

PROGRAM DESCRIPTION I

Program Title PATTERNS
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Program Description, Equations, Variables THIS PROGRAM PRINTS-OUT VARIOUS LARGE SIZE PATTERNS. THESE SHAPES ARE: TWO ZIG-ZAG STYLE PATTERNS, FOUR "X" STYLE PATTERNS, A STRIPE PATTERN, A CHECKERS PATTERN, TWO BLOCK STYLE PATTERNS, A SAW-TOOTH PATTERN, A CHAIN-LINK PATTERN, A REPEATED HEART PATTERN, A REPEATED PATTERN OF A SMALL ARROW PIERCING A HEART, A REPEATED SEQUENCE OF HAPPY FACES AND SAD FACES, A REPEATED ORNAMENT, A REPEATED LARGE ARROW OF FIXED LENGTH, AND A VARIABLE LENGTH (USER'S CHOICE) LARGE ARROW, DETAILED INSTRUCTIONS ARE PROVIDED FOR THE USER TO CONSTRUCT AND PRINT-OUT HIS OWN PERSONALLY DESIGNED PATTERNS. THE PATTERNS ARE PRINTED USING ANY (USER'S CHOICE) OF THE 127 STANDARD CHARACTERS AND USING THE SKPCHR AND ACCHR FUNCTIONS, THE PATTERNS PRINTED ARE IDEAL FOR VALENTINES DAY MESSAGES, CHILDREN'S ROOM DECORATIONS, PARTY DECORATIONS, DIRECTIONAL ARROWS FOR LARGE POSTERS, BORDER DECORATIONS FOR POSTERS, BOOKS, BULLETIN BOARDS, ETC.

Necessary Accessories PRINTER, QUAD MODULE IF 41C

Operating Limits and Warnings 1. MONITOR PRINTER'S BAT LIGHT AND PAPER SUPPLY WHEN PRINTING LONG PATTERNS. 2. HALT PRINTING (R/S) OF A PATTERN ONLY AT THE END (TONE SOUND) OF A REPEATED CYCLE.

Reference(s) -NONE-

This program has been verified only with respect to the numerical example given in Program Description II. User accepts and uses this program material AT HIS OWN RISK, in reliance solely upon his own inspection of the program material and without reliance upon any representation or description concerning the program material.

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PROGRAM DESCRIPTION II

Sample Problem (Sketch if Desired)

1. PRINT-OUT THREE CYCLES OF THE Z1 PATTERN USING THE LETTER Z FOR THE PRINTING SYMBOL, SEE PAGE 4 OF 37 FOR PRINTER'S OUTPUT.
2. PRINT-OUT ABOUT 8 INCHES OF THE PATTERNS WITH LABEL NAMES Z2, X1, X2, X3, X4, STP, CKR, BL1, BL2, SAW, CHN, HRT, AHT, HSF, ORN, AND ARW. USE STANDARD CHARACTER NO. 31 FOR THE PRINTING SYMBOL. SEE PAGES 4-10 OF 37 FOR PRINTER'S OUTPUT.
3. USING STANDARD CHARACTER NO. 31, PRINT-OUT A SHORT LENGTH ARROW (ONLY ONE CYCLE OF SHAFT LENGTH). SEE PAGE 10 OF 37 FOR PRINTER'S OUTPUT.

SOLUTION:

	Input	Function	Display	Comments
1.	90		90_	CHARACTER NO. FOR LETTER Z
		[XEQ]	XEQ _ _	
		[ALPHA]	XEQ _	
		[Z]	XEQ Z_	
		[■ 1]	XEQ Z21_	
		[ALPHA]		INITIATES PRINTING.
		[R/S]	90.	IGNORE 1 ST AND 2 ND TONE SOUNDS.
				PRESS R/S IMMEDIATELY AFTER THE 3 RD TONE SOUND; PRINTING HALTS.
				MANUALLY ADVANCE THE PAPER
2.	31		31_	31 IN X REGISTER
		[XEQ]	XEQ _ _	
		[ALPHA]	XEQ _	
		[Z]	XEQ Z_	
		[■ 2]	XEQ Z22_	} PATTERN'S LABEL NAME
		[ALPHA]		INITIATES PRINTING.
				IGNORE THE FIRST FEW TONE SOUNDS UNTIL A LITTLE LESS THAN THE DESIRED LENGTH HAS BEEN PRINTED.
		[R/S]	31.	PRESS R/S IMMEDIATELY AFTER THE NEXT TONE SOUND, THEN WAIT FOR THE PRINTER TO STOP.
				MANUALLY ADVANCE THE PAPER.
		REPEAT THE ABOVE SEQUENCE (XEQ, ALPHA, LABEL NAME, ALPHA, R/S, ADVANCE) FOR EACH OF THE REQUESTED PATTERN LABEL NAMES.		

PROGRAM DESCRIPTION II

(CONTINUATION PAGE)

SOLUTION :

INPUT	FUNCTION	DISPLAY	COMMENTS
3.		31.	STILL NO. 31 FROM PROBLEM 2 ABOVE
	[XEQ]	XEQ --	
	[ALPHA]	XEQ _	
	[A]	XEQ A_	
	[H]	XEQ AH_	
	[D]	XEQ AHD_	
	[ALPHA]		INITIATES PRINTING.
		31.	PRINTING WILL AUTOMATICALLY STOP
			WHEN ARROW HEAD IS COMPLETED.
	[XEQ]	XEQ --	
	[ALPHA]	XEQ _	
	[A]	XEQ A_	
	[S]	XEQ AS_	
	[H]	XEQ ASH_	
	[ALPHA]		INITIATES SHAFT PRINTING,
	[R/S]	31.	PRESS R/S IMMEDIATELY AFTER
			THE 1 st TONE SOUND,
	[XEQ]	XEQ --	
	[ALPHA]	XEQ _	
	[A]	XEQ A_	
	[T]	XEQ AT_	
	[L]	XEQ ATL_	
	[ALPHA]		INITIATES TAIL PRINTING.
		31.	PRINTER WILL AUTOMATICALLY STOP
			WHEN TAIL IS COMPLETED,
			MANUALLY ADVANCE THE PAPER.

PROGRAM DESCRIPTION II

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(CONTINUATION PAGE)

PRINTER'S OUTPUT FOR PROBLEM 1.

21

PRINTER'S OUTPUT FOR PROBLEM 2.

[illegible]

22

PROGRAM DESCRIPTION II

(CONTINUATION PAGE)

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PRINTER'S OUTPUT FOR PROBLEM 2 (CONTINUED)

[illegible][illegible]

A 10x10 grid of black squares on a white background. The pattern is sparse and symmetrical, consisting of 100 black squares arranged in a way that suggests a larger, repeating structure. The squares are located at positions (row, column) where both row and column are even, plus some additional squares at the edges of the grid.

X4

STP

CKR

PROGRAM DESCRIPTION II

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(CONTINUATION PAGE)

PRINTER'S OUTPUT FOR PROBLEM 2 (CONTINUED)

[illegible]

XXXXXXXXXXXXXXXXXXXX	XXXX
XXXXXXXXXXXXXXXXXXXX	XXXX
XXXX	XXXX
XXXX	XXXX
XXXX	XXXXXXXXXXXXXXXXXXXX
XXXX	XXXXXXXXXXXXXXXXXXXX
XXXX	
XXXX	
XXXX	XXXXXXXXXXXXXXXXXXXX
XXXX	XXXXXXXXXXXXXXXXXXXX
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XXXXXXXXXXXXXXXXXXXX	XXXX
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XXXX	XXXXXXXXXXXXXXXXXXXX
XXXX	XXXXXXXXXXXXXXXXXXXX
XXXX	
XXXX	XXXX
XXXX	XXXX
XXXXXXXXXXXXXXXXXXXX	XXXX
XXXXXXXXXXXXXXXXXXXX	XXXX
	XXXX
	XXXX

BL1

BL2

SAW

99956

PROGRAM DESCRIPTION II

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(CONTINUATION PAGE)

PRINTER'S OUTPUT FOR PROBLEM 2 (CONTINUED)

```

      IIII
      IIII
000000IIIII000000
00000000IIIII00000000
0000    IIII    0000
0000    IIII    0000
0000          0000
0000          0000
0000          0000
0000          0000
0000          0000
0000    IIII    0000
0000    IIII    0000
00000000IIIII00000000
0000000IIIII0000000

```

```

      IIII
      IIII
      IIII
      IIII
000000IIII000000
00000000IIII00000000
0000    IIII    0000
0000    IIII    0000
0000                0000
0000                0000
0000                0000
0000                0000
0000                0000
0000    IIII    0000
0000    IIII    0000
00000000IIII00000000
000000IIII000000

```

```

      IIII
      IIII
      IIII
      IIII
0000000IIII0000000
0000000000IIII00000000
0000      IIII      0000
0000      IIII      0000
0000      0000
0000      0000
0000      0000
0000      0000
0000      IIII      0000
0000      IIII      0000
0000000000IIII00000000
  0000000IIII0000000
      IIII
      IIII

```

CHN

```

      1 1 1 1 1 1 1 1 1 1
    1 1 1 1 1 1 1 1 1 1
  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1
  1 1 1 1 1 1 1 1 1 1
    1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1
  
```

A 10x10 grid of black squares arranged in a diamond pattern. The top row has 1 square, the second row has 2, and so on, until the fifth row which has 10 squares. The sixth row has 9 squares, the seventh has 8, and so on, until the tenth row which has 1 square. This represents a 10x10 convolution kernel.

```

              *****
             *****
            *****
           *****
          *****
         *****
        *****
       *****
      *****
     *****
    *****
   *****
  *****
 *****
*****

```

```

      II
      IIII
     IIIIII
    IIIIIIII
   IIIIIIII
   IIII
   IIII
   IIII
   IIII
00000000 IIII
0000000000000000
000000000000000000
0000000000000000000
00000000000000000000
00000000IIII00000000
0000000000IIII000000
00000000000IIII0
00000000 IIII
      IIII
      IIII
      IIII
      IIII
      IIIIII
     IIIIIIII
     IIIIIIII
     IIII IIII
     II  II

```

```

      II
      IIII
     IIIIII
    IIIIIIII
   IIIIIIIII
   IIII
   IIII
   IIII
   IIII
00000000 IIII
0000000000000000
000000000000000000
0000000000000000000
00000000000000000000
00000000IIII00000000
0000000000IIII000000
00000000000IIII0
00000000 IIII
      IIII
      IIII
      IIII
      IIII
      IIIIII
     IIIIIIII
     IIIIIIII
     III III
     II  II

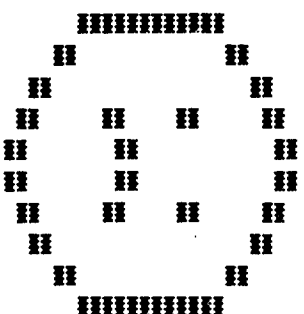
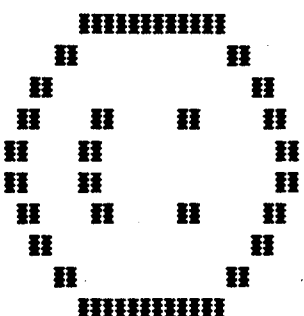
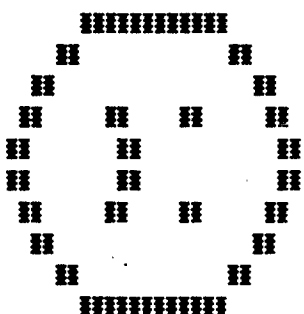
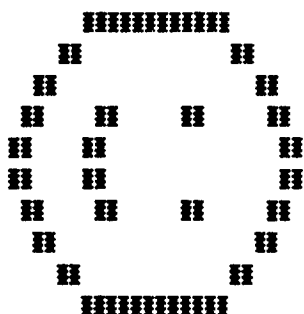
```

HRT

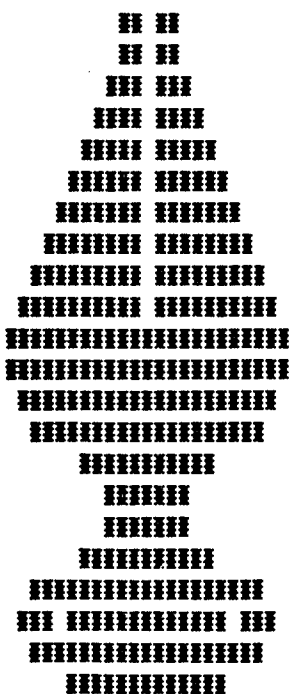
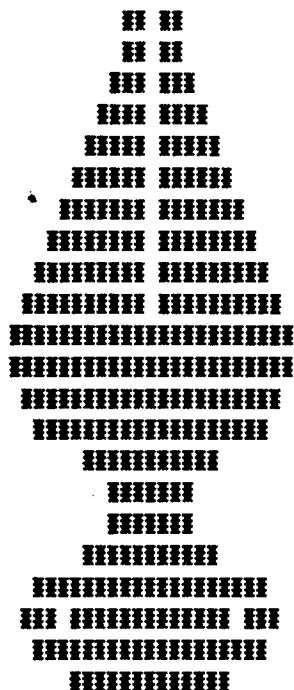
AHT

4497

PRINTER'S OUTPUT FOR PROBLEM 2 (CONTINUED)



HSF



ORN

PRINTER'S OUTPUT FOR
PROBLEM 3.

[illegible]

MATCH LINE

MATCH LINE

ARW

[illegible]

USER INSTRUCTIONS

				SIZE: (HP-41C) 000
STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY
1.	TURN OFF CALCULATOR AND PRINTER.			
2.	CONNECT QUAD MODULE IF USING A 41C.			
3.	CONNECT CARD READER IF USING ONE.			
4.	CONNECT PRINTER.			
5.	TURN ON THE PRINTER.			
6.	EXECUTE A "MASTER CLEAR".		[←] , [ON]	MEMORY LOST
	• CALCULATOR IS NOW "ON".			
	• DELETE DISPLAY MESSAGE.		[←]	0.0000
7.	SET SIZE 000 AND FIX 0.			0.
8.	LOAD THE PROGRAM.			
	• LOAD 20 TRACKS ON 10 CARDS IF USING A CARD READER.			
	• VERIFY ALL PATTERNS BY EXAMPLE PROBLEMS IN PROGRAM DESCRIPTION II IF LOADING MANUALLY WITHOUT CARD READER ; DE-BUG AS NECESSARY, VERIFY FLAG 21 IS SET (TO MATCH FLAG 55) AND FLAG 01 IS CLEAR.			
9.	SELECT PATTERN TO BE PRINTED FROM EXAMPLES IN PROGRAM DESCRIPTION II. NOTE THE PATTERN'S LABEL NAME AND DESCRIPTION :			
	<u>LABEL</u> <u>NAME</u>			
	<u>DESCRIPTION</u>			
	.21 ZIG-ZAG #1			

USER INSTRUCTIONS

(CONTINUED)

STEP	INSTRUCTIONS		INPUT	FUNCTION	SIZE: (HP-41C)
					DISPLAY
	STEP 9 CONTINUED :				
	<u>LABEL NAME</u>	<u>DESCRIPTION</u>			
	Z2	ZIG-ZAG #2; A NEGATIVE IMAGE OF Z21			
	X1	X PATTERN #1			
	X2	X PATTERN #2; A NEGATIVE IMAGE OF XX1			
	X3	DOUBLE X PATTERN			
	X4	SAME AS XX3 BUT WITH "LINES" ON THE SIDES			
	STP	STRIPE PATTERN			
	CKR	CHECKERS PATTERN			
	BL1	BLOCK STYLE PATTERN #1; A ZIG-ZAG WITH SQUARE CORNERS			
	BL2	BLOCK STYLE PATTERN #2; OPEN BLOCKS			
	SAW	SAW-TOOTH PATTERN			
	CHN	CHAIN LINK PATTERN			
	HRT	HEART PATTERN			
	AHT	ARROW PIERCING A HEART			
	HSF	HAPPY FACE AND SAD FACE			

USER INSTRUCTIONS

(CONTINUED)

				SIZE: (HP-41C)						
STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY						
	STEP 9 CONTINUED : <table><thead><tr><th><u>LABEL NAME</u></th><th><u>DESCRIPTION</u></th></tr></thead><tbody><tr><td>ORN</td><td>ORNAMENT</td></tr><tr><td>ARW</td><td>ARROW OF FIXED LENGTH (12 INCHES / 30.5 cm); COMPLETE WITH HEAD, SHAFT, AND TAIL</td></tr></tbody></table> • ARROWS OF ARBITRARY LENGTH (USER'S CHOICE) CAN BE PRINTED BY SEQUENTIALLY SELECTING: AHD ARROW HEAD ; THEN ASH ARROW SHAFT (LENGTH IS USER'S CHOICE) ; THEN ATL ARROW TAIL , • DETAILS FOR SHAFT LENGTH SELECTION ARE GIVEN IN STEP 17, 10. SELECT A PRINTING SYMBOL FROM THE 127 CHARACTERS SHOWN ON PAGE 37 OF THE PRINTER'S HANDBOOK. • CHARACTER NO. 31 PROVIDES THE BEST CONTRAST FOR CLEAR VIEWING AT A DISTANCE, • ONLY CHARACTER NO. 31 SHOULD BE USED FOR THE PATTERNS	<u>LABEL NAME</u>	<u>DESCRIPTION</u>	ORN	ORNAMENT	ARW	ARROW OF FIXED LENGTH (12 INCHES / 30.5 cm); COMPLETE WITH HEAD, SHAFT, AND TAIL			
<u>LABEL NAME</u>	<u>DESCRIPTION</u>									
ORN	ORNAMENT									
ARW	ARROW OF FIXED LENGTH (12 INCHES / 30.5 cm); COMPLETE WITH HEAD, SHAFT, AND TAIL									

USER INSTRUCTIONS

(CONTINUED)

				SIZE: (HP-41C)
STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY
	STEP 10 CONTINUED: CHN (CHAIN) AND AHT (ARROW PIERCING A HEART); USER'S CHOICE FOR ALL OTHER PATTERNS,			
11.	KEY-IN THE SELECTED CHARACTER NUMBER, E.G. 31,	31		31_
12.	PRESS "XEQ" (EXECUTE).		[XEQ]	XEQ _ _
13.	PRESS "ALPHA" (INTO ALPHA MODE).		[ALPHA]	XEQ _
14.	KEY-IN THE LABEL NAME SELECTED IN STEP 9, E.G. "ZZ1".		[Z]	XEQ Z_
			[Z]	XEQ ZZ_
			[■ 1]	XEQ ZZ1_
15.	PRESS "ALPHA" (OUT-OF ALPHA MODE). • THIS WILL INITIATE PRINTING OF THE SELECTED PATTERN.		[ALPHA]	
16.	OBSERVE THE PRINTING UNTIL A LITTLE LESS THAN THE DESIRED LENGTH HAS BEEN PRINTED, • DO NOT TOUCH ANY KEYS DURING PRINTING, • INITIALLY IGNORE THE TONE SOUNDS, THESE TONES SEPARATE THE END OF A PRINTING CYCLE FROM THE START (REPEAT) OF THE NEXT NEW CYCLE.			

USER INSTRUCTIONS

(CONTINUED)

SIZE: (HP-41C).				
STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY
17.	WAIT FOR THE NEXT TONE SOUND, THEN HALT PRINTING BY PRESSING R/S • A PAUSE ("PSE") STATEMENT FOLLOWS EACH "TONE 7" STATEMENT; THIS PERMITS HALTING THE PRINTING WITHOUT LEAVING ANY PENDING "RTN" FUNCTIONS FROM THE VARIOUS LEVELS OF SUBROUTINES. • THE PRINTER MAY CONTINUE "ADVANCING" FOR A FEW LINES AFTER R/S HAS BEEN PRESSED; THIS IS OKAY SINCE THE PRINTER LAGS THE CALCULATOR. • PRINTING MAY BE TEMPORARILY INTERRUPTED (USER OPTION) BY PRESSING R/S JUST AFTER A TONE SOUND, THEN PRESSING R/S AGAIN TO RE-START PRINTING.		[R/S]	31.
18.	MANUALLY ADVANCE THE PAPER BY PRESSING THE PRINTER'S ADVANCE KEY. • THIS PROVIDES BLANK PAPER FOR ATTACHING THE PATTERN.			
19.	REMOVE (TEAR OFF) THE NEWLY PRINTED PATTERN.			
20.	ATTACH THE PATTERN AS DESIRED.			
21.	TURN OFF THE PRINTER AND CALCULATOR.		[ON]	

USER INSTRUCTIONS

(CONTINUED)

SIZE: (HP-41C)				
STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY
22.	TO RE-START FOR PRINTING ANOTHER PATTERN, TURN ON THE PRINTER AND CALCULATOR AND BEGIN AT STEP 9, • DISPLAY WILL SHOW THE STANDARD CHARACTER NUMBER FROM THE PREVIOUS PATTERN PRINTING,		[ON]	31.
23.	PATTERN APPLICATIONS WHICH THE AUTHOR FOUND INTERESTING INCLUDE : • COWBOY & INDIAN DECORATIONS FOR THE CHILDREN - • WAIST BAND • HEAD BAND • HAT BAND • ARROW EXTENDING FROM HAT OR HEAD BAND • "PLAY" SPEARS FOR THE CHILDREN - • MAKE A LONG ARROW AND ROLL IT UP EDGE-WISE, • ATTACH TWO LONG ARROWS TO A LONG CARD-BOARD CYLINDER SUCH AS COMBS WITH WRAPPING PAPER, • BOOK-MARKS • ATTACH PATTERNS TO BOTH SIDES OF A PIECE OF CARD-BOARD, • BORDER DECORATIONS FOR THE BOOK-CASE,			

USER INSTRUCTIONS

(CONTINUED)

STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY
	STEP 23 CONTINUED : • BORDER DECORATIONS ON NOTE-BOOKS, • BORDER DECORATIONS AROUND THE KITCHEN CABINETS -- SPOUSE MAY INSIST THAT THEY BE REMOVED-NOW! • WALL DECORATIONS IN THE CHILDREN'S ROOMS, • BORDER DECORATIONS ON CLOSET DOORS, • MIXING SEVERAL PATTERNS IN ALTERNATE LONG LENGTHS CAN PROVIDE VERY ATTRACTIVE DECORATIONS, • BORDER DECORATIONS AROUND THE FAMILY MIRROR, • THE HEART PATTERN SEEMS BEST, • MESSAGES TO LOVED ONES, • THE ARROW-THROUGH-THE-HEART SEEMS BEST, • BORDER DECORATIONS AROUND THE BULLETIN BOARD, • AT HOME • AT OFFICE • BORDER DECORATIONS ON POSTERS; A REAL ATTENTION-GETTER! • DIRECTIONAL ARROWS FOR LARGE POSTERS,			

USER INSTRUCTIONS

(CONTINUED)

STEP	INSTRUCTIONS	INPUT	FUNCTION	SIZE: (HP-41C)
				DISPLAY
	STEP 23 CONTINUED : • SPECIAL MESSAGES. • THE ALTERNATING HAPPY FACE AND SAD FACE AT THE OFFICE. • A "CHAIN" ACROSS THE HOME TOOL BOX MAY HELP! • PARTY DECORATIONS. • CHILDREN, • ADULTS. • WINDOW DECORATIONS AT THE OFFICE ; SEVERAL OF AUTHOR'S CO-WORKERS WANTED PATTERNS FOR "THEIR" OFFICES.			
	STEPS 24 - 34 PERTAIN ONLY TO THE USER'S OPTION TO MODIFY THE ORIGINAL PROGRAM FOR PRINTING HIS OWN PERSONALLY DESIGNED PATTERNS,			

USER INSTRUCTIONS

(CONTINUED)

SIZE: (HP-41C)				
STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY
24.	THE USER MAY MODIFY THE PROGRAM BY REMOVING SOME OF THE EXISTING PATTERNS AND PROGRAMMING-IN HIS OWN SPECIAL PATTERNS AS DESCRIBED BELOW.			
25.	DELETE THE UNDESIRE OR UN-NEEDED PATTERNS FROM THE MAIN BODY OF THE ORIGINAL PROGRAM (LINES 001 - 734). • THIS IS NECESSARY TO PROVIDE AVAILABLE PROGRAMMING SPACE FOR THE NEW PATTERN(S).			
26.	SKETCH YOUR NEW PATTERN ON PAPER. A USEFUL TOOL TO CREATE NEW PATTERNS CAN BE MADE FROM THE KEYBOARD (WITHOUT ALTERING THE PROGRAM) AS FOLLOWS: • CONNECT PRINTER. • TURN ON PRINTER & CALCULATOR • SET INTO ALPHA MODE. • LOAD THE ALPHA REGISTER WITH THE LETTER "O" REPEATED 24 TIMES.	000.....	[ON] [ALPHA]	31. 000000000000

USER INSTRUCTIONS (CONTINUED)

STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY
	STEP 26 CONTINUED :			
	• PRESS AVIEW AS MANY TIMES AS NEEDED.		■ [AVIEW]	000000000000
	• BE SURE THE "SHIFT" ANNUNCIATOR IS DISPLAYED BEFORE PRESSING THE [AVIEW] KEY.			
	• CLEAR THE ALPHA REGISTER.		■ [CLA]	
	• REMOVE FROM ALPHA MODE,		[ALPHA]	31.
	• MAKE A PAPER-COPY OF THE O'S ONTO REGULAR PAPER.			
	• ON THIS COPY, FILL-IN THE DESIRED O'S (PENCIL) TO YIELD THE DESIRED PATTERN.			
	• FOR EXAMPLE, AN ALTERNATING "+" (PLUS) PATTERN COULD APPEAR AS:			

SIZE:
(HP-41C)

LEADING EDGE OF ONE CYCLE OF THE PATTERN

FILLED-IN O'S

TRAILING EDGE OF ONE CYCLE OF THE PATTERN (MATCH-LINE FOR LEADING EDGE OF NEXT CYCLE)

MOTION OF PAPER AS IT EXITS THE PRINTER

"PRINTER'S ROW" OF 24 O'S AS GENERATED BY KEYBOARD SEQUENCE

USER INSTRUCTIONS

(CONTINUED)

STEP	INSTRUCTIONS	INPUT	FUNCTION	SIZE: (HP-41C) DISPLAY
27.	STARTING WITH THE FIRST ROW (LEADING EDGE) CODE EACH OF THE "PRINTER'S ROWS" OF THE PATTERN AS ILLUSTRATED BELOW FOR THE "PLUS" PATTERN :			
	<u>NOTATION:</u>			
	m - 30 PLUS NUMBER OF CHARACTER SPACES TO BE SKIPPED IN A GIVEN SEGMENT; CORRESPONDING SUBROUTINE NUMBER.			
	(n) - NUMBER OF CHARACTER SPACES TO BE PRINTED IN A GIVEN SEGMENT; CORRESPONDING SUBROUTINE NUMBER.			
	[P] - EXISTING SUBROUTINE NUMBER ASSIGNED TO A PARTICULAR SEQUENCE OF (n) m CODES,			
	(Q) - NEW SUBROUTINE NUMBER ASSIGNED TO A PARTICULAR SEQUENCE OF (n) m CODES AND/OR [P]'s; SUBROUTINE UNIQUE TO THE PATTERN ('PLUS') BEING DESIGNED.			

USER INSTRUCTIONS

(CONTINUED)

				SIZE: (HP-41C)
STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY
28.	STARTING WITH THE FIRST ROW (LEADING EDGE) OF THE PATTERN, PROGRAM-IN THE CODED REPRESENTATION AS ILLUSTRATED BELOW FOR THE "PLUS" PATTERN:		[PRGM]	(LINE NO.) RTN
	"PLS" FOR PATTERN'S TITLE →	LBL "PLS"		
	ACCUMULATE 16 →	XEQ 16		
	PRINT RIGHT JUSTIFIED →	ADV		
		XEQ 16		
		ADV		
	EXISTING SUBROUTINE (LINE 753) →	XEQ 84		
	NEW SUBROUTINE →	XEQ 99		
	NEW SUBROUTINE →	XEQ 97		
	ACCUMULATE 16 →	XEQ 16		
	PRINT LEFT JUSTIFIED →	PRBUF		
		XEQ 16		
		PRBUF		
		XEQ 97		
		XEQ 99		
		XEQ 84		
	SIGNAL END OF PATTERN'S CYCLE →	tone 7		
	PAUSE TO PERMIT PRINTING HALT →	PSE		
	RETURN TO CONTINUE PRINTING →	GTO "PLS"		
	NEW SUBROUTINE (AFTER GTO "PLS") →	LBL 99		
	EXECUTE ANOTHER NEW SUBROUTINE →	XEQ 98		
	NEW SUB. (PRINTED TWICE BY 99) →	LBL 98		
	EXISTING SUBROUTINE (LINE 747) →	XEQ 86		
	EXISTING SUBROUTINE (LINE 753) →	XEQ 84		

USER INSTRUCTIONS

(CONTINUED)

				SIZE: (HP-41C)
STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY
	STEP 28 CONTINUED:			
	PRINT COMPOSITE RIGHT JUSTIFIED →	ADV		
		RTN		
	NEW SUBROUTINE →	LBL 97		
	ACCUMULATE 4 →	XEQ 04		
	SKIP 14 →	XEQ 44		
	PRINT COMPOSITE RIGHT JUSTIFIED →	ADV		
		RTN		
29.	NOTE THAT THE NEW SUBROUTINES (99, 98, AND 97) WERE PLACED IMMEDIATELY AT THE END OF THE NEW PATTERN'S MAIN BODY (JUST AFTER THE GTO "PLS" STATEMENT). THIS PERMITS USING SUBROUTINE LABEL NUMBERS 99, 98, 97 91 SEVERAL TIMES WITHIN THE ENTIRE PROGRAM, THESE SUBROUTINE NUMBERS (99...91) ARE RESERVED FOR THOSE SUBROUTINES UNIQUE TO ONE PATTERN, OTHER SUBROUTINE LABEL NUMBERS (90...55), EG. 84 AND 86 USED IN THE "PLUS" PATTERN EXAMPLE, ARE FOR SUBROUTINES USED BY SEVERAL PATTERNS, EG, SUB. 84 IN "STP" PATTERN (LINE 203), AND SUB. 86 IN SUB. 97 OF THE "CHN"			

USER INSTRUCTIONS

(CONTINUED)

 SIZE:
(HP-41C)

STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY
	STEP 29 CONTINUED :			
	PATTERN (LINE 316) ,			
30.	IF THE NEW MAIN BODY (E.G. UNDER LABEL "PLS") OR NEW SUBROUTINES (E.G. UNDER LABELS 99→91) REQUIRED ACCUMULATING 17 CHARACTERS (REQUIRING LABEL 17) OR SKIPPING 13,17,19,21,22, OR 23 CHARACTER SPACES (REQUIRING LABELS 43,47,49, 51,52, OR 53), THEN ADDITIONAL LABELS MUST BE APPROPRIATELY INSERTED INTO THE BASIC ACCHR SUBROUTINE SECTION (LINES 825-874) AND THE BASIC SKPCHR SUBROUTINE SECTION (LINES 875-928). THESE LABELS (17,43,47,49,51,52, AND 53) WERE NOT NEEDED IN THE ORIGINAL VERSION OF THE PROGRAM.			
31.	RETURN TO RUNNING MODE.		[PRGM]	
32.	TEST (EXECUTE) THE NEW PATTERN, E.G. EXECUTE "PLS" • DEBUG AS NECESSARY		XEQ "PLS"	
33.	EXECUTE A "PACK" AS DESIRED.			

USER INSTRUCTIONS (CONTINUED)

[illegible]

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STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS	STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS
01	LBL	Z1	- PRINT 216-2AG #1	51	XEQ	68	
02	XEQ	06		52	XEQ	82	
03	PRBUF			53	XEQ	71	
04	XEQ	06	- ACCUMULATE 6 CHARS.	54	XEQ	09	
05	XEQ	45	- SKIP 15 CHAR. SPACES	55	ADV		
06	ADV		- PRINT THE COMPOSITE RIGHT JUSTIFIED	56	XEQ	77	
07	XEQ	75		57	XEQ	12	
08	ADV			58	ADV		
09	XEQ	76		59	XEQ	99	
10	XEQ	77	- SUBROUTINE USED BY OTHER PATTERNS	60	XEQ	18	
11	ADV			61	ADV		
12	XEQ	06		62	TONE	7	- SIGNAL END OF CYCLE
13	XEQ	33		63	PSE		- PERMIT USER TO R/S (STOP PRINTING)
14	ADV			64	GTO	Z2	- CONTINUE PRINTING
15	XEQ	82		65	LBL	99	
16	XEQ	82		66	XEQ	03	
17	XEQ	06		67	XEQ	36	
18	XEQ	33		68	XEQ	15	
19	ADV			69	ADV		
20	XEQ	77		70	RTN		
21	ADV			71	LBL	98	- SUBROUTINE USED ONLY BY THE ABOVE (222) PATTERN
22	XEQ	76		72	XEQ	15	
23	XEQ	75		73	XEQ	36	
24	ADV			74	XEQ	03	
25	XEQ	06		75	ADV		
26	XEQ	45		76	RTN		
27	ADV			77	LBL	X1	- PRINT X PATTERN #1
28	XEQ	06	- ACCUMULATE 6 CHARS	78	XEQ	75	
29	PRBUF		- PRINT LEFT JUSTIFIED	79	XEQ	82	
30	TONE	7		80	XEQ	99	
31	PSE			81	XEQ	80	
32	GTO	Z1		82	ADV		
33	LBL	Z2	- PRINT 216-2AG #2	83	XEQ	68	
34	XEQ	18		84	ADV		
35	ADV			85	XEQ	72	
36	XEQ	99		86	ADV		
37	XEQ	77		87	XEQ	72	
38	XEQ	12		88	ADV		
39	ADV			89	XEQ	68	
40	XEQ	71		90	ADV		
41	XEQ	09		91	XEQ	80	
42	ADV			92	ADV		
43	XEQ	68		93	XEQ	99	
44	XEQ	82		94	XEQ	75	
45	XEQ	98		95	XEQ	82	
46	XEQ	18		96	TONE	7	
47	PRBUF			97	PSE		
48	XEQ	18		98	GTO	X1	
49	PRBUF			99	LBL	99	
50	XEQ	98		100	XEQ	06	

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STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS	STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS
101	XEQ	38		151	TONE	7	
102	XEQ	81		152	PSE		
103	ADV			153	GTO	X3	
104	RTN			"			
105	♦LBL	X2	- PRINT X PATTERN #2	154	♦LBL	99	
"				155	XEQ	81	
106	XEQ	68		156	XEQ	10	
107	ADV			157	XEQ	34	
108	XEQ	99	- SUBROUTINE USED ONLY BY X12 PATTERN	158	ADV		
109	XEQ	85		159	RTN		
110	XEQ	88		160	♦LBL	X4	- PRINT X PATTERN #4
111	XEQ	75	- SUBROUTINE USED BY OTHER PATTERNS	"			
112	XEQ	82		161	XEQ	99	
113	XEQ	72		162	XEQ	77	
114	XEQ	08		163	XEQ	79	
115	ADV			164	XEQ	02	
116	XEQ	72		165	ADV		
117	XEQ	08		166	XEQ	99	
118	ADV			167	XEQ	98	
119	XEQ	75		168	XEQ	90	
120	XEQ	82		169	XEQ	77	
121	XEQ	85		170	XEQ	82	
122	XEQ	88		171	XEQ	98	
123	XEQ	99		172	TONE	7	
124	XEQ	68		173	PSE		
125	ADV			174	GTO	X4	
126	TONE	7		"			
127	PSE		} SIMILAR TO LINES 62-64	175	♦LBL	99	
128	GTO	X2		176	XEQ	73	
"				177	XEQ	69	
129	♦LBL	99		178	XEQ	02	
130	XEQ	02		179	ADV		
131	XEQ	36		180	RTN		
132	XEQ	08		181	♦LBL	98	
133	XEQ	36		182	XEQ	02	
134	XEQ	02		183	XEQ	32	
135	ADV			184	XEQ	69	
136	RTN			185	XEQ	08	
137	♦LBL	X3	- PRINT X PATTERN #3	186	ADV		
"				187	RTN		
138	XEQ	78		188	♦LBL	"STP	- PRINT STRIPE
139	ADV			"			
140	XEQ	99		189	XEQ	78	
141	XEQ	69		190	ADV		
142	XEQ	81		191	XEQ	77	
143	ADV			192	XEQ	79	
144	XEQ	77		193	ADV		
145	XEQ	06		194	XEQ	77	
146	ADV			195	XEQ	81	
147	XEQ	69		196	ADV		
148	XEQ	81		197	XEQ	77	
149	ADV			198	XEQ	82	
150	XEQ	99		199	XEQ	02	
				200	XEQ	36	

Note: Refer to "HP-41C OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for specific information on keystrokes. The Function Index is found at the very back of the Handbook. Refer to Appendix E in 67 or 97 "OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for exact keystrokes.

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STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS	STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS
201	XEQ	77		251	GTO	"BL2	
202	XEQ	88		"			
203	XEQ	84		252	◆LBL	99	
204	XEQ	77		253	XEQ	99	
205	XEQ	02		254	◆LBL	99	
206	ADV			255	XEQ	67	
207	TONE	7		256	GTO	88	
208	PSE			257	◆LBL	98	
209	GTO	"STP		258	XEQ	98	
"				259	◆LBL	98	
210	◆LBL	"CKR	-PRINT CHECKERS	260	XEQ	04	
"				261	XEQ	46	
211	XEQ	99		262	GTO	88	
212	XEQ	99		263	◆LBL	97	
213	XEQ	98		264	XEQ	97	
214	XEQ	98		265	◆LBL	97	
215	TONE	7		266	XEQ	86	
216	PSE			267	XEQ	16	
217	GTO	"CKR		268	ADV		
"				269	RTN		
218	◆LBL	99		270	◆LBL	"SAW	-PRINT SAW-TOOTH
219	XEQ	87		"			
220	XEQ	86		271	XEQ	24	
221	ADV			272	ADV		
222	RTN			273	XEQ	20	
223	◆LBL	98		274	ADV		
224	XEQ	87		275	XEQ	16	
225	GTO	88		276	ADV		
226	◆LBL	"BL1	-PRINT BLOCK PATTERN #1	277	XEQ	12	
"				278	ADV		
227	XEQ	64		279	XEQ	08	
228	XEQ	04		280	ADV		
229	PRBUF			281	XEQ	88	
230	XEQ	04		282	TONE	7	
231	PRBUF			283	PSE		
232	XEQ	64		284	GTO	"SAW	
233	XEQ	89		"			
234	TONE	7		285	◆LBL	"CHN	-PRINT CHAIN
235	PSE			"			
236	GTO	"BL1		286	XEQ	95	
"				287	XEQ	99	
237	◆LBL	"BL2	-PRINT BLOCK PATTERN #2	288	XEQ	98	
"				289	XEQ	97	
238	XEQ	99		290	XEQ	96	
239	XEQ	98		291	XEQ	96	
240	XEQ	97		292	XEQ	97	
241	XEQ	04		293	XEQ	98	
242	PRBUF			294	XEQ	99	
243	XEQ	04		295	31		
244	PRBUF			296	XEQ	95	
245	XEQ	97		297	TONE	7	
246	XEQ	98		298	PSE		
247	XEQ	99		299	GTO	"CHN	
248	XEQ	89		"			
249	TONE	7		300	◆LBL	99	
250	PSE						

PROGRAMMING GUIDE" for specific information
PROGRAMMING GUIDE" for exact keystrokes.

back of the Handbook. Refer to Appendix E in

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STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS	STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS
301	79			351	XEQ 31		
302	XEQ 06			352	ADV		
303	XEQ 94			353	XEQ 15		
304	XEQ 79			354	ADV		
305	ADV			355	XEQ 07		
306	RTN			356	XEQ 32		
307	♦LBL 98			357	ADV		
308	XEQ 08			358	ADV		} SKIP 2 LINES BETWEEN ADJACENT HEARTS
309	XEQ 94			359	ADV		
310	XEQ 73			360	TONE 7		
311	ADV			361	PSE		
312	RTN			362	GTO "HRT		
313	♦LBL 97			"			
314	XEQ 97			363	♦LBL "AHT		-PRINT ARROW PIERCING A HEART
315	♦LBL 97			"			
316	XEQ 86			364	XEQ 02		
317	31			365	XEQ 41		
318	XEQ 86			366	ADV		
319	79			367	XEQ 83		
320	XEQ 04			368	XEQ 76		
321	XEQ 32			369	XEQ 72		
322	ADV			370	ADV		
323	RTN			371	XEQ 99		
324	♦LBL 96			372	79		- CHARACTER NO. (LETTER "O") FOR HEART
325	XEQ 96			373	XEQ 74		
326	♦LBL 96			374	31		- CHARACTER NO. FOR ARROW
327	XEQ 04			375	XEQ 83		
328	XEQ 42			376	79		
329	XEQ 04			377	XEQ 15		
330	XEQ 32			378	PRBUF		
331	ADV			379	XEQ 18		
332	RTN			380	XEQ 35		
333	♦LBL "HRT		-PRINT HEART PATTERN	381	ADV		
"				382	XEQ 66		
334	XEQ 07			383	XEQ 18		
335	XEQ 32			384	ADV		
336	ADV			385	XEQ 07		
337	XEQ 15			386	XEQ 94		
338	ADV			387	XEQ 73		
339	XEQ 18			388	ADV		
340	XEQ 31			389	XEQ 09		
341	ADV			390	XEQ 94		
342	XEQ 19			391	XEQ 05		
343	XEQ 33			392	XEQ 35		
344	ADV			393	ADV		
345	XEQ 18			394	XEQ 10		
346	PRBUF			395	XEQ 94		
347	XEQ 19			396	XEQ 01		
348	XEQ 33			397	XEQ 39		
349	ADV			398	ADV		
350	XEQ 18			399	XEQ 74		
				400	31		-RETURN TO USING CHAR. NO. 31

Note: Refer to "HP-41C OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for specific information on keystrokes. The Function Index is found at the very back of the Handbook. Refer to Appendix E in 67 or 97 "OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for exact keystrokes.

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STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS	STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS
401	XEQ	99		451	ADV		
402	XEQ	83		452	ADV		
403	XEQ	76		453	XEQ	68	
404	XEQ	72		454	ADV		
405	ADV			455	XEQ	99	
406	XEQ	72		456	XEQ	96	
407	ADV			457	XEQ	95	
408	XEQ	03		458	XEQ	94	
409	XEQ	32		459	XEQ	95	
410	XEQ	03		460	XEQ	96	
411	XEQ	38		461	XEQ	99	
412	ADV			462	XEQ	68	
413	XEQ	90		463	ADV		
414	XEQ	02		464	ADV		
415	XEQ	38		465	ADV		
416	ADV			466	ADV		
417	ADV			467	ADV		
418	ADV			468	TONE	7	
419	ADV			469	PSE		
420	TONE	7		470	GTO	"HSF	
421	PSE			"			
422	GTO	"AHT		471	LBL	99	
"				472	XEQ	02	
423	LBL	99		473	XEQ	42	
424	XEQ	95		474	XEQ	90	
425	LBL	95		475	ADV		
426	XEQ	83		476	RTN		
427	LBL	83		477	LBL	98	
428	XEQ	04		478	XEQ	90	
429	XEQ	40		479	XEQ	91	
430	ADV			480	XEQ	91	
431	RTN			481	XEQ	92	
432	LBL	94		482	ADV		
433	31			483	RTN		
434	XEQ	04		484	LBL	97	
435	79			485	XEQ	97	
436	RTN			486	LBL	97	
437	LBL	"HSF		487	XEQ	90	
"				488	XEQ	02	
438	XEQ	68		489	XEQ	44	
439	ADV			490	XEQ	02	
440	XEQ	99		491	ADV		
441	XEQ	93		492	RTN		
442	XEQ	98		493	LBL	96	
443	XEQ	97		494	XEQ	02	
444	XEQ	98		495	XEQ	46	
445	XEQ	93		496	XEQ	02	
446	XEQ	99		497	XEQ	32	
447	XEQ	68		498	ADV		
448	ADV			499	RTN		
449	ADV			500	LBL	95	
450	ADV						

SKIP 3 LINES
BETWEEN PATTERNS

PRINT SAD FACE

PRINT HAPPY/SAD
FACES

PRINT HAPPY FACE

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(CONTINUED)

STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS	STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS
501	XEQ	91		551	XEQ	31	
502	XEQ	90		552	XEQ	06	
503	XEQ	91		553	XEQ	35	
504	XEQ	92		554	ADV		
505	ADV			555	XEQ	74	
506	RTN			556	XEQ	07	
507	♦LBL	94		557	XEQ	34	
508	XEQ	94		558	ADV		
509	♦LBL	94		559	XEQ	08	
510	XEQ	02		560	XEQ	31	
511	XEQ	37		561	XEQ	08	
512	XEQ	02		562	XEQ	33	
513	XEQ	41		563	ADV		
514	XEQ	02		564	XEQ	09	
515	ADV			565	XEQ	31	
516	RTN			566	XEQ	09	
517	♦LBL	93		567	XEQ	32	
518	XEQ	02		568	ADV		
519	XEQ	46		569	XEQ	10	- ACCUM. 10 CHARS.
520	XEQ	02		570	XEQ	31	- SKIP 1 CHARACTER
521	XEQ	32		571	XEQ	10	- ACCUM. 10 CHARS.
522	ADV			572	XEQ	31	- SKIP 1 CHARACTER
523	RTN			573	ADV		- PRINT COMPOSITE
524	♦LBL	92		574	XEQ	23	
525	XEQ	02		575	ADV		
526	XEQ	31		576	XEQ	23	
527	RTN			577	ADV		
528	♦LBL	91		578	XEQ	21	
529	XEQ	02		579	XEQ	31	
530	XEQ	35		580	ADV		
531	RTN			581	XEQ	66	
532	♦LBL	*ORN	- PRINT ORNAMENT	582	XEQ	11	
"				583	XEQ	36	
533	XEQ	99		584	ADV		
534	XEQ	99		585	XEQ	07	
535	XEQ	03		586	XEQ	38	
536	XEQ	31		587	ADV		
537	XEQ	03		588	XEQ	07	
538	XEQ	38		589	XEQ	38	
539	ADV			590	ADV		
540	XEQ	04		591	XEQ	11	
541	XEQ	31		592	XEQ	36	
542	XEQ	04		593	ADV		
543	XEQ	37		594	XEQ	66	
544	ADV			595	XEQ	03	
545	XEQ	05		596	XEQ	31	
546	XEQ	31		597	XEQ	13	
547	XEQ	05		598	XEQ	31	
548	XEQ	36		599	XEQ	03	
549	ADV			600	XEQ	31	
550	XEQ	06					

Note: Refer to "HP-41C OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for specific information on keystrokes. The Function Index is found at the very back of the Handbook. Refer to Appendix E in 67 or 97 "OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for exact keystrokes.

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STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS	STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS
601	ADV			651	XEQ	33	
602	XEQ	66		652	ADV		
603	XEQ	13		653	XEQ	20	
604	XEQ	35		654	XEQ	32	
605	ADV			655	ADV		
606	ADV			656	XEQ	22	
607	ADV			657	XEQ	31	
608	ADV			658	ADV		
609	ADV			659	XEQ	24	
610	TONE	7		660	ADV		
611	PSE			661	RTN		
612	GTO	"ORN		662	LBL	"ASH	-PRINT ARROW SHAFT
"				"			
613	LBL	99		663	XEQ	98	
614	XEQ	92		664	TONE	7	
615	XEQ	02		665	PSE		
616	XEQ	39		666	GTO	"ASH	
617	ADV			"			
618	RTN			667	LBL	99	
619	LBL	"ARW	-PRINT 12 INCH LONG ARROW	668	XEQ	98	
"				669	LBL	98	
620	XEQ	"AHD		670	XEQ	97	
"				671	LBL	97	
621	XEQ	99		672	XEQ	96	
622	XEQ	99		673	LBL	96	
623	XEQ	98		674	XEQ	95	
624	XEQ	"ATL		675	LBL	95	
"				676	XEQ	10	
625	ADV			677	XEQ	37	
626	ADV			678	ADV		
627	ADV			679	RTN		
628	ADV			680	LBL	"ATL	-PRINT ARROW TAIL
629	ADV			"			
630	ADV			681	XEQ	68	
631	TONE	7		682	ADV		
632	PSE			683	XEQ	14	
633	GTO	"ARW		684	XEQ	35	
"				685	ADV		
634	LBL	"AHD	-PRINT ARROW HEAD	686	XEQ	67	
"				687	ADV		
635	XEQ	02		688	XEQ	18	
636	XEQ	41		689	XEQ	33	
637	ADV			690	ADV		
638	XEQ	83		691	XEQ	20	
639	XEQ	76		692	XEQ	32	
640	XEQ	72		693	ADV		
641	ADV			694	XEQ	22	
642	XEQ	95		695	XEQ	31	
643	XEQ	68		696	ADV		
644	ADV			697	XEQ	65	
645	XEQ	14		698	XEQ	64	
646	XEQ	35		699	XEQ	11	
647	ADV			700	XEQ	32	
648	XEQ	67					
649	ADV						
650	XEQ	18					

} SKIP 6 LINES
BEFORE PRINTING
NEXT ARROW

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(CONTINUED)

STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS	STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS
701	XEQ	11		751	◆LBL	85	
702	ADV			752	XEQ	84	
703	XEQ	10		753	◆LBL	84	
704	XEQ	34		754	XEQ	04	
705	XEQ	10		755	XEQ	36	
706	ADV			756	RTN		
707	XEQ	71		757	◆LBL	82	- SEE LINE 427 FOR LBL 83
708	XEQ	09		758	XEQ	06	
709	ADV			759	ADV		
710	XEQ	72		760	RTN		
711	XEQ	08		761	◆LBL	81	
712	ADV			762	XEQ	06	
713	XEQ	07		763	XEQ	32	
714	XEQ	40		764	RTN		
715	XEQ	07		765	◆LBL	80	- ACCUMULATE 6 CHARACTERS, SKIP 4 CHARACTER SPACES, THEN REPEAT; DO NOT PRINT COMPOSITE
716	ADV			766	XEQ	79	
717	XEQ	75		767	◆LBL	79	
718	XEQ	82		768	XEQ	06	
719	XEQ	05		769	XEQ	34	
720	XEQ	44		770	RTN		
721	XEQ	05		771	◆LBL	78	
722	ADV			772	XEQ	77	
723	XEQ	04		773	◆LBL	77	
724	XEQ	46		774	XEQ	06	
725	XEQ	88		775	XEQ	36	
726	XEQ	03		776	RTN		
727	XEQ	48		777	◆LBL	76	
728	XEQ	03		778	XEQ	06	
729	ADV			779	XEQ	39	
730	XEQ	02		780	ADV		
731	XEQ	50		781	RTN		
732	XEQ	02		782	◆LBL	75	
733	ADV			783	XEQ	06	
734	RTN			784	XEQ	42	
735	◆LBL	90		785	RTN		
736	XEQ	02		786	◆LBL	74	
737	XEQ	34		787	XEQ	07	
738	RTN			788	XEQ	31	
739	◆LBL	89	- PRINT 4 CHARACTERS RIGHT JUSTIFIED, THEN REPEAT	789	RTN		
740	XEQ	88		790	◆LBL	73	
741	◆LBL	88		791	XEQ	08	
742	XEQ	04		792	XEQ	32	
743	ADV			793	RTN		
744	RTN			794	◆LBL	72	
745	◆LBL	87		795	XEQ	08	
746	XEQ	86		796	XEQ	38	
747	◆LBL	86		797	RTN		
748	XEQ	04		798	◆LBL	71	
749	XEQ	34		799	XEQ	09	
750	RTN			800	XEQ	36	

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PROGRAM LISTING

(CONTINUED)

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☐ 67 ☐ 97 ☒ 41CV

STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS	STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS
801	RTN			851	ACCHR		
802	♦LBL 69			852	♦LBL 10		
803	XEQ 10			853	ACCHR		
804	XEQ 32			854	♦LBL 09		
805	RTN			855	ACCHR		
806	♦LBL 68			856	♦LBL 08		
807	XEQ 12			857	ACCHR		
808	XEQ 36			858	♦LBL 07		
809	RTN			859	ACCHR		
810	♦LBL 67			860	♦LBL 06		
811	XEQ 16			861	ACCHR		
812	XEQ 34			862	♦LBL 05		
813	RTN			863	ACCHR		
814	♦LBL 66			864	♦LBL 04		
815	XEQ 19			865	ACCHR		
816	XEQ 32			866	♦LBL 03		
817	ADV			867	ACCHR		
818	RTN			868	♦LBL 02		
819	♦LBL 65		-LAST OF SIMPLE SUBS.	869	ACCHR		
820	XEQ 64		-PRINT 4 SOLID ROWS	870	♦LBL 01		
821	♦LBL 64			871	ACCHR		
822	XEQ 24		-PRINT 2 SOLID ROWS	872	FS?C 01		
823	SF 01			873	ADV		-PRINT 2 nd SOLID ROW
824	ADV		-SET ONLY FOR SUB. 64	874	RTN		(ONLY IF SUB. 64
825	♦LBL 24		-PRINT 1 st SOLID ROW	875	♦LBL 31		IS USED)
826	ACCHR			876	1		
827	♦LBL 23			877	GTO 00		
828	ACCHR		-AN "XEQ 23" (EG,	878	♦LBL 32		
829	♦LBL 22		LINE 576) STARTS	879	2		
830	ACCHR		HERE AND PROCEEDS	880	GTO 00		
831	♦LBL 21		TO LINE 874 WHILE	881	♦LBL 33		
832	ACCHR		EXECUTING ACCHR	882	3		
833	♦LBL 20		23 TIMES; SIMILAR	883	GTO 00		
834	ACCHR		FOR OTHER LABELS	884	♦LBL 34		
835	♦LBL 19		01-24 WHERE	885	4		
836	ACCHR		LABEL NO. EQUALS	886	GTO 00		
837	♦LBL 18		NO. OF TIMES ACCHR	887	♦LBL 35		
838	ACCHR		IS EXECUTED	888	5		
839	ACCHR			889	GTO 00		
840	♦LBL 16		-LABEL 17 NOT	890	♦LBL 36		
841	ACCHR		NEEDED	891	6		
842	♦LBL 15			892	GTO 00		
843	ACCHR			893	♦LBL 37		
844	♦LBL 14			894	7		
845	ACCHR			895	GTO 00		
846	♦LBL 13			896	♦LBL 38		
847	ACCHR			897	8		
848	♦LBL 12			898	GTO 00		
849	ACCHR			899	♦LBL 39		
850	♦LBL 11			900	9		

Note: Refer to "HP-41C OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for specific information on keystrokes. The Function Index is found at the very back of the Handbook. Refer to Appendix E in 67 or 97 "OWNER'S HANDBOOK AND PROGRAMMING GUIDE" for exact keystrokes.

70 7 23

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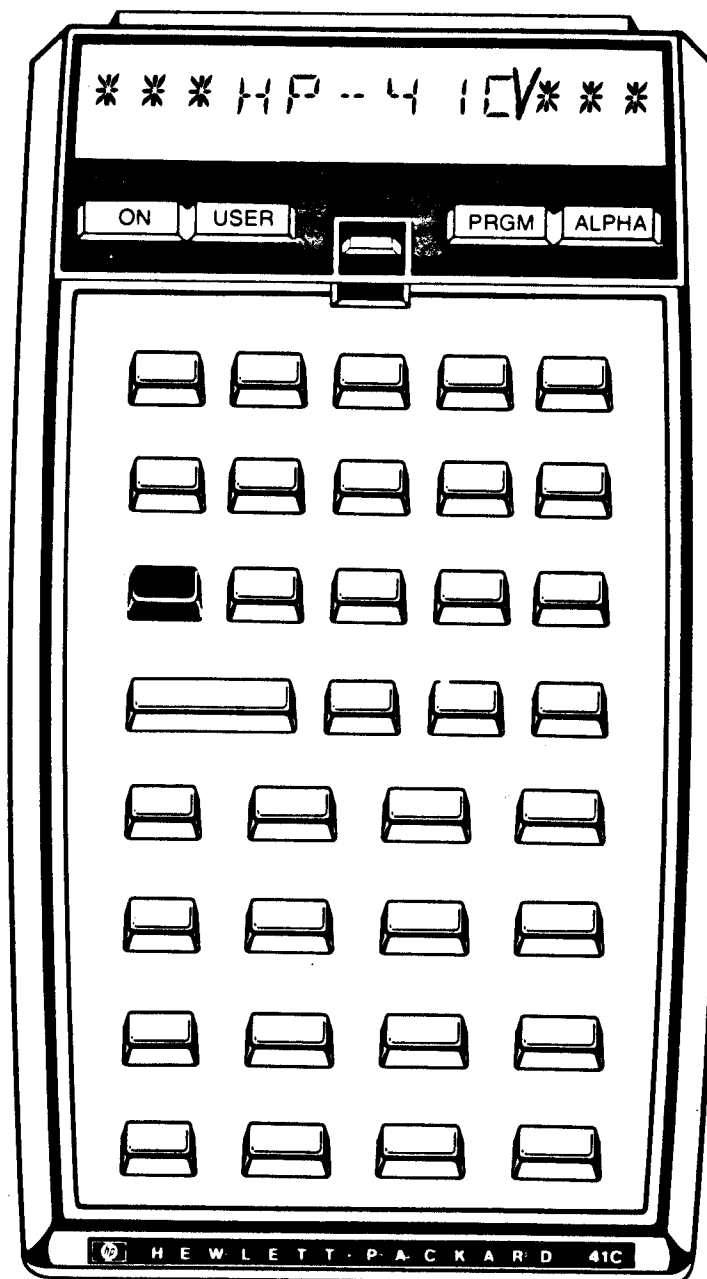
REGISTERS, STATUS, FLAGS, ASSIGNMENTS

DATA REGISTERS		STATUS		
- NONE -		SIZE 000	TOT. REG. 319	
		ENG	FIX 0	
		DEG X	RAD	
		USER MODE		
		ON	OFF X	
		FLAGS		
#	INIT S/C	SET INDICATES	CLEAR INDICATES	
01	C	PRINT 2 ND ROW OF 24 CHARACTERS WHILE EXECUTING SUBROUTINE NO. 64	DO NOT PRINT THE ACCUMULATED NUMBER OF CHARACTERS.	
		ASSIGNMENTS		
FUNCTION		KEY	FUNCTION	KEY
- NONE -				

72 & 73

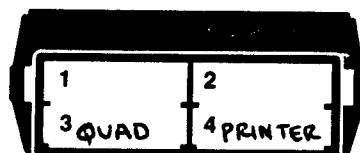
KEYBOARD CARD LABELING

KEYBOARD



(NO KEYBOARD
ASSIGNMENTS)

SYSTEM
CONFIGURATION



NOTE:
1. INDICATED CONFIGURATION
ASSUMES NO CARD READER.
2. QUAD MODULE ONLY FOR
41C.

CARD

