

BINARY SYSTEM FUNDAMENTALS

The Base-2 Positional Numeral System

8-BIT PLACE VALUES (POWERS OF 2)

$$2^7 = 128$$

$$2^6 = 64$$

$$2^5 = 32$$

$$2^4 = 16$$

$$2^3 = 8$$

$$2^2 = 4$$

$$2^1 = 2$$

$$2^0 = 1$$

COMMON CONVERSIONS

DECIMAL	BINARY (4-BIT)	HEXADECIMAL
0	0000	0
1	0001	1
2	0010	2
4	0100	4
8	1000	8
10	1010	A
15	1111	F

DATA UNITS

Bit	Binary Digit (0 or 1)
Nibble	4 Bits
Byte	8 Bits (256 possible values)

Reference Chart: B-01 Digital Logic & Computing Basics