ZAMM Singlepager

1. Overview

ZAMM is a minimalist AMM implemented as a *single* contract that merges token exchange and liquidity management inside one **ERC-6909** instance. Liquidity positions live as transferable token IDs; a built-in factory lets anyone launch a new asset and seed liquidity atomically.



2. Why ZAMM?

Ethereum L1 makes gas a premium resource. Retail LPs overwhelmingly prefer passive ("full-range") liquidity but balk at upkeep costs. ZAMM trims the constant-product AMM down to essentials, focusing on:

- Simplicity one contract, no periphery
- Efficiency lower gas across all ops
- Usability fewer steps, fewer surprises

3. Key Features

3.1 Singleton Design

Every pool lives inside one contract—no cross-calls.

3.2 Flash Accounting

Transient storage (EIP-1153) chains multi-hop swaps internally, avoiding redundant transfers.



3.3 Concentric Liquidity

LPs deposit once and earn fees forever—a simple base layer on which strategies can build as layered contracts. 3.4 Token Launchpad

makeLiquid() mints a token and seeds its pool atomically.

4. Core Functions

- Swap: exact-in, exact-out, flash
- Liquidity: add / remove with slippage guard
- **Factory**: one-step token + liquidity
- **Batch**: multicall for better UX

5. Performance

Gas benchmarks (Foundry):

| Operation | ZAMM | UniV2 | UniV3 | UniV4 | Savings |
|-------------|--------|--------|---------|---------|----------|
| Single Swap | 43401 | 84337 | 115534 | 91988 | 4963% |
| Multihop | 100405 | 140405 | 363 253 | 128 696 | 22 - 72% |





ZAMM burns roughly half the gas of canonical AMMs for equivalent trades.

6. Security Considerations

Re-entrancy guard, overflow checks, slippage limits and minimum-liquidity floors keep the system robust.

7. Looking Forward

ZAMM delivers core DEX utility on Ethereum L1 with minimal overhead—efficiency first. It can complement existing AMMs as canonical backend for passive liquidity.

ZAMM: Simple. Efficient. Complete.

