line from minimum to maximum Pan/Tilt values.
2. **Curve:** Arranges fixtures along a smooth sinusoidal arc trajectory.
3. **Staggered:** Distributes fixtures across alternating rows and columns in an evenly spaced grid.

4. **Controlled Random:** Assigns randomized Pan/Tilt positions within your range—reproducible if a fixed Seed is used.
5. **Spiral:** Places fixtures along an expanding outward spiral from a randomized center point.
6. **Zig-Zag:** Advances Pan linearly while alternating Tilt between upper and lower limits, creating a sharp sawtooth/broken-line look.
7. **Sinusoidal:** Advances Pan linearly while Tilt follows a full sine wave cycle.
8. **Double Spiral:** Similar to Spiral, but alternates rotational direction on every other fixture for intersecting beam geometry.
9. **Ray:** Alternates rapidly between minimum and maximum Pan extremes while Tilt progresses linearly.
10. **Dense Grid:** Packs fixtures into a tighter, high-density multi-row/multi-column matrix.
11. **Random Clustered:** Groups fixtures randomly into several tight focal clusters or zones across the stage.

5. Symmetry

(Applies to Sequential mode)

- **None:** Applies the generated pattern sequentially from start to end without mirroring.
- **Mirror:** Mirrors the second half of the fixture selection across the center (-Pan, identical Tilt).
- **Symmetric Random:** Generates randomized Pan/Tilt coordinates for one half of the rig and mirrors them onto the opposite half.

6. Seed

Controls the random number generator used for random patterns and random starting center points:

- **Auto (random each time):** Generates a brand-new seed on every execution so each press of **GENERATE** yields a fresh look.
- **Fixed (enter number):** Locks the seed to a specific numeric value. Re-running **GENERATE** with the same seed and settings will reproduce the exact same positions.

7. >> GENERATE <<

Calculates the Pan and Tilt coordinates based on your current settings and applies them directly to the selected fixtures in the Programmer (Attribute "Pan" At ... / Attribute "Tilt" At ...).

8. >> SAVE PRESET <<

Automatically scans your **Position Preset Pool (PresetPool 2)** starting from slot 2.1001 (up to 2.9999) to find the first empty slot:

- Prompts you to enter a custom preset name (or leave blank to automatically name it AutoPos_[SlotNumber]).
- Executes Store Preset 2.X /merge and labels the preset accordingly.

9. >> SELECT GROUP <<

Scans all DataPools in your showfile and displays every available non-empty Group in the format DataPoolName/GroupName. Selecting a group loads its fixtures into the plugin memory.

10. >> EXIT <<

Closes the AUTOPOS PRO interface cleanly and outputs [AutoPos OK] Plugin finished to the System Monitor.

11. Information

Opens an in-console reference card displaying plugin version details, mode summaries, and developer contact info.