PLATO to IBM office system 6
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PLATO to IBM Office System 6 documentation.
1) File setup for processing

Text to be sent to an IBM OS/6 may be prepared in
any PLATO "lesson space" if due attention is paid to
the format needed for the intended processing mode.

PLATO's "alternate font" characters have specific
meanings when they are translated to IBM's
word-processing EBCDIC code. In order to use these,
micro set 'symbol' and character set 'symbol' from
lesson "ibmdoc" should always be used while editing.

For production use, it may be reasonable to attach
lesson "ibmdoc" as a "processor lesson" to the
lesson space used for file preparation.

PLATO to IBM Office System 6 documentation.
2) Processing modes

Three processing modes are available:

1) Minimal mode, in which all control characters
   must be explicitly inserted by the user. Text
   preparation in this mode is most difficult, but
   it allows the most direct use of the IBM OS/6.

2) Paragraph processing, in which control characters
   are automatically inserted between paragraphs.
   The rules for text preparation in this mode are
   similar to those for using the W option in the
   PLATO system text editor except that paragraphs
   may cross block bounds. This mode should be used
   for most text processing.

3) Line mode, in which required carriage returns
   are inserted after each line. This mode should
   be used for programs or listings.

For examples and additional information about one of
these modes, press the associated number, or

press NEXT for control character documentation, or
      BACK to return to the documentation index.

PLATO to IBM Office System 6 documentation.
2.1) Minimal processing mode

In minimal processing mode, all control characters
must be explicitly inserted in the text (see section
3 for control character documentation).   The
following example shows the relation between the
source text and the resulting typed output.

Source:
    ▩This word will be underlined, and so will
    this▩.   The following will be indented: ▩▩
    ▩Underline this also▩▩▩▩____ and then
    con=tin=ue the text while indenting.   ▩
    This text will not be indented.

Result:
        This word will be underlined, and so
    will this.   The following will be indented:

        Underline this also and then continue
        The text while indenting.
    This text will not be indented.

Press NEXT for paragraph mode documentation, or
        BACK to return to the processing mode index.

In paragraph processing mode, roughly justified paragraphed text will be transmitted. Blank lines, and lines starting with a space are paragraph delimiters. Leading five space indents will be replaced with tabs, and trailing sentance delimiters (any of ".!:?") will have two spaces appended.
The text of this section could be transmitted in paragraph mode and would be typed as it is displayed, with the exception of new justification to fit the page size that the typewriter is set for.

Blank lines between paragraphs are preserved in processing.

Unindented paragraphs separated by blank lines work quite well.

Justification of tabular or specially formatted material may be prevented by a leading blank on each line.

PLATO to IBM Office System 6 documentation.
2.3) Line processing mode

Not much to say here!

Press NEXT or BACK for the processing mode index.

PLATO to IBM Office System 6 documentation.
3) Control characters

In the absence of control characters, the IBM OS/6
will perform ragged text justification. The
following control characters may be used to override
or modify these default functions:

1) Spaces and backspaces: ▨▨▨ ▨▨▨▨

2) Underscores and hyphens: ▁▨=-

3) Superscripts and subscripts: ▨▨

4) Line endings: ▨ ▨ ▨ ▨

5) Page endings: ▨ ▨

6) Odds and ends: 1▨▨▨ ▨ ▨

To see detailed documentation on a group of control
characters, press the associated number, or

press NEXT to see character font documentation, or
       BACK to return to the documentation index.

PLATO to IBM Office System 6 documentation.
3.1) Space and backspace control characters

▉ micro shift space   (EBCDIC/WP BS=X'16') ◆□b◆
▉ micro ⇦   (NBS=X'36') ◆□↑n◆
▉ micro shift ⇦   (UBS=X'1A') ◆□↑b◆
    ▉ and PLATO's backspace are normal backspaces in
    terms of print positions (which vary in width for
    proportionally spaced type fonts). ▉ is a fixed
    backspace, the width of one numeral. ▉ is a 1/60
    inch backspace good only in proportional fonts.

  space   (SP=X'40') _
  micro space   (RSP=X'41') ◆□/◆
▉   (NSP=X'E1') ◆□n◆
    Spaces are word delimiters for the purposes of
    text justification. "⌴" prints as space, but is
    not a word delimiter. ▉ like ▉ has a fixed size.

▉ micro shift tab   (HT=X'05') ◆□h◆
▉ micro tab   (IT=X'39') ◆□↑h◆
    ▉ is a tab, ▉ is a tab that sets the left margin
    at the next tab stop until the next ▉ or ▉. Tab
    stops are set every five spaces by default.

press NEXT to see hyphens and underscores, or
      BACK to return to the control character index.

PLATO to IBM Office System 6 documentation.
3.2) Underscore and hyphen control characters

- dash (or minus)   (EBCDIC/WP RHY=X'60') -
▭ micro dash   (SHY=X'CA') ◆▫d◆
    The required hyphen "-" always prints as a dash,
    while the "▭" is used to signal syllable division
    to the text justifier so that it can hyphenate
    long words at line ends.

▉ micro shift 6   (WUS=X'23') ◆▫m◆
▉ (also micro i)
    Word underscore ▉ is used to underscore the
    previous word. Manual underscoring (◆◆◆___) will
    produce similar results except when proportional
    spacing is in use, and then ▉ will always work
    better. The previous word is defined as the
    previous string of printing characters or
    required spaces, so "a b␣c▉" will print "a b c".

press NEXT to see superscripts and subscripts, or
      BACK to return to the control character index.

3.3) Superscript and subscript control characters

▓ micro super   (EBCDIC/WP SPS=X'Ø9') ◆▫↑a◆
▓ micro sub   (SBS=X'38')   ◆▫a◆
   Super and subscript ▓▓ may also be sent with the
   normal PLATO shifted or unshifted SUPER and SUB
   codes.   It should be noted that the IBM version
   of superscripting is 1/2 line up and down instead
   of 1/3 line, as it is on PLATO, and also that the
   IBM version will not do double superscripting,
   and thus that "a▓b▓c▓▓" will not print correctly.
   (to fix this, use multiple lines, keeping in mind
   that IBM uses 1/2 vertical spaces for ▓ and ▓.)

press NEXT to see line endings, or
      BACK to return to the control character index.

PLATO to IBM Office System 6 documentation.
3.4) line ending control characters

▨   (EBCDIC/WP CRE=X'1E') ◆▫c◆
   Carrier return normally prints as space, and its
   main use is to separate unjustified source lines
   as they are stored on mag-cards. In paragraph
   processing mode, a ▨ is appended to each line.

▨ micro shift sub   (INX=X'25') ◆▫l◆
   Index or line feed ▨ (also micro-shift-SUB on
   PLATO) advances one line. IBM didn't provide
   anything to match PLATO's micro-shift-SUPER.

▨ micro shift next   (IRT=X'33') ◆▫i◆
▨ micro next   (RCR=X'06') ◆▫↑c◆
   Index return ▨ and required carriage return ▨
   serve the same function when printing: Begin a
   new print line, end justification of any previous
   paragraph, and end margin indenting set by any
   previous ▨. The sequence ▨▨ is a good way to
   separate paragraphs; ▨ should normally be used
   otherwise. IBM provides both for historic
   reasons only.

press NEXT to see page endings, or
      BACK to return to the control character index.

PLATO to IBM Office System 6 documentation.
3.5) Page ending control characters

▮ micro copy   (EBCDIC/WP PE=X'ØC') ◆□f◆
    Form feed or page end ▮ is automatically placed
    at the end of each PLATO block in all processing
    modes. It terminates recording on the current
    mag card.

▦ micro shift copy   (EOP=X'3A') ◆□↑f◆
▦ (also micro 3)
    Required page end ▦ serves the same purposes as
    ▮ and also forces the end of a printed page.

press NEXT to see odds and ends, or
        BACK to return to the control character index.

PLATO to IBM Office System 6 documentation.
3.6) Miscelaneus control characters

1 one   (EBCDIC   1=X'93') 1
1 micro one   (1=X'F1') ◆□○◆
   For the sake of compatability with common word
   processing practice, the numeral "1" is converted
   to the letter "l". If the numeral "1" must be
   preserved in the output, use "1".

▇   (EBCDIC/WP RPT=X'ØA') ◆□↑○◆
▇   (SW=X'2A') ◆□↑i◆
   ▇ causes repetition of the previous text (from
   the start). ▇ interchanges input media.

▇   ◆□g◆
                                                ◆□e◆
   ▇ is always ignored in processing! ▇ causes
   processing of any following material to be
   terminated. Don't use these! They exist only
   so that PLATO can control processing in the PPT.

press NEXT or BACK for the control character index.

PLATO to IBM Office System 6 documentation.
4) Character sets and keyboard layouts

In principle, the IBM OS/6 supports the following
character set, where the first two rows can be
presented in three different fonts:

ABCDEFGHIJKLMNOPQRSTUVWXYZ° !@#$%¢&* () _+¼ [":,.?
abcdefghijklmnopqrstuvwxyz±1234567890-=½] ';,./

∇∞ΨΦ←‹∧¶↑› §Ω∂∿↓ℓΓΘΣ→ΞαΔ≡Υ≅≥√° {}±\[] () _©Πσ· ˆ`‡∫
αβψφ∈□λη ιϑκωμνορψθστξ×δχυζ≤ 1234567890 ®πφ÷ ¨´˜ ~

Access to the different versions of the normal font
will eventually be made possible with codes ▦▦▦.
Not all of these symbols are really accessable (due
to IBM's odd design). Those that are accessable
are documented in the following sections, indexed
by the way in which they are accessed:

    1) Normal and shifted PLATO keyboards.
    2) Alternate font "symbol" keyboards.
    3) Micro "symbol" keyboards.

To see a keyboard layout, press a number, or
press BACK to return to the documentation index, or
        NEXT for hardware documentation.

PLATO to IBM Office System 6 documentation.
4.1) Normal and shifted PLATO keyboard

Press SHIFT and a key (at the same time) for these:

<	>	[	]	$	%	_	'	*	(	)	⬆	⬇		
IGNR	Σ	Q	W	E	R	T	Y	U	I	O	P			
	Δ	A	S	D	F	G	H	J	K	L	:			
		shft	Z	X	C	V	B	N	M	"	!	?	shft	

backspace (⬅)

Press a key alone for these:

Ø	1	2	3	4	5	6	7	8	9	=	⬆	⬇		
⬆	+	q	w	e	r	t	y	u	i	o	p			
	-	a	s	d	f	g	h	j	k	l	;			
÷	×		z	x	c	v	b	n	m	,	.	/		

space

PLATO to IBM Office System 6 documentation.
4.2) Alternate font "symbol" keyboards.

Use SHIFT and FONT MICRO before and after these keyboards

Press SHIFT and a key (at the same time) for these:

A keyboard layout showing keys with these symbols:

Row 1:) √ ° { } ± \ [ ] (© ⊛ ⊛ [ ] [ ]
Row 2: IGNR Π Γ Δ ← Θ → Υ Ξ ↑ ↓ ℓ [ ] fnt [ ]
Row 3: [ ] _ ∇ Σ Φ < Λ ¶ > § Ω ^ [ ] [ ] [ ]
Row 4: · ¼ shft ≅ ≡ Ψ ∝ ∞ ∼ ∂ ` ‡ ∫ shft [ ]
backspace (←)

Press a key alone for these:

A keyboard layout showing keys with these symbols:

Row 1: 0 1 2 3 4 5 6 7 8 9 ® ⊛ ⊛ [ ]
Row 2: ⊛ π γ δ ε θ τ υ ξ ι ο ρ [ ] fnt [ ]
Row 3: ¢ = α σ φ □ λ η ϑ κ ω ¨ ⊛ [ ] [ ]
Row 4: ÷ ½ [ ] ζ χ ψ × β ν μ ´ ˜ ~ [ ] [ ]
space

PLATO to IBM Office System 6 documentation.
4.3) Micro "symbol" keyboards.

Use FONT MICRO as a prefix for each key from these

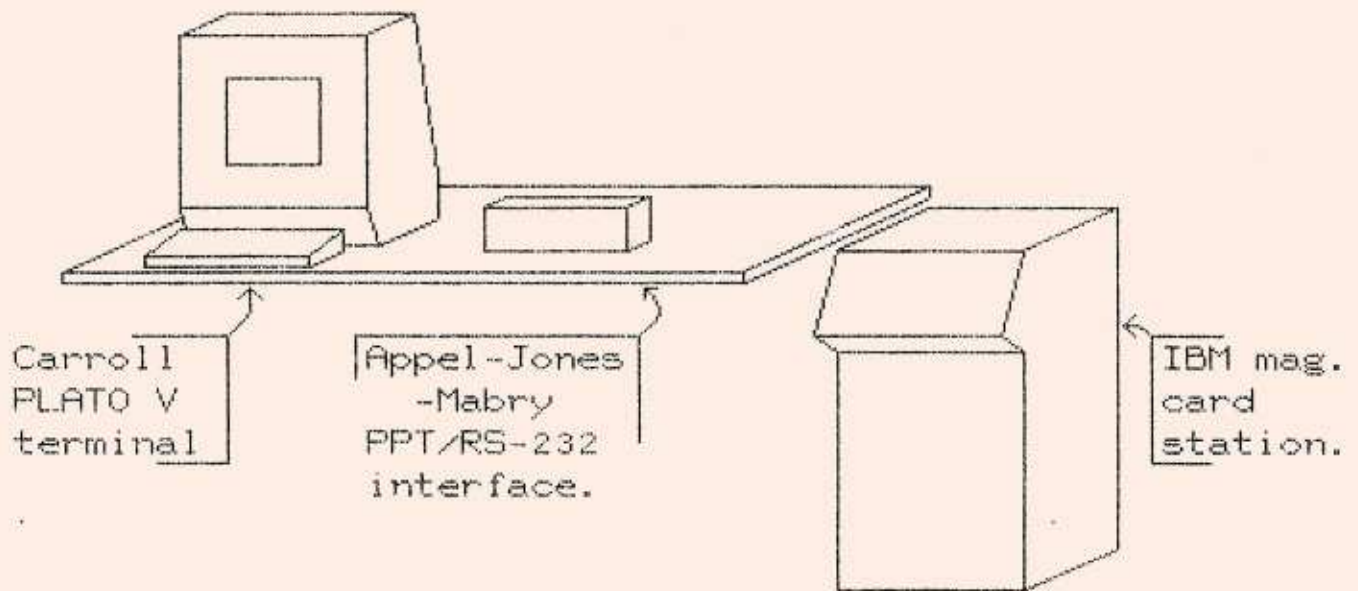Press SHIFT and a key (at the same time) for these:

```
┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐ ┌───┐┌───┐┌───┐┌───┐┌───┐ ┌───┐┌───┐ ┌───┐
│ ≤ ││ ≥ ││ { ││ } ││ # ││   │ │ █ ││   ││   ││   ││   │ │LF ││   │ │TR │
└───┘└───┘└───┘└───┘└───┘└───┘ └───┘└───┘└───┘└───┘└───┘ └───┘└───┘ └───┘
  ┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐
  │ █ ││   ││   ││ ↑ ││   ││   ││   ││ Υ ││   ││ Π ││   ││mic││   │
  └───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘│ro │└───┘
   ┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐
   │ █ ││ ← ││ Σ ││ → ││ Φ ││ Γ ││   ││ K ││ Λ ││ ♀ ││ █ ││   ││   │
   └───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘
  ┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐
  │   ││   ││   ││   ││ ↓ ││ Ψ ││   ││   ││   ││   ││   ││   ││   ││   │
  └───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘
              ┌─────────────────────────┐
              │           █             │
              └─────────────────────────┘
```

Press a key alone for these:

```
┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐ ┌───┐┌───┐┌───┐ ┌───┐┌───┐┌───┐ ┌───┐
│   ││   ││   ││TR ││   ││ @ │ │   ││   ││   │ │ █ ││ █ ││   │ │ Π │
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  ┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐
  │ █ ││ & ││   ││ ε ││ ρ ││ τ ││   ││ υ ││ ι ││ ο ││ π ││mic││   │
  └───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘│ro │└───┘
   ┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐
   │ █ ││ ━ ││ α ││ σ ││ δ ││ φ ││ γ ││   ││ κ ││ λ ││ ♂ ││ █ ││   │
   └───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘
  ┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐┌───┐
  │   ││   ││   ││   ││ χ ││ ψ ││   ││ β ││ ν ││ μ ││   ││   ││   ││   │
  └───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘└───┘
              ┌─────────────────────────┐
              │           █             │
              └─────────────────────────┘
```

PLATO to IBM Office System 6 documentation.
5) Hardware Requirements

Carroll
PLATO V
terminal

Appel-Jones
-Mabry
PPT/RS-232
interface.

IBM mag.
card
station.

Note: The cable between the A-J-M PPT/RS232 box and
the IBM box must be specially constructed.

Press NEXT for the cable documentation.
Press BACK to return to the documentation index.

How to make the cable to connect the A-J-M box to
the IBM communicating mag card station:

```
           IBM        PLATO
Pin        1          1          Protective Ground
           2          3          Data ----->
           3          2          Data <-----
           4,5                   RTS -> CTS ----xx
           6          20         DSR <----- DTR
           7          7          Signal Ground
           15,17      24         TxC + RxC <----- Clock
                      4,5        xx---- RTS -> CTS
           20         6          DTR -----> DSR
           23,22                 DRS -- Ring -----xx
                      23,22      xx----- DRS -- Ring
           24         15,17      Clock -----> TxC + RxC
```

Both ends should be female 25-pin delta connectors.
The cable should be no longer than 20 feet.