**ascii-1**

**ANSCII and ASCII-1**

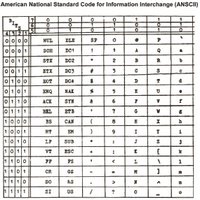
**A Data Communication Historical Series**

**By Bob Pollard**

**Example: ANSCII**

In 1963 the ANSCII code (128 possible bit combinations) was implemented, which provided for a greater number of possible character combinations, as illustrated below, and the code included a parity bit (8th) for checking character parity. American National Standard Code for Information Interchange (ANSCII) was later changed to American Standard Code for Information Interchange (ASCII); the standard code used in computer systems and on the Internet. Illustrated below is a mid-1960s ANSCII version.

**Click table to enlarge; use the back arrow to return**

[](https://sites.google.com/site/mdprcp/ASCII-2.jpg?attredirects=0)

**Parity Bit (P) examples:**

**Bits: P 7 6 5 4 3 2 1**

**1 1 0 0 0 0 0 1 = letter ‘A’ (Odd Parity)**

**0 1 0 0 0 0 0 1 = letter ‘A’ (Even Parity)**

**0 0 1 1 1 0 0 0 = number ‘8’ (Odd Parity)**

**ANSCII Code Set acronyms / control characters**

**NUL (NULL): the all zeros character, used for time or media fills.**

**SOH (Start of Header): Start of routing information control character.**

**STX (Start of Text): A Control character used at the end of header or start of text.**

**ETX (End of Text): End of text or start of trailer control character.**

**EOT (End of Transmission): Control character used to indicate end of transmission**

**ENQ (Enquire): Request for response control character; i.e. ‘Who are you’.**

**ACK (Acknowledgement): Affirmative response to sender control character.**

**BEL (Bell): Used to call for human attention**

**BS (Backspace): Moves printing back one space; same line.**

**HT (Horizontal Tab): Moves printing to a pre-determined position on a line**

**LF (Line Feed): Moves printing to the next line.**

**VT (Vertical Tab): Moves printing to the next pre-determined print line**

**FF (Form Feed): Moves the paper to the next page**

**CR (Carriage Return): Moves the printing action to the left margin**

**SO (Shift Out): A code change indicator; different code will follow**

**SI (Shift In): A code change indicator; return to original code**

**DLE (Data Link Escape): Control character used to change the meaning of a limited**

**number of contiguously following characters.**

**DC1, DC2, DC3, DC4 (Device Controls): Used for control of auxiliary devices; i.e.**

**start, pause, stop**

**NAK (Negative Acknowledgement): A negative response to a sender**

**SYM (Synchronous Idle): A synchronous control character used for synchronous**

**Transmission**

**ETB (End of Transmission Block): Indicates the end of a block of data**

**CAN (Cancel): Disregard the previous data sent control character**

**EM (End of Medium): Indicates the end of information recorded on a medium**

**SS (Start of Special Sequence): Control character; start of a wanted sequence**

**ESC (Escape): Indicates extension of code**

**FS, GS, RS, US (File, Group, Record, Unit Separator): Separation indicators**

**DEL (Delete): Used to delete a character in paper tape punching**

**SP (Space): Used to separate words, symbols, characters, etc.**

**Example: ASCII-1 computer usage Table**

The following table show the ASCII code (American Standard Code for Information Interchange) with ‘Decimal’ and ‘Hexadecimal’ designations for the characters and symbols that would be used with computer systems and associated devices. A total of 128 (including 0) unique characters are available in the ASCII code set; the code set is comprised of seven binary bits, not including the parity bit, which would make a total of eight binary bits. Using eight bits would allow 256 unique characters.

**Click table to enlarge; use the back arrow to return**

[](https://sites.google.com/site/mdprcp/ASCII.jpg?attredirects=0)

ASCII control characters are used as commands for the terminal, monitor, computer, I/O device, printer or other peripheral(s) to perform some function. The first 32 values are non-printing control characters, such as Carriage Return (decimal - 13) and Line Feed (decimal - 10). These characters are generated on the keyboard by holding down the Control key while depressing another key. For example: Causing the BEL (Bell) to ring or be indicated (decimal – 7); the bell is caused by depressing the control key and the letter G at the same time, often shown in documents as ^G. Notice that 7 (BEL) is 64 less than the value of G (71); the Control key causes 64 to be subtracted from the value of the keys that it modifies.