

DATE \_\_\_\_\_

CALC. NO. \_\_\_\_\_ SHEET NO. \_\_\_\_\_

PART NO. \_\_\_\_\_

MODEL NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_

CHECKED BY \_\_\_\_\_

TO: PROGRAMMA CONSULTANTS

TORRANCE, CA.

DEAR MEL,

HERE'S A REAL NICE PIECE OF SOFTWARE CALLED MASTERMIND. IT DOESN'T REQUIRE A BASIC, IT ONLY REQUIRES A SPHERE W/ KBD AT F0000/1 (OLD ONE) AND V3D (V3N) PROMS. IT WILL RESIDE AT 0300 → 059E WITH THE PROGRAM BEGINNING AT 0400. AT THIS STAGE, THE PROGRAM IS FAST, AND MAY EVEN APPEAR TO BE RUNNING THROUGH BASIC DUE TO THE "FANCY" PROMPTING AND MESSAGES.

I IMAGINE THE PROGRAM COULD SELL FOR \$5 → \$10 DOLLARS - IT'S UP TO YOU GUYS I GUESS.

I REALLY DON'T WANT TO RECIEVE MONEY FOR MY EFFORT, AS I HAD A LOT OF FUN DOING IT, AND MY PHILOSOPHY ABOUT SOFTWARE TENDS TO BE VERY LIBERAL; HOWEVER, I DIDN'T PUT IT IN THE NEWSLETTER BECAUSE I SAW THIS AS AN OPPORTUNITY TO GET MORE SOFTWARE FOR MYSELF.

WHAT I WOULD LIKE TO DO IS HAVE YOU GO AHEAD AND SELL/DISTRIBUTE THIS PROGRAM, AND KEEP TRACK OF WHAT I "MAKE" AS FAR AS ROYALTIES. WHEN I ACCUMULATE ENOUGH MONEY ON THAT "ACCOUNT", I'LL JUST BUY SOME SOFTWARE FROM YOU. I HOPE THIS IS AGREEABLE WITH YOU. IF YOU HAVE ANOTHER METHOD OR DON'T WANT TO DO IT THIS WAY THEN GO AHEAD AND WE'LL DO IT THE NORMAL WAY, I GET MY SOFTWARE EITHER WAY.

THANKS,

706 W. 212TH ST.  
TORRANCE, CA. 90502  
(213) 320-2161  
AFTER 7:00

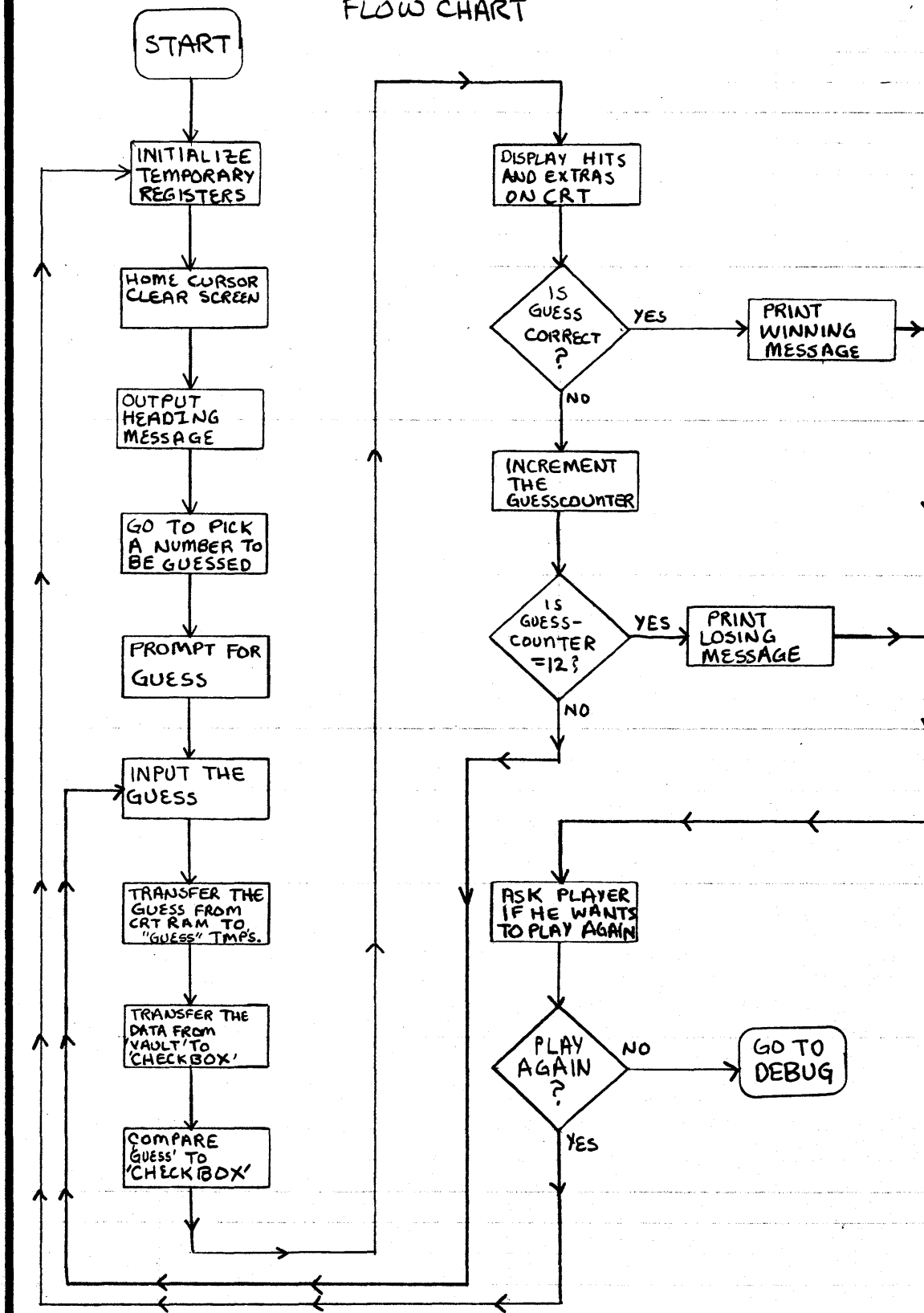
Glenney R. Martinez Jr.

P.S. FLOWCHARTS AND PROGRAM ANALYSIS (DESCRIPTION)  
TO FOLLOW - (APPROX 1mo.)

DATE 6/23/77PART NO. MASTERMIND (V3D)(V3N)(V3A)PREPARED BY H. MARTINEZCALC. NO. \_\_\_\_\_ SHEET NO. 1

MODEL NO. \_\_\_\_\_

CHECKED BY \_\_\_\_\_

GENERAL  
FLOW CHART

DATE 6/23/77PART NO. MASTERMINDPREPARED BY HENRY MARTÍNEZCALC. NO. \_\_\_\_\_ SHEET NO. 1 of 9

MODEL NO. \_\_\_\_\_

CHECKED BY \_\_\_\_\_

THIS MASTERMIND IS SIMILAR TO MILTON-BRADLEY'S\*  
MASTERMIND GAME, AND TO THE BASELS GAME THAT'S  
USUALLY FOUND IN BASIC.

IN THIS GAME, THE COMPUTER PICKS A 5 DIGIT  
NUMBER, WHEREIN THE DIGITS GO FROM 0-6.  
THE OBJECT IS TO GUESS THE NUMBER IN 12  
GUESSES.

AFTER EACH GUESS THE COMPUTER RESPONDS WITH  
THE NUMBER OF 'HITS' AND 'EXTRAS' YOU HAD.  
HITS ARE THE NUMBER OF DIGITS IN YOUR  
GUESS THAT CORRESPOND EXACTLY TO THE  
NUMBER THE COMPUTER PICKED.

EXTRAS ARE THE NUMBER IN THE GUESS WHICH  
ARE IN THE COMPUTER'S "PICKED" NUMBER, BUT  
IN THE WRONG POSITION.

|                | i.e. |   |   |       |
|----------------|------|---|---|-------|
| GUESS →        |      | 3 | 4 | 0 6 1 |
|                |      | ↑ | ↑ |       |
|                |      | ↓ | ↓ |       |
| COMPUTER'S # → |      | 4 | 4 | 5 2 3 |

| HITS | EXTRA |
|------|-------|
| 1    | 1     |

THE 4'S ARE A HIT , THE 3'S ARE EXTRA'S.

#### HOW TO PLAY:

- 1) LOAD CASSETTE NAME "M M" [40,40]  
@ 0300 → 59E
- 2) RUN AT LOCATION 400.
- 3) THE COMPUTER WILL PUT A HEADING ON THE  
CRT AND TYPE:

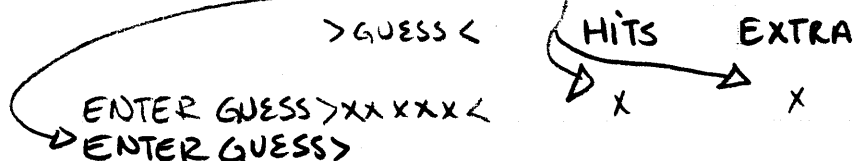
ENTER GUESS >

- 4) YOU ARE REQUIRED TO INPUT A 5 DIGIT NUMBER  
FOLLOWED BY A "<".

(next page)

\*(OR IS IT PARKER BROS.?)

- 5) UPON TYPING THE LESS THAN SIGN, THE COMPUTER WILL TYPE THE NUMBER OF HITS AND EXTRAS THAT WERE IN YOUR GUESS, AND PROMPTS FOR NEXT GUESS.



- 6) YOU HAVE 12 CHANCES IN WHICH TO GUESS THE NUMBER.

A) IF YOUR GUESS IS CORRECT, THE COMPUTER WILL SAY SO AND TELL YOU HOW MANY GUESSES IT TOOK.

B) IF YOU'RE NOT ABLE TO GUESS THE NUMBER IN 12 TRIES, YOU WILL BE TOLD WHAT THE NUMBER WAS.

- 7) AFTER THE GAME IS OVER YOU WILL BE ASKED IF YOU WANT TO PLAY AGAIN... IF SO, TYPE ANYTHING BESIDES AN "N", AND PLAY SOME MORE. TYPING N, PUTS YOU INTO DEBUG.

DATE \_\_\_\_\_

CALC. NO. \_\_\_\_\_ SHEET NO. 349PART NO. MASTERMIND V3N

MODEL NO. \_\_\_\_\_

PREPARED BY HENRY MARTÍNEZ

CHECKED BY \_\_\_\_\_

TEXT FOR PROMPTING, 1/0 REQUESTS 320 → 3D0

## TEMPORARY LOCATIONS:

| ADDRESS | DATA                 |
|---------|----------------------|
| 0300    | SPARE                |
| 301     | 1st Digit            |
| 302     | 2nd Digit            |
| 303     | 3rd Digit            |
| 304     | 4th Digit            |
| 305     | 5th Digit            |
| 306     | 1st Digit            |
| 307     | 2nd Digit            |
| 308     | 3rd Digit            |
| 309     | 4th Digit            |
| 30A     | 5th Digit            |
| 30B     | 1st Digit            |
| 30C     | 2nd Digit            |
| 30D     | 3rd Digit            |
| 30E     | 4th Digit            |
| 30F     | 5th Digit            |
| 310     | HITCOUNTER           |
| 311     | EXTRACOUNTER         |
| 312     | GUESSCOUNTER         |
| 313     | CURSOR POINTER TEMP. |
| 314     | CURSOR POINTER TEMP. |
| 315     | INDEX REGISTER TEMP. |
| 316     | INDEX REGISTER TEMP. |
| 317     | INDEX REGISTER TEMP. |
| 318     | INDEX REGISTER TEMP. |

GUESS

CHECKBOX

VAULT

THE NUMBER THE COMPUTER PICKS IS PLACED HERE. FOR THE COMPARE, IT IS TRANSFERRED TO THE VAULT BECAUSE THE COMPARISON BETWEEN GUESS AND CHECKBOX IS DESTRUCTIVE.

PROGRAM BEGINS AT: 0400

PROGRAM ENDS AT: 059E

BACKSPACE CHAR. AT: 047F

NUMBER PICKER SUBROUTINE PARAMETERS\*:

1) LOWER BOUNDS: 0420

2) UPPER BOUNDS: 0433

3) OFFSET : 0438, 0439

\*SEE TEXT

DATE 6/23/77PART NO. MASTERMIND (V3N)PREPARED BY HENRY MARTINEZ

CLASSIFICATION

CALC. NO. \_\_\_\_\_ SHEET NO. 4 of 9

MODEL NO. \_\_\_\_\_

CHECKED BY \_\_\_\_\_

## PROGRAM SPECIFICS.

I THE INPUT FROM KEYBOARD DOES NOT USE THE SPHERE EDITOR; THEREFORE YOU CANNOT USE ANY OF THE CURSOR CONTROLS EXCEPT FOR THE BACKSPACE  $\leftarrow$  KEY ON THE CURSOR PAD.

TO CHANGE A GUESS BEFORE HITTING "<", SIMPLY BACKSPACE TO THE DIGIT TO BE CORRECTED RE-TYPE IT AND TYPE THE REST OF THE NUMBER IN THE GUESS AGAIN UNTIL DONE (THIS'LL BECOME CLEARER AFTER LOADING THE PROGRAM AND RUNNING IT A FEW TIMES).

II MAKE SURE THAT YOUR GUESS IS 5 DIGITS ONLY OTHERWISE THE HITCOUNTS AND EXTRACOUNTS WILL BE INCORRECT FOR THAT PARTICULAR GUESS.

III THE PICK A NUMBER ROUTINE FOR THE COMPUTER IS RATHER CLEVER I THINK, BUT SEEMS TO BEHAVE DIFFERENTLY IN DIFFERENT SYSTEMS (SOMETIMES THE RANDOM NUMBERS AREN'T VERY RANDOM). SO I'LL EXPLAIN HOW I GENERATE THE NUMBERS AND TELL YOU HOW TO "FIX" THE SUBROUTINE IF IT'S MISBEHAVING.

THE RANDOM NUMBER GENERATOR LOOKS AT THE KBD PIA FOR GARBAGE AT LOCATION  $F000$ . IT PUTS IT IN THE ACC A, AND CHECKS TO SEE IF IT IS WITHIN A SPECIFIC RANGE (NOW SET TO  $0B_{16} \leq \# < 12_{16}$ ). WHEN IT IS BETWEEN THOSE TWO LIMITS, THE PROGRAM ADDS  $24_{16}$  TO BRING THE NUMBER INTO THE ASCII RANGE OF  $30 \rightarrow 36$ , (0-6). WHEN THE NUMBER ISN'T WITHIN THE LIMITS, THE PROGRAM SIMPLY GOES AND FETCHES ANOTHER NUMBER AND CONTINUES UNTIL ITS FILLED 5 MEMORY LOCATIONS I CALL THE 'VAULT', WITH ASCII CHARACTERS (next PAGE)

CLASSIFICATION

REPORT

PAGE

## III (cont'd)

BECAUSE THE COUNTERS ON THE KBD WHICH FEED THE PIA, AND ULTIMATELY THE MASTERMIND PROGRAM ARE RUNNING AT SLIGHTLY DIFFERENT FREQUENCIES ON DIFFERENT SPHERES, YOU MAY NOT GET RANDOM NUMBERS IN THE RANGE WHERE I DID.

THE REMEDY IS SIMPLE, INCREMENT OR DECREMENT THE UPPER AND LOWER BOUNDS BY THE SAME AMOUNT, and change the offset add at location 438, 439 accordingly. The add can be changed to a subtract if the range that you find suitable is above 30-36.

i.e.

| MEM LOCATION | NOW | LATER |
|--------------|-----|-------|
| 42D          | 0B  | ± X   |
| 433          | 12  | ± X   |
| 438          | 8B* | 80    |
| 439          | 24  | ± X   |

\*CHANGE IF LOC 42D IS  $> 30_{16}$  SO AS TO SUBTRACT DOWN INTO THE  $30 \rightarrow 36$  RANGE.

NOTE:

LOCATION 42A, 42B SHOULD BE CHANGED IF YOU'VE GOT A NEW KBD (PRESENTLY SET TO F000)

CONCLUSIONS

I FEEL THE PROGRAM WILL PROVIDE A GOOD DEAL OF ENTERTAINMENT AND WILL MAKE A GOOD DEMONSTRATION PROGRAM WHEN SOME HEATHEN ASKS YOU, "WELL, WHAT DOES A COMPUTER DO?"

AND WHO SAYS YOU NEED A BASIC INTERPRETER TO PLAY MASTERMIND, THIS PROGRAM DOES IT. IN LESS THAN  $300_{16}$  BYTES [ $67_{16}$  BYTES  $\approx \frac{2}{3}K$ ]

IF THERE ARE ANY QUESTIONS OR PROBLEMS WITH THE INNARDS OF THE PROGRAM, CALL OR WRITE ME, I'LL BE GLAD TO HELP. HOME: (213) 320-2161

ADDRESS: 706 W. 212TH ST.  
TORRANCE, CALIF. 90502

CLASSIFIED

DATE 6/23/77  
PART NO. MASTERMIND TEXT  
PREPARED BY H. MARTINEZ

CALC. NO. \_\_\_\_\_ SHEET NO. \_\_\_\_\_  
MODEL NO. \_\_\_\_\_  
CHECKED BY \_\_\_\_\_

=  
53 E 0320  
45 E 5048  
20 E 5245  
53 E 4D41  
52 E 5445  
4E E 4049  
47 E 4420  
45 E 4140  
28 E 2020  
41 E 5633  
20 E 2900  
20 E 2020  
20 E 2020  
20 E 2020  
3E E 4755  
45 E 5353  
30 E 2048  
49 E 5453  
20 E 2045  
58 E 5452  
91 D 000  
= 0360  
45 E 4E54  
45 E 5220  
47 E 5545  
53 E 5320  
3E  
= 0370  
59 E 4F55  
20 E 4C4F  
53 E 452C  
20 E 4E55  
4D E 4245  
52 E 2057  
41 E 533A  
20  
= 0390  
59 E 4F55  
20 E 5749  
4E E 2121  
20 E 494E  
20 E 2047



DATE

6/23/77

PART NO.

MASTERMIND TEXT

PREPARED BY

H. MARTÍNEZ

CALC. NO.

SHEET NO.

7 of 9  
TEXT 2

MODEL NO.

CHECKED BY

TEXT

|    |       |
|----|-------|
| 55 | E4553 |
| 53 | E4553 |
| =  | 03B0  |
| 54 | E4F20 |
| 50 | E4C41 |
| 59 | E2041 |
| 47 | E4149 |
| 4E | E2054 |
| 59 | E5045 |
| 20 | E3920 |
| 45 | E4C53 |
| 45 | E2054 |
| 59 | E5045 |
| 20 | D4E   |

CLASSIFICATION

# Mastermind Program

809

```

? 0400 7F CLR 0312
? 0403 BD JSR FC37
? 0406 BD JSR FC3D
? 0409 CE LDX #0320
? 040C DF STX 11
? 040E CE LDX #035D 1
? 0411 DF STX 0A
? 0413 BD JSR FD8E
? 0416 BD BSR 0E 0426
? 0418 BD BSR 4F 0469
? 041A 7C INC 0312
? 041D B6 LDAH 0312
? 0420 81 CMPH#0C
? 0422 27 BEQ 21 0445
? 0424 20 BRA F2 0418
? 0426 CE LDX #030B - PICK # TO BE GUESSED
? 0429 B6 LDAH F000 PUT IN -> VAULT TEMP.
? 042C 81 CMPH#0B
? 042E 22 BHI 02 0432
? 0430 20 BRA F7 0429
? 0432 81 CMPH#12
? 0434 23 BLS 02 0438
? 0436 20 BRA F1 0429
? 0438 8B ADDH#24 $
? 043A A7 STARH00
? 043C 08 INX
? 043D 8C CPX #0310
? 0440 27 BEQ 02 0444
? 0442 20 BRA E5 0429
? 0444 39 RTS
? 0445 CE LDX #0370
? 0448 DF STX 11
? 044A CE LDX #0385
? 044D DF STX 0A
? 044F BD JSR FD8E
? 0452 CE LDX #030B
? 0455 A6 LDHAX00
? 0457 FF STX 0315
? 045A BD JSR FCBC
? 045D FE LDX 0315
? 0460 08 INX
? 0461 8C CPX #0310
? 0464 26 BNE EF 0455
? 0466 7E JMP 0581
? 0469 CE LDX #0360
? 046C DF STX 11
? 046E CE LDX #036C
? 0471 DF STX 0A
? 0473 BD JSR FD8E
? 0476 DE LDX 1C - INPUT GUESS
? 0478 FF STX 0313
? 047B BD JSR FC4A

```

```

? 047E 81 CMPH#14 - Backspace Code
? 0480 27 BEQ 09 0488
? 0482 BD JSR FCBC
? 0485 81 CMPH#3C <
? 0487 27 BEQ 09 0492
? 0489 20 BRA F0 047B
? 048E DE LDX 1C
? 048D 09 DEX
? 048E DF STX 1C
? 0490 20 BRA E9 047E
? 0492 DE LDX 1C
? 0494 09 DEX
? 0495 09 DEX
? 0496 A6 LDHAX00 - CRT -> GUESS TEMP.
? 0498 B7 STARH 0305
? 049B 09 DEX
? 049C A6 LDHAX00
? 049E B7 STARH 0304
? 04A1 09 DEX
? 04A2 A6 LDHAX00
? 04A4 B7 STARH 0303
? 04A7 09 DEX
? 04A8 A6 LDHAX00
? 04AA B7 STARH 0302
? 04AD 09 DEX
? 04AE A6 LDHAX00
? 04B0 B7 STARH 0301
? 04B3 B6 LDAH 030B
? 04B6 B7 STARH 0306
? 04B9 B6 LDAH 030C
? 04BC B7 STARH 0307
? 04BF B6 LDAH 030D
? 04C2 B7 STARH 0308
? 04C5 B6 LDAH 030E
? 04C8 B7 STARH 0309
? 04CB B6 LDAH 030F
? 04CE B7 STARH 030A
? 04D1 FF STX 0313
? 04D4 7F CLR 0310
? 04D7 CE LDX #0301
? 04DA A6 LDHAX00
? 04DC E6 LDHAX05
? 04DE 11 CBA
? 04DF 27 BEQ 08 04E9
? 04E1 08 INX
? 04E2 8C CPX #0306
? 04E5 27 BEQ 09 04F2
? 04E7 20 BRA F1 04DA
? 04E9 7C INC 0310
? 04EC 6F CLR X00
? 04EE 6F CLR X05
? 04F0 20 BRA EF 04E1

```

HITCOUNT ROUTINE

```

?, 04F2 7F CLR 0311 - EXTRA COUNTER ROUTINE
?, 04F5 CE LDX #0301
?, 04F8 FF STX 0315
?, 04FB 8C CPX #0306
?, 04FE 27 BEQ 26 0526
?, 0500 A6 LDAA#00
?, 0502 81 CMPA#00
?, 0504 27 BEQ 1A 0520
?, 0506 CE LDX #0306
?, 0509 E6 LDABX00
?, 050B 11 CBA
?, 050C 27 BEQ 08 0516
?, 050E 08 INX
?, 050F 8C CPX #0306
?, 0512 27 BEQ 0C 0520
?, 0514 20 BRA F3 0509
?, 0516 6F CLR X00
?, 0518 FE LDX 0315
?, 051B 7C INC 0311
?, 051E 6F CLR X00
?, 0520 FE LDX 0315
?, 0523 08 INX
?, 0524 20 BRA D2 04F8
?, 0526 DE LDX 1C - PRINT RESULTS
?, 0528 B6 LDAA 0310
?, 052B 08 INX
?, 052C 08 INX
?, 052D 8B ADDA#30 0
?, 052F DF STX 1C
?, 0531 B0 JSR FCBC
?, 0534 DE LDX 1C
?, 0536 08 INX
?, 0537 08 INX
?, 0538 08 INX
?, 0539 08 INX
?, 053A 08 INX
?, 053B 08 INX
?, 053C DF STX 1C
?, 053E B6 LDAA 0311
?, 0541 8B ADDA#30 0
?, 0543 B0 JSR FCBC
?, 0546 B0 JSR FD14
?, 0549 B6 LDAA 0310
?, 054C 81 CMPA#00
?, 054E 27 BEQ 01 0551
?, 0550 39 RTS
?, 0551 CE LDX #0390
?, 0554 DF STX 11
?, 0556 CE LDX #0390
?, 0559 DF STX 0A
?, 055B B0 JSR FD0E
?, 055E 5F CLRB

```

```

?, 055F B6 LDAA 0312
?, 0562 4C INCA
?, 0563 CE LDX #000A
?, 0566 DF STX 04
?, 0568 DE LDX 1C
?, 056A B0 JSR FF64
?, 056D DE LDX 1C
?, 056F 08 INX
?, 0570 08 INX
?, 0571 08 INX
?, 0572 DF STX 1C
?, 0574 CE LDX #039E
?, 0577 DF STX 11
?, 0579 CE LDX #03A5
?, 057C DF STX 0A
?, 057E B0 JSR FD0E
?, 0581 B0 JSR FD14
?, 0584 CE LDX #03B0
?, 0587 DF STX 11
?, 0589 CE LDX #03CF
?, 058C DF STX 0A
?, 058E B0 JSR FD0E
?, 0591 B0 JSR FE71
?, 0594 81 CMPA#4E N
?, 0596 27 BEQ 03 0598
?, 0598 7E JMP 0400
?, 059B 7E JMP FE64

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