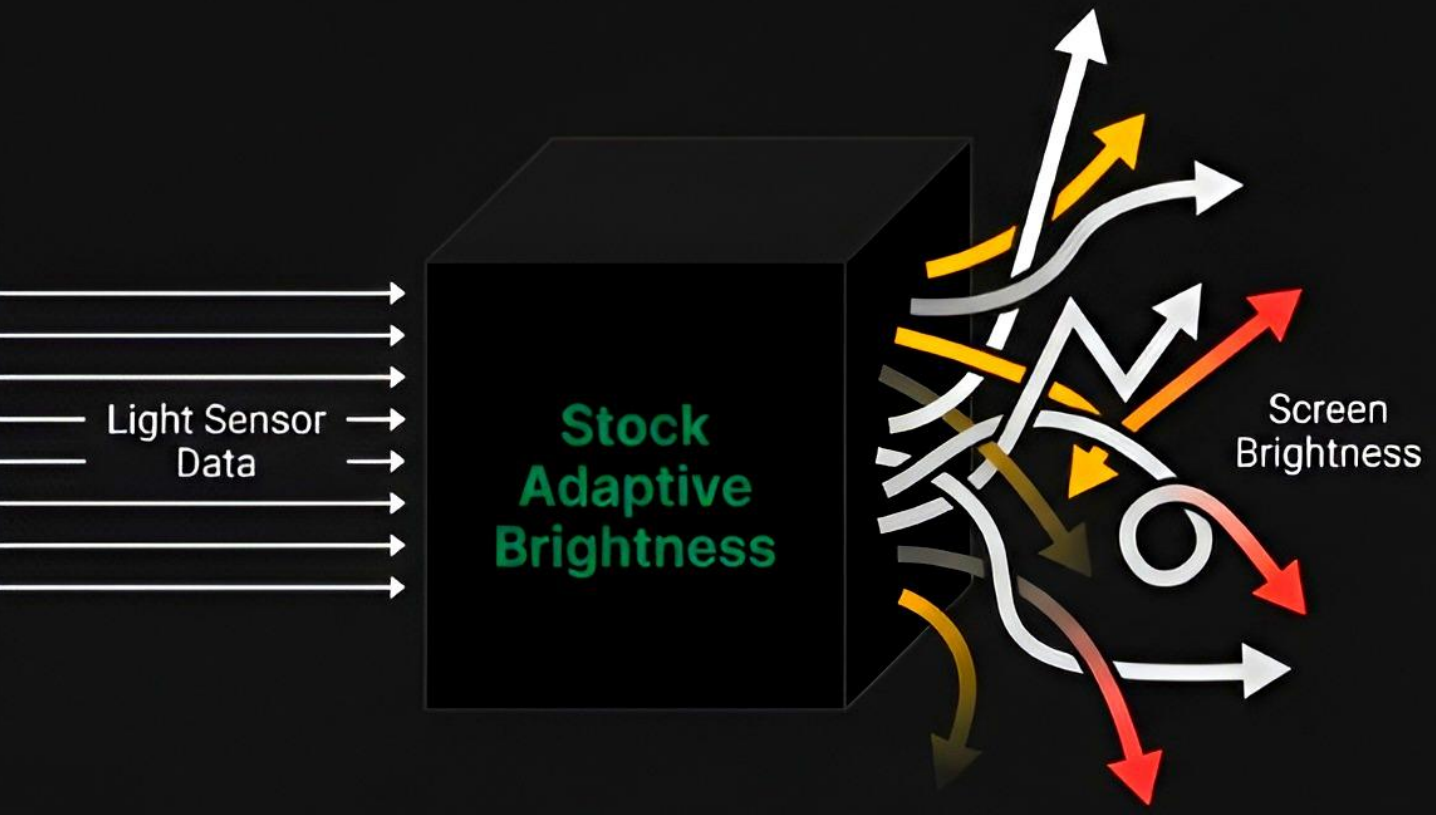
Advanced Auto Brightness

Escape the Black Box.

Build Your Own Logic.

A Complete, Deterministic Replacement for Android's Adaptive Brightness



The Problem with the “Black Box”

Frustrated with stock adaptive brightness that relies on opaque machine learning predictions?

The Experience

Inconsistent, unpredictable, and often illogical. The screen is too bright in the dark, too dim in the light, and constantly “fights” your manual adjustments.

The Cause

These systems are designed to be a “black box.” The logic is hidden, it changes without your consent, and you have no real control over its decision-making process. You can’t see the rules, so you can’t fix them.

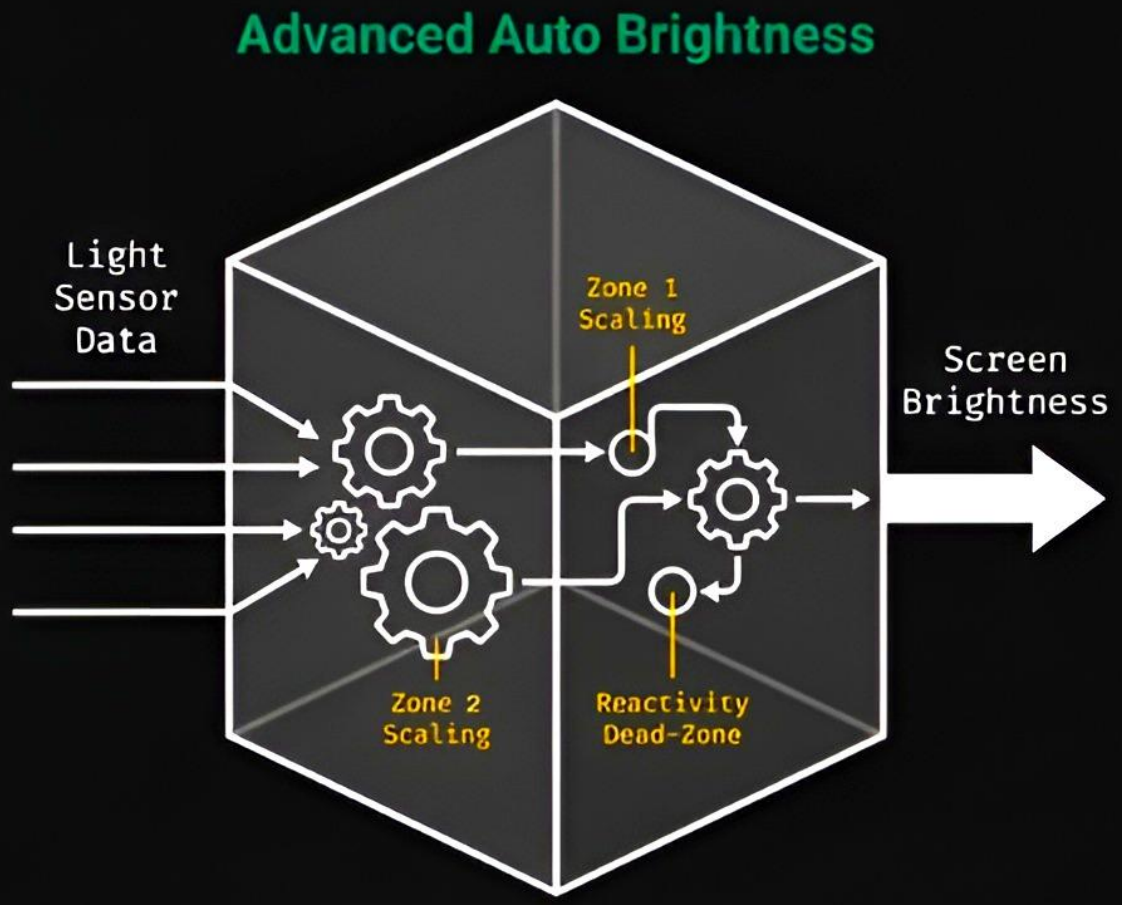
Our Solution: The ‘Glass Box’

Advanced Auto Brightness (AAB) rejects the black box approach in favor of **determinism and transparency**.

It’s a ground-up redesign engineered as a “glass box,” where **you define the logic**.

What you get:

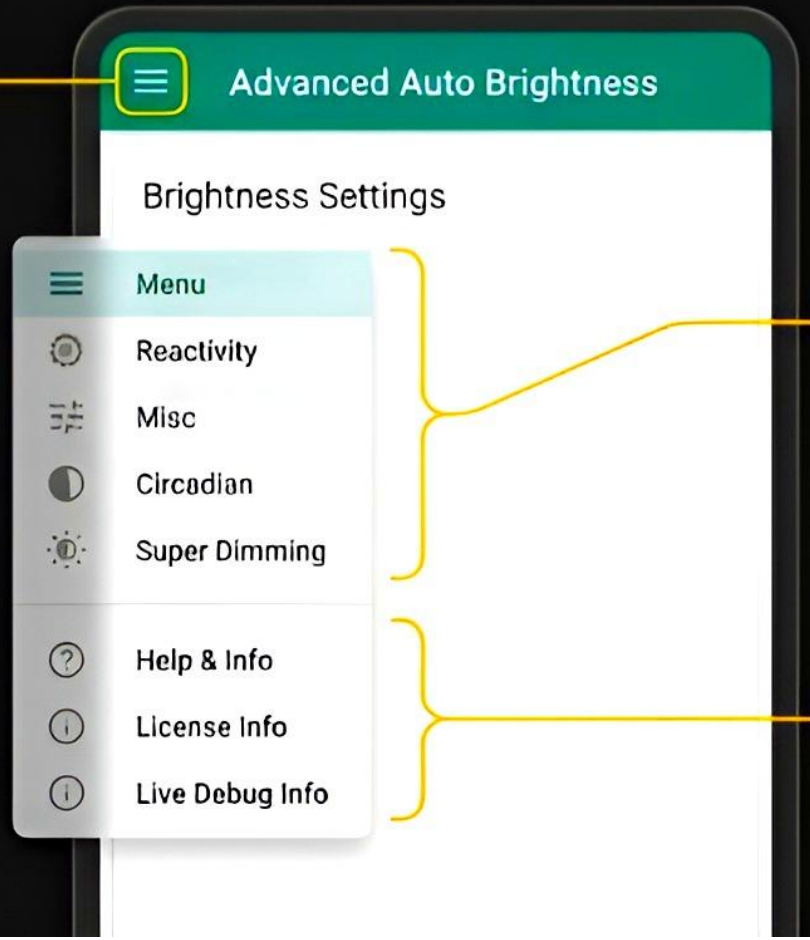
- **100% Deterministic**: The output is a direct, mathematical result of your settings. No surprises.
- **Completely Transparent**: See exactly how your rules will behave before you even apply them.
- **Unparalleled Control**: A complete, 100% plugin-free replacement for the native system, built for power users.



Your All-in-One Command Center

Forget editing variables. V3.2 features a polished, page-based UI built with native Tasker scenes for configuration and real-time monitoring.

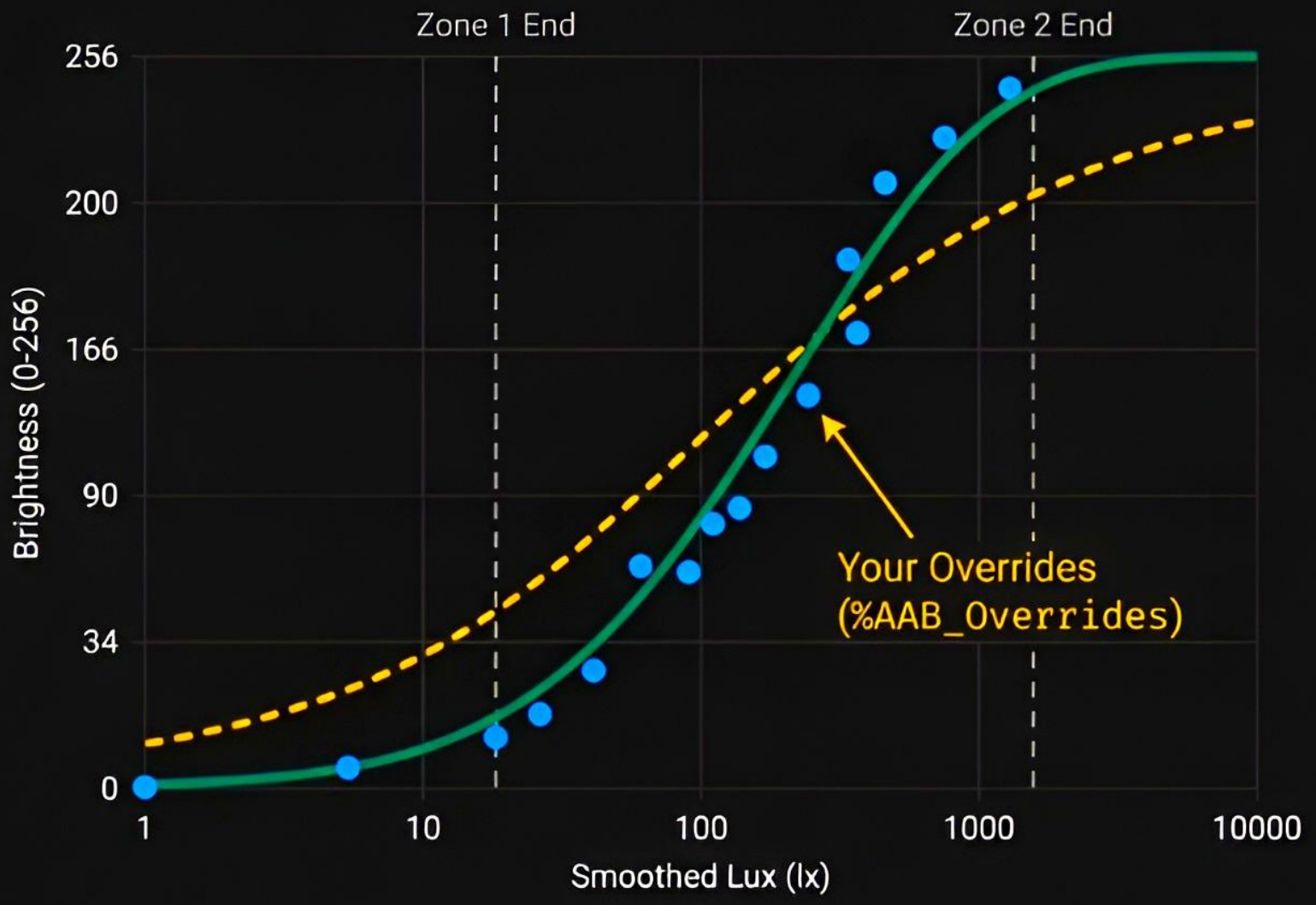
Central Hamburger Menu:
Effortless navigation to all settings.



Settings Pages List:
Access dedicated pages for:
`General`
`Reactivity`
`Misc`
`Circadian`
`Super Dimming`

Help & Info Section:
Also access the `'User Guide'`, `'License Info'`, and a powerful `'Live Debug Info'` screen.

Visualize Your Logic, Instantly



The heart of AAB is its live visualization engine. See a precise graph of how your settings will behave before you save.

Your Custom Curve

The teal line plots your light-to-brightness curve, calculated from parameters like `%AAB_Form1A` and `%AAB_Form2B`.

Real-World Data

Your manual overrides appear as blue dots, showing exactly how well the new curve fits your actual preferences.

Engineer Stability, Tune Out the Jitter

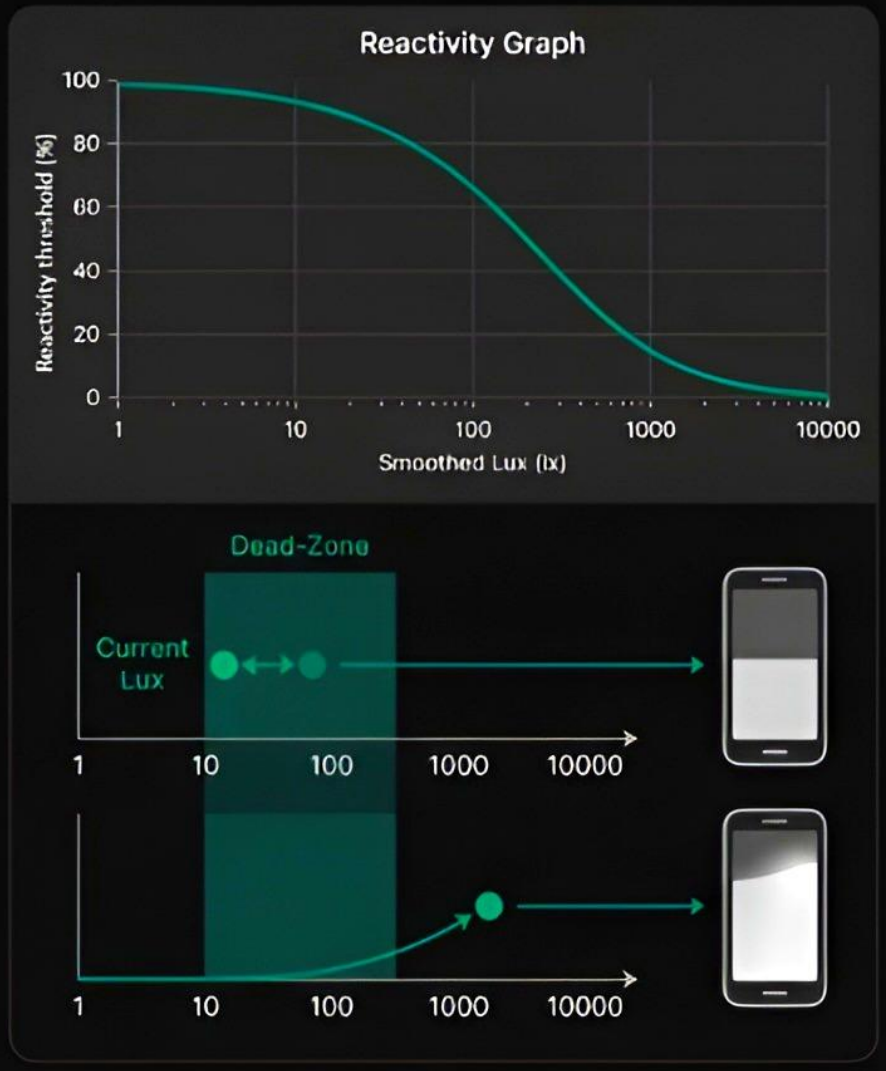
Stock auto-brightness suffers from jitter—annoying fluctuations from minor sensor noise. AAB gives you the tools to eliminate it.

The Smart Dead-Zone

Configure a dynamic dead-zone that intelligently ignores sensor noise. The brightness only changes when the light change is significant and intentional.

Visualize the Behavior

The Reactivity Graph plots your stability curve on a logarithmic scale, letting you perfectly tune thresholds like `%AAB_ThreshDark` and `%AAB_ThreshBright` to match your environment and hardware.



An Engine That Learns From You

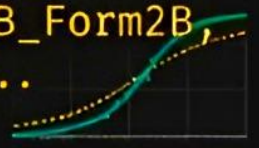
AAB isn't just a set of static rules. It's an engine that learns from your real-world usage.

Manual Override

Override logged: `lux,brightness`

Curve Fitting Engine

%AAB_Form1A, %AAB_Form2B, etc..



Automatic Curve Fitting

Manually adjusting your brightness trains the system. AAB logs these overrides as data points.

Mathematical Optimization

After gathering enough points, the engine mathematically recalculates the optimal brightness curve to fit your preferences. It provides detailed diagnostics like **R^2, nRMSE, and bias** for technical review.

Adaptive Smoothing

The backend, rewritten in **Java for low latency**, uses a dynamic alpha to smooth brightness changes. Large, intentional changes are fast, while small flickers are smoothed away.

Go Beyond the Curve: Advanced Light Control

AAB includes powerful systems that go far beyond a simple lux-to-brightness curve, giving you expert-level control over your viewing experience.

Circadian Scaling

Adapts the entire brightness curve based on the time of day relative to sunrise and sunset, making the screen naturally dimmer at night and brighter during the day.

Super Dimming

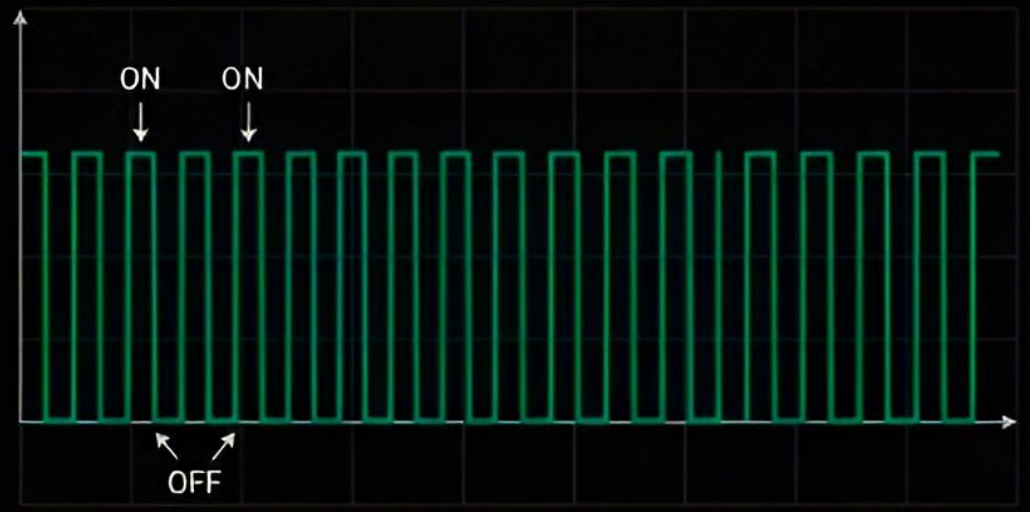
Allows your screen to get darker than Android's default minimum, using privileged methods or a screen overlay for comfortable viewing in pitch-black rooms.

PWM Sensitive Mode

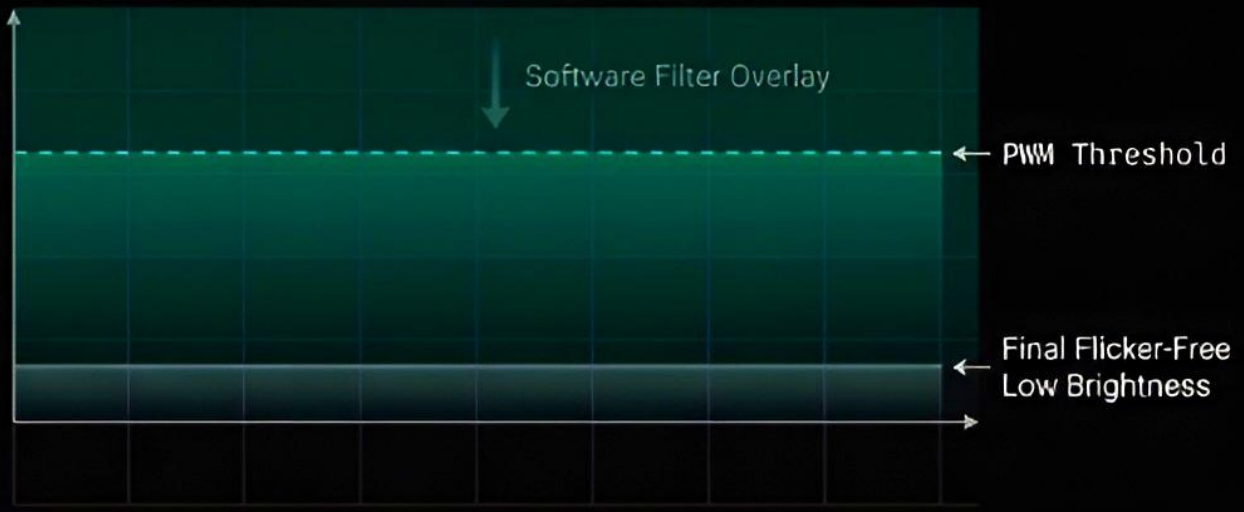
A specialized hybrid engine designed to eliminate flicker on sensitive OLED screens.

Master the Flicker: PWM Sensitive Mode

OLED PWM Flicker



AAB's DC-Like Dimming



Some OLED screens use Pulse Width Modulation (PWM) at low brightness, causing flicker perceptible to sensitive users. AAB offers a unique solution.

The Hybrid Engine: Instead of lowering hardware brightness into the flicker range, AAB sets a flicker-free floor (`PWM Threshold`) and uses a software overlay for further dimming, simulating a **flicker-free, DC-like dimming** experience.

IMPORTANT WARNING

Setting the `PWM Threshold` excessively high forces your screen's pixels to remain at a high power level, which can cause **accelerated screen aging and increase the risk of permanent burn-in** on OLED displays. Use this feature with caution. The author is not liable for any damage resulting from improper configuration.

For the Power User: Live System Status

Look directly into the engine's core. The Live Debug screen provides a real-time feed of the system's state, proving our commitment to transparency.

```
Smoothed Lux: %SmoothedLux lux
Final Target Brightness: %AAB_CurrentBright / %AAB_MaxBright
Time-of-Day Scale: %AAB_ScaleDynamicCompress
Reactivity Cooldown: Active (Next update in X s)
Next Lux Alpha: %LuxAlpha
Service: On | Override: Active | Animation: Running
Last Sensor Accuracy: %AAB_LastSensorAccuracy
```

Your 3-Step Setup

1 

DISABLE STOCK BRIGHTNESS

THE MOST IMPORTANT STEP: You **MUST** disable your phone's built-in 'Adaptive Brightness' in Android system settings. If you don't, AAB and the stock system will constantly fight for control.

2 

GRANT PERMISSIONS

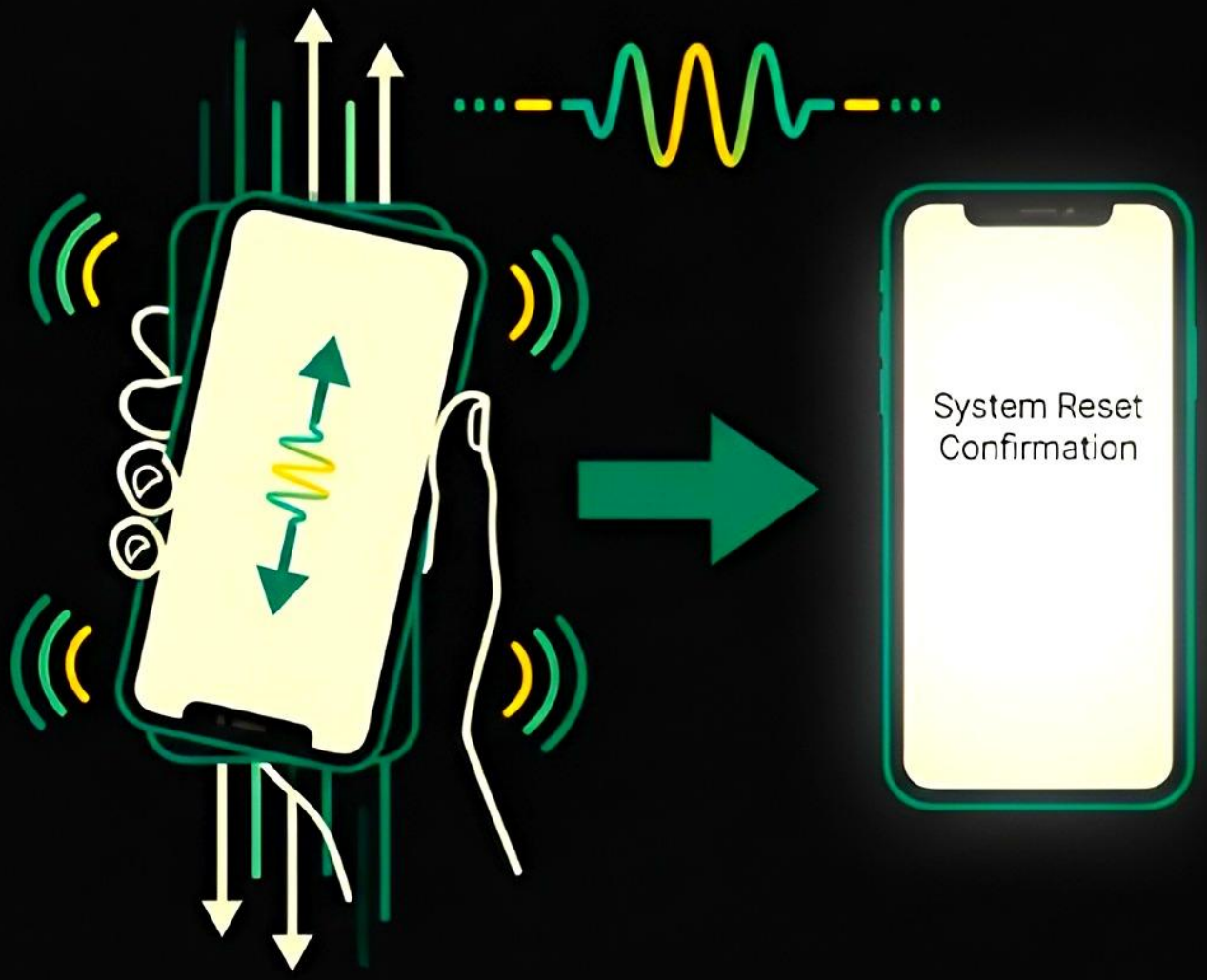
On first launch, AAB will guide you through granting the necessary permiissions to function correctly.

3 

LAUNCH & CONFIGURE

Run the `Advanced Auto Brightness` task. Flip the master switch on the main screen to activate the service.

Designed for Power, Built with a Failsafe



Powerful tools require powerful safety features. If you ever configure a setting that makes your screen black or unresponsive, there is an emergency recovery.

The Panic Button

- **Action**: Shake your device vertically while it is held upside down.
- **Confirmation**: The system will acknowledge with a distinct **S.O.S. vibration pattern**.
- **Result**: AAB immediately stops all automation, disables any overlays, and forces screen brightness to maximum.

Tip: Test this motion once so you know how to trigger it before you need it.

Take Control of the Light

Advanced Auto Brightness V3.2 is more than an app; it's a philosophy. It's the belief that users deserve deterministic, transparent, and powerful tools.

Reject the black box.
Build your own logic.

Platform: Built for **Tasker** (no plugins required). **Creator**: /u/v_uurtjevragen **License**: MIT License
Dependencies: Graphs powered by the excellent **Chart.js** library.