

# **V.3225 and V.3225L Manual**

Compliments of

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## Appendix E Abbreviations and Acronyms

**GENERAL** This appendix contains terms commonly used in the data communications field.

<b>A</b>	<b>CCITT</b>	International Consultative Committee for Telegraph and Telephone Communications Control Unit
ABT	CCU	Carrier Detect
AC	CD	Call Failure Indication - Local DCE Busy
ACK	CFICB	Call Failure Indication - No Dial Tone
ACR	CFIDT	Call Failure Indication - No Answer Back Tone
ACU	CFINT	Call Failure Indication - Ringback Detected
ADD	CFIRT	Chassis Ground
ADDR	CIC	Connect Incoming Call
AGC	CMOS	Complementary Metal Oxide Semiconductor
ASCII	CNX	Connect Complete
AT&T	COM	Computer Output Microfilm
	CO	Central Office
	COS	Call Originate Status
	CPE	Customer Premise Equipment
	CPH	Characters Per Hour
	CPU	Central Processing Unit
	CR	Carriage Return
	CRC	Cyclic Redundancy Check
	CRQ	Call Request
	CSA	Canadian Standards Association
	CSDC	Circuit Switched Digital Capability
<b>B</b>	CSU	Channel Service Unit
BC	CSULL	Channel Service Unit Local Loopback
BCD	CTRL	Control Field
BER	CTS, CS	Clear to Send
BERT		
BIL LB		
Bit		
bps		
BSC		
BUFF		
<b>C</b>		
C		
CA		
CBX		
CC		

**E**  
Abbreviations and Acronyms

Abbreviations and Acronyms  
**E**

<b>D</b>	<b>DAA</b>	Data Access Arrangement (AT&T)	<b>EPRM</b>	Erasable Programmable Read Only Memory
	<b>Dataset</b>	Synonym for Modem (see Modem)	<b>ER</b>	Error
	<b>dB, db</b>	Decibel	<b>ESC</b>	Escape (key)
	<b>DC</b>	Direct Current OR Digital Connection	<b>ETB</b>	End of Block
	<b>DCE</b>	Data Circuit Terminating Equipment OR Data Communications Equipment	<b>ETC</b>	External Transmitt Clock
	<b>DCD</b>	Data Carrier Detect	<b>ETX</b>	End of Text
	<b>DCPSK</b>	Differentially Coherent Phase-Shift Keying	<b>EXT</b>	External
	<b>DDD</b>	Direct Distance Dialing	<b>F</b>	Feature Activator
	<b>DDS</b>	Digital Data Service OR Data-Phone Digital Service (AT&T)	<b>FA</b>	Fallback
	<b>DDS/MR</b>	Digital Data Service / Multi-Rate	<b>FB</b>	Federal Communications Commission
	<b>DIC</b>	Disregard Incoming Call	<b>FCC</b>	Frequency Division Modulation
	<b>Dip</b>	Dual In-line Package	<b>FDM</b>	Full-Duplex Transmission
	<b>DIS, DS</b>	Disable	<b>FDX</b>	Form Feed
	<b>DLE</b>	Data Link Escape	<b>FF</b>	Frame Ground
	<b>DLO</b>	Data Line Occupied	<b>FGND</b>	Flag
	<b>DMS</b>	Digital Multiplexer System	<b>FL</b>	Fixed loss loop
	<b>DOC</b>	Department of Communications (Canada)	<b>FLM</b>	Frequency Modulation
	<b>DOS</b>	Disk Operating System	<b>FM</b>	Test message (The quick brown fox jumps over the lazy dog) 0123456789
	<b>DPR</b>	Digit Present	<b>FSK</b>	Frequency-Shift Keying
	<b>DRS</b>	Data Rate Select	<b>FX</b>	Foreign Exchange
	<b>DSR</b>	Data Set Ready	<b>H</b>	High Level Data Link Control
	<b>DSU</b>	Data Service Unit	<b>HDL</b>	Half-Duplex Transmission
	<b>DTE</b>	Data Terminal Equipment	<b>HDX</b>	Half-Duplex Transmission
	<b>DTMF</b>	Dual Tone Multi Frequency	<b>Hz</b>	Hertz (cycles per second)
	<b>DTN</b>	Dial Tone Detected	<b>I</b>	Incoming Call
	<b>DTR</b>	Data Terminal Ready	<b>INC</b>	Invalid
	<b>E</b>	Extended Binary Coded Decimal Interchange Code (8 level)	<b>INV</b>	Invalid Command - Command Unknown
	<b>EBCDIC</b>	Electronic Industries Association Interface between DTE and Data Interchange Communication Equipment employing serial binary data	<b>INVCU</b>	Invalid Command - Message Syntax Error
	<b>EIA</b>	Electronic Industries Association	<b>INVMS</b>	Invalid Command - Parameter Syntax Error
	<b>EIA-232C</b>	Data Interchange Communication Equipment employing serial binary data	<b>INVP</b>	Invalid Command - Parameter Value Error
	<b>EIA-232D</b>	End of Message	<b>INVPV</b>	Invalid Command - Parameter Input / Output
	<b>EN</b>	Enabled	<b>IS</b>	International Standard Integrated Services Digital Network
	<b>ENQ</b>	Enquiry	<b>ISDN</b>	
	<b>EOA</b>	End of Address		
	<b>BOM</b>	End of Message		
	<b>EON</b>	End of Number		
	<b>EOT</b>	End of Text OR End of Transmission		
			<b>K</b>	Keyboard
			<b>KBD</b>	Keyboard
			<b>kbps</b>	Kilobits Per Second
			<b>L</b>	Local Analog Loopback
			<b>LAL</b>	Link Access Protocol - D Channel
			<b>LAPD</b>	Link Access Protocol for Modems
			<b>LAPM</b>	Link Access Protocol for Modems
			<b>LB OPTS</b>	Loopback Options
			<b>LCD</b>	Liquid Crystal Display OR Line Current Disconnect
			<b>LDL</b>	Local Digital Loopback
			<b>LDM</b>	Limited-Distance Modem
			<b>LED</b>	Light Emitting Diode
			<b>LF</b>	Line Feed
			<b>LINK</b>	Analog Telephone Line Connection
			<b>LL</b>	Local Loopback
			<b>LO</b>	Line Occupancy
			<b>LRC</b>	Longitudinal Redundancy Check
			<b>LSD</b>	Long Space Disconnect
			<b>LSI</b>	Large-Scale Integrated (circuit)
			<b>LSO</b>	List of Stored Options
			<b>LSV</b>	List Version
			<b>LT</b>	Loop or Link Termination
			<b>M</b>	Milliamps
			<b>MA</b>	Megahertz
			<b>MHz</b>	Modulator / Demodulator
			<b>MR</b>	Modem Ready
			<b>MR/RI</b>	Modem Ready / Ring Indicate
			<b>ms</b>	Millisecond
			<b>MUX</b>	Multiplexer
			<b>N</b>	Negative Acknowledgment
			<b>NAK</b>	Network Status
			<b>NET STAT</b>	Non Return to Zero
			<b>NRZ</b>	Non Return to Zero Inverted
			<b>NRZI</b>	No Signal
			<b>NS</b>	Network Termination
			<b>NT</b>	
			<b>O</b>	Off Hook
			<b>OH</b>	Out-of-Service
			<b>OS</b>	
			<b>P</b>	Private Branch Exchange
			<b>PBX</b>	Personal Computer
			<b>PC</b>	Printed circuit (board)
			<b>pc</b>	Power Indication
			<b>PW</b>	Pseudo random
			<b>PN</b>	Present Next Digit
			<b>PND</b>	Plain Old Telephone Service Primary
			<b>POTS</b>	Programmable
			<b>PRI</b>	Programmable Read Only Memory
			<b>PRO</b>	Restored Factory Straps
			<b>PROG, PR</b>	Power / Test Mode / Error
			<b>PROM</b>	Phase Shift Keying
			<b>PRP</b>	Public Service Telephone Network
			<b>PRRTM</b>	Power Indication
			<b>PSK</b>	
			<b>PSTN</b>	
			<b>PWI</b>	
			<b>Q</b>	Quadrature Amplitude Modulation
			<b>QAM</b>	
			<b>R</b>	Reference Designator
			<b>RAD</b>	Random Access Method
			<b>RAL</b>	Remote Analog Loopback
			<b>RAM</b>	Random Access Memory
			<b>RC</b>	Receive Clock
			<b>RCD</b>	Receiver-Carrier Detector
			<b>RCV, RCVR</b>	Receiver
			<b>RD</b>	Receive Data
			<b>RD/ER</b>	Receive Data / Error
			<b>RDI</b>	Receive Data Inhibit
			<b>RDL</b>	Remote Digital Loopback
			<b>RI</b>	Ring Indication
			<b>RL</b>	Remote Loopback
			<b>RLO</b>	Request List of Stored Options
			<b>RLSD</b>	Received Line Signal Detector
			<b>RLV</b>	Request List of Version

**E**  
Abbreviations and Acronyms

rms	Root-Mean-Square		
RMT LB	Remote Loopback		
RNG	Ringback Detection		
RO	Receive Only		
ROM	Read Only Memory		
RT	Remote Terminal		
RTS, RS	Request to Send		
RX	Receive		
<b>S</b>		<b>V</b>	
S or S/T	Reference Designator	V	CCITT Code Designation
SCC	Serial (or Satellite) Communications Controller	V.24	List of definitions for inter-change circuits between data terminal equipment and data circuit-terminating equipment (and provisional amendments, May 1977)
SD	Send Data		
SDLC	Synchronous Data Link Control (IBM)	Vac	Volts Alternating Current
		VAC	Value Added Carrier
		VAL	Valid
		Vdc	Volts Direct Current
SGND, SG	Signal Ground		
SH	Switch Hook		
SIM SW CR	Simulated Switched Carrier	<b>W</b>	
SNR	Signal / Noise Ratio	WATS	Wide Area Telecommunications Access Method (AT&T)
SPID	Service Profile Identifier		
SQD	Signal Quality Detector		
SQM	Signal Quality Monitor		
SS	Systems Status		
STX	Start of Text		
SYN	Synchronization Character	<b>X</b>	
<b>T</b>		XMIT	CCITT Recommendation Designation
T	Reference Designator	XOFF	Transmit
TA	Terminal Adapter	XON	Transmitter Off
TC	Terminal Clock	XTC	Transmitter On External Transmitt Clock
TD	Transmit Data		
TE	Terminal Equipment		
TEI	Terminal Endpoint Identifier		
TELECO	Telephone Company		
TELESET	Telephone Set		
TM	Test Mode		
TP	Test Pattern		
TR	Terminal Ready		
TST	Test		
TTD	Temporary Text Delay		
TTL	Transistor-to-Transistor Logic		
TX	Transmit		

**Appendix F**  
**ASCII and EBCDIC Character Table**

**GENERAL**

Hexadecimal equivalents of Binary and decimal numbers are illustrated in the following chart:

Binary	Decimal	Hexadecimal
0000	0	0
0001	1	1
0010	2	2
0011	3	3
0100	4	4
0101	5	5
0110	6	6
0111	7	7
1000	8	8
1001	9	9
1010	10	A
1011	11	B
1100	12	C
1101	13	D
1110	14	E
1111	15	F

Hexadecimal Examples:

0101	1011	= 5B hex
1001	1101	= 9D hex
1110	0010	= E2 hex

The following table lists the ASCII decimal, hexadecimal, equivalent character values, and EBCDIC characters. The table only goes as high as available keyboard symbols. Control keys are shown in the right column of the first table.

Appendix F  
ASCII and EBCDIC Character Table

ASCII Symbol	Decimal	HEX	EBCDIC	Control Key
(NUL)	0	00	NU (null)	@
(SOH)	1	01	SH (start of header)	A
(STX)	2	02	SX (start of text)	B
(ETX)	3	03	EX (end of text)	C
(EOT)	4	04	PF	D
(ENO)	5	05	HT (horizontal tab)	E
(ACK)	6	06	LC (lower case)	F
(BEL)	7	07	delete	G
(BS)	8	08	--	H
(HT)	9	09	--	I
(LF)	10	0A	(SMM)	J
(VT)	11	0B	VT (vertical tab)	K
(FF)	12	0C	FF (form feed)	L
(CR)	13	0D	CR (carriage return)	M
(SO)	14	0E	SO (shift out)	N
(SI)	15	0F	SI (shift in)	O
(DLE)	16	10	DL (data link escape)	P
(DC1)	17	11	D1 (device control 1)	Q
(DC2)	18	12	D2 (device control 2)	R
(DC3)	19	13	D3 (device control 3)	S
(DC4)	20	14	RE (restore)	T
(NAK)	21	15	NL (new line)	U
(SYN)	22	16	BS (back space)	V
(ETB)	23	17	IL (light)	W
(CAN)	24	18	CN (cancel)	X
(EM)	25	29	EM (end of message)	Y
(SUB)	26	1A	CC	Z
(ESC)	27	1B	C1 (CU1)	[
(FS)	28	1C	FS (form separator)	\
(GS)	29	1D	GS (group separator)	]
(RS)	30	1E	RS (record separator)	^
(US)	31	1F	US (unit separator)	DEL
(SP)	32	20	DS	--
	33	21	SS (SOS)	--
	34	22	--	--
#	35	23	--	--

Appendix F  
ASCII and EBCDIC Character Table

ASCII Symbol	Decimal	HEX	EBCDIC
\$	36	24	CP (by pass)
%	37	25	LF (line feed)
&	38	26	EB (end of block)
'	39	27	EC (escape)
(	40	28	--
)	41	29	--
*	42	2A	SM
+	43	2B	C2 (CU2)
,	44	2C	--
-	45	2D	EQ (enquiry)
.	46	2E	AK (acknowledgment)
/	47	2F	BL (bell)
0	48	30	--
1	49	31	--
2	50	32	SY (sync)
3	51	33	--
4	52	34	PN
5	53	35	--
6	54	36	UC (uppercase)
7	55	37	ET (end of transmission)
8	56	38	--
9	57	39	--
:	58	3A	--
;	59	3B	C3 (CU3)
<	60	3C	D4 (device control 4)
=	61	3D	NK (no acknowledgment)
>	62	3E	--
?	63	3F	SB (substitute)
@	64	40	space
A	65	41	--
B	66	42	--
C	67	43	--
D	68	44	--
E	69	45	--
F	70	46	--
G	71	47	--
H	72	48	--

Appendix F  
ASCII and EBCDIC Character Table

ASCII Symbol	Decimal	HEX	EBCDIC
i	73	49	-
j	74	4A	¢ (cent)
k	75	4B	. (period)
l	76	4C	< (less than)
m	77	4D	( (open parenthesis)
n	78	4E	+ (plus)
o	79	4F	-
p	80	50	& (ampersand)
q	81	51	-
r	82	52	-
s	83	53	-
t	84	54	-
u	85	55	(leading pad)
v	86	56	-
w	87	57	-
x	88	58	-
y	89	59	-
z	90	5A	! (exclamation)
[	91	5B	\$ (dollar sign)
\	92	5C	* (asterisk)
]	93	5D	) (close parenthesis)
^	94	5E	: (semicolon)
_	95	5F	^ (caret or ~)
`	96	60	-
a	97	61	/ (ACK1)
b	98	62	-
c	99	63	-
d	100	64	-
e	101	65	-
f	102	66	-
g	103	67	-
h	104	68	-
i	105	69	-
j	106	6A	-
k	107	6B	-
l	108	6C	%
m	109	6D	-

Appendix F  
ASCII and EBCDIC Character Table

ASCII Symbol	Decimal	HEX	EBCDIC
n	110	6E	>
o	111	6F	?
p	112	70	ACK0
q	113	71	-
r	114	72	-
s	115	73	-
t	116	74	-
u	117	75	-
v	118	76	-
w	119	77	-
x	120	78	-
y	121	79	' (single quote)
z	122	7A	: (colon)
{	123	7B	# (pound)
	124	7C	@ (at)
)	125	7D	' (apostrophe)
~	126	7E	= (equal)
DEL	127	7F	" (double quote)
-	128	80	-
-	129	81	a
-	130	82	b
-	131	83	c
-	132	84	d
-	133	85	e
-	134	86	f
-	135	87	g
-	136	88	h
-	137	89	i
-	138	8A	-
-	139	8B	-
-	140	8C	s (less than or equal)
-	141	8D	(
-	142	8E	+
-	143	8F	†
-	144	90	-
-	145	91	

Decimal	HEX	EBCDIC
146	92	k
147	93	l
148	94	m
149	95	n
150	96	o
151	97	p
152	98	q
153	99	r
154	9A	s
155	9B	t
156	9C	u
157	9D	v
158	9E	w
159	9F	x
160	A0	y
161	A1	z
162	A2	{
163	A3	}
164	A4	~
165	A5	
166	A6	
167	A7	
168	A8	
169	A9	
170	AA	
171	AB	
172	AC	
173	AD	
174	AE	 (greater than or equal)
175	AF	
176	B0	S0 (SM0)
177	B1	S1 (SM1)
178	B2	S2 (SM2)
179	B3	S3 (SM3)
180	B4	S4 (SM4)
181	B5	S5 (SM5)
182	B6	S6 (SM6)

Decimal	HEX	EBCDIC
183	B7	S7 (SM7)
184	B8	S8 (SM8)
185	B9	S9 (SM9)
186	BA	
187	BB	
188	BC	
189	BD	 (close bracket)
190	BE	 (not equal)
191	BF	
192	C0	{ (open brace)
193	C1	A
194	C2	B
195	C3	C
196	C4	D
197	C5	E
198	C6	F
199	C7	G
200	C8	H
201	C9	I
202	CA	J
203	CB	K
204	CC	 (unprintable character)
205	CD	
206	CE	 (unprintable character)
207	CF	
208	D0	 (close bracket)
209	D1	
210	D2	K
211	D3	L
212	D4	M
213	D5	N
214	D6	O
215	D7	P
216	D8	Q
217	D9	R
218	DA	S

Decimal	HEX	EBCDIC
219	DB	-
220	DC	-
221	DD	-
222	DE	-
223	DF	-
224	E0	\ (back slash)
225	E1	-
226	E2	S
227	E3	T
228	E4	U
229	E5	V
230	E6	W
231	E7	X
232	E8	Y
233	E9	Z
234	EA	-
235	EB	-
236	EC	(unprintable character)
237	ED	-
238	EE	-
239	EF	-
240	F0	0
241	F1	1
242	F2	2
243	F3	3
244	F4	4
245	F5	5
246	F6	6
247	F7	7
248	F8	8
249	F9	9
250	FA	-
251	FB	-
252	FC	-
253	FD	-
254	FE	-
255	FF	(trailing pad)

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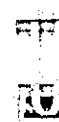
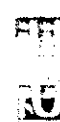
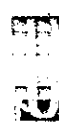
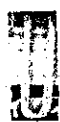
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