

BIT NUMBERS								0	0	0	0	1	1	1	1
b ₇	b ₆	b ₅	b ₄	b ₃	b ₂	b ₁		0	0	1	0	1	0	1	1
							COLUMN								
							ROW	0	1	2	3	4	5	6	7
			0	0	0	0	0	NUL	DLE	SP	0	@	P	\	p
			0	0	0	1	1	SOH	DC1	!	1	A	Q	a	q
			0	0	1	0	2	STX	DC2	"	2	B	R	b	r
			0	0	1	1	3	ETX	DC3	#	3	C	S	c	s
			0	1	0	0	4	EOT	DC4	\$	4	D	T	d	t
			0	1	0	1	5	ENQ	NAK	%	5	E	U	e	u
			0	1	1	0	6	ACK	SYN	&	6	F	V	f	v
			0	1	1	1	7	BEL	ETB	/	7	G	W	g	w
			1	0	0	0	8	BS	CAN	(	8	H	X	h	x
			1	0	0	1	9	HT	EM	)	9	I	Y	i	y
			1	0	1	0	10	LF	SUB	*	:	J	Z	j	z
			1	0	1	1	11	VT	ESC	+	;	K	[	k	{
			1	1	0	0	12	FF	FS	,	<	L	\	l	|
			1	1	0	1	13	CR	GS	-	=	M	]	m	}
			1	1	1	0	14	SO	RS	.	>	N	^	n	~
			1	1	1	1	15	SI	US	/	?	O	-	o	DEL

WHAT IS ASCII?

ASCII is a standard 8-bit information interchange code, which is used with virtually every computer and data base system. It is essential as an input to such integrated-circuit character-generation systems as the Signetics 2513. ASCII is a machine language. It should not be confused with such programming languages as "Basic," "Fortran," "PLI," "APL," etc. All of the alphanumeric communications between machines using any of these programming languages are really nothing but a group of ASCII coded commands.

The eighth bit of the code is often a 1 all the time, though some systems use the eighth bit for parity or error testing. The remaining seven bits provide 128 possible different codes or characters. Of these, 32 are allocated for the upper-case alphabet and some are often used for punctuation. Another 32 are used for numbers, spacing, and other punctuation. Assigned but very rarely used is a third group of 32 for lower-case alphabet

and little-used punctuation. Finally, the remaining 32 possible codes are "transparent" or machine commands, called control or CTRL commands. They never appear in print, but they handle the sequencing of machinery at both ends. A carriage return (CR) is a typical machine command. If only upper case alphanumeric are needed, only six of the eight bits of the code are used. This is called the ASCII-6 code.

The complete code is shown above. The first four bits are read from the left—the remaining three from the top. For instance "H" is 100-1000. A carriage return command is 000-1101, and a 7 is 011-0111. Note that the bottom four number bits are identical to the four-bit binary (BCD) code. By the same token, if the serial form of the ASCII is used with a start bit and two stop bits added, the result is the 11-bit Teletype code such as that used on an ASR-33.

ASCII can be used in parallel form (all bits at once) or serial form (one bit at a time, least, or B1 significant bit first.)