

Technical Architecture of the Mayfair Exponential Game System: A Deep Dive into Blood of Heroes Special Edition

Published: July 6, 2025 | Index ID: #329

The evolution of tabletop role-playing games (TTRPGs) has seen various methodologies for simulating superhuman capabilities, but few have achieved the mathematical elegance and scalability of the **Mayfair Exponential Game System (MEGS)**. Originally popularized by the DC Heroes RPG, the system underwent a significant transition when Pulsar Games acquired the rights to the engine, culminating in the release of **Blood of Heroes: Special Edition** in August 2000. This 366-page manual, identified by SKU 1160 and ISBN 0-9665280-3-4, represents a pinnacle in crunch-heavy, logarithmic game design. This analysis explores the technical frameworks, mathematical models, and operational procedures that define this influential superhero system.

The Theoretical Framework of the Exponential Scale

At the core of Blood of Heroes: Special Edition is a logarithmic scale where every increment of one **Attribute Point (AP)** represents a doubling of the previous value. This design choice addresses a fundamental problem in superhero gaming: how to represent a character who can lift a car alongside a character who can shift a tectonic plate without using astronomical numbers that break traditional linear dice mechanics.

The Rule of Two and Logarithmic Progression

The system utilizes a base-2 logarithmic progression. In practical terms, this means that if a character has a Strength of 4 APs and another has a Strength of 5 APs, the latter is exactly twice as strong as the former. This progression applies to all physical, mental, and spiritual measurements including weight, distance, and time. This unified scale allows the GM (Game Master) to cross-reference disparate units effortlessly using the **Universal Table**.

Consider the mathematical representation of weight in the MEGS framework:

- 0 APs: 50 lbs (The baseline for an average unathletic human)
- 5 APs: 1,600 lbs (Approximate weight of a small car)
- 10 APs: 25 tons (Approximate weight of a semi-truck)
- 15 APs: 800 tons
- 20 APs: 25,000 tons

By mapping these values to a 0-30+ scale, the system maintains mathematical integrity across cosmic power levels while keeping the arithmetic simple for the players during active sessions.

Core Mechanics and Character Architecture

Character design in Blood of Heroes is an exercise in rigorous resource allocation. Characters are defined by nine primary attributes divided into three distinct categories: **Physical, Mental, and Spiritual**. Each category is further subdivided into **Acting, Opposing, and Resisting** attributes.

The Nine Attribute Matrix

Category	Acting (Offense)	Opposing (Defense)	Resisting (Durability)
Physical	Dexterity (DEX)	Strength (STR)	Body (BODY)
Mental	Intelligence (INT)	Willpower (WILL)	Mind (MIND)
Spiritual	Influence (INFL)	Aura (AURA)	Spirit (SPIRIT)

This symmetry ensures that every interaction—whether a physical punch, a telepathic intrusion, or a social debate—uses the same mechanical resolution logic. To succeed at an action, a player compares their **Acting Value (AV)** against the target's **Opposing Value (OV)** using the **Action Table**. If the action is successful, the degree of success is applied to the **Effect Value (EV)** against the target's **Resistance Value (RV)**.

The Action Table: An Algorithmic Resolution Engine

The Action Table is the engine that drives Blood of Heroes. It is a cross-reference matrix where the Y-axis represents the AV and the X-axis represents the OV. The intersection provides a target number to be rolled on 2d10 (two ten-sided dice). Unlike many d20-based systems, MEGS uses a **non-linear probability curve** by employing 2d10, which clusters results around the 11 mark.

The Mechanics of Success and Effect

1. Column/Row Lookup: The player identifies the intersection of their AV and the target's OV.
2. The Die Roll: A roll of 2d10 must meet or exceed the target number. A roll of double 1s is an automatic failure, while double 10s (if the roll succeeds) can lead to spectacular results.
3. Column Shifts: Modifiers for situational advantages or specialized skills are calculated as "column shifts" rather than flat numerical bonuses, preserving the integrity of the logarithmic scale.
4. Result Points (RPs): The difference between the roll and the target number determines the Result Points. These RPs are then used to modify the EV (Effect Value) on the Result Table.

Comparative Analysis: Blood of Heroes vs. Contemporaries

To understand the technical positioning of Blood of Heroes: Special Edition, it is necessary to compare it with other high-crunch superhero RPGs of the era, specifically the *Hero System (Champions)* and *Mutants & Masterminds*.

Feature	Blood of Heroes (MEGS)	Hero System (6th Ed)	Mutants & Masterminds
Scale Type	Logarithmic (Base-2)	Linear/Mixed	Logarithmic (Base-10 variant)
Complexity	High (Front-loaded)	Very High (Ongoing)	Moderate
Math Required	Table Lookups	Heavy Arithmetic	Algebraic Additions
Combat Speed	Fast (Post-Lookup)	Slow (Tactical)	Fast

While the Hero System offers unparalleled granularity in power builds, Blood of Heroes provides superior handling of power **disparity**. In MEGS, a character with 15 APs of Strength is demonstrably and mathematically superior to a character with 10 APs, making cosmic-level play significantly easier to manage for the GM.

Technical Deep Dive: Power Construction and Point-Buy Evolution

The Special Edition (2000) refined the point-buy system to allow for more nuanced character customization. Unlike the initial release, the Special Edition clarified the interaction between **Powers, Skills, and Advantages/Drawbacks**.

The Cost of Power

Powers in Blood of Heroes are purchased using **Hero Points**. The cost of a power is generally calculated using a base cost multiplied by the desired AP level, though modifiers (Advantages and Limitations) can shift the final cost per AP. This creates a high degree of technical "front-loading," where the complexity of the game is handled during character creation rather than during play.

Mathematical Modeling of Power Modifiers

Modifiers are applied as percentage adjustments to the base cost or as flat AP adjustments to the power's effectiveness. For example, a power with the **"Area Effect"** advantage might see a cost increase of +2 per AP, while a **"Reduced Range"** limitation might decrease the cost by -1 per AP. This ensures that a specialized, limited power is significantly cheaper than a versatile, always-active ability.

Practical Implementation: Step-by-Step Character Generation

For an engineer or technical writer approaching the system, the character generation process can be viewed as a systematic workflow:

- Step 1: Concept Definition and Origin: Determine the character's thematic archetype, which dictates the distribution of the initial Hero Point pool (e.g., 450 points for a standard hero).
- Step 2: Attribute Allocation: Purchase the 9 core attributes. A value of 2-3 is human average, while values above 10 enter the superhuman tier.
- Step 3: Power Selection and Customization: Select base powers. Apply mathematical modifiers to reflect the character's specific flavor. Calculate the Factor Cost for each.
- Step 4: Skill Integration: Skills provide column shifts on the Action Table. For example, a character with high Dexterity but no "Combat: Martial Arts" skill will perform worse than a less agile but highly trained fighter.
- Step 5: Derived Values Calculation: Determine Hero Points (used for in-game progression and luck) and initiative values based on the relationship between DEX, INT, and INFL.

Case Study: Simulating High-Velocity Combat

A frequent challenge in TTRPGs is the simulation of speedsters. In a linear system, a speedster often takes 50 turns for every 1 turn of a slow character, which ruins the experience for other players. Blood of Heroes solves this via the **Time Scale**.

If a character has a movement speed of 10 APs, they can cover a distance of 10 APs (approximately 1 mile) in 0 APs of time (4 seconds). If they wish to cover a greater distance, they simply look at the difference on the Universal Table. This allows for "super-speed" to be handled as a single roll with a high EV, rather than a sequence of repetitive actions. This technical efficiency is what allowed the system to remain relevant to hardcore simulators decades after its release.

Troubleshooting Common Operational Challenges

Despite its mathematical rigor, Blood of Heroes: Special Edition presents specific operational challenges for the uninitiated.

The "Glass Cannon" Paradox

Due to the exponential nature of the system, a high Acting Value (AV) combined with a high Effect Value (EV) can result in "one-shot" scenarios. If a character's STR (Acting) is significantly higher than a target's DEX (Opposing), and their STR (Effect) is significantly higher than the target's BODY (Resistance), the target will be incapacitated instantly.

Solution: GMs must emphasize the use of **Hero Points** to "soak" damage. Spending Hero Points allows a player to reduce the RPs of an attacker's roll, effectively functioning as a narrative shield. This shifts the game from a pure math simulator to a resource-management strategy game.

The Complexity of the Action Table

New players often find the constant need for table lookups to be a barrier to immersion.

Solution: Experienced GMs typically provide "cheat sheets" that pre-calculate the target numbers for a character's most common attacks. By pre-calculating the intersection of the character's primary AVs against standard OV ranges (e.g., OV 4, 8, 12), the game's operational speed increases by approximately 40%.

The Legacy and Future of MEGS

The 2000 release of Blood of Heroes: Special Edition remains a testament to a specific era of game design—one that valued comprehensive simulation and mathematical consistency over modern "rules-lite" trends. Its ability to scale from street-level vigilantes to cosmic deities using the same nine attributes and a single table is a feat of game engineering that few modern titles have replicated.

For the technical enthusiast, the system offers a window into the logic of logarithmic modeling. It treats superpowers not just as narrative flourishes, but as quantifiable variables within a complex ecosystem. Whether used for its original setting or as a generic engine for homebrew worlds, the Blood of Heroes Special Edition continues to serve as a masterclass in the technical architecture of tabletop role-playing.

In the broader landscape of ludology, the MEGS system highlights the importance of **Unified Resolution**

Mechanics. By ensuring that every interaction—be it lifting a mountain, hacking a computer, or convincing a crowd—adheres to the same logarithmic doubling rule, the system creates a coherent reality that respects the laws of its

own physics. This consistency is the hallmark of a senior-level technical design, providing a robust framework that can withstand the extreme edge cases inherent in the superhero genre.

Tags: #Blood of Heroes #MEGS System #RPG Mechanics #Game Design Analysis #Superhero TTRPG

