



Title:

Philips GP300 Printer: Character Sets

Author:

John M. Murison

Contact:

Advisory service

Software Support

Category:

See Note 15

Synopsis

Two Philips GP300 high quality printers are accessible from the EMAS or BUSH mainframes. They are known by the device names

.DP15

Location: Job Reception, ERCC, KB

.DP25

Location: Job Reception, Appleton Tower

This Note gives details of the fonts currently provided on these devices, and how to generate them using the text formatters DPLAY and DPLIST. Information on how to generate non-standard characters is given at the end of the Note.

Technical Summary

The GP300 is a 'dot-matrix' printer. This means that each letter or symbol is constructed from closely-spaced dots arranged in a grid (or 'matrix'). The dots are produced by 'firing' needles held in the print-head against the ribbon, and thus imprinting black dots on the paper.

Dot matrix printers are now quite common. The GP300 printer differs from most of those currently available in the high density of dots that it can produce, and thus in the quality of the result. The print-head needles are arranged in two columns, each containing 9 needles spaced $1/72$ " apart. One column is displaced vertically with respect to the other, so that the vertical distance between two dots on the page can be as little as $1/144$ ". The horizontal distance between dots depends on the motion of the print-head and the timing of the firing of the needles. In some fonts this distance can be less than two thousandths of an inch.

The selection of fonts provided by ERCC is taken from a large range. There is a limit on the number of fonts which any one printer can contain, however, and so only fonts which are likely to be of general use have been chosen. Suggestions for changing or extending the fonts provided should be directed to Mr J. Phillips, ERCC, 59 George Square.

Keywords

documentation, .DP, DPLAY, DPLIST, font, GP300, printer

THE GOTHIC FONTS

Gothic prop sp	(DPLAY font 2; DPLIST font 'gps')
Gothic 12cpi	(DPLAY font 0; DPLIST font 'g12')
Gothic 10cpi	(DPLAY font 1; DPLIST font 'g10')

This text is in Gothic proportional spacing font; it is referred to by the text formatter DPLAY (a version of LAYOUT) as font 2, and by the formatter DPLIST as 'gps'. Fonts 0 and 1, Gothic 12 characters per inch and Gothic 10 characters per inch respectively, are similar to this font except that they give each symbol, whether a 'W' or a '.', the same width - 1/12" for font 0 and 1/10" for font 1.

This is a sample of Gothic 12cpi (DPLAY font 0, DPLIST font 'g12'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

This is a sample of Gothic 10cpi (DPLAY font 1, DPLIST font 'g10'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

The following capabilities of the printer can be demonstrated:

Bold printing, which is useful for headings

Underlined printing, which can also be used for headings
or to emphasize text

Text which has a slightly larger vertical spacing. This section, for example, is spaced at 1.5 instead of single spacing, as above, and is often preferred for running text in a thesis or other document, with tables given in single spacing. Double spacing is also available, but is not demonstrated here. This section is also right-justified.

(Now back to single spacing.) The printer can also give one superscripts and subscripts:

$$A^i = A^{i-1} + C/A^{i-2} \quad - \text{Equation 1}$$

$$B_j = B_{j-1}^2 - 0.6 B_{j-2} + 0.003 B_{j-3} \quad - \text{Equation 2}$$

(In these two lines the Micro 15cpi font was used for superscripts and subscripts.)

Combinations of these facilities are also possible: here is some underlined text with the first word bold also.

It is also possible to mix fonts in a document: adjacent words - even adjacent letters - can be in different fonts. However, there are few uses of this facility **WHICH** do not look **VERY** messy!

GOTHIC PS

DPLIST mnemonic: gps

DPLAY font number: 2

Each column is made up of:

Decimal value

Standard ASCII graphic

Gothic ps graphic

The quick brown fox jumps

over the lazy dog.

32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/

48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?

64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O

80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_

96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o

112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
p	q	r	s	t	u	v	w	x	y	z	{		}	~	
p	q	r	s	t	u	v	w	x	y	z	{		}	~	

Other Gothic Fonts:

Font 0: g12

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`
 ~'abcdefghijklmnopqrstuvwxyz{|}~

Font 1: g10

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`
 ~'abcdefghijklmnopqrstuvwxyz{|}~

THE GOTHIC BOLD FONTS

Gothic Bold prop sp	(DPLAY font 5; DPLIST font 'gbps')
Gothic Bold 12cpi	(DPLAY font 3; DPLIST font 'gb12')
Gothic Bold 10cpi	(DPLAY font 4; DPLIST font 'gb10')

This text is in Gothic Bold proportional spacing font; it is referred to by the text formatter DPLAY (a version of LAYOUT) as font 5, and by the formatter DPLIST as 'gbps'. Fonts 3 and 4, Gothic Bold 12 characters per inch and Gothic Bold 10 characters per inch respectively, are similar to this font except that they give each symbol, whether a 'W' or a '.', the same width 1/12" for font 3 and 1/10" for font 4.

This is a sample of Gothic Bold 12cpi (DPLAY font 3, DPLIST font 'gb12'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

This is a sample of Gothic Bold 10cpi (DPLAY font 4, DPLIST font 'gb10'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

The following capabilities of the printer can be demonstrated:

Extra bold printing, which is useful for headings

Underlined printing, which can also be used for headings or to emphasize text

Text which has a slightly larger vertical spacing. This section, for example, is spaced at 1.5 instead of single spacing, as above, and is often preferred for running text in a thesis or other document, with tables given in single spacing. Double spacing is also available, but is not demonstrated here. This section is also right justified.

(Now back to single spacing.) The printer can also give one superscripts and subscripts:

$$A^i = A^{i-1} + C/A^{i-2} \quad \text{-- Equation 1}$$

$$B_j = B_{j-1}^2 - 0.6 B_{j-2} + 0.003 B_{j-3} \quad \text{-- Equation 2}$$

(In these two lines the Micro 15cpi font was used for superscripts and subscripts.)

Combinations of these facilities are also possible: here is some underlined text with the first word extra bold also.

It is also possible to mix fonts: adjacent words - even adjacent letters - can be in different fonts.

GOTHIC BOLD PS

DPLIST mnemonic: gbps

DPLAY font number: 5

Each column is made up of:

Decimal value

Standard ASCII graphic

Gothic Bold ps graphic

The quick brown fox jumps

over the lazy dog.

32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/

48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?

64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Q	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Q	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O

80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_

96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o

112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
p	q	r	s	t	u	v	w	x	y	z	{		}	~	
p	q	r	s	t	u	v	w	x	y	z	{		}	~	

Other Gothic Bold Fonts:

Font 3: gb12

Font 4: gb10

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`
 ~abcdefghijklmnopqrstuvwxyz{|}~

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`
 ~abcdefghijklmnopqrstuvwxyz{|}~

THE COURIER FONTS

Courier prop sp	(DPLAY font 8; DPLIST font 'cps')
Courier 12cpi	(DPLAY font 6; DPLIST font 'c12')
Courier 10cpi	(DPLAY font 7; DPLIST font 'c10')

This text is in Courier proportional spacing font; it is referred to by the text formatter DPLAY (a version of LAYOUT) as font 8, and by the formatter DPLIST as 'cps'. Fonts 6 and 7, Courier 12 characters per inch and Courier 10 characters per inch respectively, are similar to this font except that they give each symbol, whether a 'W' or a '.', the same width - 1/12" for font 6 and 1/10" for font 7.

This is a sample of Courier 12cpi (DPLAY font 6, DPLIST font 'c12'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

This is a sample of Courier 10cpi (DPLAY font 7, DPLIST font 'c10'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

The following capabilities of the printer can be demonstrated:

Bold printing, which is useful for headings

Underlined printing, which can also be used for headings or to emphasize text

Text which has a slightly larger vertical spacing. This section, for example, is spaced at 1.5 instead of single spacing, as above, and is often preferred for running text in a thesis or other document, with tables given in single spacing. This section is also right-justified.

(Now back to single spacing.) The printer can also give one superscripts and subscripts:

$$A^j = A^{j-1} + C/A^{j-2} \quad - \text{Equation 1}$$

$$B_j = B_{j-1}^2 - 0.6 B_{j-2} + 0.003 B_{j-3} \quad - \text{Equation 2}$$

(The Micro 15cpi font was used for superscripts and subscripts.)

Combinations of these facilities are also possible: here is some underlined text with the first word bold also.

It is also possible to mix fonts in a document: adjacent words - even adjacent letters - can be in different fonts.

COURIER PS

DPLIST mnemonic: cps

DPLAY font number: 8

Each column is made up of:

Decimal value

Standard ASCII graphic

Courier ps graphic

The quick brown fox jumps

over the lazy dog.

32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/

48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?

64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Ⓐ	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O

80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_

96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o

112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
p	q	r	s	t	u	v	w	x	y	z	{		}	~	
p	q	r	s	t	u	v	w	x	y	z	{		}	~	

Other Courier Fonts:

Font 6: c12

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_
 `abcdefghijklmnopqrstuvwxyz{|}~

Font 7: c10

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_
 `abcdefghijklmnopqrstuvwxyz{|}~

THE MICRO FONTS

Micro 15cpi	(DPLAY font 11; DPLIST font 'm15')
Micro 12cpi	(DPLAY font 9; DPLIST font 'm12')
Micro 10cpi	(DPLAY font 10; DPLIST font 'm10')

This is a sample of Micro 15cpi (DPLAY font 11, DPLIST font 'm15'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

This is a sample of Micro 12cpi (DPLAY font 9, DPLIST font 'm12'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

This is a sample of Micro 10cpi (DPLAY font 10, DPLIST font 'm10'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

The following capabilities of the printer can be demonstrated:

Bold printing, which is useful for headings

Underlined printing, which can also be used for headings
or to emphasize text

Text which has a slightly larger vertical spacing. This section, for example, is spaced at 1.5 instead of single spacing, as above, and is often preferred for running text in a thesis or other document, with tables given in single spacing. Double spacing is also available, but is not demonstrated here. This section is also right-justified.

(Now back to single spacing.) The printer can also give one superscripts and subscripts:

$$A^i = A^{i-1} + C/A^{i-2} \quad - \text{Equation 1}$$

$$B_j = B_{j-1}^2 - 0.6 B_{j-2} + 0.003 B_{j-3} \quad - \text{Equation 2}$$

Combinations of these facilities are also possible: here is some underlined text with the first word bold also.

It is also possible to mix fonts in a document: adjacent words - even adjacent letters - can be in different fonts. However, there are few uses of this facility **WHICH** do not look **VERY** messy!

MICRO 15

DPLIST mnemonic: m15

DPLAY font number: 11

Each column is made up of:

Decimal value

The quick brown fox jumps

Standard ASCII graphic

over the lazy dog.

Micro 15 graphic

32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/

48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?

64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Q	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Q	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O

80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_

96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o

112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
p	q	r	s	t	u	v	w	x	y	z	{		}	~	
p	q	r	s	t	u	v	w	x	y	z	{		}	~	

Other Micro Fonts:

Font 9: m12

Font 10: m10

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`
 ~abcdefghijklmnopqrstuvwxyz{|}~

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`
 ~abcdefghijklmnopqrstuvwxyz{|}~

THE ORATOR FONTS

Orator prop sp	(DPLAY font 14; DPLIST font 'ops')
Orator 12cpi	(DPLAY font 12; DPLIST font 'o12')
Orator 10cpi	(DPLAY font 13; DPLIST font 'o10')

THIS TEXT IS IN ORATOR PROPORTIONAL SPACING FONT; IT IS REFERRED TO BY THE TEXT FORMATTER 'DPLAY' (A VERSION OF LAYOUT) AS FONT 14, AND BY THE FORMATTER 'DPLIST' AS 'OPS'. FONTS 12 AND 13, ORATOR 12 CHARACTERS PER INCH AND ORATOR 10 CHARACTERS PER INCH RESPECTIVELY, ARE SIMILAR TO THIS FONT EXCEPT THAT THEY GIVE EACH SYMBOL IN THE FONT THE SAME WIDTH - 1/12" FOR FONT 12 AND 1/10" FOR FONT 13.

THIS IS A SAMPLE OF ORATOR 12CPI (DPLAY FONT 12, DPLIST FONT 'O12'). NOTICE THAT WHEN TEXT IN THIS FONT IS NOT RIGHT-JUSTIFIED (AS THIS IS NOT), THE CHARACTER POSITIONS ON EACH LINE ARE EXACTLY ALIGNED WITH THE CHARACTER POSITIONS ON ADJACENT LINES. THIS IS WHY 'FIXED FONTS' (AS THEY ARE CALLED) ARE NORMALLY USED IN TABULAR MATERIAL.

THIS IS A SAMPLE OF ORATOR 10CPI (DPLAY FONT 13, DPLIST FONT 'O10'). NOTICE THAT WHEN TEXT IN THIS FONT IS NOT RIGHT-JUSTIFIED (AS THIS IS NOT), THE CHARACTER POSITIONS ON EACH LINE ARE EXACTLY ALIGNED WITH THE CHARACTER POSITIONS ON ADJACENT LINES. THIS IS WHY 'FIXED FONTS' (AS THEY ARE CALLED) ARE NORMALLY USED IN TABULAR MATERIAL.

THE FOLLOWING CAPABILITIES OF THE PRINTER CAN BE DEMONSTRATED:

EXTRA BOLD PRINTING, WHICH IS USEFUL FOR HEADINGS

UNDERLINED PRINTING, WHICH CAN ALSO BE USED FOR HEADINGS OR TO EMPHASIZE TEXT

TEXT WHICH HAS A SLIGHTLY LARGER VERTICAL SPACING. THIS SECTION, FOR EXAMPLE, IS SPACED AT 1.5 INSTEAD OF SINGLE SPACING, AS ABOVE, AND IS OFTEN PREFERRED FOR RUNNING TEXT IN A THESIS OR OTHER DOCUMENT, WITH TABLES GIVEN IN SINGLE SPACING. DOUBLE SPACING IS ALSO AVAILABLE, BUT IS NOT DEMONSTRATED HERE. THIS SECTION IS ALSO RIGHT-JUSTIFIED.

(NOW BACK TO SINGLE SPACING.) THE PRINTER CAN ALSO GIVE ONE SUPERSCRIPTS AND SUBSCRIPTS:

$$A^i = A^{i-1} + C/A^{i-2} \quad \text{-- Equation 1}$$

$$B_j = B_{j-1}^2 - 0.6 B_{j-2} + 0.003 B_{j-3} \quad \text{-- Equation 2}$$

(IN THESE TWO LINES THE MICRO 15CPI FONT WAS USED FOR SUPERSCRIPTS AND SUBSCRIPTS.)

COMBINATIONS OF THESE FACILITIES ARE ALSO POSSIBLE: **HERE IS SOME UNDERLINED TEXT WITH THE FIRST WORD BOLD ALSO.**

ORATOR PS

DPLIST mnemonic: ops

DPLAY font number: 14

Each column is made up of:

Decimal value

Standard ASCII graphic

Orator ps graphic

**THE QUICK BROWN FOX JUMPS
OVER THE LAZY DOG.**

32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/

48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?

64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O

80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_

96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O

112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
p	q	r	s	t	u	v	w	x	y	z	{		}	~	
P	Q	R	S	T	U	V	W	X	Y	Z	()	~	

Other Orator Fonts:

Font 12: o12

Font 13: o10

!"£\$%&'()*+,-./0123456789:;<=>?
@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_
`ABCDEFGHIJKLMNPOQRSTUVWXYZ{|}~

!"£\$%&'()*+,-./0123456789:;<=>?
@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_
`ABCDEFGHIJKLMNPOQRSTUVWXYZ{|}~

THE GOTHIC ITALIC FONTS

Gothic Italic prop sp	(DPLAY font 17; DPLIST font 'gips')
Gothic Italic 12cpi	(DPLAY font 15; DPLIST font 'gi12')
Gothic Italic 10cpi	(DPLAY font 16; DPLIST font 'gi10')

This text is in Gothic Italic proportional spacing font; it is referred to by the text formatter DPLAY (a version of LAYOUT) as font 17, and by the formatter DPLIST as 'gips'. Fonts 15 and 16, Gothic Italic 12 characters per inch and Gothic Italic 10 characters per inch respectively, are similar to this font except that they give each symbol, whether a 'W' or a '.', the same width - 1/12" for font 15 and 1/10" for font 16.

This is a sample of Gothic Italic 12cpi (DPLAY font 15, DPLIST font 'gi12'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

This is a sample of Gothic Italic 10cpi (DPLAY font 16, DPLIST font 'gi10'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

The following capabilities of the printer can be demonstrated:

Bold printing, which is useful for headings

Underlined printing, which can also be used for headings or to emphasize text.

Text which has a slightly larger vertical spacing. This section, for example, is spaced at 1.5 instead of single spacing, as above, and is often preferred for running text in a thesis or other document, with tables given in single spacing. Double spacing is also available, but is not demonstrated here. This section is also right-justified.

(Now back to single spacing.) The printer can also give one superscripts and subscripts:

$$A^i = A^{i-1} + C/A^{i-2} \quad - \text{Equation 1}$$

$$B_j = B_{j-1}^2 - 0.6 B_{j-2} + 0.003 B_{j-3} \quad - \text{Equation 2}$$

(In these two lines the Micro 15cpi font was used for superscripts and subscripts.)

Combinations of these facilities are also possible: here is some underlined text with the first word bold also.

It is also possible to mix fonts in a document: adjacent words - even adjacent letters - can be in different fonts.

GOTHIC ITALIC PS

DPLIST mnemonic: gips

DPLAY font number: 17

Each column is made up of:

Decimal value

Standard ASCII graphic

Gothic Italic ps graphic

The quick brown fox jumps

over the lazy dog.

32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/

48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?

64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Q	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Q	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O

80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_

96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o

112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
p	q	r	s	t	u	v	w	x	y	z	{		}	~	
p	q	r	s	t	u	v	w	x	y	z	{		}	~	

Other Gothic Italic Fonts:

Font 15: gi12

Font 16: gi10

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]`~
 `abcdefghijklmnopqrstuvwxyz{|}~

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]`~
 `abcdefghijklmnopqrstuvwxyz{|}~

THE SCIENTIFIC FONTS

Scientific prop sp	(DPLAY font 20; DPLIST font 'scps')
Scientific 12cpi	(DPLAY font 18; DPLIST font 'sc12')
Scientific 10cpi	(DPLAY font 19; DPLIST font 'sc10')

The three Scientific fonts are given in the table opposite. They comprise the complete Greek alphabet (upper and lower case), symbols for drawing boxes (these were used in preparing the table), and various mathematical and other symbols.

At the time of writing, there is no software available to facilitate the production of mathematical formulae; it is therefore necessary to find the standard ASCII symbol corresponding to the required graphic (e.g. '?' for '±', 'z' for 'Θ'). Thus, to obtain the following using the Scientific proportional spacing font:

$$\xi + \pi/2 \leq \theta^2 \approx \psi$$

it is necessary, when using DPLAY, to give the following:

$$\xi + \pi/2 \leq \theta^2 \approx \psi$$

To use the Scientific 12cpi font instead, each occurrence of \$20 in this line should be replaced by \$18. This produces:

$$\xi + \pi/2 \leq \theta^2 \approx \psi$$

To use the Scientific 10cpi font, \$19 should be used, producing:

$$\xi + \pi/2 \leq \theta^2 \approx \psi$$

SCIENTIFIC PS

DPLIST mnemonic: scps

DPLAY font number: 20

Each column is made up of:

Decimal value

Standard ASCII graphic

Scientific ps graphic

Υθε ρφιγλ βσοψΞ ζow κφνπτ

οχεσ υθε μα®™ δονf

32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/
	◊	ℓ	~	■	◊	±	≡	≈	∞	∞	∞	∥	√	∫	∂

48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
—		Γ	γ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	ℓ	•	◊	≠	≠	±

64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
◊	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
◊	A	B	Γ	Δ	E	Z	H	Θ	I	K	Λ	M	N	Ξ	O

80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
π	P	Σ	T	Υ	φ	X	Ψ	Ω	Γ	ℓ	ℓ	ℓ	ℓ	ℓ	Ξ

96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
°	α	β	γ	δ	ε	ζ	η	θ	ι	κ	λ	μ	ν	ξ	ο

112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
p	q	r	s	t	u	v	w	x	y	z	{		}	~	
π	ρ	σ	τ	υ	φ	χ	ψ	ω	™	©	®	†	‡	—	

Other Scientific Fonts:

Font 18: sc12

◊ℓ~■◊±≡≈∞∞∞∥√∫∂-|ΓℓHτ†•◊#>±
 ♦AΒΓΔΕΖΗΘΙΚΑΜΝΞΟΠΡΣΤΥΦΧΨΩ{||} }Ξ
 °αβγδεζηθικλμνξοπρστυφχψω™©®†‡

Font 19: sc10

◊ℓ~■◊±≡≈∞∞∞∥√∫∂-|ΓℓHτ†•◊#>±
 ♦AΒΓΔΕΖΗΘΙΚΑΜΝΞΟΠΡΣΤΥΦΧΨΩ{||} }Ξ
 °αβγδεζηθικλμνξοπρστυφχψω™©®†‡

THE GREEK FONTS

Greek prop sp	(DPLAY font 23; DPLIST font 'grps')
Greek 12cpi	(DPLAY font 21; DPLIST font 'gr12')
Greek 10cpi	(DPLAY font 22; DPLIST font 'gr10')

The Greek fonts contain the same symbols, up to code 64 decimal, as the corresponding Gothic fonts. Thereafter the Greek alphabet is given, in the transliteration normally used by Greek scholars.

Note that diacritical accents are not available, and that 'S' and 's' are used within the Greek alphabet (corresponding to 'V' and 'v'), as the final form of sigma.

Greek proportional spacing

ΙΛΙΑΔΟΣ Α
Μηνιν αειδε, θεα, Πηληιαδεω Αχιλλης
ουλομενην, η μυρι Αχαιοις αλγε εθηκε,
πολλας δ ιφθιμους ψυχας Αιδι προιαψεν
ηρωων, αυτους δε ελωρια τευχε κυνεσσιν
οιωνοισι τε πασι, Διος δ ετελειετο βουλη,
εξ ου δη τα πρωτα διαστητην ερισαντε
Ατρειδης τε αναξ ανδρων και διος Αχιλλευσ.
Τις τ αρ σφωε θεων εριδι ξυνεηκε μαχεσθαι;
Λητους και Διος υιος.

Greek 12 characters per inch

ΙΛΙΑΔΟΣ Α
Μηνιν αειδε, θεα, Πηληιαδεω Αχιλλης
ουλομενην, η μυρι Αχαιοις αλγε εθηκε,
πολλας δ ιφθιμους ψυχας Αιδι προιαψεν
ηρωων, αυτους δε ελωρια τευχε κυνεσσιν
οιωνοισι τε πασι, Διος δ ετελειετο βουλη,
εξ ου δη τα πρωτα διαστητην ερισαντε
Ατρειδης τε αναξ ανδρων και διος Αχιλλευσ.
Τις τ αρ σφωε θεων εριδι ξυνεηκε μαχεσθαι;
Λητους και Διος υιος.

Greek 10 characters per inch

ΙΛΙΑΔΟΣ Α
Μηνιν αειδε, θεα, Πηληιαδεω Αχιλλης
ουλομενην, η μυρι Αχαιοις αλγε εθηκε,
πολλας δ ιφθιμους ψυχας Αιδι προιαψεν
ηρωων, αυτους δε ελωρια τευχε κυνεσσιν
οιωνοισι τε πασι, Διος δ ετελειετο βουλη,
εξ ου δη τα πρωτα διαστητην ερισαντε
Ατρειδης τε αναξ ανδρων και διος Αχιλλευσ.
Τις τ αρ σφωε θεων εριδι ξυνεηκε μαχεσθαι;
Λητους και Διος υιος.

GREEK PS

DPLIST mnemonic: grps

DPLAY font number: 23

Each column is made up of:

Decimal value

Standard ASCII graphic

Greek ps graphic

Τ•ε θυιχκ βρωων φοΞ ηυμπα

οσερ τ•ε λαζψ δογ.

32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/

48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?

64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
α	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
α	A	B	X	Δ	E	φ	Γ	■	I	H	K	Λ	M	N	O

80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
Π	Θ	P	Λ	T	Υ	S	Ω	Ξ	Ψ	Z	[\]	^	_

96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
`	α	β	χ	δ	ε	φ	γ	•	ι	η	κ	λ	μ	ν	ο

112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
p	q	r	s	t	u	v	w	x	y	z	{		}	~	
π	θ	ρ	σ	τ	υ	ς	ω	Ξ	ψ	ζ	{		}	~	

Other Greek Fonts:

Font 21: gr12

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABXΔΕΦΓ•IHKAMNOΠΘΡΣΤΥΣΩΞΨΖ[\\]~
 `αβχδεφγ•ιηκλμνοπθρστusωΞψζ{|}~

Font 22: gr10

!"£\$%&'()*+,-./0123456789:;<=>?
 @ABXΔΕΦΓ•IHKAMNOΠΘΡΣΤΥΣΩΞΨΖ[\\]~
 `αβχδεφγ•ιηκλμνοπθρστusωΞψζ{|}~

THE DATA FONTS

Data 15cpi	(DPLAY font 26; DPLIST font 'd15')
Data 12cpi	(DPLAY font 24; DPLIST font 'd12')
Data 10cpi	(DPLAY font 25; DPLIST font 'd10')

This is a sample of Data 15cpi (DPLAY font 26, DPLIST font 'd15'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

This is a sample of Data 12cpi (DPLAY font 24, DPLIST font 'd12'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

This is a sample of Data 10cpi (DPLAY font 25, DPLIST font 'd10'). Notice that when text in this font is not right-justified (as this is not), the character positions on each line are exactly aligned with the character positions on adjacent lines. This is why 'fixed fonts' (as they are called) are normally used in tabular material.

The following capabilities of the printer can be demonstrated:

Bold printing, which is useful for headings

Underlined printing, which can also be used for headings
or to emphasize text

Text which has a slightly larger vertical spacing. This section, for example, is spaced at 1.5 instead of single spacing, as above, and is often preferred for running text in a thesis or other document, with tables given in single spacing. Double spacing is also available, but is not demonstrated here. This section is also right-justified.

(Now back to single spacing.) The printer can also give one superscripts and subscripts:

$$A^i = A^{i-1} + C/A^{i-2} \quad - \text{Equation 1}$$

$$B_j = B_{j-1}^2 - 0.6 B_{j-2} + 0.003 B_{j-3} \quad - \text{Equation 2}$$

(In these two lines the Micro 15cpi font was used for superscripts and subscripts.)

Combinations of these facilities are also possible: here is some underlined text with the first word bold also.

It is also possible to mix fonts in a document: adjacent words - even adjacent letters - can be in different fonts. However, there are few uses of this facility **WHICH** do not look **VERY** messy!

DATA 15

DPLIST mnemonic: d15

DPLAY font number: 26

Each column is made up of:

Decimal value

Standard ASCII graphic

Data 15 graphic

The quick brown fox jumps

over the lazy dog.

32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/
	!	"	£	\$	%	&	'	()	*	+	,	-	.	/

48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?

64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Ⓐ	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Ⓐ	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O

80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_

96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o

112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
p	q	r	s	t	u	v	w	x	y	z	{		}	~	
p	q	r	s	t	u	v	w	x	y	z	{		}	~	

Other Data Fonts:

Font 24: d12

!"£\$%&'()*+,-./0123456789:;<=>?
 ⒶABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_
 `abcdefghijklmnopqrstuvwxyz{|}~

Font 25: d10

!"£\$%&'()*+,-./0123456789:;<=>?
 ⒶABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_
 `abcdefghijklmnopqrstuvwxyz{|}~

Access to Non-Standard GP300 Characters by use of DPLAY

Several non-standard characters can be produced by the GP300 printers. Such characters can be produced via DPLAY, as described below.

- 1) A DPLAY symbol parameter OUTPUT (not described in DPLAY documentation) must be assigned a value; e.g.

`$A OUTPUT='|'`

Choose some little-used symbol for this purpose. As usual, `$|` will print `|` if you need it.

- 2) The table opposite shows 10 standard ISO characters and corresponding foreign non-standard characters. To produce non-standard characters, three strings must be included together in the DPLAY input:

- i) `|$[[3w|` Assumptions:

`'|'` is the current value of parameter OUTPUT.
`'$'` is the current value of parameter ESCAPE.
`'3'` is the code number of the required non-standard characters (see the second column of the table).
Any value in the range 1-11 can be specified.
`'w'` (lower case), not `'W'`.

- ii) standard DPLAY input. Any of the ten characters on the top line of the table appearing in this text will be replaced by the corresponding character in the variant selected.

- iii) `|$[[2w|` Assumptions: as for (i) above. `'2'` is the code number for the GB version - i.e. a reversion to the standard set of characters is being requested.

Example

To produce a single `'#'` character: `|$[[1w|£|$[[2w|`

If one of the foreign variants is closer to what is required than the UK version, then you can give the first string (e.g. `|$[[10w|`) at the start of your file and switch permanently into the appropriate foreign variant. Selecting the USA variant, for example, has the single effect of causing a hash to be printed instead of a pound.

Note

When the above approach is used, note that DPLAY assumes the width of a variant character to be the same as that of the corresponding UK character. For proportional spacing fonts, this might well be incorrect, and right justified text might be incorrectly placed as a consequence.

Foreign Variants		Standard characters									
Country	Code	£	¤	ℓ	\]	`	{		}	~
D	1	#	§	Ä	Ö	Ü	`	ä	ö	ü	ß
UK	2	£	¤	ℓ	\]	`	{		}	~
F	3	£	à	•	ç	§	`	é	ù	è	..
E	4	£	¤	ℓ	Ñ]	`	{	ñ	}	~
I	5	£	§	•	ç	é	ù	à	ò	è	ì
S	6	#	É	Ä	Ö	Å	é	ä	ö	å	~
DK	7	£	¤	Æ	Ø	Å	`	æ	ø	å	~
P	8	£	¤	Ã	Ç	Õ	`	ã	ç	õ	~
YU	9	(This variant not implemented in ERCC GP300s)									
USA	10	#	¤	ℓ	\]	`	{		}	~
SIS	11	£	¤	Ä	Ö	Å	`	ä	ö	å	~

Access to Non-Standard GP300 Characters by use of DPLIST

A DPLIST directive @f is provided to enable the user to select one of the foreign variants shown in the table above. For example, the form

```
@f4(....text....)
```

would cause any of the 'standard characters' in the enclosed text to be represented in the document by the corresponding 'foreign variant 4' characters. If the form

```
@f4()
```

were used, then foreign variant 4 would become the standard until another such directive were given, or until the end of the document. Thus, for example, including

```
@f10()
```

at the start of a document would cause hash symbols rather than pound symbols to be printed (see DPLAY notes, above).