



XOY 503 v2 – User Manual

Version: v2 (build 8.0.22)

Type: Modular 500-series inspired Channel Strip

Formats: AU / VST3

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1. Overview

XOY 503 v2 is a modular, 500-series inspired channel strip. It runs a serial signal path built from up to three user-selectable modules, plus a dedicated HOST section for global gain staging and coloration.

Design intent

- **Hardware-like workflow:** minimal controls, fixed musical curves, deliberate gain staging.
- **Modular:** choose which module lives in each slot and reorder slots to change processing order.
- **Predictable:** toggles bypass DSP without destroying knob settings.

2. Signal Flow

Signal runs left to right. The HOST section is always present; the three module slots are processed in the current module order.

Default routing

INPUT → HOST (IN TRIM) → Slot chain (Slot A/B/C in current order) → HOST (ANALOG FLAVOR) → HOST (OUT TRIM) → OUTPUT

- Empty slots pass audio through unchanged.
- Multiple instances of the same module type are allowed (duplicates).
- Module order and slot types are stored and recalled with the DAW session.

3. Resizable Interface

- Resize by dragging the plugin window corner.
- Aspect ratio is locked; controls scale proportionally.
- Layout remains consistent across resolutions.

4. Module Slots (Select, Close, Duplicate, Reorder)

XOY 503 v2 has three module slots. Each slot can be empty or host any supported module type.

Selecting a module

Click an empty slot to open the module picker and choose the module type for that slot.

Closing a module

Each module has an X button that clears the slot (sets it to EMPTY). Settings remain stored in the session state.

Module Reordering (Drag & Drop)

- You can reorder the three module slots using drag & drop. Click and drag a module panel to another slot and release to swap positions. Only the module you

drop onto moves into the original slot; EMPTY slots can remain anywhere in the chain (the slots do not auto-pack to the left). The visual order always represents the actual DSP order.

5. HOST Section (Right Panel)

The HOST section is always present and always active. It handles global gain staging and analog coloration.

- **IN TRIM:** -24 dB to +24 dB. Adjusts level before the module chain.
- **OUT TRIM:** -24 dB to +24 dB. Final level matching after processing.
- **ANALOG FLAVOR:** continuous. Subtle always-on nonlinear coloration for cohesion.
- **HOST toggle:** bypasses all module DSP (slots) but keeps IN/OUT TRIM and ANALOG FLAVOR active.
- **HOST LEDs:** show a smoothed level (RMS/average-style) in dBFS for practical gain staging (not a true peak meter). Yellow typically starts around ~ -18 dBFS (average level), while orange indicates hotter levels as you approach 0 dBFS. If the red LED lights up, it indicates clipping / overload (a peak clip event) and is held briefly so it remains visible.

6. PRE Module (Preamp)

The PRE module is inspired by transformer-based preamps. It is designed for drive, tone and controlled saturation.

- **GAIN (red):** -20 dB to +60 dB. Primary drive control; higher values increase harmonic saturation.
- **HPF:** stepped OFF / 50 / 80 / 160 / 300 Hz, 18 dB/oct. Positioned before the nonlinear stage to tighten low-end drive.
- **PAD:** fixed -20 dB pre-attenuation before the PRE stage. Use it with hot sources to prevent excessive drive.
- **AUTO (Auto Gain):** RMS-based compensation after the nonlinear stage. Musical (not strict unity), smoothed to avoid pumping; limited to avoid boosting silence/noise.
- **PRE ON/OFF:** bypasses PRE processing; knob positions remain preserved. Tip: drive with GAIN for character, then level-match with OUT TRIM. Use HPF and/or PAD to keep the low-end from saturating too early.

7. EQ3 Module

EQ3 is a fixed-architecture, musical equalizer inspired by classic console EQ designs. It is intended for tone shaping rather than surgical EQ work.

- **LOW (shelf):** 35 / 60 / 110 / 220 Hz, +/-16 dB.
- **MID (bell):** 360 / 700 / 1.6k / 3.2k / 4.8k / 7.2k Hz, +/-18 dB. Gain-dependent bandwidth (broader at small gains, tighter at larger boosts/cuts).

- **HI-Q (MID Q):** MID “HI-Q” toggle that narrows the MID bell for more focused shaping; default OFF for backward compatibility (Normal Q range 0.60–0.90, HI-Q range 0.90–1.30; both gain-dependent).
- **HIGH (shelf):** 12 kHz, +/-16 dB. Smooth, analog-style shelf with early onset.
- **EQ ON/OFF:** bypasses EQ processing; settings are preserved.

8. OPT Module (Optical Compressor)

OPT is an optical compressor inspired by LA-2A style designs with program-dependent timing. It is intended for leveling and musical movement.

- **PEAK REDUCTION:** compression amount (more = more gain reduction).
- **OUTPUT GAIN:** makeup gain after compression. • **COMP/LIMIT:** switches between compression and a more limiting-like behaviour (still optical, not a brickwall limiter).
- **VU meter:** displays gain reduction with slow, smooth response.
- **OPT ON/OFF:** bypasses compression; settings are preserved.

9. FET Module (FET Compressor)

FET is a fast, character compressor inspired by classic FET designs (1176-style behaviour).

- **INPUT:** drives the compressor and increases gain reduction/character.
- **OUTPUT:** post-compression level trim.
- **ATTACK:** sets attack time (fast range).
- **RELEASE:** sets release time.
- **RATIO:** 4 / 8 / 12 / 20 / BRIT (all-in). SHIFT+CLICK selects BRIT.
- **GR meter:** shows gain reduction.
- **FET ON/OFF:** bypasses FET processing; settings are preserved.

10. Module Toggles & Bypass Philosophy

- Each module has its own ON/OFF toggle. Turning a module OFF bypasses its DSP but keeps its controls and UI state.
- HOST toggle bypasses all slot modules at once (useful for A/B), while IN/OUT TRIM and ANALOG FLAVOR remain active.
- Meters (drive/GR) reflect the active processing state; when a module is bypassed, its meter activity stops.

11. Gain Staging Philosophy

- Start with IN TRIM at 0 dB and OUT TRIM for level matching
- Use PRE GAIN for character; use PAD/HPF to control how the preamp saturates on bass-heavy material.
- If you want similar loudness while exploring drive, enable AUTOGAIN (it is RMS-compensated and intentionally not perfect unity).
- Use OPT for smooth leveling; use FET for faster control and more attitude.
- Level-match with OUT TRIM before judging tone changes.

12. Manual Installation (macOS)

If you received XOY 503 without an installer, install it manually as follows.

Audio Unit (AU)

1. Locate:
XOY 503 v2.component
2. Copy to:
/Library/Audio/Plug-Ins/Components/
(*system-wide*)
or:
~/Library/Audio/Plug-Ins/Components/
3. Restart your DAW.

VST3

1. Locate:
XOY 503 v2.vst3
2. Copy to:
/Library/Audio/Plug-Ins/VST3/
(*system-wide*)
or:
~/Library/Audio/Plug-Ins/VST3/
3. Restart your DAW and rescan plugins if needed.

macOS Security Notes

- macOS may block unsigned plugins on first launch
- Go to **System Settings** → **Privacy & Security**
- Allow the plugin if prompted

13. Manual Installation (Windows)

If you received XOY 503 without an installer, install it manually as follows.

VST3

1. Locate:
XOY 503 v2.vst3
(Windows: this is typically a folder/package named “XOY 503 v2.vst3” — keep it intact and copy the whole thing.)
2. Copy to (system-wide):
C:\Program Files\Common Files\VST3\
or (per-user, if you don't have admin rights):
C:\Users\<YourUserName>\AppData\Local\Programs\Common\VST3\
(If the folder doesn't exist, create it.)
3. Restart your DAW.
Rescan plugins if needed.

Windows Security Notes

- Windows may show a security warning for files downloaded from the internet (ZIP “blocked” flag).
If the plugin does not load, right-click the ZIP (or extracted files) → Properties → check Unblock → Apply, then extract/copy again.
- Some antivirus/endpoint tools may quarantine unknown plugins. If this happens, add an exception for the plugin folder and rescan in your DAW.

14. Final Notes for Testers

XOY 503 v2 is intentionally not a “do-everything” plugin.
It rewards careful gain staging and musical decisions.

If something sounds wrong:

- Check input level
- Check PRE drive
- Check OUT TRIM
- Trust your ears

Feedback is especially welcome regarding:

- Gain staging feel
- Musicality
- UI clarity
- Workflow

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