

IDENTIFICATION

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PRODUCT CODE: MAINDEC-08-DIVTC-A-D

PRODUCT NAME: VT55 ACCEPTANCE TEST ✓

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MAINTAINER: DIAGNOSTIC GROUP

AUTHOR: VERA BREUER

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1.0 ABSTRACT  
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THIS PROGRAM IS AN ACCEPTANCE TEST OF THE VT55 VIDEO TERMINAL. THE PROGRAM CONSISTS OF 13 TEST PATTERNS DISPLAYED ON THE VT55 SCREEN. EACH PATTERN REQUIRES OPERATOR INSPECTION FOR ERROR DETECTION. A DESCRIPTION OF THE CORRECT VISUAL DISPLAY FOR EACH TEST CAN BE FOUND IN SECTION 9.

THE PROGRAM IS CAPABLE OF HANDLING MULTIPLE VT55'S IN A SEQUENTIAL DL-11 FASHION, HOWEVER:

\*\*\*\*\*  
ONLY ONE VT55 IS TESTED AT ONE TIME.  
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THE OPERATOR MUST TOGGLE IN THE CORRECT VALUES FOR LOCATIONS "FIRST" AND "LAST" FOUND ON PAGE ZERO. "FIRST" MUST BE THE FIRST RECEIVER IOT TO BE TESTED AND "LAST" MUST BE THE LAST RECEIVER IOT TO BE TESTED. THE VT55'S WILL BE TESTED SEQUENTIALLY BEGINNING WITH "FIRST" AND INCREMENTING UNTIL IT REACHES "LAST". WHEN "LAST" HAS BEEN TESTED, THE PROGRAM THEN REPEATS THE ENTIRE PROCESS OF SEQUENTIAL TESTING BEGINNING WITH "FIRST" AGAIN.

2.0 REQUIREMENTS  
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2.1 EQUIPMENT

POP-8 FAMILY COMPUTER WITH 4K OF MEMORY.  
VT55 VIDEO TERMINAL  
DL-11 INTERFACE

2.2 STORAGE

THIS PROGRAM USES 4K OF MEMORY.

3.0 LOADING PROCEDURE  
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PROCEDURE FOR NORMAL BINARY TAPES SHOULD BE FOLLOWED.

4.0 STARTING PROCEDURE

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4.1 CONTROL SWITCH SETTINGS

- SW0 = INHIBIT ERROR HALT
- SW1 = LOOP ON ERROR
- SW2 = LOOP ON TEST
- SW3 = HALT ON COMPLETION OF PROGRAM PASS
- SW4 = INHIBIT ERROR PRINTOUT
- SW5 = OPERATOR INTERVENTION

4.2 STARTING ADDRESS

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200 IS THE STARTING ADDRESS OF THE ACCEPTANCE TEST

## 5.0 OPERATING PROCEDURE

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THE OPERATOR MUST INSERT THE CORRECT INFORMATION IN THE SWITCH REGISTER WHEN REQUIRED BY THE PROGRAM OR AN ERROR WILL OCCUR. ONCE STARTED, THE TEST WILL RUN IN ITS NORMAL MANNER WITHOUT OPERATOR INTERVENTION OR SWITCH CHANGES.

THIS PROGRAM ALLOWS THE OPERATOR TWO MODES OF TEST PATTERN SELECTION. THESE MODES ARE SELECTED BY THE STATE OF SW 05 AT THE BEGINNING OF THE PROGRAM. WHEN SW 05 IS A ZERO, THE PROGRAM IS UNDER SWITCH REGISTER CONTROL FOR TEST PATTERN SELECTION. IF SW 05 IS EQUAL TO A ONE, THE PROGRAM IS UNDER KEYBOARD CONTROL OF THE TEST PATTERN SELECTION.

IN THE KEYBOARD SELECT MODE, TWO CHARACTERS ARE USED TO SELECT THE "STARTING WITH" OR "LOOPING ON" A PARTICULAR TEST PATTERN BY "/" OR "\" RESPECTFULLY.

THE "/" KEY IS USED TO SUSPEND THE CURRENT TEST AND ASK THE OPERATOR AT WHICH TEST PATTERN HE/SHE WISHES TO START. THE OPERATOR NOW DEPRESSES THE LETTER WHICH REPRESENTS THE TEST PATTERN TO BE STARTED WITH. REFER TO THE PROGRAM LISTING FOR THE TEST LETTER OF EACH PATTERN.

THE "\" KEY IS USED TO SUSPEND THE CURRENT TEST AND ASK THE OPERATOR WHICH TEST PATTERN HE/SHE WISHES TO LOOP ON. THE OPERATOR NOW DEPRESSES THE LETTER OF THE TEST TO LOOP ON.

IF DURING THE EXECUTION OF A TEST PATTERN, A KEY IS DEPRESSED AND SW 05 EQUALS A ZERO, AN ERROR WILL BE REPORTED TO THE CONSOLE TTY. IF SW 05 EQUALS A ONE, AND THE CHARACTER RECEIVED WAS NOT A "/" OR "\", AN ERROR WILL BE REPORTED.

## 6.0 ERRORS

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THE PROGRAM PRINTS OUT A DESCRIPTIVE MESSAGE ABOUT WHAT WAS IN ERROR AND THE PC AT THE ERROR LOCATION, AND THEN HALTS. IF IT IS DESIRED TO CONTINUE, THEN HIT CONTINUE KEY.

7.0 MISCELLANEOUS  
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1. ONLY ONE VT55 CAN BE TESTED AT ONE TIME.
2. THE FIRST TIME AFTER LOADING THE PROGRAM, THE TERMINAL IDENTIFIER MUST BE RUN.
3. EXECUTION TIME  
EXECUTION TIME WILL VARY WITH THE "BAUD" RATE.
4. DEVICE ADDRESS PROGRAM LOCATIONS  
THE LOCATION "FIRST" CONTAINS THE FIRST DL11 ADDRESS IF SEVERAL VT-55'S ARE BEING TESTED. THE LOCATION "LAST" CONTAINS THE LAST DL11 ADDRESS IF SEVERAL VT-55'S ARE BEING TESTED. LOCATION VTNOW CONTAINS THE CURRENT DL11 BASE ADDRESS.  
  
\*NOTE: IF THESE LOCATIONS ARE CHANGED, THE OPERATOR MUST START THE TEST AGAIN AT LOC. 200. THE PROGRAM WILL USE THE VALUES PLACED IN "FIRST" AND "LAST" TO UPDATE THE ACTUAL PROGRAM VALUES.
5. THERE WILL BE A 5 SECOND DELAY BETWEEN TESTS WITH THE PDP-8/A PROCESSOR. DELAY TIME WILL BE LONGER WHEN USING OTHER PDP-8 PROCESSORS.

## 8.0 PROGRAM DESCRIPTION

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### 8.1 GROWING HORIZONTAL LINE

THE CORRECT VISUAL DISPLAY WILL BE A SINGLE HORIZONTAL LINE EXTENDING THE ENTIRE WIDTH OF THE SCREEN PLACED AT BASE ZERO OF THE SCREEN. ANOTHER HORIZONTAL LINE WILL SUCCESSIVELY APPEAR GIVING THE IMPRESSION OF A GROWING HORIZONTAL LINE, UNTIL THE ENTIRE SCREEN HAS BEEN FILLED. THEN THE FIRST LINE AT THE BASE OF THE SCREEN WILL BE REMOVED, FOLLOWED BY EACH SUCCESSIVE LINE UNTIL THE ENTIRE BLOCK HAS DISAPPEARED.

### 8.2 GROWING VERTICAL LINE

THE CORRECT VISUAL DISPLAY WILL BE A SINGLE VERTICAL LINE EXTENDING THE ENTIRE HEIGHT OF THE SCREEN AND PLACED AT THE FAR RIGHT SIDE OF THE SCREEN. ANOTHER VERTICAL LINE WILL SUCCESSIVELY APPEAR, GIVING THE IMPRESSION OF A GROWING VERTICAL LINE RIGHT TO LEFT, UNTIL THE ENTIRE SCREEN HAS BEEN FILLED. THEN THE FIRST LINE AT THE RIGHT WILL BE REMOVED, FOLLOWED BY EACH SUCCESSIVE LINE UNTIL THE ENTIRE BLOCK HAS DISAPPEARED.

### 8.3 STEPPING HORIZONTAL LINE FOR GRAPH 0 AND GRAPH 1

THE CORRECT VISUAL DISPLAY WILL BEGIN WITH A SINGLE HORIZONTAL LINE APPEARING NEAR THE CENTER OF THE SCREEN AND EXTENDING THE ENTIRE WIDTH OF THE SCREEN. THEN A SECOND HORIZONTAL LINE HALFWAY BETWEEN THE FIRST LINE AND THE BASE OF THE SCREEN WILL BEGIN TO GROW FROM THE LEFT SIDE OF THE SCREEN. AS THIS LINE GROWS, THE FIRST LINE DISAPPEARS AND YOU'RE LEFT WITH A SINGLE HORIZONTAL LINE ABOUT ONE FOURTH THE WAY UP THE SCREEN. THEN ANOTHER LINE BEGINS TO GROW FROM THE LEFT, HALFWAY BETWEEN THE PREVIOUS LINE AND THE BASE OF THE SCREEN. AS THIS ONE GROWS THE PREVIOUS LINE IS REMOVED. THIS PROCEDURE CONTINUES FOR A TOTAL OF EIGHT TIMES.

## 8.4 GRAPH 0 AND 1

THE CORRECT VISUAL DISPLAY WILL BEGIN WITH THE APPEARANCE OF A HORIZONTAL LINE EXTENDING THE ENTIRE WIDTH OF THE SCREEN PLACED AT THE BASE ZERO. AS THIS LINE IS REMOVED FROM THE LEFT TO RIGHT, A DIAGONAL LINE, BEGINNING AT THE LEFT BOTTOM CORNER, BEGINS TO GROW UNTIL IT REACHES THE TOP OF THE SCREEN. AT THIS POINT A SECOND DIAGONAL LINE BEGINS TO GROW UP FROM THE BASE LINE ABOUT IN THE MIDDLE OF THE SCREEN. THIS LINE CONTINUES TO GROW UP UNTIL IT REACHES THE TOP OF THE SCREEN. THEN A HORIZONTAL LINE REAPPEARS AT BASE ZERO OF THE SCREEN EXTENDING THE ENTIRE WIDTH OF THE SCREEN. NOW A DIAGONAL LINE BEGINNING AT THE TOP OF THE LEFT CORNER OF THE SCREEN BEGINS TO DECAY DOWNWARD AS THE BASE HORIZONTAL LINE DISAPPEARS. IT CONTINUES UNTIL IT REACHES THE BASE LINE OF THE SCREEN WHEN A SECOND DIAGONAL LINE BEGINS TO DECAY DOWNWARD FROM THE TOP MIDDLE SECTION OF THE SCREEN AND CONTINUES UNTIL IT REACHES THE BASE LINE OF THE SCREEN. THE END RESULT SHOULD BE TWO LARGE X'S FILLING UP THE ENTIRE SCREEN (XX).

## 8.5 DISPLAY A STEPPING HISTOGRAM LINE ON GRAPH 0 AND GRAPH 1

THE CORRECT VISUAL DISPLAY WILL BEGIN WITH THE APPEARANCE OF A HORIZONTAL LINE AT BASE ZERO ON THE SCREEN. THEN A LINE HALFWAY UP THE SCREEN WILL BEGIN TO GROW FROM THE LEFT SIDE OF THE SCREEN WITH ALL THE AREA BETWEEN THE TWO LINES SHADED. THIS SHADED AREA WILL CONTINUE TO GROW UNTIL IT REACHES THE FAR RIGHT SIDE OF THE SCREEN. THEN A LINE WHICH BISECTS THE SHADED AREA BEGINS TO GROW FROM THE LEFT SIDE. AS THIS LINE GROWS IT REMOVES THE SHADED AREA ABOVE IT, CONTINUING UNTIL IT REACHES THE RIGHT SIDE OF THE SCREEN. THE SHADED AREA IS THEN CUT IN HALF AGAIN AND AGAIN UNTIL A SINGLE HORIZONTAL LINE REMAINS.

## 8.6 HISTOGRAM ON GRAPH 0 AND 1

THE CORRECT VISUAL DISPLAY WILL FOLLOW THE SAME PATTERN AS THE VISUAL DISPLAY FOR GRAPH 0 AND 1, EXCEPT THAT AS EACH DIAGONAL LINE GROWS, A TRIANGULAR SHADED AREA GROWS UNDER IT. THE FINAL RESULT SHOULD CONSIST OF FOUR OVERLAPPING RIGHT TRIANGLES, TWO WITH THE RIGHT ANGLE ON THE RIGHT BOTTOM OF THE SCREEN (MADE BY THE DIAGONAL LINES WHICH STARTED FROM THE BOTTOM LEFT) AND TWO WITH THE RIGHT ANGLE ON THE LEFT BOTTOM OF THE SCREEN (MADE BY THE DIAGONAL LINES WHICH STARTED FROM THE TOP LEFT).

## 8.7 CURSORS ON GRAPH 0

THE CORRECT VISUAL DISPLAY WILL BEGIN WITH A SINGLE HORIZONTAL LINE EXTENDING THE ENTIRE LENGTH OF THE SCREEN PLACED AT BASE ZERO. A DIAGONAL LINE WILL THEN BEGIN TO GROW FROM THE BOTTOM LEFT CORNER AS THE BASE HORIZONTAL LINE IS REMOVED. IT CONTINUES TO GROW UNTIL IT REACHES THE TOP OF THE SCREEN WHEN A SECOND DIAGONAL LINE BEGINS TO GROW FROM THE BOTTOM OF THE MIDDLE OF THE SCREEN. THIS LINE CONTINUES TO GROW AS THE BASE HORIZONTAL LINE CONTINUES TO BE REMOVED. WHEN THE DIAGONAL LINE REACHES THE TOP OF THE SCREEN A SQUARE OF CURSORS GROWS AT THE BASE OF THE FIRST DIAGONAL LINE. IT IS FOLLOWED BY ANOTHER SQUARE, EVENTUALLY GIVING THE APPEARANCE OF A STAIRCASE. THIS PROCEDURE IS REPEATED ON THE SECOND DIAGONAL LINE AND WHEN THE LAST SQUARE IS DONE, THE ENTIRE PROCEDURE IS REVERSED. EACH SQUARE IS SUCCESSIVELY REMOVED STARTING AT THE TOP OF THE SECOND DIAGONAL LINE, CONTINUING DOWN IT, THEN STARTING AT THE TOP OF THE FIRST DIAGONAL LINE AND GOING DOWN IT.

## 8.8 CURSORS ON GRAPH 1

THE CORRECT VISUAL DISPLAY WILL BE ALMOST IDENTICAL TO THAT OF THE CURSORS ON GRAPH 0. THE ONLY DIFFERENCE IS THAT THE TWO DIAGONAL LINES BEGIN AT THE TOP LEFT OF THE SCREEN AND GO DOWN TOWARDS THE RIGHT.



## 8.9 STARTING COORDINATE ON GRAPH 0 AND 1

THE CORRECT VISUAL DISPLAY WILL BEGIN WITH A SINGLE HORIZONTAL LINE EXTENDING THE ENTIRE WIDTH OF THE SCREEN PLACED AT BASE ZERO. A DIAGONAL LINE WILL THEN BEGIN TO GROW FROM THE BOTTOM LEFT CORNER AS THE HORIZONTAL LINE DISAPPEARS. IT CONTINUES TO GROW UNTIL IT REACHES THE TOP OF THE SCREEN WHEN A SECOND DIAGONAL LINE BEGINS TO GROW FROM THE BOTTOM OF THE MIDDLE OF THE SCREEN. THIS LINE CONTINUES TO GROW AS THE HORIZONTAL LINE CONTINUES TO DISAPPEAR. WHEN THE SECOND DIAGONAL LINE REACHES THE TOP OF THE SCREEN, A SMALL SECTION OF THE HORIZONTAL LINE SHOULD STILL BE VISIBLE. AT THIS POINT A DOTTED SINE CURVE BEGINS FROM THE RIGHT BOTTOM CORNER. AS IT GROWS UPWARD THE REST OF THE HORIZONTAL LINE IS REMOVED. AS THE SINE CURVE REACHES ITS PEAK THE SECOND DIAGONAL LINE BEGINS TO DISAPPEAR. THE LINE CONTINUES TO DISAPPEAR AS THE SINE CURVE ROUNDS THE PEAK AND STARTS DOWNWARD. THEN THE SINE CURVE GROWS UPWARD AGAIN AND THE FIRST DIAGONAL LINE BEGINS TO DISAPPEAR AS THE CURVE REACHES ITS PEAK. THE SINE CURVE CONTINUES TO GROW UNTIL FOUR PEAKS HAVE BEEN FORMED. THEN AT THE RIGHT SIDE OF THE SCREEN, ABOUT HALFWAY UP, THE SINE CURVE STARTS AGAIN TO COME DOWN AND THE FIRST HALF OF THE ORIGINAL CURVE DISAPPEARS. THE DISPLAY IS FINISHED WHEN THE LAST PIECE OF THE CURVE WHICH STARTED AT THE RIGHT REACHES THE BOTTOM OF THE SCREEN.

## 8.10 VT55 ADJUSTMENT PATTERN

THE CORRECT VISUAL DISPLAY CONSISTS OF TWELVE ROWS OF THE LETTER "H" WITH A BLANK LINE SEPARATING EACH OF THE ROWS. THEN TWELVE HORIZONTAL LINES ARE DISPLAYED, STARTING AT THE BOTTOM AND OVERLAYING THE ROWS OF H'S TOUCHING THE BOTTOM OF THE H'S. THEN FORTY-ONE VERTICAL LINES ARE DISPLAYED, RESULTING IN A CHECKERBOARD OVER THE TWELVE ROWS OF H'S. THE FIRST VERTICAL LINE IS PLACED THROUGH THE MIDDLE OF THE FIRST ROW OF H'S. EACH SUCCESSIVE VERTICAL LINE IS 15 POINTS TO THE RIGHT OF THE PREVIOUS LINE. THE VERY LAST LINE IS EXACTLY ON TOP OF THE RIGHT SIDE OF THE LAST ROW OF H'S.





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111 0203 4423 JMS I CLEAN /CLEAR SCREEN
112 0204 3054 DCA PASS /CLEAR END OF PASS COUNTER
113 0205 4427 JMS I MSG /PRINT HEADING
114 0206 3000 HEAD0
115 0207 4433 START2, JMS I DELAY /STALL TIME
116 0210 1377 TAD (TSTLST /GET START ADDRESS OF TEST LIST
117 0211 3132 DCA TEMPT /SAVE IT
118 0212 3123 DCA LOOP
119
120
121
122 /CHANGE THE IOT'S
123 0213 1376 TAD (IOTLST-1 /GET ADDRESS OF IOT LIST
124 0214 3010 DCA A10
125 0215 1410 BACK, TAD I A10 /GET ELEMENT
126 0216 3135 DCA TEMP
127 0217 1535 TAD I TEMP /GET IOT
128 0220 7450 SNA
129 0221 5226 JMP OUTB /START OUTPUT IOTS
130 0222 0375 AND (7007 /MASK BITS
131 0223 1141 TAD VTNOW /GET FIRST IOT
132 0224 3535 OCA I TEMP /STORE BACK IN ELEMENT
133 0225 5215 JMP BACK /REPEAT
134 0226 7000 OUTB, NOP
135 0227 1410 BACKA, TAD I A10 /GET ELEMENT
136 0230 3135 DCA TEMP
137 0231 1535 TAD I TEMP /GET IOT
138 0232 7450 SNA
139 0233 5241 JMP OUTA /FINISHED
140 0234 0375 AND (7007 /MASK BITS
141 0235 1141 TAD VTNOW /GET IOT
142 0236 1374 TAD (0010 /INCREMENT FOR TRANSMIT IOT
143 0237 3535 DCA I TEMP /STORE IT BACK
144 0240 5227 JMP BACKA
145 0241 7000 OUTA, NOP
146
147 /DISPLAY A GROWING HORIZONTAL LINE
148 0242 7300 TST1, CLA CLL
149 0243 4423 JMS I CLEAN /CLEAR SCREEN
150 0244 4427 JMS I MSG
151 0245 3704 HEAD1
152 0246 1373 TAD (BUFF1-1 /GET BEGINNING ADDRESS OF BUFFER
153 0247 3010 DCA A10
154 0250 1117 TAD ESCE /LOAD "01" ENTER CODE
155 0251 3410 DCA I A10
156 0252 1120 TAD LDE05 /LOAD ENABLE 0
157 0253 3410 DCA I A10
158 0254 1121 TAD LDE154 /LOAD ENALBE 1 + CLEAR GRAPH,LINES,CURSORS
159 0255 3410 DCA I A10
160 0256 1111 TAD L050
161 0257 3410 DCA I A10
162 0260 1110 TAD L0BIT
163 0261 3410 DCA I A10
164 0262 1107 TAD LMBIT
165 0263 3410 DCA I A10

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166 0264 1036 TAD ADDLIN /LOAD THE STARTING DATA VALUE
167 0265 3052 DCA BASE
168 0266 4432 TST1A, JMS I SHUFF /GET DATA INTO VT55 FORMAT
169 0267 7000 NOP
170 0270 3410 DCA I A10
171 0271 2052 ISZ BASE /UPDATE THE DATA
172 0272 1036 TAD ADDLIN /COMPARE DATA
173 0273 1040 TAD MAXHOZ /TO THE
174 0274 7041 CIA /LAST DATA
175 0275 1052 TAD BASE /LINE
176 0276 7440 SZA /LOOP UNTIL DONE
177 0277 5266 JMP TST1A
178 0300 7000 NOP
179 0301 7000 TST1C, NOP
180 0302 7000 NOP
181 0303 7000 NOP
182 0304 3052 DCA BASE /LOAD STARTING DATA VALUE TO REMOVE THE LINE
183 0305 4432 TST1B, JMS I SHUFF /SHUFFLE THE DATA INTO VT55 FORMAT
184 0306 7000 NOP
185 0307 3410 DCA I A10
186 0310 2052 ISZ BASE /INCREMENT THE DATA
187 0311 1040 TAD MAXHOZ /COMPARE THE DATA TO
188 0312 7041 CIA /LAST LINE
189 0313 1052 TAD BASE
190 0314 7440 SZA /LOOP UNTIL DONE
191 0315 5305 JMP TST1B
192 0316 7000 NOP
193 0317 3410 DCA I A10
194 0320 3410 DCA I A10
195 0321 7000 NOP
196 0322 7000 NOP
197 0323 7000 NOP
198 0324 4430 JMS I PRNT /DISPLAY
199 0325 4433 JMS I DELAY /DELAY
200 0326 5425 JMP I LOOPT
201 0373 4577
202 0374 0010
203 0375 7007
204 0376 2226
205 0377 3310
206 0400 0400 PAGE
207 0400 7300 /DISPLAY A GROWING VERTICAL LINE
208 0401 4423 TST2, CLA CLL
209 0402 4427 JMS I CLEAN /CLEAR SCREEN
210 0403 3704 JMS I MSG
211 0404 1377 HEAD2
212 0405 1377 TAD (BUFF1-1 /GET BEGINNING ADDRESS OF BUFFER
213 0406 1117 DCA A10
214 0407 3410 TAD ESCE /LOAD "01" ENTER CODE
215 0410 1120 DCA I A10
216 0411 3410 TAD LDE05 /LOAD ENABLE 0
217 0412 1121 DCA I A10
218 0413 3410 TAD LDE154 /LOAD ENABLE 1+CLEAR GRAPH,LINES,CURSORS
219 0414 1111 DCA I A10
220 0414 1111 TAD L050 /LOAD ENABLE 0 + LOAD DISPLAY ENABLE

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220 0415 3410      DCA I  A10
221 0416 1112      TAD      LDVBIT      /LOAD ENABLE 1 + DISPLAY VERTICAL LINE
222 0417 3410      DCA I  A10
223 0420 1113      TAD      LHVBIT      /LOAD NOP AND VERTICAL LINE
224 0421 3410      DCA I  A10
225 0422 1037      TAD      MAXVRT      /LOAD THE
226 0423 1022      TAD      M1          /STARTING
227 0424 1036      TAD      ADDLIN      /DATA VALUE
228 0425 3052      DCA      BASE
229 0426 4432      TST2A, JMS I SHUFF      /SHUFFLE DATA INTO VT55 FORMAT
230 0427 3410      DCA I  A10
231 0430 1052      TAD      BASE      /UPDATE THE DATA
232 0431 1022      TAD      M1
233 0432 3052      DCA      BASE
234 0433 1036      TAD      ADDLIN      /COMPARE DATA
235 0434 7041      CIA          /TO LAST
236 0435 1052      TAD      BASE      /DATA ITEM
237 0436 7440      SZA          /LOOP UNTIL DONE
238 0437 5226      JMP      TST2A
239 0440 1037      TAD      MAXVRT      /LOAD STARTING DATA VALUE TO REMOVE THE LINE
240 0441 3052      DCA      BASE
241 0442 4432      TST2B, JMS I SHUFF      /SHUFFLE THE DATA INTO VT55 FORMAT
242 0443 3410      DCA I  A10
243 0444 1052      TAD      BASE      /UPDATE THE DATA
244 0445 1022      TAD      M1
245 0446 3052      DCA      BASE
246 0447 1052      TAD      BASE
247 0450 7440      SZA          /LOOP UNTIL DONE
248 0451 5242      JMP      TST2B
249 0452 3410      DCA I  A10      /LOAD TERMINATOR
250 0453 4430      JMS I  PRNT      /DISPLAY
251 0454 4433      JMS I  DELAY     /DELAY
252 0455 5425      JMP I  LOOPT

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253 /GRAPH 0 DISPLAY A STEPPING HORIZONTAL LINE
254 TST3, CLA CLL
255 0456 7300      JMS I  CLEAN      /CLEAR SCREEN
256 0457 4423      JMS I  MSG        /PRINT HEADING
257 0461 3753      HEAD3
258 0462 1377      TAD      (BUFF1-1  /GET LIST POINTER
259 0463 3010      DCA      A10
260 0464 1117      TAD      ESCE      /LOAD "01" ENTER CODE
261 0465 3410      DCA I  A10
262 0466 1120      TAD      LDE05     /LOAD ENABLE 0
263 0467 3410      DCA I  A10
264 0470 1121      TAD      LDE154    /LOAD ENABLE 1 + CLEAR GRAPH,LINES,CURSORS
265 0471 3410      DCA I  A10
266 0472 3410      DCA I  A10
267 0473 4430      JMS I  PRNT      /LOAD TERMINATOR
268 0474 1376      TAD      (200      /EXECUTE IT
269 0475 3340      DCA      TST3C
270 0476 1377      TST3A, TAD      (BUFF1-1 /GET LIST POINTER
271 0477 3010      DCA      A10
272 0500 1117      TAD      ESCE      /LOAD "01" ENTER CODE + ENABLE 0
273 0501 3410      DCA I  A10
274 0502 1115      TAD      LDE510    /LOAD ENABLE 0 + GRAPH 0 ON
275 0503 3410      DCA I  A10
276 0504 1116      TAD      LNGL3C    /LOAD NOP + STARTING COORDINATE
277 0505 3410      DCA I  A10
278 0506 3052      DCA      BASE      /GET BASE LINE
279 0507 4432      JMS I  SHUFF      /SHUFFLE INTO VT55 FORMAT
280 0510 3410      DCA I  A10
281 0511 1114      TAD      LNL000    /LOAD NOP + LOAD GRAPH
282 0512 3410      DCA I  A10
283 0513 1340      TAD      TST3C
284 0514 3052      DCA      BASE      /LOAD THE STARTING DATA VALUE
285 0515 1037      TAD      MAXVRT      /LOAD COUNTER
286 0516 7041      CIA
287 0517 3341      DCA      TST3D
288 0520 4432      JMS I  SHUFF      /SHUFFLE INTO VT55 FORMAT
289 0521 3135      DCA      TEMP      /SAVE THE LSB MSB BYTE
290 0522 1135      TST3B, TAD      TEMP
291 0523 3410      DCA I  A10      /STORE IT IN BUFFER
292 0524 2341      I8Z      TST3D      /INCREMENT COUNTER
293 0525 5322      JMP      TST3B
294 0526 3410      DCA I  A10      /LOAD TERMINATOR
295 0527 4430      JMS I  PRNT      /EXECUTE IT
296 0530 1340      TAD      TST3C
297 0531 7010      RAR
298 0532 3340      DCA      TST3C      /CHANGE DATA VALUE
299 0533 1340      TAD      TST3C
300 0534 7640      SZA      CLA
301 0535 5276      JMP      TST3A
302 0536 4433      JMS I  DELAY
303 0537 5425      JMP I  LOOPT
304 0540 0000      TST3C, 0
305 0541 0000      TST3D, 0

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306 0576 0200
307 0577 4577
      0600
308
309 0600 7300
310 0601 4423
311 0602 4427
312 0603 4004
313 0604 1377
314 0605 3010
315 0606 1117
316 0607 3410
317 0610 1120
318 0611 3410
319 0612 1121
320 0613 3410
321 0614 3410
322 0615 4430
323 0616 1376
324 0617 3262
325 0620 1377
326 0621 3010
327 0622 1117
328 0623 3410
329 0624 1105
330 0625 3410
331 0626 1116
332 0627 3410
333 0630 3052
334 0631 4432
335 0632 3410
336 0633 1106
337 0634 3410
338 0635 1262
339 0636 3052
340 0637 1037
341 0640 7041
342 0641 3263
343 0642 4432
344 0643 3135
345 0644 1135
346 0645 3410
347 0646 2263
348 0647 5244
349 0650 3410
350 0651 4430
351 0652 1262
352 0653 7010
353 0654 3262
354 0655 1262
355 0656 7540
356 0657 5220
357 0660 4433
358 0661 5425
359 0662 0000

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/GRAPH 1 DISPLAY A STEPPING HORIZONTAL LINE
TST4, CLA CLL
      JMS I CLEAN /CLEAR SCREEN
      JMS I MSG /PRINT HEADING
      HEAD4
      TAD (BUFF1=1 /GET LIST POINTER
      DCA A10
      TAD ESCE /LOAD "01" ENTER CODE AND ENABLE 0
      DCA I A10
      TAD LDE05 /LOAD ENABLE 1 + CLEAR GRAPH, LINES, + CURSORS
      DCA I A10
      TAD LDE154
      DCA I A10
      DCA I A10
      DCA I A10 /LOAD TERMINATOR
      JMS I PRNT /EXECUTE IT
      TAD (200
      DCA TST4C /LOAD STARTING BASE LINE
      TAD (BUFF1=1 /GET LIST POINTER
      DCA A10
      TAD ESCE /LOAD "01" ENTER CODE AND ENABLE 0
      DCA I A10
      TAD LD520 /LOAD DISPLAY ENABLE + GRAPH 1 ON
      DCA I A10
      TAD LNOLSC /LOAD NOP + STARTING COORDINATE
      DCA I A10
      DCA BASE /GET BASE LINE
      JMS I SHUFF /SHUFFLE INTO VT55 FORMAT
      DCA I A10
      TAD LNLDG1 /LOAD NOP + LOAD GRAPH
      DCA I A10
      TAD TST4C
      DCA BASE /LOAD STARTING DATA VALUE
      TAD MAXVRT
      CIA
      DCA TST4D /LOAD COUNTER
      JMS I SHUFF /SHUFFLE INTO VT55 FORMAT
      DCA TEMP /SAVE THE LSB MSB BYTE
      TAD TEMP
      DCA I A10
      ISZ TST4D /DONE FULL GRAPH?
      JMP TST4B /NO = REPEAT
      DCA I A10 /YES = LOAD TERMINATOR
      JMS I PRNT /EXECUTE IT
      TAD TST4C
      RAR
      DCA TST4C
      TAD TST4C
      SZA CLA
      JMP TST4A
      JMS I DELAY
      JMP I LOOPT
TST4C, 0

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360 0663 0000
361
362 0664 7300
363 0665 4423
364 0666 4427
365 0667 4035
366 0670 1377
367 0671 3010
368 0672 1117
369 0673 3410
370 0674 1120
371 0675 3410
372 0676 1121
373 0677 3410
374 0700 3410
375 0701 4430
376 0702 4431
377 0703 0202
378 0704 0000
379 0705 4430
380 0706 4431
381 0707 0612
382 0710 4354
383 0711 4430
384 0712 4433
385 0713 5425
386 0776 0200
387 0777 4577
      1000
388
389
390 1000 7300
391 1001 4423
392 1002 4427
393 1003 4047
394 1004 1377
395 1005 3010
396 1006 1117
397 1007 3410
398 1010 1120
399 1011 3410
400 1012 1121
401 1013 3410
402 1014 3410
403 1015 4430
404 1016 1376
405 1017 3263
406 1020 1377
407 1021 3010
408 1022 1117
409 1023 3410
410 1024 1122
411 1025 3410
412 1026 1116
413 1027 3410

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PAGE

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/GRAPH 0 DISPLAY A STEPPING HISTOGRAM LINE
TST6, CLA CLL
      JMS I CLEAN /CLEAR SCREEN
      JMS I MSG /PRINT HEADING
      HEAD6
      TAD (BUFF1=1 /GET STARTING ADDRESS OF BUFFER
      DCA A10
      TAD ESCE /LOAD "01" ENTER CODE
      DCA I A10
      TAD LDE05 /LOAD ENABLE 0
      DCA I A10
      TAD LDE154 /LOAD ENABLE 1 + CLEAR GRAPH, LINES + CURSORS
      DCA I A10
      DCA I A10
      DCA I A10 /LOAD TERMINATOR
      JMS I PRNT /EXECUTE IT
      TAD (200
      DCA TST6D /LOAD STARTING BASE LINE
      TAD (BUFF1=1 /GET STARTING ADDRESS OF BUFFER
      DCA A10
      TAD ESCE /LOAD "01" ENTER CODE
      DCA I A10
      TAD LD5310 /LOAD ENABLE 0, GRAPH 0, HISTOGRAM 0
      DCA I A10
      TAD LNOLSC /LOAD NOP + STARTING COORDINATE
      DCA I A10

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414 1030 3052 DCA BASE /GET BASE LINE
415 1031 4432 JMS I SHUFF /SHUFFLE INTO VT55 FORMAT
416 1032 3410 DCA I A10
417 1033 1114 TAD LNLDG0 /LOAD NOP AND LOAD GRAPH
418 1034 3410 DCA I A10
419 1035 1263 TAD TST6D
420 1036 3052 DCA BASE /LOAD THE STARTING DATA VALUE
421 1037 1037 TAD MAXVRT
422 1040 7041 CIA
423 1041 3262 DCA TST6E /LOAD COUNTER
424 1042 4432 JMS I SHUFF /SHUFFLE INTO VT55 FORMAT
425 1043 3135 DCA TEMP
426 1044 1135 TST6F, TAD TEMP
427 1045 3410 DCA I A10 /SAVE THE LSB MSB BYTE
428 1046 2262 ISZ TST6E /DONE FULL GRAPH?
429 1047 5244 JMP TST6F /NO = REPEAT
430 1050 3410 DCA I A10 /YES = LOAD TERMINATOR
431 1051 4430 JMS I PRNT /EXECUTE IT
432 1052 1263 TAD TST6D
433 1053 7010 RAR
434 1054 3263 DCA TST6D /CHANGE DATA VALUE
435 1055 1263 TAD TST6D
436 1056 7440 SZA
437 1057 5220 JMP TST6C
438 1060 4433 JMS I DELAY
439 1061 5425 JMP I LOOPT
440 1062 0000 TST6E, 0
441 1063 0000 TST6D, 0
442
443 /GRAPH 1 DISPLAY A STEPPING HISTOGRAM LINE
444 1064 7300 TST7, CLA CLL
445 1065 4423 JMS I CLEAN /CLEAR SCREEN
446 1066 4427 JMS I MSG /PRINT HEADING
447 1067 4077 HEAD7
448 1070 1377 TAD (BUFF1-1 /GET STARTING ADDRESS OF FIRST BUFFER
449 1071 3010 DCA A10
450 1072 1117 TAD ESCE /LOAD "01" ENTER CODE
451 1073 3410 DCA I A10
452 1074 1120 TAD LDE05 /LOAD ENABLE 0
453 1075 3410 DCA I A10
454 1076 1121 TAD LDE154 /LOAD ENABLE 1 + CLEAR GRAPH, LINES + CURSORS
455 1077 3410 DCA I A10
456 1100 3410 DCA I A10 /LOAD TERMINATOR
457 1101 4430 JMS I PRNT /EXECUTE IT
458 1102 1376 TAD (200
459 1103 3346 DCA TST7C /LOAD STARTING BASE LINE
460 1104 1377 TST7A, TAD (BUFF1-1 /GET STARTING ADDRESS OF BUFFER
461 1105 3010 DCA A10
462 1106 1117 TAD ESCE /LOAD "01" ENTER CODE
463 1107 3410 DCA I A10
464 1110 1103 TAD LD5420 /LOAD ENABLE 0, DISPLAY ENABLE + GRAPH 1
465 1111 3410 DCA I A10
466 1112 1116 TAD LNOL3C /LOAD NOP + STARTING COORDINATE
467 1113 3410 DCA I A10
468 1114 3052 DCA BASE /GET BASE LINE

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469 1115 4432 JMS I SHUFF /SHUFFLE INTO VT55 FORMAT
470 1116 3410 DCA I A10
471 1117 1106 TAD LNLDG1 /LOAD NOP + LOAD GRAPH
472 1120 3410 DCA I A10
473 1121 1346 TAD TST7C
474 1122 3052 DCA BASE /LOAD THE STARTING DATA VALUE
475 1123 1037 TAD MAXVRT
476 1124 7041 CIA
477 1125 3347 DCA TST7D /LOAD COUNTER
478 1126 4432 JMS I SHUFF /SHUFFLE INTO VT55 FORMAT
479 1127 3135 DCA TEMP
480 1130 1135 TST7B, TAD TEMP
481 1131 3410 DCA I A10 /SAVE THE LSB MSB BYTE
482 1132 2347 ISZ TST7D /DONE FULL GRAPH?
483 1133 5330 JMP TST7B /NO = REPEAT
484 1134 3410 DCA I A10 /YES = LOAD TERMINATOR
485 1135 4430 JMS I PRNT /EXECUTE IT
486 1136 1346 TAD TST7C
487 1137 7010 RAR
488 1140 3346 DCA TST7C /CHANGE DATA VALUE
489 1141 1346 TAD TST7C
490 1142 7640 SZA CLA
491 1143 5304 JMP TST7A
492 1144 4433 JMS I DELAY
493 1145 5425 JMP I LOOPT
494 1146 0000 TST7C, 0
495 1147 0000 TST7D, 0
496 1176 0200
497 1177 4577
498 PAGE
499 /HISTOGRAM ON GRAPH 0 AND 1
500 1200 7300 TST10, CLA CLL
501 1201 4423 JMS I CLEAN /CLEAR SCREEN
502 1202 4427 JMS I MSG /PRINT HEADING
503 1203 4127 HEAD10
504 1204 1377 TAD (BUFF1-1 /GET STARTING ADDRESS OF BUFFER
505 1205 3010 DCA A10
506 1206 1117 TAD ESCE /LOAD "01" ENTER CODE
507 1207 3410 DCA I A10
508 1210 1120 TAD LDE05 /LOAD ENABLE 0
509 1211 3410 DCA I A10
510 1212 1121 TAD LDE154 /LOAD ENABLE 1 + CLEAR GRAPH, LINES + CURSORS
511 1213 3410 DCA I A10
512 1214 3410 DCA I A10 /LOAD TERMINATOR
513 1215 4430 JMS I PRNT /EXECUTE IT
514 1216 4431 JMS I UPDOWN /LOAD DATA PATTERN
515 1217 1202 1202
516 1220 0000 0
517 1221 4430 JMS I PRNT /EXECUTE IT
518 1222 4431 JMS I UPDOWN /LOAD DATA PATTERN
519 1223 3612 LD1B36
520 1224 4354 BITMAX
521 1225 4430 JMS I PRNT /EXECUTE IT
522 1226 4433 JMS I DELAY

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523 1227 5425          JMP I  LOOPT
524
525
526 1230 7300          /CURSORS ON GRAPH 0
527 1231 4423          TST11, CLA CLL
528 1232 4427          JMS I  CLEAN      /CLEAR SCREEN
529 1233 4150          JMS I  MSG        /PRINT HEADING
530 1234 1377          HEAD11
531 1235 3010          TAD   (BUFF1-1   /GET STARTING ADDRESS OF BUFFER
532 1236 1117          DCA  A10
533 1237 3410          TAD   ESCE      /LOAD "01" ENTER CODE
534 1240 1120          DCA  I  A10
535 1241 3410          TAD   LDE05     /LOAD ENABLE 0
536 1242 1121          DCA  I  A10
537 1243 3410          TAD   LDE154    /LOAD ENABLE 1 + CLEAR GRAPH, LINES + CURSORS
538 1244 3410          DCA  I  A10
539 1245 4430          JMS I  PRNT     /LOAD TERMINATOR
540 1246 4431          JMS I  UPDOWN   /EXECUTE IT
541 1247 0202          LD001
542 1250 0000          ZERO
543 1251 4430          JMS I  PRNT     /EXECUTE IT
544 1252 4434          JMS I  CURSOR
545 1253 0403          403
546 1254 2000          XADLIN
547 1255 4430          JMS I  PRNT     /EXECUTE IT
548 1256 4434          JMS I  CURSOR   /ENABLE CURSORS
549 1257 0403          403
550 1260 0000          BIT15
551 1261 4430          JMS I  PRNT     /EXECUTE IT
552 1262 4433          JMS I  DELAY
553 1263 5425          JMP I  LOOPT
554
555
556
557 1264 7300          /CURSORS ON GRAPH 1
558 1265 4423          TST12, CLA CLL
559 1266 4427          JMS I  CLEAN      /CLEAR SCREEN
560 1267 4165          JMS I  MSG        /PRINT HEADER
561 1270 1377          HEAD12
562 1271 3010          TAD   (BUFF1-1   /GET STARTING ADDRESS OF BUFFER
563 1272 1117          DCA  A10
564 1273 3410          TAD   ESCE      /LOAD "01" ENTER CODE
565 1274 1120          DCA  I  A10
566 1275 3410          TAD   LDE05     /LOAD ENABLE 0
567 1276 1121          DCA  I  A10
568 1277 3410          TAD   LDE154    /LOAD ENABLE 1 + CLEAR GRAPH, LINES + CURSORS
569 1300 3410          DCA  I  A10
570 1301 4430          JMS I  PRNT     /LOAD TERMINATOR
571 1302 4431          JMS I  UPDOWN   /EXECUTE IT
572 1303 0412          LD0102
573 1304 4354          BITMAX
574 1305 4430          JMS I  PRNT     /EXECUTE IT
575 1306 4434          JMS I  CURSOR   /ENABLE CURSORS
576 1307 1013          1013
577 1310 2000          XADLIN

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578 1311 4430          JMS I  PRNT     /EXECUTE IT
579 1312 4434          JMS I  CURSOR   /ENABLE CURSORS
580 1313 1013          1013
581 1314 0000          BIT15
582 1315 4430          JMS I  PRNT     /EXECUTE IT
583 1316 4433          JMS I  DELAY
584 1317 5425          JMP I  LOOPT
585
586
587 1377 4577          PAGE
588 1400 1400          /TEST STARTING COORDINATE ON GRAPH 0
589 1400 7300          TST13, CLA CLL
590 1401 4423          JMS I  CLEAN      /CLEAR SCREEN
591 1402 4427          JMS I  MSG        /PRINT HEADER
592 1403 4201          HEAD13
593 1404 1377          TAD   (BUFF1-1   /GET STARTING ADDRESS OF BUFFER
594 1405 3010          DCA  A10
595 1406 1117          TAD   ESCE      /LOAD "01" ENTER CODE
596 1407 3410          DCA  I  A10
597 1410 1120          TAD   LDE05     /LOAD ENABLE 0
598 1411 3410          DCA  I  A10
599 1412 1121          TAD   LDE154    /LOAD ENABLE 1 + CLEAR GRAPH, LINES + CURSORS
600 1413 3410          DCA  I  A10
601 1414 3410          DCA  I  A10
602 1415 4430          JMS I  PRNT     /LOAD TERMINATOR
603 1416 4431          JMS I  UPDOWN   /EXECUTE IT
604 1417 0202          LD001
605 1420 0000          ZERO
606 1421 4430          JMS I  PRNT     /EXECUTE IT
607 1422 1376          TAD   (=4
608 1423 3060          DCA  REG3      /LOAD SINE COUNTER
609 1424 1037          TAD   MAXVRT
610 1425 3061          DCA  REG4
611 1426 1377          TST13E, TAD   (SINEND /LOAD STARTING COORDINATE
612 1427 3057          DCA  REG0
613 1430 1057          TST13D, TAD   REG0
614 1431 1022          TAD   M1
615 1432 3057          DCA  REG0
616 1433 1457          TAD   I  REG0   /GET VALUE FROM TABLE, SINE DATA WORD
617 1434 3244          DCA  TST13A
618 1435 1457          TAD   I  REG0
619 1436 7650          8NA CLA
620 1437 5253          JMP   TST13C    /BRANCH IF NO MORE DATA
621 1440 1061          TAD   REG4
622 1441 3245          DCA  TST13B
623 1442 4435          JMS I  STCORD   /LOAD DATA INTO BUFFER
624 1443 0202          LD001
625 1444 0000          TST13A, ZERO
626 1445 0000          TST13B, ZERO
627 1446 4430          JMS I  PRNT     /EXECUTE IT
628 1447 1061          TAD   REG4
629 1450 1022          TAD   M1
630 1451 3061          DCA  REG4
631 1452 5250          JMP   TST13D    /REPEAT UNTIL FINISHED DATA BUFFER

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632 1453 2060 TST13C, ISZ REG3
633 1454 5226 JMP TST13E
634 1455 4433 JMS I DELAY
635 1456 5425 JMP I LOOPT
636
637
638 1457 7300 /TEST STARTING COORDINATE ON GRAPH 1
TST14, CLA CLL
639 1460 4423 JMS I CLEAN /CLEAR SCREEN
640 1461 4427 JMS I MSG /PRINT HEADING
641 1462 4224 HEAD14
642 1463 1377 TAD (BUFF1-1 /GET STARTING ADDRESS OF BUFFER
643 1464 3010 DCA A10
644 1465 1117 TAD ESCE /LOAD "01" ENTER CODE
645 1466 3410 DCA I A10
646 1467 1120 TAD LDE05 /LOAD ENABLE 0
647 1470 3410 DCA I A10
648 1471 1121 TAD LDE154 /LOAD ENABLE 1 + CLEAR GRAPH, LINES + CURSORS
649 1472 3410 DCA I A10
650 1473 3410 DCA I A10 /LOAD TERMINATOR
651 1474 4430 JMS I PRNT /EXECUTE IT
652 1475 4431 JMS I UPDOWN /LOAD DATA PATTERN
653 1476 0412 LDE102
654 1477 0000 ZERO
655 1500 4430 JMS I PRNT /EXECUTE IT
656 1501 1376 TAD (=0
657 1502 3060 DCA REG3 /LOAD SINE COUNTER
658 1503 1037 TAD MAXVRT
659 1504 3061 DCA REG4 /LOAD STARTING COORDINATE
660 1505 1377 TST14E, TAD (SINEND /LOAD SINE POINTER
661 1506 3057 DCA REG0
662 1507 1057 TST14D, TAD REG0
663 1510 1022 TAD M1
664 1511 3057 DCA REG0 /GET VALUE FROM TABLE, SINE DATA WORD
665 1512 1457 TAD I REG0
666 1513 3323 DCA TST14A
667 1514 1457 TAD I REG0
668 1515 7650 SNA CLA
669 1516 5332 JMP TST14C /BRANCH IF NO MORE DATA
670 1517 1061 TAD REG4
671 1520 3324 DCA TST14B
672 1521 4435 JMS I STCORD /LOAD DATA INTO BUFFER
673 1522 1204 LDG124
674 1523 0000 TST14A, ZERO
675 1524 0000 TST14B, ZERO
676 1525 4430 JMS I PRNT /EXECUTE IT
677 1526 1061 TAD REG4
678 1527 1022 TAD M1
679 1530 3061 DCA REG4
680 1531 5307 JMP TST14D /REPEAT UNTIL FINISHED DATA BUFFER
681 1532 2060 TST14C, ISZ REG3
682 1533 5305 JMP TST14E
683 1534 4433 JMS I DELAY
684 1535 5425 JMP I LOOPT
685
686 1576 7774

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687 1577 4577 PAGE
688 1600
689 /VT55 ADJUSTMENT PATTERN
690 1600 7300 TST15, CLA CLL
691 1601 4423 JMS I CLEAN /CLEAR SCREEN
692 1602 4427 JMS I MSG /PRINT HEADING
693 1603 4246 HEAD15
694 /FILL SCREEN WITH H CHARACTER
695 1604 7200 CLA
696 1605 1377 TAD (=14
697 1606 3061 DCA REG4
698 1607 1376 TAD (BUFF1=1 /GET STARTING ADDRESS OF BUFFER
699 1610 3010 DCA A10
700 1611 1117 TAD ESCE /LOAD "01" ENTER CODE
701 1612 3410 DCA I A10
702 1613 1120 TAD LDE05 /LOAD ENABLE 0
703 1614 3410 DCA I A10
704 1615 1121 TAD LDE154 /LOAD ENABLE 1 + CLEAR GRAPH, LINES + CURSORS
705 1616 3410 DCA I A10
706 1617 1077 TAD EBCF /LOAD "02" EXIT CODE
707 1620 3410 DCA I A10
708 1621 3410 DCA I A10 /LOAD TERMINATOR
709 1622 4430 JMS I PRNT /EXECUTE IT
710 1623 4470 TST15B, JMS I CRLF
711 1624 4470 JMS I CRLF
712 1625 1375 TAD (=120
713 1626 3062 DCA REG5 /LOAD COUNTER
714 1627 1374 TST15A, TAD (310 /LOAD ASCII "H"
715 1630 4467 JMS I PRINT /PRINT IT
716 1631 2062 ISZ REG5 /FINISHED LINE?
717 1632 5227 JMP TST15A /NO = REPEAT
718 1633 2061 ISZ REG4
719 1634 5223 JMP TST15B
720 1635 5773 JMP TST15E
721
722 1773 2000 PAGE
723 1774 0310 /NOW INSTALL THE HORIZONTAL LINES
724 1775 7660 TST15E, CLA
725 1776 4577 TAD (BUFF1=1 /GET STARTING ADDRESS OF BUFFER
726 1777 7764 DCA A10
727 2000 7200 TAD ESCE /LOAD "01" ENTER CODE
728 2001 1377 DCA I A10
729 2002 3010 TAD LDE05 /LOAD ENABLE 0
730 2003 1117 DCA I A10
731 2004 3410 TAD LDE154 /LOAD ENABLE 1 + CLEAR GRAPH, LINES, CURSORS
732 2005 1120 DCA I A10
733 2006 3410 TAD EBCF /LOAD "02" EXIT CODE
734 2007 1121 DCA I A10
735 2010 3410 JMS I PRNT /LOAD TERMINATOR
736 2011 1117 TAD ESCE /LOAD "01" ENTER CODE
737 2012 3410 DCA I A10
738 2013 1111 TAD LD50 /LOAD ENABLE 0 + DISPLAY ENABLE
739

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740 2014 3410 DCA I A10
741 2015 1181 TAD LDE510 /LOAD ENABLE 1 + HORIZONTAL + VERTICAL LINES
742 2016 3410 DCA I A10
743 2017 1102 TAD LNOLMV /LOAD NOP + HORIZONTAL LINES
744 2020 3410 DCA I A10
745 2021 1036 TAD ADDLIN
746 2022 1376 TAD (2
747 2023 3052 DCA BASE /LOAD BASE LINE VALUE
748 2024 4432 TST15C, JMS I SHUFF /SHUFFLE THE DATA INTO VT55 FORMAT
749 2025 3410 DCA I A10
750 2026 1052 TAD BASE
751 2027 1375 TAD (24
752 2030 3052 DCA BASE /UPDATE BASELINE VALUE
753 2031 1036 TAD ADDLIN
754 2032 1374 TAD (340
755 2033 7041 CIA
756 2034 1052 TAD BASE
757 2035 7710 SPA CLA /TEST FOR GREATER THAN VALID
758 2036 5224 JMP TST15C /BRANCH IF OK.
759 2037 3410 DCA I A10 /LOAD TERMINATOR
760 2040 4430 JMS I PRNT /EXECUTE IT
761
762 /NOW LOAD THE VERTICAL LINES
763 2041 1377 TAD (BUFF1=1 /GET STARTING ADDRESS OF BUFFER
764 2042 3010 DCA A10
765 2043 1117 TAD ESCE /LOAD "01" ENTER CODE
766 2044 3410 DCA I A10
767 2045 1113 TAD LHV0IT /LOAD VERTICAL LINE
768 2046 3410 DCA I A10
769 2047 1036 TAD ADDLIN /LOAD STARTING LINE
770 2050 3052 DCA BASE
771 2051 4432 TST15D, JMS I SHUFF /SHUFFLE INTO VT55 FORMAT
772 2052 3410 DCA I A10
773 2053 1052 TAD BASE
774 2054 1373 TAD (15 /UPDATE DATA
775 2055 3052 DCA BASE
776 2056 1036 TAD ADDLIN
777 2057 1372 TAD (1000
778 2060 7041 CIA
779 2061 1052 TAD BASE
780 2062 7710 SPA CLA /TEST FOR LAST DATA LINE
781 2063 5251 JMP TST15D /NOT FINISHED, REPEAT
782 2064 1036 TAD ADDLIN
783 2065 1371 TAD (777
784 2066 3052 DCA BASE /LOAD LAST DATA LINE
785 2067 4432 JMS I SHUFF /SHUFFLE INTO VT55 FORMAT
786 2070 3410 DCA I A10
787 2071 3410 DCA I A10 /LOAD TERMINATOR
788 2072 4430 JMS I PRNT /EXECUTE IT
789 2073 4433 JMS I DELAY
790 2074 5425 JMP I LOOPT
791
792 2171 0777
793 2172 1000
794 2173 0015

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795 2174 0340
796 2175 0024
797 2176 0002
798 2177 4577
      2200 PAGE
799 /END OF PASS ROUTINE
800 2200 4423 TLAST, JMS I CLEAN /CLEAR SCREEN
801 2201 1101 TAD VTNOW /GET CURRENT IDT
802 2202 7041 CIA
803 2203 1137 TAD LAST /IS IR =LAST?
804 2204 7650 SNA CLA
805 2205 5212 JMP TOUT /YES=REPEAT TEST
806 2206 1101 TAD VTNOW /NO
807 2207 1377 TAD (0100 /INCREMENT TO
808 2210 3101 DCA VTNOW /NEXT IDT
809 2211 5776* JMP START2 /REPEAT TEST
810 2212 1140 TOUT, TAD FIRST /GET FIRST RECEIVER IDT
811 2213 3141 DCA VTNOW /PLAC BIT IN CURRENT IDT LOCATION
812 2214 4427 JMS I MSG /PRINT END OF PASS MESSAGE
813 2215 0346 EDPASS
814 2216 2054 ISZ PASS /INCREMENT PASS COUNT NUMBER
815 2217 1054 TAD PASS /GET PASS NUMBER
816 2220 4466 JMS I MESS /PRINT IT
817 2221 4470 JMS I CRLF /PRINT CR, LF
818 2222 7004 LAB
819 2223 0375 AND (400 /HALT ON COMPLETION OF PROGRAM PASS?
820 2224 7640 SZA CLA
821 2225 7402 HLT
822 2226 5776* JMP START2 /YES
823 /NO=REPEAT TEST
824 2227 3460 IOTLST, VK0F
825 2230 3264 VKRB
826 2231 3224 KKEYA
827 2232 0000 0
828 2233 3453 VTLS
829 2234 3454 VTSF
830 2235 3456 VTCP
831 2236 0000 0
832
833
834
835
836
837
838
839 /SHUFFLE DATA INTO VT=55 DATA BYTE FORMAT
840 2237 0000 XSHUFF, 0
841 2240 7300 CLA CLL
842 2241 1052 TAD BASE /LOAD VALUE TO BE SHUFFLED
843 2242 3053 DCA BASE1
844 2243 1053 TAD BASE1
845 2244 0374 AND (37 /MARK OUT VALID BITS
846 2245 1373 TAD (40
847 2246 3053 DCA BASE1 /LOW SIGNIFICANT BITS
848 2247 7000 NOP

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849	2250	7000	NOP		
850	2251	7000	NOP		
851	2252	7000	NOP		
852	2253	1052	TAD	BASE	
853	2254	0372	AND	(740)	/MASK OUT 4 MSB
854	2255	7000	NOP		
855	2256	7000	NOP		
856	2257	7000	NOP		
857	2260	7104	RAL	CLL	/ROTATE LEFT
858	2261	1371	TAD	(4000)	
859	2262	1053	TAD	BASE1	/PUT HIGH + LOW BYTES TOGETHER
860	2263	3130	DCA	TEMP2	
861	2264	1052	TAD	BASE	
862	2265	0370	AND	(2000)	/CHECK ADD OR DELETE BIT
863	2266	7650	SNA	CLA	
864	2267	5273	JMP	XSHUFA	
865	2270	1130	TAD	TEMP2	
866	2271	1370	TAD	(2000)	
867	2272	3130	DCA	TEMP2	
868	2273	1130	XSHUFA, TAD	TEMP2	
869	2274	5637	JMP	I XSHUFF	
870					
871	2370	2000			
872	2371	4000			
873	2372	0740			
874	2373	0040			
875	2374	0037			
876	2375	0400			
877	2376	0207			
878	2377	0100			
		2400			
879			PAGE		
880	2400	0000	/UP-DOWN SUBROUTINE		
881	2401	1600	XUPDON, 0		
882	2402	3272	TAD I XUPDON		/GET ADDRESS OF BEGINNING OF LIST
883	2403	2200	DCA SAV1		
884	2404	1600	ISZ XUPDON		
885	2405	3273	TAD I XUPDON		/GET STARTING COORDINATE
886	2406	2200	DCA SAV2		
887	2407	1377	ISZ XUPDON		
888	2410	3010	TAD (BUFF1=1		
889	2411	1117	DCA A10		
890	2412	3410	TAD E8CE		
891	2413	1272	DCA I A10		
892	2414	0376	TAD SAV1		
893	2415	1111	AND (3700		
894	2416	3410	TAD LD50		
895	2417	1375	DCA I A10		
896	2420	3271	TAD (1		
897	2421	1116	DCA SAV0		
898	2422	3410	TAD LNQL8C		
899	2423	3052	DCA I A10		
900	2424	4432	DCA BASE		
901	2425	3410	JMS I SHUFF		
902	2426	1272	DCA I A10		
			TAD SAV1		

903	2427	7006	RTL		
904	2430	7006	RTL		
905	2431	7006	RTL		
906	2432	0374	AND	(7700)	
907	2433	3410	DCA I A10		
908	2434	1273	UPC, TAD	SAV2	
909	2435	3052	DCA	BASE	
910	2436	4432	UPB, JMS I	SHUFF	
911	2437	3410	DCA I A10		
912	2440	1273	TAD	SAV2	
913	2441	7700	SMA	CLA	
914	2442	5253	JMP	UPA	
915	2443	1052	TAD	BASE	
916	2444	1022	TAD	M1	
917	2445	0373	AND	(377	
918	2446	3052	DCA	BASE	
919	2447	1052	TAD	BASE	
920	2450	7650	SMA	CLA	
921					
922	2451	5261	JMP	UPD	
923	2452	5236	JMP	UPB	
924	2453	2052	UPA, ISZ	BASE	
925	2454	1052	TAD	BASE	
926	2455	7041	CIA		
927	2456	1040	TAD	MAXHDZ	
928	2457	7640	SZA	CLA	
929	2460	5236	JMP	UPB	
930	2461	1271	UPD, TAD	SAV0	
931	2462	1022	TAD	M1	
932	2463	3271	DCA	SAV0	
933	2464	1271	TAD	SAV0	
934	2465	7700	SMA	CLA	
935	2466	5234	JMP	UPC	
936	2467	3410	DCA I A10		
937	2470	5600	JMP I XUPDON		
938	2471	0000	SAV0, 0		
939	2472	0000	SAV1, 0		
940	2473	0000	SAV2, 0		
941	2573	0377			
942	2574	7700			
943	2575	0001			
944	2576	3700			
945	2577	4577			
		2600			
946			PAGE		
947			/CURSOR SUBROUTINE		
948	2600	0000	XCURSR, 0		
949	2601	7300	CLA	CLL	
950	2602	1600	TAD I XCURSR		/GET ARGUMENT WORD
951	2603	3265	DCA	CR1	
952	2604	2200	ISZ	XCURSR	
953	2605	1600	TAD I XCURSR		
954	2606	3266	DCA	CR2	
955	2607	2200	ISZ	XCURSR	
956	2610	1377	TAD	(BUFF1=1	

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957 2611 3010 DCA A10
958 2612 1117 TAD ESCE
959 2613 3410 DCA I A10
960 2614 1265 TAD CR1
961 2615 0376 AND (3700)
962 2616 1074 TAD LD4011
963 2617 3410 DCA I A10
964 2620 1116 TAD LNOLSC
965 2621 3410 DCA I A10
966 2622 3052 DCA BASE
967 2623 4432 JMS I SHUFF
968 2624 3410 DCA I A10
969 2625 1265 TAD CR1
970 2626 7006 RTL
971 2627 7006 RTL
972 2630 7006 RTL
973 2631 0375 AND (7700)
974 2632 3410 DCA I A10
975 2633 1266 TAD CR2
976 2634 3052 DCA BASE
977 2635 4432 CRC, JMS I SHUFF
978 2636 3410 DCA I A10
979 2637 1266 TAD CR2
980 2640 7740 SMA SZA CLA
981 2641 5254 JMP CRA
982 2642 1052 TAD BASE
983 2643 1022 TAD M1
984 2644 3052 DCA BASE
985 2645 1052 TAD BASE
986 2646 0374 AND (777)
987 2647 3052 DCA BASE
988 2650 1052 TAD BASE
989 2651 7650 SMA CLA
990 2652 5263 JMP CRB
991 2653 5235 JMP CRC
992 2654 2052 CRA, ISZ BASE
993 2655 1036 TAD ADDLIN
994 2656 1037 TAD MAXVRT
995 2657 7041 CIA
996 2660 1052 TAD BASE
997 2661 7640 SZA CLA
998 2662 5235 JMP CRC
999 2663 3410 CRB, DCA I A10
1000 2664 5600 JMP I XCURSR
1001 2665 0000 CR1, 0
1002 2666 0000 CR2, 0
1003
1004 2774 0777
1005 2775 7700
1006 2776 3700
1007 2777 4577
1008 3000
1009 3000 0000 PAGE
1010 3001 7604 /PROGRAM DELAY ROUTINE
XDELAY, 0
LAS

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1011 3002 0377 AND (40) /INHIBIT DELAY?
1012 3003 7640 SZA CLA
1013 3004 5214 JMP XDELA /YES-SKIP OVER DELAY
1014 3005 1376 TAD (=400)
1015 3006 3126 DCA TEMP0
1016 3007 3127 DCA TEMP1
1017 3010 2127 ISZ TEMP1 /DELAY
1018 3011 5210 JMP =-1
1019 3012 2126 ISZ TEMP0 /DELAY
1020 3013 5210 JMP =-3
1021 3014 5600 XDELA, JMP I XDELAY /RETURN
1022
1023
1024 /ROUTINE TO CLEAR SCREEN
1025 3015 0000 XCLEAN, 0
1026 3016 7300 CLA CLL
1027 3017 1375 TAD (BUFF1=1) /GET STARTING ADDRESS OF BUFFER
1028 3020 3010 DCA A10
1029 3021 1077 TAD ESCF /GET OUT OF GRAPHIC MODE
1030 3022 3410 DCA I A10
1031 3023 1075 TAD ESCH /HOME CURSOR
1032 3024 3410 DCA I A10
1033 3025 1076 TAD ESCJ /CLEAR SCREEN OF ASCII
1034 3026 3410 DCA I A10
1035 3027 3410 DCA I A10 /LOAD TERMINATOR
1036 3030 4430 JMS I PRNT /EXECUTE
1037 3031 5615 JMP I XCLEAN /RETURN
1038
1039
1040 /STARTING COORDINATE SUBROUTINE
1041 3032 0000 XSTCRD, 0
1042 3033 7300 CLA CLL
1043 3034 1632 TAD I XSTCRD
1044 3035 3300 DCA ST1
1045 3036 2232 ISZ XSTCRD
1046 3037 1632 TAD I XSTCRD
1047 3040 3301 DCA ST2
1048 3041 2232 ISZ XSTCRD
1049 3042 1632 TAD I XSTCRD
1050 3043 3277 DCA ST0
1051 3044 2232 ISZ XSTCRD
1052 3045 1375 TAD (BUFF1=1)
1053 3046 3010 DCA A10
1054 3047 1117 TAD ESCE
1055 3050 3410 DCA I A10
1056 3051 1300 TAD ST1
1057 3052 7006 RTL
1058 3053 7006 RTL
1059 3054 7006 RTL
1060 3055 0374 AND (7700)
1061 3056 1111 TAD LDS0
1062 3057 3410 DCA I A10
1063
1064 3060 1116 TAD LNOLSC
1065 3061 3410 DCA I A10

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1066 3062 1277 TAD ST0
1067 3063 3052 DCA BASE
1068 3064 4432 JMS I SHUFF
1069 3065 3410 DCA I A10
1070 3066 1300 TAD ST1
1071 3067 0374 AND (7700
1072 3070 3410 DCA I A10
1073 3071 1301 TAD ST2
1074 3072 3052 DCA BASE
1075 3073 4432 JMS I SHUFF
1076 3074 3410 DCA I A10
1077 3075 3410 DCA I A10
1078 3076 5632 JMP I XSTCRD
1079 3077 0000 ST0, 0
1080 3100 0000 ST1, 0
1081 3101 0000 ST2, 0
1082 /DISPLAY SUBROUTINE
1083 XPRNT, 0
1084 CLA CLL
1085 TAD (BUFF1=1
1086 DCA A10
1087 XPRNTA, TAD I A10
1088 SNA
1089 JMP I XPRNT
1090 DCA REG1
1091 TAD REG1
1092 AND (77
1093 DCA TEMP2 /SAVE IT
1094 TAD REG1
1095 AND (7700 /GET UPPER BYTE
1096 RTR
1097 RTR
1098 RTR /ROTATE IT OVER
1099 DCA TEMP1
1100 XPRNTG, TAD TEMP2
1101 JMS I XPT
1102 TAD TEMP1
1103 JMS I XPT
1104 JMP XPRNTA
1105
1106 /ROUTINE TO PRINT CHARACTER
1107 XXPT, 0
1108 DCA TEMP0
1109 TAD TEMP0
1110 TAD (-40
1111 SNA CLA
1112 JMP XPRNTF
1113 TAD TEMP0
1114 TAD (-33
1115 SZA CLA
1116 JMP XPRNTD
1117 ISZ ANESC
1118 JMP XPRNTF
1119 XPRNTD, DCA ANESC
1120 TAD (100

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1121 3146 1126 XPRNTF, TAD TEMP0
1122 3147 4467 JMS I PRINT
1123 3150 5730 JMP I XXPT
1124
1125
1126 3170 0100
1127 3171 7745
1128 3172 7740
1129 3173 0077
1130 3174 7700
1131 3175 4577
1132 3176 7400
1133 3177 0040
1134 PAGE
1135
1136 /ROUTINE FOR OPERATOR INTERVENTION
1137 XKEY, JMS I INPT /READ KEYBOARD
1138 LAB
1139 AND (100 /OPERATOR INTERVENTION?
1140 SNA CLA
1141 JMP XKERR /NO-ERROR
1142 DCA LOOP /CLEAR LOOP COUNTER
1143 TAD TEMP3 /GET CHARACTER
1144 AND (177
1145 TAD (-57 /IS IT "/"?
1146 SNA CLA
1147 JMP FSLASH /YES
1148 TAD TEMP3 /GET CHARACTER
1149 AND (177
1150 TAD (-134 /IS IT BACKSLASH?
1151 SZA CLA
1152 JMP XKERR2 /NO-WRON RESPONSE
1153 JMP BSLASH /GO TO LOOP ON TEST
1154 FSLASH, JMS I CLEAN /CLEAR SCREEN
1155 JMS I H00 /PRINT QUESTION
1156 HEADQ1 /START AT WHICH TEST?
1157 XKEYA, KSF
1158 JMP =.1
1159 JMS I INPT /READ ANSWER
1160 TAD TEMP3 /GET CHARACTER
1161 AND (177 /MASK OUT BITS
1162 TAD (-101 /IS IT < A?
1163 SNA CLA
1164 JMP XKERR2 /INVALID RESPONSE
1165 TAD TEMP3 /GET CHARACTER
1166 AND (177 /MASKOUT BITS
1167 TAD (-115 /IS IT > M?
1168 SNA SZA CLA
1169 JMP XKERR2 /INVALID RESPONSE
1170 TAD TEMP3 /GET CHARACTER
1171 AND (17 /MASK OUT BITS
1172 TAD (TSTLST-1 /GET BEGINNING ADDRESS OF LIST
1173 DCA TEMPT /SAVE IT
1174 TAD I TEMPT

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1175 3247 5533 JMP I TEMPT2 /GO TO TEST
1176 3250 4423 BSLASH, JMS I CLEAN /CLEAR SCREEN
1177 3251 2123 ISZ LOOP /INCREMENT LOOP CONTROL
1178 3252 4427 JMS I MSG /PRINT QUESTION
1179 3253 3657 HEADQ2 /LOOP ON WHICH TEST?
1180 3254 5224 JMP XKEYA
1181 3255 4471 XKERR, JMS I ERR
1182 3256 4265 HEAD16
1183 3257 5533 JMP I TEMPT2 /RESTART TEST
1184 3260 4471 XKERR2, JMS I ERR
1185 3261 4315 HEAD17
1186 3262 5224 JMP XKEYA /GET CHARACTER
1187
1188 /ROUTINE TO READ KEYBOARD
1189 3263 0000 XINPT, 0
1190 3264 6036 VKRB, KRB /READ BUFFER
1191 3265 7000 NOP
1192 3266 3131 DCA TEMP3 /SAVE IT
1193 3267 1131 TAD TEMP3 /GET CHARACTER
1194 3270 4467 JMS I PRINT /ECHO IT BACK
1195 3271 5663 JMP I XINPT
1196
1197
1198 /ROUTINE TO LOOP ON TEST
1199 3272 7604 XLOOP, LAS
1200 3273 0377 AND (100 /OPERATOR INTERVENTION?
1201 3274 7640 SZA CLA
1202 3275 5302 JMP XLOOPA /YES=GO TO NEXT TEST
1203 3276 7604 LAS
1204 3277 0367 AND (1000 /LOOP ON TEST?
1205 3300 7650 SNA CLA
1206 3301 5304 JMP XLOOPB
1207 3302 1123 XLOOPA, TAD LOOP /LOOP ON TEST?
1208 3303 7650 SNA CLA
1209 3304 2132 XLOOPB, ISZ TEMPT /NO=GET NEXT TEST ADDRESS
1210 3305 1532 TAD I TEMPT
1211 3306 3133 DCA TEMPT2
1212 3307 5533 JMP I TEMPT2 /GO TO APPROPRIATE TEST
1213
1214 3310 0242 TSTLST, TST1
1215 3311 0400 TST2
1216 3312 0456 TST3
1217 3313 0600 TST4
1218 3314 0664 TST5
1219 3315 1000 TST6
1220 3316 1064 TST7
1221 3317 1200 TST10
1222 3320 1230 TST11
1223 3321 1264 TST12
1224 3322 1400 TST13
1225 3323 1457 TST14
1226 3324 1600 TST15
1227 3325 2200 TLAST
1228
1229

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1230 3367 1000
1231 3370 3307
1232 3371 0817
1233 3372 7663
1234 3373 7677
1235 3374 7644
1236 3375 7721
1237 3376 0177
1238 3377 0100
1239 3400 0000 PAGE
/MESSAGE PRINTING ROUTINE
1240 XMSG, 0
1241 3401 7200 CLA
1242 3402 3124 DCA FLAG /INITIALIZE FLAG FOR LEFT(0)
1243 3403 1600 TAD I XMSG /GET ADDRESS OF MESSAGE
1244 3404 3251 DCA MSGADR /SAVE IT
1245 3405 2200 ISZ XMSG /RETURN ADDRESS
1246 3406 1124 NEXTL, TAD FLAG
1247 3407 7640 SZA CLA
1248 3410 5217 JMP RITE
1249 3411 2251 ISZ MSGADR /GET REAL ADDRESS OF MESSAGE
1250 3412 1651 TAD I MSGADR /GET CHARACTER
1251 3413 7012 RTR
1252 3414 7012 RTR
1253 3415 7012 RTR
1254 3416 5221 JMP OUT
1255 3417 7200 RITE, CLA
1256 3420 1651 TAD I MSGADR /GET CHARACTER
1257 3421 0377 OUT, AND (77
1258 3422 7450 SNA
1259 3423 5600 JMP I XMSG /FINISHED PRINTING MESSAGE
1260 3424 3136 DCA TEMPC
1261 3425 1136 TAD TEMPC
1262 3426 0376 AND (40
1263 3427 7640 SZA CLA
1264 3430 5232 JMP COD200
1265 3431 1375 TAD (100
1266 3432 1374 COD200, TAD (200
1267 3433 1136 TAD TEMPC
1268 3434 3136 DCA TEMPC /PRINTABLE CHARACTER
1269 3435 1136 TAD TEMPC
1270 3436 1373 TAD (=245
1271 3437 7650 SNA CLA
1272 3440 5247 JMP XMSG1
1273 3441 1136 TAD TEMPC
1274 3442 4467 JMS I PRINT /PRINT CHARACTER
1275 3443 1124 XMSG2, TAD FLAG
1276 3444 7040 CHA
1277 3445 3124 DCA FLAG
1278 3446 5206 JMP NEXTL
1279 3447 4470 XMSG1, JMS I CRLF
1280 3450 5243 JMP XMSG2
1281 3451 0000 MSGADR, 0
1282
1283

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1284 3452 0000 XPRINT, 0
1285 3453 6046 VTL5, TLS
1286 3454 6041 VTSF, TSF
1287 3455 5254 JMP      .+1
1288 3456 6042 VTCF, TCF
1289 3457 7300 CLA CLL
1290 3460 6031 VKSF, KSF      /SKIP IF KEYBOARD FLAG=1
1291 3461 7410 SKP
1292 3462 5426 JMP I  KEYSER  /READ KEYBOARD INPUT
1293 3463 5652 JMP I  XPRINT
1294
1295
1296 3464 0000 XERR, 0
1297 3465 7300 CLA CLL
1298 3466 1664 TAD I  XERR      /GET ADDRESS OF MESSAGE
1299 3467 3277 DCA  MADR
1300 3470 2264 ISZ  XERR      /GET RETURN ADDRESS
1301 3471 7604 LAB
1302 3472 0374 AND  (200      /INHIBIT ERROR PRINTOUT?
1303 3473 7640 SZA CLA
1304 3474 5301 JMP  ERRA      /YES
1305 3475 4423 JMS I  CLEAN  /CLEAR SCREEN
1306 3476 4427 JMS I  MSG    /PRINT MESSAGE
1307 3477 0000 MADR, 0
1308 3500 4470 JMS I  CRLF
1309 3501 7604 ERRA, LAB
1310 3502 0372 AND  (4000      /INHIBIT ERROR HALT?
1311 3503 7650 SNA CLA
1312 3504 7402 HLT          /NO=HALT
1313 3505 7604 LAB
1314 3506 0371 AND  (2000      /LOOP ON ERROR?
1315 3507 7640 SZA CLA
1316 3510 5314 JMP  ERRB      /YES=REPEAT TEST
1317 3511 7410 SKP
1318 3512 0000 ERPC, 0
1319 3513 2132 ISZ  TEMPT  /GET NEXT TEST ADDRESS
1320 3514 1532 ERRB, TAD I  TEMPT
1321 3515 3133 DCA  TEMPT2
1322 3516 5533 JMP I  TEMPT2  /JUMP TO APPROPRIATE TEST
1323
1324
1325 3517 0000 XCRLF, 0
1326 3520 7200 CLA
1327 3521 1370 TAD  (215
1328 3522 4467 JMS I  PRINT
1329 3523 1367 TAD  (212
1330 3524 4467 JMS I  PRINT
1331 3525 5717 JMP I  XCRLF
1332
1333 /ROUTINE TO PRINT OCTAL NUMBER
1334 3526 0000 XMESS, 0
1335 3527 3351 DCA  MWORD
1336 3530 1366 TAD  (=4
1337 3531 3352 DCA  MCOUNT
1338 3532 7100 CLL

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1339 3533 1351 TAD  MWORD
1340 3534 7004 RAL
1341 3535 7410 SKP
1342 3536 1351 MESS1, TAD  MWORD
1343 3537 7006 RTL
1344 3540 7004 RAL
1345 3541 3351 DCA  MWORD
1346 3542 1351 TAD  MWORD
1347 3543 0365 AND  (7
1348 3544 1364 TAD  (260
1349 3545 4467 JMS I  PRINT
1350 3546 2352 ISZ  MCOUNT
1351 3547 5336 JMP  MESS1
1352 3550 5726 JMP I  XMESS
1353 3551 0000 MWORD, 0
1354 3552 0000 MCOUNT, 0
1355
1356
1357 3564 0260
1358 3565 0007
1359 3566 7774
1360 3567 0212
1361 3570 0215
1362 3571 2000
1363 3572 4000
1364 3573 7533
1365 3574 0200
1366 3575 0100
1367 3576 0040
1368 3577 0077
1369 3600 4040 PAGE HEAD, TEXT ; /VT55 ACCEPTANCE TEST - MAINDEC=08-DIVTC=AXX /
1369 3601 4040
1369 3602 2624
1369 3603 6565
1369 3604 4001
1369 3605 0303
1369 3606 0520
1369 3607 2401
1369 3610 1603
1369 3611 0540
1369 3612 2405
1369 3613 2324
1369 3614 4055
1369 3615 4015
1369 3616 0111
1369 3617 1604
1369 3620 0503
1369 3621 5560
1369 3622 7055
1369 3623 0411
1369 3624 2624
1369 3625 0355
1369 3626 0145
1369 3627 4540

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3630 4040
3631 0000
1370 3632 4040 HEAD01, TEXT ; START AT TEST LETTER (A = M) ;
3633 4040
3634 4023
3635 2401
3636 2224
3637 4001
3640 2440
3641 2405
3642 2324
3643 4014
3644 0524
3645 2405
3646 2240
3647 5001
3650 4055
3651 4015
3652 5140
3653 4072
3654 4040
3655 4040
3656 4000
1371 3657 4040 HEAD02, TEXT ; LOOP ON TEST LETTER (A = M) ;
3660 4040
3661 1417
3662 1720
3663 4017
3664 1640
3665 2405
3666 2324
3667 4014
3670 0524
3671 2405
3672 2240
3673 5001
3674 4055
3675 4015
3676 5140
3677 7240
3700 4040
3701 4040
3702 4040
3703 4000
1372 3704 4040 HEAD1, TEXT ; DISPLAY A GROWING HORIZONTAL LINEXX;
3705 4004
3706 1123
3707 2014
3710 0131
3711 4001
3712 4007
3713 2217
3714 2711
3715 1607
3716 4010

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3717 1722
3720 1132
3721 1716
3722 2401
3723 1400
3724 1411
3725 1605
3726 4505
3727 0000
1373 3730 4040 HEAD2, TEXT ; DISPLAY A GROWING VERTICAL LINEXX;
3731 4004
3732 1123
3733 2014
3734 0131
3735 4001
3736 4007
3737 2217
3740 2711
3741 1607
3742 4026
3743 0522
3744 2411
3745 0301
3746 1440
3747 1411
3750 1605
3751 4545
3752 0000
1374 3753 4040 HEAD3, TEXT ; GRAPH 0: DISPLAY A STEPPING HORIZONTAL LINEXX;
3754 4007
3755 2201
3756 2010
3757 4060
3760 7240
3761 0411
3762 2320
3763 1401
3764 3140
3765 0140
3766 2324
3767 0520
3770 2011
3771 1607
3772 4010
3773 1722
3774 1132
3775 1716
3776 2401
3777 1440
4000 1411
4001 1605
4002 4545
4003 0000
1375 4004 4040 HEAD4, TEXT ; GRAPH 1: DISPLAY A STEPPING HORIZONTAL LINEXX;
4005 4007

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	4006	2201		
	4007	2010		
	4010	4061		
	4011	7240		
	4012	0411		
	4013	2320		
	4014	1401		
	4015	3140		
	4016	0140		
	4017	2324		
	4020	0520		
	4021	2011		
	4022	1607		
	4023	4010		
	4024	1722		
	4025	1132		
	4026	1716		
	4027	2401		
	4030	1440		
	4031	1411		
	4032	1605		
	4033	4545		
	4034	0000		
1376	4035	4040	HEAD5, TEXT	/ GRAPH 0 AND 1XX;
	4036	4007		
	4037	2201		
	4040	2010		
	4041	4060		
	4042	4001		
	4043	1604		
	4044	4061		
	4045	4545		
	4046	0000		
1377	4047	4040	HEAD6, TEXT	/ GRAPH 01 DISPLAY A STEPPING HISTOGRAM LINEXX;
	4050	4007		
	4051	2201		
	4052	2010		
	4053	4060		
	4054	7240		
	4055	0411		
	4056	2320		
	4057	1401		
	4060	3140		
	4061	0140		
	4062	2324		
	4063	0520		
	4064	2011		
	4065	1607		
	4066	4010		
	4067	1123		
	4070	2417		
	4071	0722		
	4072	0115		
	4073	4014		
	4074	1116		

	4075	0545		
	4076	4500		
1378	4077	4040	HEAD7, TEXT	/ GRAPH 11 DISPLAY A STEPPING HISTOGRAM LINEXX;
	4100	4007		
	4101	2201		
	4102	2010		
	4103	4061		
	4104	7240		
	4105	0411		
	4106	2320		
	4107	1401		
	4110	3140		
	4111	0140		
	4112	2324		
	4113	0520		
	4114	2011		
	4115	1607		
	4116	4010		
	4117	1123		
	4120	2417		
	4121	0722		
	4122	0115		
	4123	4014		
	4124	1116		
	4125	0545		
	4126	4500		
1379	4127	4040	HEAD10, TEXT	/ HISTOGRAM ON GRAPH 0 AND 1 XX;
	4130	4040		
	4131	1011		
	4132	2324		
	4133	1707		
	4134	2201		
	4135	1540		
	4136	1716		
	4137	4007		
	4140	2201		
	4141	2010		
	4142	4060		
	4143	4001		
	4144	1604		
	4145	4061		
	4146	4045		
	4147	4500		
1380	4150	4040	HEAD11, TEXT	/ CURSORS ON GRAPH 0 XX;
	4151	4040		
	4152	0325		
	4153	2223		
	4154	1722		
	4155	2340		
	4156	1716		
	4157	4007		
	4160	2201		
	4161	2010		
	4162	4060		
	4163	4045		

4164 4500  
1381 4165 4040 HEAD12, TEXT ; CURSORS ON GRAPH 1XX;  
4166 4003  
4167 2522  
4170 2317  
4171 2223  
4172 4017  
4173 1640  
4174 0722  
4175 0120  
4176 1040  
4177 6145  
4200 4500  
1382 4201 4040 HEAD13, TEXT ; STARTING COORDINATE ON GRAPH 0XX;  
4202 4023  
4203 2401  
4204 2224  
4205 1116  
4206 0740  
4207 0317  
4210 1722  
4211 1104  
4212 1116  
4213 0124  
4214 0540  
4215 1716  
4216 4007  
4217 2201  
4220 2010  
4221 4060  
4222 4545  
4223 0000  
1383 4224 4040 HEAD14, TEXT ; STARTING COORDINATE ON GRAPH 1XX;  
4225 4023  
4226 2401  
4227 2224  
4230 1116  
4231 0740  
4232 0317  
4233 1722  
4234 0411  
4235 1601  
4236 2405  
4237 4017  
4240 1640  
4241 0722  
4242 0120  
4243 1040  
4244 6145  
4245 4500  
1384 4246 4040 HEAD15, TEXT ; VT55 ADJUSTMENT PATTERNXX;  
4247 4040  
4250 2624  
4251 6565  
4252 4001

4253 0412  
4254 2523  
4255 2415  
4256 0516  
4257 2440  
4260 2001  
4261 2424  
4262 0522  
4263 1645  
4264 4500  
1385  
1386 4265 4040 HEAD16, TEXT ; SWITCH 5 NOT SET FOR OPERATOR INTERVENTIONXX;  
4266 4023  
4267 2711  
4270 2405  
4271 1040  
4272 6540  
4273 1617  
4274 2440  
4275 2305  
4276 2440  
4277 0617  
4300 2240  
4301 1720  
4302 0522  
4303 0124  
4304 1722  
4305 4011  
4306 1624  
4307 0522  
4310 2405  
4311 1624  
4312 1117  
4313 1645  
4314 4500  
1387 4315 4040 HEAD17, TEXT ; INVALID RESPONSE, HIT CONTINUE AND TRY AGAINXX;  
4316 4011  
4317 1626  
4320 0114  
4321 1104  
4322 4022  
4323 0523  
4324 2017  
4325 1623  
4326 0554  
4327 1011  
4330 2440  
4331 0317  
4332 1624  
4333 1116  
4334 2505  
4335 4001  
4336 1604  
4337 4024  
4340 2231

	4341	4001		
	4342	0701		
	4343	1116		
	4344	4545		
	4345	0000		
1388	4346	4040	EOPASS, TEXT	1
	4347	4040	XEND OF PASS	#
	4350	4505		
	4351	1604		
	4352	4017		
	4353	0640		
	4354	2001		
	4355	2323		
	4356	4040		
	4357	4043		
	4360	4040		
	4361	4040		
	4362	4040		
	4363	4040		
	4364	4040		
	4371	0025		
1389	4366	0000	0	
1390	4367	0023	3	
1391	4370	0024	4	
1392	4371	0004	4	
1393	4372	0025	5	
1394	4373	0006	6	
1395	4374	0007	7	
1396	4375	0010	10	
1397	4376	0012	12	
1398	4377	0014	14	
1399	4400	0015	15	
1400	4401	0017	17	
1401	4402	0021	21	
1402	4403	0024	24	
1403	4404	0027	27	
1404	4405	0032	32	
1405	4406	0035	35	
1406	4407	0040	40	
1407	4410	0043	43	
1408	4411	0047	47	
1409	4412	0053	53	
1410	4413	0056	56	
1411	4414	0062	62	
1412	4415	0066	66	
1413	4416	0073	73	
1414	4417	0077	77	
1415	4420	0103	103	
1416	4421	0110	110	
1417	4422	0115	115	
1418	4423	0121	121	
1419	4424	0126	126	
1420	4425	0133	133	
1421	4426	0137	137	
1422	4427	0144	144	

1423	4430	0151	151	
1424	4431	0156	156	
1425	4432	0162	162	
1426	4433	0167	167	
1427	4434	0174	174	
1428	4435	0201	201	
1429	4436	0206	206	
1430	4437	0213	213	
1431	4440	0217	217	
1432	4441	0223	223	
1433	4442	0230	230	
1434	4443	0235	235	
1435	4444	0241	241	
1436	4445	0248	248	
1437	4446	0251	251	
1438	4447	0255	255	
1439	4450	0261	261	
1440	4451	0265	265	
1441	4452	0271	271	
1442	4453	0274	274	
1443	4454	0277	277	
1444	4455	0303	303	
1445	4456	0305	305	
1446	4457	0310	310	
1447	4460	0313	313	
1448	4461	0316	316	
1449	4462	0317	317	
1450	4463	0321	321	
1451	4464	0323	323	
1452	4465	0324	324	
1453	4466	0326	326	
1454	4467	0327	327	
1455	4470	0330	330	
1456	4471	0331	331	
1457	4472	0331	331	
1458	4473	0331	331	
1459	4474	0331	331	
1460	4475	0331	331	
1461	4476	0330	330	
1462	4477	0327	327	
1463	4500	0326	326	
1464	4501	0325	325	
1465	4502	0323	323	
1466	4503	0322	322	
1467	4504	0320	320	
1468	4505	0317	317	
1469	4506	0314	314	
1470	4507	0312	312	
1471	4510	0307	307	
1472	4511	0304	304	
1473	4512	0301	301	
1474	4513	0275	275	
1475	4514	0272	272	
1476	4515	0267	267	
1477	4516	0263	263	



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4000 11111111 11111111 11111111 11111111 11111111 11111111 11111111 11111111
4100 11111111 11111111 11111111 11111111 11111111 11111111 11111111 11111111

4200 11111111 11111111 11111111 11111111 11111111 11111111 11111111 11111111
4300 11111111 11111111 11111111 11111111 11111111 11111111 11111111 11111111

4400 11111111 11111111 11111111 11111111 11111111 11111111 11111111 11111111
4500 11111111 11111111 11111111 11111111 11111111 11111111 11111111 11111111

4600 10000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
4700 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
    
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5000  
5100

5200  
5300

5400  
5500

5600  
5700

6000  
6100

6200  
6300

6400  
6500

6600  
6700

7000  
7100

7200  
7300

7400  
7500

7600  
7700

A10	0010	HEAD13	4201	MESS1	3536	TST14A	1523
A11	0011	HEAD14	4224	MSG	0027	TST14B	1524
ADDLIN	0036	HEAD15	4246	MSGADR	3451	TST14C	1532
ANESC	0063	HEAD16	4265	NWORD	3551	TST14D	1507
ANSLB	0042	HEAD17	4315	NEXTL	3406	TST14E	1505
ANSLF	0041	HEAD2	3730	OUT	3421	TST15	1600
ASCH	0190	HEAD3	3753	OUTA	0241	TST15A	1627
BACK	0215	HEAD4	4004	OUTB	0226	TST15B	1623
BACKA	0227	HEAD5	4035	PASS	0054	TST15C	2024
BASE	0052	HEAD6	4047	PRINT	0067	TST15D	2051
BASE1	0053	HEAD7	4077	PRNT	0030	TST15E	2000
BDDAT	0072	HEADQ1	3632	REG0	0037	TST1A	0266
BIT0	0044	HEADQ2	3657	REG1	0036	TST1B	0305
BIT1	0045	INPT	0024	REG3	0060	TST1C	0301
BIT15	4000	INTRPT	0000	REG4	0001	TST2	0400
BIT2	0047	IOTLST	2227	REG5	0002	TST2A	0426
BIT3	0051	KEYSER	0026	RITE	3417	TST2B	0442
BIT5	0043	KOUNT	0125	SAV0	2471	TST3	0450
BIT54	0050	LAST	0137	SAV1	2472	TST3A	0476
BIT7	0046	LD0510	0115	SAV2	2473	TST3B	0522
BITMAX	4394	LD001	0202	SHUFF	0032	TST3C	0540
BSLASH	3250	LD0031	0104	SINEND	4377	TST3D	0541
BUFF1	4600	LD1B21	0612	ST0	3077	TST4	0600
CLEAN	0023	LD1B36	3612	ST1	3100	TST4A	0620
COD200	3432	LD4011	0074	ST2	3101	TST4B	0644
COUNT	0021	LD50	0111	START	0200	TST4C	0662
CR1	2665	LD520	0105	START2	0207	TST4D	0663
CR2	2666	LD5310	0122	STARTB	0020	TST5	0664
CRA	2654	LD5420	0103	STCORD	0035	TST6	1000
CRB	2663	LOBIT	0110	SUBTST	0065	TST6C	1020
CRC	2635	LOC102	1013	SWR	0055	TST6D	1063
CRLF	0070	LDCB1	0403	TEMP	0135	TST6E	1062
CURSOR	0034	LDE05	0120	TEMP0	0126	TST6F	1044
DELAY	0033	LDE154	0121	TEMP1	0127	TST7	1064
EOPASS	4346	LDE510	0101	TEMP2	0130	TST7A	1104
ERPC	3512	LDG124	1204	TEMP3	0131	TST7B	1130
ERR	0071	LDG102	0412	TEMPC	0136	TST7C	1146
ERRA	3501	LDVB1T	0112	TEMPT	0132	TST7D	1147
ERRB	3514	LHBIT	0107	TEMPT2	0133	TSTLST	3310
ESCE	0117	LHVBIT	0113	TLAST	2200	UPA	2453
ESCF	0077	LNLD00	0114	TOUT	2212	UPB	2436
ESCH	0075	LNLDG1	0106	TST1	0242	UPC	2434
ESCJ	0076	LNLDHV	0102	TST10	1200	UPD	2461
FIRST	0140	LNLDLC	0116	TST11	1230	UPDOWN	0031
FLAG	0124	LOOP	0123	TST12	1204	VKRB	3264
FSLASH	3221	LOOPT	0025	TST13	1400	VKRF	3460
GDDAT	0073	M1	0022	TST13A	1444	VTCP	3456
HEAD0	3600	MADR	3477	TST13B	1445	VTLS	3453
HEAD1	3704	MAXHOZ	0040	TST13C	1453	VTNDW	0141
HEAD10	4127	MAXVRT	0037	TST13D	1430	VTSP	3454
HEAD11	4150	MCOUNT	3552	TST13E	1426	WFTST	0064
HEAD12	4165	MESS	0006	TST14	1457	XADLIN	2000











.V7533	1270	1364#						
.V7644	1149	1235#						
.V7660	712	724#						
.V7663	1166	1233#						
.V7677	1161	1234#						
.V7700	906	942#	973	1005#	1060	1071	1095	1130#
.V7721	1144	1236#						
.V7740	1110	1126#						
.V7745	1114	1127#						
.V7764	696	726#						
.V7774	607	656	606#	1336	1339#			



