

NOTES:

USA STANDARD CODE
FOR INFORMATION INTERCHANGE

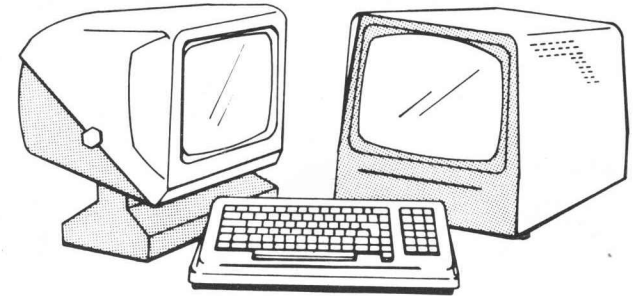
BIT NUMBERS								0 ₀₀	0 ₀₁	0 ₁₀	0 ₁₁	1 ₀₀	1 ₀₁	1 ₁₀	1 ₁₁
b ₇	b ₆	b ₅	b ₄	b ₃	b ₂	b ₁	COLUMN	0	1	2	3	4	5	6	7
							ROW								
0	0	0	0	0	0	0	0	NUL	DLE	SP	0	@	P	\	p
0	0	0	0	1	1	1	1	SOH	DC1	|	1	A	Q	a	q
0	0	1	0	0	2	2	2	STX	DC2	"	2	B	R	b	r
0	0	1	1	1	3	3	3	ETX	DC3	#	3	C	S	c	s
0	1	0	0	0	4	4	4	EOT	DC4	\$	4	D	T	d	t
0	1	0	1	1	5	5	5	ENQ	NAK	%	5	E	U	e	u
0	1	1	0	1	6	6	6	ACK	SYN	&	6	F	V	f	v
0	1	1	1	1	7	7	7	BEL	ETB	'	7	G	W	g	w
1	0	0	0	0	8	8	8	BS	CAN	(	8	H	X	h	x
1	0	0	1	1	9	9	9	HT	EM	)	9	I	Y	i	y
1	0	1	0	1	10	10	10	LF	SUB	*	:	J	Z	j	z
1	0	1	1	1	11	11	11	VT	ESC	+	;	K	[	k	{
1	1	0	0	0	12	12	12	FF	FS	,	<	L	\	l	:
1	1	0	1	1	13	13	13	CR	GS	-	=	M	]	m	}
1	1	1	0	1	14	14	14	SO	RS	.	>	N	^	n	~
1	1	1	1	1	15	15	15	SI	US	/	?	O	_	o	DEL

CONTROL FUNCTION DEFINITIONS

NUL	Null, or all zeros	DC1	Device control 1
SOH	Start of heading	DC2	Device control 2
STX	Start of text	DC3	Device control 3
ETX	End of text	DC4	Device control 4
EOT	End of transmission	NAK	Negative acknowledge
ENQ	Enquiry	SYN	Synchronous idle
ACK	Acknowledge	ETB	End of transmission block
BEL	Bell, or alarm	CAN	Cancel
BS	Backspace	EM	End of medium
HT	Horizontal tabulation	SUB	Substitute
LF	Line feed	ESC	Escape
VT	Vertical tabulation	FS	File separator
FF	Form feed	GS	Group separator
CR	Carrage return	RS	Record separator
SO	Shift out	US	Unit separator
SI	Shift in	SP	Space
DLE	Data link escape	DEL	Delete

TELERAY

PROGRAMMING GUIDE



Model 10

MAY, 1980

TELERAY



DIVISION OF
RESEARCH INC

BOX 24064 MINNEAPOLIS, MINNESOTA USA 55424
PHONE (612) 941-3300

FUNCTIONAL SUMMARY*

Operating Modes

Wide/Normal Characters	ESC m / ESC l
Enter/Leave Protect.	ESC W / ESC X
Keyboard Lock/Unlock	ESC b / ESC c
Disable/Enable Display	ESC e / ESC f
Reset to Initial State	ESC g

Operator Communications

Fields	(See FIELD MODIFIERS)
Search & Clear Delimiter	ESC S
Change I/O Baud	(See PROGRAMMABLE DATA RATES)
Bell	BEL (CTRL G)
Parity Error	Automatic S _B display

Programmable Functions

Define Function	ESC U then two digit number (01 to 32)
End Function Definition	ESC V
Transmit to Function	ESC N then 2-digit number (01 to 32)
Execute Function	ESC T then two digit number (01 to 32)

Peripheral Interface

Print All	ESC O (oh)
Peripheral On	DC2 (CTRL R)
Peripheral Off	DC4 (CTRL T)
Change Peripheral Baud	(See PROGRAMMABLE DATA RATES)

Transmits

Line	ESC i
Message	ESC I
Page	ESC Z

Buffer

Buffer Control Enable	ESC h
Busv/Ready	Automatic DC3 / DC1 codes
Buffer Protocol Disable	ESC g

Cursor Manipulation

One Up	ESC A
One Down	LF (ESC B or CTRL J)
One Right	ESC C or Space
One Left	BS (ESC D or CTRL H)
Home	ESC H
Absolute Position	(See CURSOR COORDINATE POSITIONING)
Position Read	ESC a
Tab Set	ESC F
Clear All Tabs	ESC G
Tab	HT (CTRL I)
Back Tab	ESC d

Clears and Edits

Clear EOL	ESC K
Clear EOP	ESC J
Clear Page	FF (ESC j or CTRL L)
Insert Character	ESC P
Delete Character	ESC Q
Insert Line	ESC L
Delete Line	ESC M

*Except dedicated keys or switches

PROGRAMMABLE DATA RATES

Serial I/O: ESC [...Then Character
Peripheral: ESC \ ...Then Character

Rate (Baud)	Char.	Rate (Baud)	Char.	Rate (Baud)	Char.
50	0	300	5	2400	:
75	1	600	6	3600	;
110	2	1200	7	4800	<
135.5	3	1800	8	7200	=
150	4	2000	9	9600	>
				Reserved	?

FIELD MODIFIERS

Unprotected: ESC R...then:	Field Characteristics	Protected: ESC R...then:
@	Normal (ends all others)	Q
A	Blink	*R
B	Dim	S
C	Dim, Blink	T
D	Inverse	U
E	Inverse, Blink	V
F	Inverse, Dim	W
G	Inverse, Dim, Blink	X
H	Underline	Y
I	Underline, Blink	Z
J	Underline, Dim	[
K	Underline, Dim, Blink	\
L	Underline, Inverse]
M	Underline, Inverse, Blink	^
N	Underline, Inverse, Dim	-
O	Underline, Inverse, Dim, Blink	p
	Protect Only	

NOTE: Refer to Instruction Manual regarding use of blink field modifier in place of blink, for secure fields.

CURSOR COORDINATE POSITIONING

ESC Y ... then Line Code ... then Column Code

LINE CODES		COLUMN CODES					
Line No.	Char.	Col. No.	Char.	Col. No.	Char.	Col. No.	Char.
1	Space	1	Space	28	;	55	V
2	!	2	!	29	<	56	W
3	"	3	"	30	=	57	X
4	#	4	#	31	>	58	Y
5	\$	5	\$	32	?	59	Z
6	%	6	%	33	@	60	[
7	&	7	&	34	A	61	\
8	'	8	'	35	B	62] ^
9	(	9	(	36	C	63	^
10	)	10	)	37	D	64	~
11	*	11	*	38	E	65	^
12	+	12	+	39	F	66	a
13	,	13	,	40	G	67	b
14	-	14	-	41	H	68	c
15	.	15	.	42	I	69	d
16	/	16	/	43	J	70	e
17	0	17	0	44	K	71	f
18	1	18	1	45	L	72	g
19	2	19	2	46	M	73	h
20	3	20	3	47	N	74	i
21	4	21	4	48	O	75	j
22	5	22	5	49	P	76	k
23	6	23	6	50	Q	77	l
24	7	24	7	51	R	78	m
		25	8	52	S	79	n
		26	9	53	T	80	o
		27	:	54	U		

Note: Any undefined coordinate character will be ignored.

CONTROL CHARACTERS

Control Character	Displayed As (Monitor Mode)	Press CONTROL and
ACK	A _K	F
BEL	B _L	G
BS*	B _S	H
CAN	C _N	X
CR*	C _R	M
DC1	D ₁	Q
DC2	D ₂	R
DC3	D ₃	S
DC4	D ₄	T
DLE	D _L	P
EM	E _M	Y
ENQ	E _Q	E
EOT	E _T	D
ESC*	E _C	[
ETB	E _B	W
ETX	E _X	C
FF	F _F	L
FS	F _S	|
GS	G _S	J
HT	H _T	I
LF*	L _F	J
NAK	N _K	U
NUL	N _L	2
RS	R _S	^
SI	S _I	O
SO	S _O	N
SOH	S _H	A
STX	S _X	B
SUB	S _B	Z
SYN	S _Y	V
US	U _S	?
VT	V _T	K

*Also dedicated keys for these codes.