

DCA Cmd	Meaning	XyWrite Translation
TPR	Tab Parameters, Right to Left	<<LBTPR. . .>>
TUFC	Text Unit Format Change	Format header only; no command generated.
TUP	Text Unit Prefix	Prefix only; no command generated.
UBS	Unit Backspace	<<LBUBS. . .>>
WUS	Word Underscore	The preceding word is underscored in the current mode.
ZICR	Zero Index Carrier Return	<<LBZICR. . .>>

The logo for XyWrite, featuring the word "XyWrite" in a cursive script font, positioned above a thick, dark diagonal bar that tapers to the right.

INTRO

DCA (Document Content Architecture) is a standard format developed by IBM to allow the use of documents on different types of word processors. There are two DCA formats: Revisable Form and Final Form. XYQUEST's DCA Conversion Program converts XyWrite documents into DCA Revisable Form documents. You can also use the Conversion Program to convert DCA Revisable Form documents into XyWrite documents.

Because many word processing packages contain utilities that convert from and to DCA format, DCA provides an intermediate stage for word processed documents. For example, you can take XyWrite documents and convert them into Revisable Form DCA documents. Then, using a utility provided by another word processor, you can convert the DCA documents into the format used by that word processor.

The **X2D** command converts XyWrite documents into DCA documents. The **D2X** command converts DCA documents into XyWrite documents.

NOTE #1

File Transfer. XYQUEST's DCA Conversion Program does not perform the transfer or communication of documents from one computer to another. You must supply a separate communications package to handle the document transfer.

NOTE #2

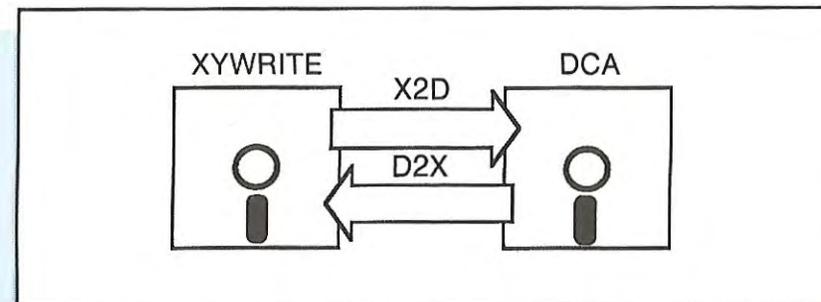
Installation. If you are using a hard disk drive, we recommend that you copy the programs X2D.EXE and D2X.EXE from the XyWrite Word Processor Disk into your XyWrite subdirectory. Otherwise, copy them onto your working disk.

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NOTE #3

Character Sets. The Revisable Text Form of IBM's DCA format uses a superset of the EBCDIC character set, rather than the ASCII character set used by XyWrite and many other word processors. Because of the different character sets, the conversion programs may encounter a character for which they find no equivalent. When that happens, the programs discard the characters that can't be translated.

For example, the ASCII character set includes double quotation marks ("), but the DCA character set does not. When you convert a XyWrite file into DCA Revisable Form, X2D discards the double quote characters. Similarly, the DCA character set includes a registered trademark, but the ASCII character set does not. If you convert a DCA revisable text form document into XyWrite format, D2X discards any registered trademark symbols that appear in the file.

If your files contain characters for which there are no equivalents, you may want to edit them before running the conversion programs. Refer to Appendix A of this document for a list of characters in the DCA character set; refer to Appendix A of the *XyWrite III Plus Reference Guide* for the ASCII character set.

FORMAT **CM** DO X2D *d:filename d:targetfile*

- *filename* is the name of the file to be converted.
- *targetfile* (optional) is the file where the converted document is stored. If this filename is omitted, the document is stored in *filename.DCA*.
- *d:* (optional) specifies the drive.

PURPOSE

The **X2D** command, which runs under DOS, converts most XyWrite embedded commands into DCA formatting commands. If X2D encounters a XyWrite embedded command that has no DCA equivalent (see Note #1), it discards that command.

The XyWrite-DCA conversion summary in Appendix B lists the XyWrite embedded commands and special characters that have a DCA equivalent, and shows how X2D translates them.

ACTION

Converting a XyWrite File into a DCA File

To convert a file that contains XyWrite embedded commands into one that contains Document Content Architecture formatting commands:

1. Make sure the program X2D.EXE is on the current disk (or in your XyWrite subdirectory if you have a hard drive).
2. Have in mind the name of the file you want to convert. We'll use CHAPTER.DOC.
3. Decide on a name for the target file. We'll use CHAPTER.TRN. (If you omit this name, X2D will add the extension ".DCA" to the input filename, e.g., CHAPTER.DCA.)

4. Run the X2D program with the DO command.

Type: `[F5]do x2d chapter.doc chapter.trn`

Result: The original file, CHAPTER.DOC, remains intact. A new file, called CHAPTER.TRN, contains DCA formatting commands in place of XyWrite embedded commands. This file is in EBCDIC (Extended Binary Coded Decimal Interchange Code) format, so you cannot edit it.

NOTE #1

Exceptions. DCA is a formatting standard, and therefore does not have equivalents for many of the special features that are part of XyWrite. Specifically, the following XyWrite functions are not available in DCA:

- Snaking Columns
- Date and Time
- Mail Merge
- Automatic Numbering (counters and reference commands)
- Index and Table of Contents generation
- Most printer control commands (Include, Printer Insert, Printer Control, AutoPause)

Because there is no DCA equivalent, X2D discards the commands associated with the functions listed above. (Appendix B contains a list of all XyWrite commands that are converted; if a command does not appear in this list, it is discarded by X2D.) In addition, X2D discards all of the PC graphics characters (lines, boxes, etc.) that are part of the extended ASCII character set.

NOTE #2

Default Settings. X2D does not convert format settings (e.g., page length, form depth, etc.) that you establish with the DEFAULT command, whether it is issued from the command line or included in the startup or printer file. Be sure to embed in your documents all of the formatting commands that you want to convert. Otherwise, X2D uses the built-in XyWrite default values.

NOTE #3

Message Reporting. If you run X2D with the DO command and X2D encounters an error while processing your file, the error message appears on your screen for only an instant before you are returned to XyWrite. When errors occur, you may want to exit to DOS and rerun the X2D program. When you issue X2D in this way, the messages are displayed on the screen until you exit DOS. To run the X2D program with the DOS command:

Type: `[F5]dos`

At the DOS prompt:

Type: `x2d chapter.doc chapter.trn`

To return to XyWrite, at the DOS prompt:

Type: `exit`

Refer to the *XyWrite Reference Guide* for more information on using the DOS command.

NOTE #4

Soft Carriage Returns. X2D generates a DCA soft return at the right margin.

NOTE #5

Font Handling. There is a conceptual difference between the way DCA and XyWrite handle font styles. DCA embeds font commands right into its structure, which means that you cannot modify them. On the other hand, XyWrite separates font commands to give you maximum flexibility when printing your document.

When converting XyWrite files into DCA, X2D assumes the Printer Tables are set up as follows: PT1 is 10 pitch; PT2 is 12 pitch; and PT3 is proportional type. All other styles default to PT1.

FORMAT **CM DO D2X** *d:filename d:targetfile/m*

- *filename* is the name of the file to be converted.
- *targetfile* (optional) is the file where the converted document is stored. If this filename is omitted, the document is stored in *filename.XY*.
- *d:* (optional) specifies the drive.
- */m* (optional) is one of the following modifiers:
 - /l* Omit the LB (Label) commands. See Note #1.
 - /r* Convert the DCA RSP (required space) and NSP (numerical space) to a normal space. The default is to convert RSP and NSP to a hard space character.
 - /s* Substitute spaces for soft carriage returns.
 - /w* Suppress the display of the "bad field" messages. See Note #2.

PURPOSE The **D2X** command, which runs under DOS, converts most DCA formatting commands into XyWrite embedded commands. If D2X encounters a recognized DCA formatting command that has no XyWrite equivalent, it converts that command into a special type of LB (Label) command (see Note #1). The special LB commands identify the type of DCA formatting command encountered, followed by the data from the formatting command in hexadecimal format.

Refer to Appendix C for a summary of command conversions.

ACTION **Converting a DCA File into a XyWrite File**
To convert a file that contains Document Content Architecture formatting commands into a file that contains XyWrite embedded commands:

1. Make sure the program D2X.EXE is on the current disk (or in your XyWrite subdirectory if you have a hard drive).
2. Have in mind the name of the file you want to convert. We'll use CHAPTER.DOC.
3. Decide on a name for the target file. We'll use CHAPTER.TRN. (If you omit this name, D2X will add the extension ".XY" to the input filename, e.g., CHAPTER.XY.)

4. Run the D2X program with the DO command.

Type: `[F5]do d2x chapter.doc chapter.trn[↵]`

Result: The original file, CHAPTER.DCA, remains intact. A new file, called CHAPTER.TRN, contains the XyWrite embedded commands in place of DCA formatting commands. (Refer to the DCA-XyWrite Conversion Summary in Appendix C for a list of command substitutions.)

NOTE #1 **Omitting Label Commands.** When D2X encounters a DCA command for which it has no equivalent, it generates an LB command. If you would prefer to have D2X omit the LB commands, use the */l* option with the command. For example:

Type: `[F5]do d2x chapter.doc chapter.trn/l[↵]`

NOTE #2 **Unrecognized Structures.** When D2X encounters a DCA structure that it does not recognize, it displays a message that gives you the byte address (within the file) where the structure occurred, the unknown class and type codes, and a summary of the number of occurrences. The unrecognized structures fall into three categories:

- Unrecognizable structure field (SF)
- Unknown multibyte control structure (MBC)
- Undefined self-identifying parameters (SIP) with the SF or MBC

To turn off the display of these messages (except the summary, which is always reported), use the */w* option with the D2X command.

NOTE #3 **Foreign Language Characters.** The DCA character set includes more foreign language characters than the ASCII character set. When D2X encounters an accented character, it converts it to the equivalent unaccented character. For example, D2X converts an E to an E.

NOTE #4 **Font Handling.** There is a conceptual difference between the way DCA and XyWrite handle font styles. DCA embeds font commands right into its structure, which means that you cannot modify them. On the other hand, XyWrite separates font commands to give you maximum flexibility when printing your document.

When converting DCA files into XyWrite, D2X assumes the Printer Tables are set up as follows: PT1 is 10 pitch; PT2 is 12 pitch; and PT3 is proportional type. All other styles default to PT1.

NOTE #5 **Message Reporting.** If you run D2X with the DO command and D2X encounters an error while processing your file, the error message appears on your screen for only an instant before you are returned to XyWrite. When errors occur, you may want to exit to DOS and rerun the D2X program. When you issue D2X in this way, the messages are displayed on the screen until you exit DOS. To run the D2X program with the DOS command:

Type: `[F5]dos[Enter]`

At the DOS prompt:

Type: `d2x chapter.doc chapter.trn[Enter]`

To return to XyWrite, at the DOS prompt:

Type: `exit[Enter]`

Refer to the *XyWrite Reference Guide* for more information on using the DOS command.

INTRO

The Revisable Text Form of IBM's DCA format uses a superset of the EBCDIC character set, rather than the ASCII character set used by XyWrite and many other word processors. The following table lists the DCA character set, and indicates how the D2X command handles characters for which there is no ASCII equivalent.

Backspace		One-fourth	¼
Unit backspace		One-half	½
Numeric backspace		Three-fourths**	¾
Space		Micro	μ
Required space		Square	²
Numeric space		Cube**	³
Eight ones**		Registered trademark**	®
a through z	a—z	Spanish exclamation	¡
A through Z	A—Z	Spanish question mark	¿
0 through 9	0—9	Intern'l currency symbol	¤
Period	.	Pound sign, lira	£
Comma	,	Yen	¥
Colon	:	Paseta	₧
Semicolon	;	Florin, gilder	f
Apostrophe	'	Logical NOT	¬
Quotation mark	"	Logical OR**	∨
Exclamation point	!	Overbar**	—
Question mark	?	Underscore	_
Left parenthesis	(Double underscore***	=
Right parenthesis)	Vertical broken line	
Open square bracket	[a circumflex	â
Close square bracket]	a diaeresis	ä
Open brace	{	a grave	à
Close brace	}	a acute	á
Less than sign	<	a tilde*	ã
Greater than sign	>	a angstrom	Å
European open quote	«	a underscore	
European close quote	»	A circumflex*	Â
Degree	°	A diaeresis	Ä
Equal sign	=	A grave*	À
Plus sign	+	A acute*	Á
Minus sign, hyphen	-	A tilde*	Ã
Syllable hyphen	-	A angstrom	Å
Plus-minus sign	±	c cedilla	ç
Ampersand	&	C cedilla	Ç
Asterisk	*	d stroke*	đ
Slash	/	D stroke*	Ð
Backslash	\	e acute	é
Percent sign	%	e circumflex	ê
Number sign	#	e diaeresis	ë
At sign	@	e grave	è
Dollar sign	\$	E acute	É
Cent sign	¢	E circumflex*	Ê
Section sign	§	E diaeresis*	Ë
Paragraph sign	¶	E grave*	È

i acute	ï	O slash*	Ø
i circumflex	î	u circumflex	û
i diaeresis	ï	u diaeresis	ü
i grave	ì	u grave	ù
l acute*	í	u acute	ú
l circumflex*	î	U circumflex*	Û
l diaeresis*	ï	U diaeresis*	Ü
l grave*	ì	U grave*	Ù
Dotless i*	ı	U acute*	Ú
n tilde	ñ	y diaeresis	ÿ
N tilde	Ñ	y acute*	Ý
o circumflex	ô	Y acute*	Ÿ
o diaeresis	ö	Acute	'
o grave	ò	Cedilla**	¸
o acute	ó	Circumflex	ˆ
o tilde*	õ	Diaeresis*	¨
o slash*	ø	Grave	˘
o underscore	◌◌	Tilde	˜
O circumflex*	Ô	ae diphthong	æ
O diaeresis	Ö	AE diphthong	Æ
O grave*	Ò	German sharp s	ß
O acute*	Ó	Lowercase thorn**	þ
O tilde*	Õ	Uppercase thorn**	Þ

*D2X converts these characters to the equivalent unaccented character.

**D2X discards these characters.

***D2X converts this to a single underscore.

NOTES

XYWRITE-DCA CONVERSION SUMMARY

XyWrite Cmd	Meaning	DCA Translation
BB	Breakable Block	EK
BT	Bottom Margin	PIP
CT	Column Table	BCL
EC	End Column	ECL
FC	Flush Center	ATF (center).
FD	Form Depth	PIP
FL	Flush Left	LP (align left) if at the beginning of the file; otherwise, SLP (align left).
FM	Footnote Format	NFP (the 'line parameter' and 'tab parameter' fields)
FN	Footnote	NR
FR	Flush Right	LP (align right) if at beginning of the file; otherwise SLP (align right).
FS	Footnote Separator	NFP (the 'rule' field)
FT	Footnote Transition	NFP (note spacing value).
FW	Footnote Wrap Separator	NFP (the 'continued from text' field)
IP	Indent Paragraph	STAB and IT; the first tab value is the Indent Paragraph value. (This value is the 1st argument if at start of a paragraph and is the second one if in the paragraph body.)
JU	Justify	LP (100% justify) if at beginning of the file; otherwise SLP (100% justify).
LD	Leader	Expand the leader character in the line.
LM	Left Margin	LP/SLP (left margin value)
LS	Line Spacing	LP if at beginning of the file; otherwise SLP.

XyWrite Cmd	Meaning	DCA Translation
MD BO	Bold Mode	EUS/EOS, then BB
MD BU	Bold Underline Mode	EOS, then BUS/BB
MD FL	Flashing Mode	EB/EUS, then BOS
MD FR	Flashing Reverse Mode	BOS/BUS/BB
MD FU	Flashing Underline Mode	EB, then BOS/BUS
MD NM	Normal Mode	EB/EUS/EOS
MD SB	Subscript Mode	SBS
MD SO	Flashing Bold Mode	EUS, then BOS/BB
MD SU	Superscript Mode	SPS
MD UL	Underline Mode	EB/EOS, then BUS
NB	Non-Breakable Block	BK
NJ	No Justify	LP (0% justify) if at beginning of the file; otherwise SLP (0% justify).
PA/PR	Pause	DPS
PL	Page Length	PIP (the max page image length)
PT	Print Type	LP/SLP (the font attribute)
RFA	Running Footer, All Pages	MPB and MTBA
RFE	Running Footer, Even Pages	MPB and MTBE
RFO	Running Footer, Odd Pages	MPB and MTBO
RHA	Running Head, All Pages	MPT and MTTA
RHE	Running Head, Even Pages	MPT and MTTE
RHO	Running Head, Odd Pages	MPT and MTTO
RM	Right Margin	LP/SLP (right margin value)
RT	Relative Tabs	TP (with current values based on left margin) if at beginning of the file; otherwise STAB (with current values based on left margin).
SF	Set Footnote Number	Use the page value for footnote's text unit number.
SP	Set Page Number	Use the page value for the text unit number.

XyWrite Cmd	Meaning	DCA Translation
TC	Tab Clear	TP (with no value) if at the beginning of the file; otherwise, STAB (with no value).
TP	Top Margin	PIP
TR	Tab Reset	TP (with default values) if at the beginning of the file; otherwise, STAB (with default values).
TS	Tab Set	TP (with specified values) if at the beginning of the file; otherwise STAB (with specified values).
SPECIAL CHARACTER CONVERSIONS		
XyWrite Character	DCA Translation	
Tab	HT	
Carriage Return	RCR	
Hyphen	HYP	
Space	SP	
FF,2,0	RSP	
FF,0,8	BS	

DCA-XYWRITE CONVERSION SUMMARY

Note When D2X encounters a recognized DCA formatting command for which it has no equivalent, it generates an LB (Label) command. The LB command identifies the type of formatting command encountered (e.g., LBDP represents the Document Parameters command), followed by the data from the formatting command (in hexadecimal). This data is represented below by three dots.

If you would prefer to have D2X omit the LB commands, include the /l option when you run D2X. (See "Converting DCA Files into XyWrite Files.")

DCA Cmd	Meaning	XyWrite Translation
AMF	Alternate Master Format	Format header only; no command generated.
AO	Outline Level	<<LBAO. . .>>
AOP	Auto-Outline Parameters	<<LBAOP. . .>>
ATF	Align Text Field	<<FC>>
ATL	Align Text Line	<<FL>>, <<FR>>, or <<FC>>
BCL	Begin Column Layout	<<CTn1,n2,n3. . .>>
BES	Begin Emphasis	<<MDBO>>
BFT	Begin Formatted Text	Marks start of formatted text. Also generates <<LBBFT. . .>>.
BK	Begin Keep	<<NB>>
BLFC	Begin Line Format Change	Format header only; no command generated.
BLM	Begin Linguistic Mark	<<LBBLM. . .>>
BOS	Begin Overstrike	<<MDFL>>
BR	Begin Reverse	<<MDRV>>
BRH	Begin Running Header	<<LBBRH. . .>>
BS	Backspace	Outputs backspace.
BT	Body Text	Sets start of text data; no command generated.
BUS	Begin Underscore	<<MDUL>>
CNT	Count	<<LBCNT. . .>>

DCA Cmd	Meaning	XyWrite Translation
CRE	Carrier Return	This command is ignored unless the /s option is used with the D2X command.
CRH	Cancel Running Header	«LBCRH. . .»
CRT	Character Replacement Table	«LBCRT. . .»
CWB	Conditional Word Break	Generates a soft hyphen.
DP	Document Parameters	«LBDP. . .»
DPS	Display Prompt and Stop	«PAmessagE»
EAM	Establish Alternate Master Format	Outputs commands associated with the alternate style (same as EPM).
ECL	End Column Layout	«EC»
EES	End Emphasis	«MDnn» (returns to appropriate mode)
EFT	End Formatted Text	Marks end of formatted text. Also generates «LBEFT. . .».
EK	End Keep	«BB»
ELFC	End Line Format Change	Format header only; no command generated.
ELM	End Linguistic Mark	«LBELM. . .»
EO	Eight Ones	«LBEO. . .»
EOS	End Overstrike	«MDnn» (returns to appropriate mode)
EPM	Establish Primary Master Format	Outputs commands associated with primary style (i.e., «BT», «TP», «FD», «PT», «RM», «LM», «LS», «FL», «FR», «FC», «TS», «SP», «PR», «FM», «FS», «FW»).
ER	End Reverse	«MDnn» (returns to appropriate mode)
ERH	End Running Header	«LBERH. . .»
EUP	End Unit Prefix	Prefix only; no command generated.

DCA Cmd	Meaning	XyWrite Translation
EUS	End Underscore	«MDnn» (returns to appropriate mode)
FUP	Format Unit Prefix	Prefix only; no command generated.
HT	Horizontal Tab	Outputs tab character.
HYP	Required Hyphen	Outputs hyphen.
IEG	Insert Escaped Graphic	«LBIEG. . .»
INS	Insert	«LBINS. . .»
INX	Index	«LBINX. . .»
IRT	Index Return	«LBIRT. . .»
IT	Indent Tab	«IPm,n»
ITRY	Index Entry	«LBITRY. . .»
IU	Include Unit	Copies the "included" text unit into the file.
LINX	Locate Index	«LBLINX. . .»
LN	Line Numbering	«LBN. . .»
LP	Line Parameters	«PTn», «RMn», «LMn», «LSn», and «FL», «FR», or «FC»
LPO	Locate Process Output	«LBLPO. . .»
LTOC	Locate Table-of-Contents	«LBLTOC. . .»
MPB	Margin Text Parameters, Bottom	«BTn»
MPT	Margin Text Parameters, Top	«TPn»
MTBA	Margin Text, Bottom, All	«RFA. . .»
MTBE	Margin Text, Bottom, Even	«RFE. . .»
MTBO	Margin Text, Bottom, Odd	«RFO. . .»
MTTA	Margin Text, Top, All	«RHA. . .»
MTTE	Margin Text, Top, Even	«RHE. . .»
MTTO	Margin Text, Top, Odd	«RHO. . .»
NBS	Numeric Backspace	Outputs ff,0,8.

DCA Cmd	Meaning	XyWrite Translation
NFP	Note Format Parameters	«FM. . .» «FS. . .», «FW. . .»
NR	Note Reference	«FN <i>text</i> »
NSP	Numeric Space	Outputs hard space unless /r option is used with D2X command.
NTR	Note Text Reference	«LBNTR. . .»
NUL	Null	This command is ignored.
OHT	Outline Heading Text	«LBOHT. . .»
OM	Operator Message	«PR <i>message</i> »
PDAT	Print Date	«LBPDAT. . .»
PDI	Print Document Information	«LBPDI. . .»
PE	Page End	This command is ignored.
PFA	Punctuation Format, Arithmetic Parameters	«LBPFA. . .»
PFC	Punctuation Format, Character Parameters	«LBPFC. . .»
PFP	Page Formatting Parameters	«BT <i>n</i> » and «TP <i>n</i> »
PIN	Page Image Numbering	«SP <i>n</i> »
PIP	Page Image Parameters	«BT <i>n</i> », «TP <i>n</i> », «FD <i>n</i> » and «PL <i>n</i> »
PM	Print Medium	«LBPM. . .»
PMF	Primary Master Format	Format header only; no command generated.
PPIN	Page Number	«PN <i>n</i> »
PTIM	Print Time	«LBPTIM. . .»
PTUN	Page Number	«PN <i>n</i> »
RCR	Required Carrier Return	Outputs carriage return character.
RLM	Release Left Margin	«LBRLM. . .»
RMF	Return to Master Font	«PT <i>n</i> » (reestablishes Printer Table from primary style).

DCA Cmd	Meaning	XyWrite Translation
RMLF	Return to Master Line Format	«PT <i>n</i> », «RM <i>n</i> », «LM <i>n</i> », «PT <i>n</i> », and «FL», «FR», or «FC» (Reestablishes values from primary style.)
RPE	Required Page End	«PG»
RSP	Required Space	Outputs hard space unless the /r option is used with the D2X command.
RTMF	Return to Master Format	Reestablishes commands associated with primary style (Same commands as EPM).
SBS	Subscript	«MDS <i>D</i> » (if in normal mode) or «MDN <i>M</i> » (if in subscript mode).
SCG	Set GCGID through GCID	No command generated.
SFG	Set CFID through GFID	«PT <i>n</i> »
SHY	Syllable Hyphen	Outputs soft hyphen.
SKIP	Skip Lines	«LBSKIP. . .»
SLP	Set Line Parameters	«PT <i>n</i> », «RM <i>n</i> », «LM <i>n</i> », «LS <i>n</i> », and «FL», «FR», or «FC»
SP	Space	Outputs space character.
SPS	Superscript	«MDSU» (if in normal mode) or «MDNM» (if in superscript mode).
SSCA	Set Spelling Check Attributes	«LBSSCA. . .»
STAB	Set Tabs (Horizontal)	«TS <i>n1,n2,n3. . .</i> »
STC	Set Text Color	«LBSTC. . .»
STOP	Stop	«LBSTOP. . .»
SVA	Set Visual Attribute	«LBSVA. . .»
SUB	Substitute	«LBSUB. . .»
TP	Tab Parameters	«TS <i>n1,n2,n3,...</i> »