

TI 99/4A ADDENDUM

This addendum has been compiled to assist Gemini owners in using the capabilities of their printer with their TI.

PLEASE NOTE:

These programs were written using a SERIAL interface.

If you are using a PARALLEL interface, you must use:

OPEN #1: "PIO"

as your open statement.

If you desire more than the standard 80 columns, follow with a comma VARIABLE n. Where n equals the number of columns. Example: OPEN #1: "PIO", VARIABLE 255

SPECIAL NOTES:

Some programs may require the use of Extended BASIC.

Bit-image graphics requires additional buffer when using the Gemini-10x/15x.

Please feel free to contact us if you require further assistance.

The following interface guide is provided to aid installation of the Gemini printer to the TI system. Please use this information to insure that the system is configured correctly. For specific information concerning operation of TI software packages, please contact the author of the software package in question.

SERIAL - RS232

Cable: Connect pins

TI		Gemini
1	_____	1
2	_____	2
3	_____	3
7	_____	7
20	_____	20*

*When using G-10/15 serial interface part #87729020, use pin 11, and set jumpers S1-S7 to AC, S8 to BC.

Configuration: BA = 9600; DA = 8 Data Bits; PA = No Parity;
TW = 2 Stop Bits

Dip Switches: Printer - 1 ON, 2,3,4 OFF
Interface - 1-5 OFF, 6,7,8 ON

Use the following program to test for correct operation:

```

10 OPEN #1: "RS232.BA=9600.DA=8.PA=N.TW=2
20 For I = 1 to 100
30 PRINT #1: "THIS IS A TEST OF THE SYSTEM",I
40 NEXT I
50 CLOSE #1

```

PARALLEL - CENTRONICS**

Cable: Connect pins

TI		Gemini
1	_____	1
2	_____	2
3	_____	3
4	_____	4
5	_____	5
6	_____	6
7	_____	7
8	_____	8
9	_____	9
10	_____	11
16	_____	16

** MUST USE TI EXPANSION CHASSIS AND INTERFACE CARTRIDGE

Dip Switches: Printer - 1 ON, 2,3,4, OFF

Use the following program to test for correct operation:

```

10 OPEN #1: "PIO"
20 For I = 1 to 100
30 PRINT #1: "THIS IS A TEST OF THE SYSTEM", I
40 NEXT I
50 CLOSE #1

```

```

5 REM CIRCLE PROGRAM
10 OPEN #1:"RS232.BA=9600.DA=8.PA=N"
15 PRINT #1:CHR$(27); "@"
20 PRINT #1:CHR$(163); CHR$(161);
30 PRINT #1:CHR$(27); "A"; CHR$(6)
40 PRINT #1:CHR$(162); CHR$(160);
50 PRINT #1:CHR$(27); "@"
60 CLOSE #1

```

```

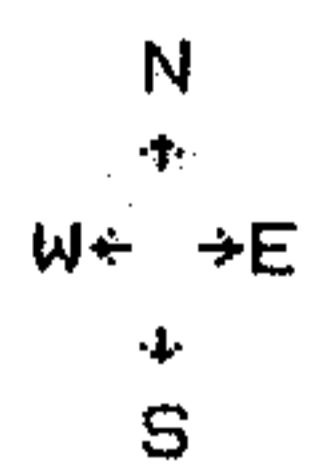
10 REM TI-6 TILDE^PROGRAM PG. 185
20 OPEN #1:"RS232.BA=9600.DA=8.PA=0.TW=2"
30 PRINT #1:TAB(2); CHR$(163); CHR$(27); "A"; CHR$(6)
40 PRINT #1:CHR$(160)

```

```

5 REM MAP PROGRAM
10 OPEN #1:"RS232.BA=9600.DA=8.PA=N"
20 PRINT #1:TAB(20); "N"; CHR$(13);
30 PRINT #1:TAB(20); CHR$(164); CHR$(13);
40 PRINT #1:TAB(18); "W"; CHR$(166); CHR$(32); CHR$(167); "E"; CHR$(13);
50 PRINT #1:TAB(20); CHR$(165); CHR$(13);
60 PRINT #1:TAB(20); "S"
70 CLOSE #1

```



```

10 OPEN #1:"RS232.BA=9600.DA=8.PA=N",VARIABLE 200
20 ESC%=CHR$(27):: LF%=CHR$(10):: CR%=CHR$(13)
30 PICA%=ESC%&"B"&CHR$(1):: ELITE%=ESC%&"B"&CHR$(2):: COMP%=ESC%&"B"&CHR$(3)
40 SUPER%=ESC%&"S"&CHR$(0):: SUB%=ESC%&"S"&CHR$(1):: CANS%=ESC%&"T"
) ITALIC%=ESC%&CHR$(52)
60 WIDE%=CHR$(14):: CANWIDE%=CHR$(20):: PRSET%=ESC%&"@"
70 EMPH%=ESC%&"E" :: CEMPH%=ESC%&"F" :: DBLS%=ESC%&"G" :: CDBLS%=ESC%&"H"
80 PRINT #1:PRSET%;ESC%;"R";CHR$(15)
90 FOR I=1 TO 2
100 IF I=1 THEN PRINT #1:WIDE%;"          GEMINI STANDARD TYPE STYLES";CANWIDE%;LF%
110 IF I=2 THEN PRINT #1:ITALIC%;WIDE%;"          GEMINI ITALIC TYPE STYLES";CANWIDE
%;LF%
120 FOR N=1 TO 40 :: PRINT #1:CHR$(231);CHR$(232);: NEXT N :: PRINT #1 :: PRINT
#1
130 PRINT #1:"          17 CPI 12 CPI 10 CPI      8.5 CPI          6 CPI          5
CPI"
140 FOR N=1 TO 80 :: PRINT #1:CHR$(241);: NEXT N :: PRINT #1
150 MSG1%=" ABC" :: MSG2%="Xx" :: MSG3%="Yy"
160 FOR J=1 TO 4
170 IF I=2 THEN PRINT #1:ITALIC%;
180 IF J=1 THEN PRINT #1:COMP%;"normal          ";
190 IF J=2 THEN PRINT #1:COMP%;"double strike  ";
200 IF J=3 THEN PRINT #1:COMP%;"emphasized    ";
210 IF J=4 THEN PRINT #1:COMP%;"double strike  ";
220 FOR K=1 TO 6
230 IF K=1 THEN PRINT #1:COMP%;
240 IF K=2 THEN PRINT #1:ELITE%;
250 IF K=3 THEN PRINT #1:PICA%;
260 IF K=4 THEN PRINT #1:COMP%;WIDE%;
270 IF K=5 THEN PRINT #1:ELITE%;WIDE%;
280 IF K=6 THEN PRINT #1:PICA%;WIDE%;
290 IF J=2 THEN PRINT #1:DBLS%;
300 IF J=3 THEN PRINT #1:EMPH%;
310 IF J=4 THEN PRINT #1:DBLS%;EMPH%;
320 PRINT #1:MSG1%;SUPER%;MSG2%;CANS%;SUB%;MSG3%;CANS%;CDBLS%;
330 IF K>3 THEN PRINT #1:CANWIDE%;
340 NEXT K
345 IF J=2 THEN PRINT #1:LF%
350 IF J=4 THEN PRINT #1:ESC%;"A";CHR$(9);CR%;COMP%;"          + ";LF%;"emphasized"
360 PRINT #1:PRSET%
370 NEXT J
380 PRINT #1:LF%&LF%&LF%&LF%&LF%
390 NEXT I
400 CLOSE #1 :: END

```


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5 REM DOWNLOAD PARAGRAPH SYMBOLS

```
10 OPEN #1:"RS232.BA=9600.DA=8.PA=N"  
20 ESC$=CHR$(27)  
30 REM DEFINE PARAGRAPH SYMBOL IN PLACE OF @  
40 PRINT #1:ESC$;CHR$(42);CHR$(1);CHR$(64);CHR$(0);CHR$(6);  
45 PRINT #1:CHR$(9);CHR$(0);CHR$(9);CHR$(118);CHR$(9);CHR$(0);  
47 PRINT #1:CHR$(127);CHR$(0)  
50 REM SELECT DOWNLOADABLE CHARACTERS  
60 PRINT #1:ESC$;CHR$(36);CHR$(1)  
70 REM PRINT NEW SYMBOL  
80 PRINT #1:"@@@@@@"  
85 PRINT #1:CHR$(27);"@"  
90 CLOSE #1 :: END
```

#####

```
5 REM DEFINE COPYRIGHT PROGRAM  
10 REM DEFINE ESCAPE CHARACTER  
20 ESC$=CHR$(27)  
30 REM DEFINE COPYRIGHT SYMBOL IN PLACE @  
35 OPEN #1:"RS232.BA=9600.DA=8.PA=N"  
40 PRINT #1:ESC$;CHR$(42);CHR$(1);CHR$(64);CHR$(0);CHR$(28);  
45 PRINT #1:CHR$(34);CHR$(73);CHR$(20);CHR$(65);CHR$(20);  
47 PRINT #1:CHR$(65);CHR$(34);CHR$(20)  
50 REM SELECT DOWNLOADABLE CHARACTERS  
60 PRINT #1:ESC$;CHR$(36);CHR$(1)  
70 REM PRINT NEW SYMBOL  
80 PRINT #1:"COPYRIGHT @ 1983"  
85 PRINT #1:CHR$(27);"@"  
90 CLOSE #1 :: END
```

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```

5 REM WY PROGRAM
10 OPEN #1:"RS232.BA=9600.DA=8.PA=N"
15 PRINT #1:CHR$(27); "@"
20 PRINT #1:CHR$(27); "A"; CHR$(6)
30 FOR J=1 TO 9
40 FOR I=1 TO 12
50 READ A
60 PRINT #1:CHR$(A);
70 NEXT I
80 PRINT #1:" "
90 NEXT J
100 PRINT #1:CHR$(27); "@";
110 CLOSE #1
120 END
130 DATA 239,224,224,224,239,224,224,224,224,224,224,224
140 DATA 239,224,224,224,239,224,224,224,224,224,224,224
150 DATA 239,224,224,224,239,224,239,224,224,224,239,224
160 DATA 239,224,239,224,239,224,234,233,224,234,233,224
170 DATA 239,234,239,233,239,224,224,239,224,239,224,224
180 DATA 239,239,224,239,239,224,224,234,239,233,224,224
190 DATA 234,233,224,234,233,224,224,224,239,224,224,224
200 DATA 224,224,224,224,224,224,224,234,233,224,224,224
210 DATA 224,224,224,224,224,224,224,239,224,224,224,224

```



```

5 REM MACRO COMMAND DEMO
10 REM DEFINE ESCAPE CHARACTER
20 ESC$=CHR$(27)
30 REM CONNECT TO PRINTER
40 OPEN #1:"RS232.BA=9600.DA=8.PA=N"
50 PRINT #1:ESC$;CHR$(43);ESC$;"E";ESC$;"W";CHR$(1);CHR$(30)
60 REM ISSUE MACRO COMMAND AND TRY PRINTING
65 PRINT #1:ESC$;CHR$(33)
70 PRINT #1:"EMHASIZED AND EXPANDED BY MACRO"
80 CLOSE #1 :: END

```

EMHASIZED AND EXPANDED BY MACRO

```

5 REM DEFINE COPYRIGHT PROGRAM
10 REM DEFINE ESCAPE CHARACTER
20 ESC$=CHR$(27)
22 OPEN #1:"RS232.BA=9600.DA=8.PA=N"
24 REM COPY CHARACTERS TO RAM
25 PRINT #1:ESC$;CHR$(42);CHR$(0)
30 REM DEFINE COPYRIGHT SYMBOL IN PLACE @
40 PRINT #1:ESC$;CHR$(42);CHR$(1);CHR$(64);CHR$(0);CHR$(28);
45 PRINT #1:CHR$(34);CHR$(73);CHR$(20);CHR$(65);CHR$(20);
47 PRINT #1:CHR$(65);CHR$(34);CHR$(20)
49 REM DEFINE COPYRIGHT SYMBOL IN PLACE OF &
50 PRINT #1:ESC$;CHR$(42);CHR$(1);CHR$(38);CHR$(1);CHR$(28);
55 PRINT #1:CHR$(34);CHR$(73);CHR$(20);CHR$(65);CHR$(20);
57 PRINT #1:CHR$(65);CHR$(34);CHR$(20)
59 REM SELECT DOWNLOADABLE CHARACTERS
60 PRINT #1:ESC$;CHR$(36);CHR$(1)
70 REM PRINT NEW SYMBOL
80 PRINT #1:"@%&@%&@%&@%&@%&@%&@%&"
90 CLOSE #1 :: END

```

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```

10 OPEN #1:"RS232.BA=9600.DA=8.PA=N.TW=2",VARIABLE 255
20 PRINT #1:CHR$(27);"@";CHR$(27);"A";CHR$(6)
30 FOR LINE=1 TO 2
40 PRINT #1:CHR$(27);"K";CHR$(114);CHR$(0);
50 FOR SPACE=1 TO 100
60 PRINT #1:CHR$(0);
70 NEXT SPACE
80 FOR COLM=1 TO 14
90 READ C
100 PRINT #1:CHR$(C);
110 NEXT COLM
120 PRINT #1:CHR$(13);
121 PRINT #1:" ";
130 NEXT LINE
140 DATA 14,16,34,64,140,140,128,128,140,140,64,34,16,14
150 DATA 224,16,232,68,34,18,18,18,18,34,68,232,16,224
170 CLOSE #1
180 END

```



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```

5 REM DEFINE COPYRIGHT PROGRAM
10 REM DEFINE ESCAPE CHARACTER
20 ESC$=CHR$(27)
22 OPEN #1:"RS232.BA=9600.DA=8.PA=N"
24 REM COPY CHARACTERS TO RAM
25 PRINT #1:ESC$;CHR$(42);CHR$(0)
30 REM DEFINE COPYRIGHT SYMBOL IN PLACE OF @
40 PRINT #1:ESC$;CHR$(42);CHR$(1);CHR$(64);CHR$(0);CHR$(28);CHR$(34);CHR$(73);CHR$(20);CHR$(65);CHR$(20);CHR$(65);CHR$(34);CHR$(28);CHR$(0);
45 PRINT #1:CHR$(0)
50 REM SELECT DOWNLOADABLE CHARACTER SET
60 PRINT #1:ESC$;CHR$(36);CHR$(1)
70 REM PRINT NEW SYMBOL
80 PRINT #1:"COPYRIGHT @ 1983"
90 CLOSE #1 :: END

```

COPYRIGHT © 1983

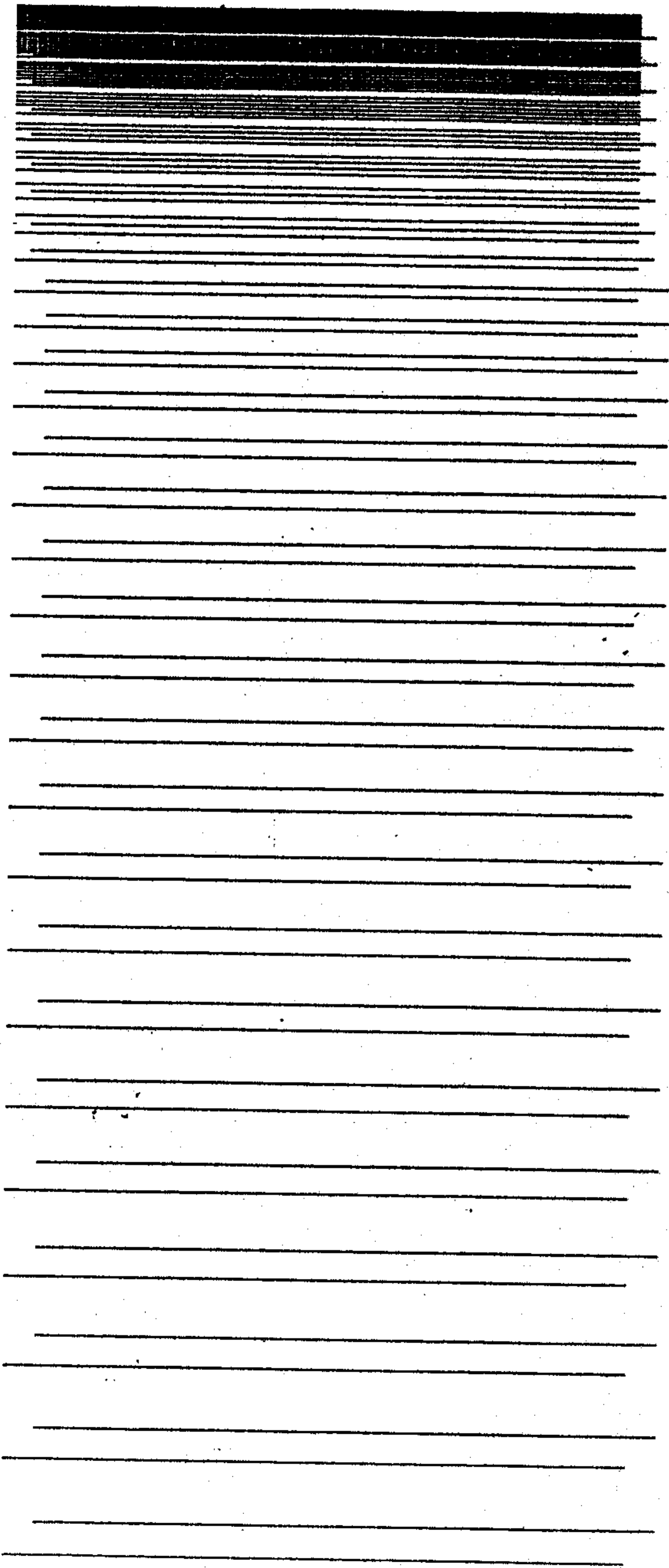
```

1 REM VERTICAL SPACING
5 OPEN #1:"RS232.BA=9600.DA=8.PA=N"
10 PRINT #1:TAB(30);"HIGH RESOLUTION VERTICAL SPACING"
15 PRINT #1:TAB(30);"USING THE ESC 3 N CONTROL CODE"
30 FOR I=1 TO 30
40 IF I=13 THEN GOTO 130
50 M=INT(144/(6*I))
55 IF M<2 THEN M=2
60 PRINT #1:CHR$(27);CHR$(51);CHR$(I)
70 FOR J=1 TO M
80 IF J=M-1 THEN PRINT #1:I;"/144 INCH SPACING"           ">::: GOTO 100
90 PRINT #1:TAB(30);
100 FOR N=1 TO 40 :: PRINT #1:CHR$(241);::: NEXT N :: PRINT #1:" "
110 NEXT J
130 NEXT I
140 PRINT #1:CHR$(27);"@"
150 CLOSE #1 :: END

```

HIGH RESOLUTION VERTICAL SPACING
USING THE ESC 3 N CONTROL CODE

- 1 /144 INCH SPACING
- 2 /144 INCH SPACING
- 3 /144 INCH SPACING
- 4 /144 INCH SPACING
- 5 /144 INCH SPACING
- 6 /144 INCH SPACING
- 7 /144 INCH SPACING
- 8 /144 INCH SPACING
- 9 /144 INCH SPACING
- 10 /144 INCH SPACING
- 11 /144 INCH SPACING
- 12 /144 INCH SPACING
- 14 /144 INCH SPACING
- 15 /144 INCH SPACING
- 16 /144 INCH SPACING
- 17 /144 INCH SPACING
- 18 /144 INCH SPACING
- 19 /144 INCH SPACING
- 20 /144 INCH SPACING
- 21 /144 INCH SPACING
- 22 /144 INCH SPACING
- 23 /144 INCH SPACING
- 24 /144 INCH SPACING
- 25 /144 INCH SPACING
- 26 /144 INCH SPACING
- 27 /144 INCH SPACING
- 28 /144 INCH SPACING
- 29 /144 INCH SPACING
- 30 /144 INCH SPACING



5 REM- BOAT PROGRAM

```
10 OPEN #1: "RS232.BA=9600.DA=B.PA=N"  
20 PRINT #1: CHR$(27); "A"; CHR$(6) & CHR$(15)  
25 PRINT #1: CHR$(27); "U"; CHR$(1)  
30 FOR K=1 TO 3  
    PRINT #1: CHR$(27); "B"; CHR$(K)  
50 RESTORE  
60 FOR J=1 TO 9  
70 FOR I=1 TO 12  
80 READ A :: PRINT #1: CHR$(A);  
90 NEXT I  
95 PRINT #1: " "  
100 NEXT J  
110 PRINT #1: " "  
120 NEXT K  
130 PRINT #1: CHR$(27); "@"  
140 CLOSE #1  
150 END  
200 DATA 224, 224, 224, 224, 224, 224, 224, 224, 224, 245, 224, 224  
210 DATA 224, 224, 224, 224, 224, 224, 224, 224, 252, 245, 224, 224  
220 DATA 224, 224, 224, 245, 224, 224, 224, 252, 239, 245, 224, 224  
230 DATA 224, 224, 252, 245, 224, 224, 252, 239, 239, 245, 224, 224  
240 DATA 224, 252, 239, 245, 224, 252, 239, 239, 239, 245, 224, 224  
250 DATA 252, 239, 239, 245, 252, 239, 239, 239, 239, 245, 224, 224  
260 DATA 241, 241, 241, 249, 241, 241, 241, 241, 241, 249, 224, 224  
270 DATA 239, 239, 239, 239, 239, 239, 239, 239, 239, 239, 239, 251  
280 DATA 253, 239, 239, 239, 239, 239, 239, 239, 239, 239, 251, 224
```

