



The Expanded Hex Code

The **Traveller** game system uses one-digit alphabetic symbols to represent numbers above 9. This usage has a variety of benefits.

Ehex

THE TRAVELLER EXPANDED HEX CODE

The **Traveller** Expanded Hex Code (Ehex) substitutes single digit letters for Arabic numerals above 9. Hexadecimal numbers use A, B, C, D, E, and F for 10, 11, 12, 13, 14 and 15, respectively, to create a base-16 number system (used in some computer systems). The digits I (eye) and O (oh) are omitted to avoid confusion with 1 (one) and 0 (zero)."

The purpose of the Expanded Hex Code is to allow the representation of a value using a single digit, thus facilitating the number-string profiles used in Traveller. For example, the Universal Personality Profile (UPP) represents the six personal characteristics in a string (in the UPP Human format SDEIES). Using single number digits, the values for each profile digit can range from 0 to 9. Using Hex Code, those digit values can range from 0 to 15. Using the Expanded Hex Code, digit values can range from 0 to 33.

Digits may also be assigned arbitrary values or non-numeric meanings in some usages.

NUMBER TO EHEX

| Value | Ehex | |
|-------|------|----------|
| 0 | 0 | |
| 1 | 1 | |
| 2 | 2 | |
| 3 | 3 | |
| 4 | 4 | |
| 5 | 5 | |
| 6 | 6 | |
| 7 | 7 | |
| 8 | 8 | |
| 9 | 9 | decimal |
| 10 | A | |
| 11 | B | |
| 12 | C | |
| 13 | D | |
| 14 | E | |
| 15 | F | hex |
| 16 | G | |
| 17 | H | |
| - | I | omitted |
| 18 | J | |
| 19 | K | |
| 20 | L | |
| 21 | M | |
| 22 | N | |
| - | O | omitted |
| 23 | P | |
| 24 | Q | |
| 25 | R | |
| 26 | S | |
| 27 | T | |
| 28 | U | |
| 29 | V | |
| 30 | W | |
| 31 | X | unknown |
| 32 | Y | special |
| 33 | Z | ultimate |

Upper and Lower Case.

Ehex expects its digits to be UPPER Case. Some situations differentiate stages within an Ehex value by using Upper or Lower Case (the Nobility, for example).

Why Use EHex? EHex was created to allow numbers greater than 9 to occupy one place in a string.

| | |
|----------|---|
| 123456 | The Situation Traveller uses many different strings of digits to show abilities and values for people, equipment, starships, and other items. |
| 89101112 | The Problem Numerical values greater than nine take up two (or more) places, making it difficult (sometimes) to join them into readable strings. If any value is greater than 9, the string becomes unreadable. |
| 89ABCD | The Solution Make each numerical value one digit: values greater than 9 are assigned a corresponding letter 10=A 11=B 12=C 13=D. |

THE TRAVELER HEX CODES

Traveller uses the basic alphanumerics (0-9, A-Z) as single digits to represent numeric values and as codes to represent situational and positional meanings. For example, the alphanumeric A represents 10 in Hex and in Ehex. It can also be used as a code (with no specific numerical meaning).

Dec (Decimal Notation). The digits 0-9 represent the numbers in base-10.

Hex (Hexadecimal Notation). Expanding the numbers available, the letters A-F correspond to the values 10-15 in base-16.

Ehex (Extended Hexadecimal Notation). Further expanding the numbers available, the letters G-Z correspond to the numbers 16-33.

Omit I and O. Because of the potential for confusion, with the digits one (1) and zero (0), the alphabetic letters I and O are omitted.

Special Meanings. Digits may also be assigned arbitrary values or non-numeric meanings in some usages. For example, while XYZ have assigned values 31-32-33, they are (sometimes, often) assigned specialized values like Unknown, Special, or Ultimate.

Question (?) can be used to show an unknown value, and Star (*) can be used to show "any" possible value.

EHEX TO NUMBER

| Ehex | Value | |
|------|-------|----------|
| 0 | 0 | |
| 1 | 1 | |
| 2 | 2 | |
| 3 | 3 | |
| 4 | 4 | |
| 5 | 5 | |
| 6 | 6 | |
| 7 | 7 | |
| 8 | 8 | |
| 9 | 9 | decimal |
| A | 10 | |
| B | 11 | |
| C | 12 | |
| D | 13 | |
| E | 14 | |
| F | 15 | hex |
| G | 16 | |
| H | 17 | |
| I | - | omitted |
| J | 18 | |
| K | 19 | |
| L | 20 | |
| M | 21 | |
| N | 22 | |
| O | - | omitted |
| P | 23 | |
| Q | 24 | |
| R | 25 | |
| S | 26 | |
| T | 27 | |
| U | 28 | |
| V | 29 | |
| W | 30 | |
| X | 31 | unknown |
| Y | 32 | special |
| Z | 33 | ultimate |

Other Digits

| | |
|---|---------|
| ? | Unknown |
| * | Any |

