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Debugging Stage 1 of
Y. A. C. H.
(Yet Another Chess Handler)

Problem 1: Commands Not Being Recognized

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Abstract

Debugging of Stage 1 of YACH (Yet Another Chess Handler) is begun with the definition, investigation, and fixing of Problem 1: Commands Not Being Recognized.

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This paper and its associated code are available online at:

<http://www.bds-soft.com/cocoPapers.php> .

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Introduction

YACH is buggy!

Stage one of YACH was buggy when I published it on 2021/09/29 (MDJ04). And it's still buggy today.

Among other things, YACH is intended to be an example of some of the Do's and Don'ts of Assembly Language Programming.

And if coding is the right arm of programming, then debugging is its left arm.

In this paper, I deal with:

Problem 1: Commands Not Being Recognized.

I'll address other bugs and problems in later papers.

To begin: YACH recognizes some of its intended commands, but not others.

SCOFF turns the screen "colors" off.

SCON turns them back on.

NEW puts the starting position for a Chess game on the Board.
(it has its own bug, but we won't discuss that here).

CLRBD clears the board.

ANLYZ is properly recognized and reports "**ANLYZ - N.Y.I.**"
(i.e. "Not Yet Implemented")

So does **CKMOV** and several other valid commands.

This is all correct. Also correct is the response if you enter an invalid command such as:

BOZO which reports "**CMD NOT RECOGNIZED**" as it should.

But the problem is with several valid commands which are not being properly recognized. The castling, en passant, pawn promotion, empty-the square, placing of pieces, and standard move commands currently all suffer from this problem. For example:

O-O should report "**O-O - N.Y.I.**"

Instead it incorrectly reports "**CMD NOT RECOGNIZED**"

It is this particular problem which I define, investigate, and fix in this paper.

A Note on Numbers: To keep everything simple to understand, and also neatly lined-up, I frequently refer to numbers as decimal bytes with three full digits, e.g. 004, 027, 229, etc. See Appendix A for conversions between the decimal and hexadecimal representations of bytes.

In works of this complexity (at least for me) typos and other errors are bound to sneak in. Please let me know about any you discover so I can note and correct them.

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=====

General Methodology

The “meat” of the YACH Game Loop (absent all the equates and other “boilerplate” code) is just this:

```
      .  
      .  
      .  
01210 * WASH  
294E 17   F9D9   01220 GMLOOP  LBSR    GETCMD  
01230  
01240 * RINSE  
2951 17   FCEE   01250          LBSR    XLTCMD  
01260  
01270 * REPEAT  :-)  
2954 20   F8     01280          BRA     GMLOOP  
      .  
      .  
      .
```

i.e. get a command from the keyboard, translate it (check to see if it matches a valid pattern), and dispatch it to its proper handling routine.

GETCMD receives the command as a series of up to five key presses and stores them in the **CMDVAR** temporary variable. (**CMDVAR** is preloaded with five #96 Poke Mechanism blank green spaces).

Then **XLTCMD** (and its sisters **XLTCM2** and **XLTCM3**) try to match the contents of **CMDVAR** with known patterns of valid commands.

So, I wrote a “Debugging” version of **XLTCMD** which does nothing except to simply report the five characters placed in **CMDVAR** by **GETCMD** as five hexadecimal bytes. Minus the equates and other boilerplate, this Debugging version is:

```
00100 *****  
00110 *  
00120 * XLTCMD.ASM  
00130 * MDJ 2021/09/22  
00140 *  
00150 * 2021/09/29  
00160 * DEBUGGING VERSION 1  
00170 *  
00180 *****  
00190  
      .  
      .
```

```

      .
44A0          01460          ORG          $44A0
              01470
44A0 34      12          01480 XLTCMD  PSHS      A,X
              01490
              01500 * CLEAR THE SCREEN
              01510 * REPORTING FIELD
              01520
              01530 * LOAD A BLANK SPACE
44A2 86      60          01540          LDA      #96
              01550
              01560 * POINT TO THE SCREEN
              01570 * REPORTING FIELD
44A4 8E      05EB       01580          LDX      #RPTFLD
              01590
              01600 * CLEAR THE FIELD
44A7 A7      80          01610 LC001   STA      ,X+
              01620
              01630 * ARE WE DONE?
44A9 8C      0600       01640          CMPX     #VIDEND
              01650
              01660 * GO IF NO
44AC 25      F9          01670          BLO      LC001
              01680
              01690 * FOR DEBUGGING PURPOSES
              01700 * JUST REPORT WHAT'S IN
              01710 * CMDVAR AS FIVE
              01720 * HEXADECIMAL BYTES
              01730
              01740 * POINT TO CMDVAR
44AE 108E    2041       01750          LDY      #CMDVAR
              01760
              01770 * POINT TO THE REPORTING
              01780 * FIELD
44B2 8E      05EB       01790          LDX      #RPTFLD
              01800
              01810 * DISPLAY THE COMMAND
              01820 * DATA
              01830
44B5 A6      A0          01840          LDA      ,Y+
44B7 17      D81B       01850          LBSR     PUTBYT
44BA 86      60          01860          LDA      #96
44BC A7      80          01870          STA      ,X+
              01880
44BE A6      A0          01890          LDA      ,Y+
44C0 17      D812       01900          LBSR     PUTBYT
44C3 86      60          01910          LDA      #96

```

```

44C5 A7 80 01920 STA ,X+
01930
44C7 A6 A0 01940 LDA ,Y+
44C9 17 D809 01950 LBSR PUTBYT
44CC 86 60 01960 LDA #96
44CE A7 80 01970 STA ,X+
01980
44D0 A6 A0 01990 LDA ,Y+
44D2 17 D800 02000 LBSR PUTBYT
44D5 86 60 02010 LDA #96
44D7 A7 80 02020 STA ,X+
02030
44D9 A6 A0 02040 LDA ,Y+
44DB 17 D7F7 02050 LBSR PUTBYT
44DE 86 60 02060 LDA #96
44E0 A7 80 02070 STA ,X+
02080
02090 * EXIT
44E2 35 12 02100 PULS A,X
44E4 39 02110 RTS
0000 02120 END

```

00000 TOTAL ERRORS

The results were immediately clear (and quite embarrassing). I entered one of the problem commands:



And the result was:



Translated into decimal, these results are:

112 109 112 096 096

The commands were being put into the **CMDVAR** as Poke Mechanism Codes instead of as Print Mechanism Codes as I had previously thought and intended (I think... I'm not so sure now).

It's bad enough that I missed something so elementary. But, given the fact that I literally "WROTE THE BOOK" on this issue (MDJ02), I'm doubly embarrassed. (sigh!!!).

So, anyway, I proceeded to rewrite **XLTCMD**, **XLTCM2**, and **XLTCM3** according to the Poke Mechanism instead of the Print Mechanism. I had to rewrite **RNKCVT** as well. No change was required to **FILCVT**; the Poke Codes are the same as the Print Codes for the purely alphabetic characters.

The four revised routines are hereinafter documented as Versions 0.0.2.

These changes corrected the system's performance for castling, standard moves, en passant, and pawn promotion. But the empty square commands and the placing of pieces commands were still not being recognized. It turned out that some of the **CMDVAR** character references in **XLTCM3** were erroneous.

In four places, when trying to access the fourth **CMDVAR** character, the code read “**LDA CMDVAR+2**” instead of the correct “**LDA CMDVAR+3**”.

And in two places, when trying to access the fifth **CMDVAR** character, the code read “**LDA CMDVAR+2**” instead of the correct “**LDA CMDVAR+4**”.

After making those changes, the further revised **XLTCM3** routine is hereinafter documented as Version 0.0.3.

Version 0.0.3 of the **YACH.BAS** Game Control Program is also presented.

At this point all of the valid commands are being properly recognized by the system.

In my next YACH Debugging Paper, I'll address the **NEW** (and **NEWPS**) B3 asterisk error and such other bugs as I may discover between now and then.

And, after that, I will hopefully move on to **Stage Two**.

For the code associated with this version 0.0.3 of YACH, I'm providing revised versions of **YACHEMC.DSK**, **YACHFCM.DSK**, and **YACH.DSK**. The other system code disks remain unchanged from their original versions.

=====

RNKCVT: Converts a Chess Board Rank Character ("1" to "8") to an Array J-Value (0 to 7) i.e. a y-coordinate

Version 0.0.2

Note that the Chess Board (and thus the **BSCARY** Array) is an 8 x 8, 64-cell array, with I = x-coordinates running horizontally from left-to-right, and J = y-coordinates running vertically from bottom-to-top. This routine converts the Chess Board's traditional Rank (i.e. row) Characters ("1" to "8") to Array J-Values (0 to 7). For example, square "G7" converts to (6,6).

```
00100 *****
00110 *
00120 * RNKCVT.ASM
00130 * MDJ 2021/09/21
00140 *
00150 * VERSION 0.0.2
00160 * MDJ 2021/09/29
00170 *
00180 * CONVERTS A CHESS BOARD
00190 * RANK CHARACTER
00200 * ("1" TO "8")
00210 * TO AN ARRAY J-VALUE
00220 * (0 TO 7)
00230 * I.E. A Y-COORDINATE
00240 *
00250 * ENTRY CONDITIONS:
00260 *   A = THE CHARACTER
00270 *   (PRINT MECHANISM)
00280 *
00290 * EXIT CONDITIONS:
00300 *   CC Z-BIT = 1
00310 *   A = THE J-VALUE
00320 *
00330 * ERROR CONDITIONS:
00340 *   CC Z-BIT = 0
00350 *   A = 255
00360 *
00370 *****
00380 *
00390 * REVISION HISTORY
```

```

00400 *
00410 * 0.0.2
00420 * CHANGED ALL COMMAND
00430 * MATCHING FROM
00440 * PRINT MECHANISM TO
00450 * POKE MECHANISM
00460 *
00470 *****
00480
00490 * LOW RAM CURSOR ADDRESS
0088 00500 CURPOS EQU $0088
00510
00520 * SCREEN ADDRESSES
00530 * START OF VIDRAM
0400 00540 VIDRAM EQU $0400
00550
00560 * COMMAND PROMPT
00570 * SCREEN LOCATION
05AE 00580 CMDPMT EQU $05AE
00590
00600 * SCREEN REPORTING FIELD
05EB 00610 RPTFLD EQU $05EB
00620
00630 * ONE BYTE PAST THE
00640 * END OF VIDRAM
0600 00650 VIDEND EQU $0600
00660
00670 * ML FOUNDATION
00680 * CORE ADDRESSES
1C00 00690 REGXFR EQU $1C00
1C0E 00700 VIDCLS EQU $1C0E
1C1F 00710 PUTCHR EQU $1C1F
1CD2 00720 GETCHR EQU $1CD2
1CD5 00730 PUTBYT EQU $1CD5
1D17 00740 SCROLL EQU $1D17
1D36 00750 PUTCHA EQU $1D36
1D57 00760 PUTBYA EQU $1D57
1D8C 00770 CRLF EQU $1D8C
1DBD 00780 PK2PRT EQU $1DBD
1DDA 00790 PRT2PK EQU $1DDA
1DF7 00800 POLCAT EQU $1DF7
1E06 00810 PUTWRA EQU $1E06
1E11 00820 PUTWRD EQU $1E11
1E1C 00830 BKSPCE EQU $1E1C
1E34 00840 DU1616 EQU $1E34
1E56 00850 FUDWRD EQU $1E56
1E70 00860 PTDWRD EQU $1E70

```

```

00870
00880 * YACH ADDRESSES
00890 * SYSTEM FLAGS
2000 00900 FLAGS EQU $2000
2000 00910 SCFLAG EQU $2000
2001 00920 STFLAG EQU $2001
2002 00930 BFFLAG EQU $2002
00940
00950 * SYSTEM TEMPORARY
00960 * VARIABLES
2040 00970 TMPVAR EQU $2040
2040 00980 CMDCNT EQU $2040
2041 00990 CMDVAR EQU $2041
2046 01000 CMDFRF EQU $2046
2047 01010 CMDFRR EQU $2047
2048 01020 CMDTOF EQU $2048
2049 01030 CMDTOR EQU $2049
204A 01040 CMDFRI EQU $204A
204B 01050 CMDFRJ EQU $204B
204C 01060 CMDTOI EQU $204C
204D 01070 CMDTOJ EQU $204D
204E 01080 MCHVAR EQU $204E
01090
01100 * SCREEN MANAGEMENT
20C0 01110 CIDGEN EQU $20C0
24C0 01120 B2SARY EQU $24C0
2540 01130 B2DARY EQU $2540
2580 01140 B2LARY EQU $2580
25C0 01150 BSCARY EQU $25C0
01160
01170 * GENERAL REPORTING
2600 01180 NOTREC EQU $2600
2680 01190 NYIMSG EQU $2680
01200
01210 * GENERAL COMMANDS
26C0 01220 ZERO2 EQU $26C0
26D0 01230 ZERO3 EQU $26D0
26E0 01240 ANLYZ EQU $26E0
27E0 01250 ASKFR EQU $27E0
28E0 01260 CLRBD EQU $28E0
29E0 01270 CKMOV EQU $29E0
2AE0 01280 CKPOS EQU $2AE0
2BE0 01290 CSTLK EQU $2BE0
2CE0 01300 CSTLQ EQU $2CE0
2DE0 01310 DSPBD EQU $2DE0
2EE0 01320 FLIP EQU $2EE0
2FE0 01330 GSTRT EQU $2FE0

```

30E0	01340	GSTOP	EQU	\$30E0
31E0	01350	LDGAM	EQU	\$31E0
32E0	01360	LDPOS	EQU	\$32E0
33E0	01370	NEW	EQU	\$33E0
33F0	01380	NEWPS	EQU	\$33F0
34F0	01390	LTRO2	EQU	\$34F0
3500	01400	LTRO3	EQU	\$3500
3510	01410	QUIT	EQU	\$3510
3520	01420	SCOFF	EQU	\$3520
3620	01430	SCON	EQU	\$3620
3720	01440	START	EQU	\$3720
3730	01450	STOP	EQU	\$3730
3740	01460	SVGAM	EQU	\$3740
3840	01470	SVPOS	EQU	\$3840
3940	01480	TKBAK	EQU	\$3940
	01490			
	01500	* MOVEMENT COMMANDS		
	01510	* AND CALCULATIONS		
3A40	01520	FILCVT	EQU	\$3A40
	01530	*RNKCVT	EQU	\$3A60
3A80	01540	FRE0	EQU	\$3A80
3A90	01550	FRECP	EQU	\$3A90
3AA0	01560	FRFR	EQU	\$3AA0
3EA0	01570	FRFRE	EQU	\$3EA0
3FA0	01580	FRFRP	EQU	\$3FA0
40A0	01590	FRQ0	EQU	\$40A0
41A0	01600	FRQCP	EQU	\$41A0
	01610			
	01620	* COMMAND MANAGEMENT		
42A0	01630	GETCMD	EQU	\$42A0
43A0	01640	MATCH3	EQU	\$43A0
4420	01650	MATCH4	EQU	\$4420
44A0	01660	XLTCMD	EQU	\$44A0
48A0	01670	XLTCM2	EQU	\$48A0
	01680			
	01690	* YACH SUPERVISORY		
4CA0	01700	GMLOOP	EQU	\$4CA0
4CE0	01710	YACH	EQU	\$4CE0
	01720			
3A60	01730		ORG	\$3A60
	01740			
	01750	* VALID RANK		
	01760	* CHARACTERS		
	01770	* (INPUT -->		
	01780	* POKE MECHANISM)		
	01790	* = "1" THROUGH "8"		
	01800	* = CODES 113 TO 120		

```

01810
01820 * DO THE CONVERSION
3A60 81 71 01830 RNKCVT CMPA #113 1
3A62 25 04 01840 BLO L0001
3A64 81 78 01850 CMPA #120 8
3A66 23 06 01860 BLS L0002
01870
01880 * ERROR: A = 255
01890 * CLEAR THE Z-BIT
3A68 86 FF 01900 L0001 LDA #255
3A6A 1C FB 01910 ANDCC #$FB
3A6C 20 04 01920 BRA L0003
01930
01940 * VALID: J = CHAR - 113
01950 * SET THE Z-BIT
3A6E 80 71 01960 L0002 SUBA #113
3A70 1A 04 01970 ORCC #$04
01980
01990 * EXIT
3A72 39 02000 L0003 RTS
0000 32767 END

```

00000 TOTAL ERRORS

=====

XLTCMD: Translate and Dispatch a Command The First Third

Version 0.0.2

Originally, `XLTCMD`, `XLTCM2`, and `XLTCM3` were a single file: `XLTCMD.ASM`. But the file was so large that it caused a “Buffer Full” error in `EDTASM`. It was fun figuring how and where to break the file into three parts.

```
00100 *****
00110 *
00120 * XLTCMD.ASM
00130 * MDJ 2021/09/22
00140 *
00150 * VERSION 0.0.2
00160 * MDJ 2021/09/29
00170 *
00180 * TRANSLATE AND
00190 * DISPATCH A
00200 * COMMAND
00210 *
00220 * THIS IS THE FIRST
00230 * HALF OF XLTCMD -
00240 * SEE XLTCM2.ASM
00250 * FOR THE SECOND
00260 * HALF
00270 *
00280 * ENTRY CONDITIONS
00290 * IN THE TEMPORARY
00300 * VARIABLES:
00310 *
00320 * CMDCNT =
00330 *   THE NUMBER
00340 *   OF CHARACTERS
00350 *   IN THE COMMAND
00360 *
00370 * CMDVAR =
00380 *   THE COMMAND
00390 *   CHARACTERS
00400 *
00410 * EXIT CONDITIONS:
00420 *   NO CHANGE
```

```

00430 *
00440 *****
00450 *
00460 * REVISION HISTORY
00470 *
00480 * 0.0.2
00490 * CHANGED ALL COMMAND
00500 * MATCHING FROM
00510 * PRINT MECHANISM TO
00520 * POKE MECHANISM
00530 *
00540 *****
00550
00560 * LOW RAM CURSOR ADDRESS
0088 00570 CURPOS EQU $0088
00580
00590 * SCREEN ADDRESSES
00600 * START OF VIDRAM
0400 00610 VIDRAM EQU $0400
00620
00630 * COMMAND PROMPT
00640 * SCREEN LOCATION
05AE 00650 CMDPMT EQU $05AE
00660
00670 * SCREEN REPORTING FIELD
05EB 00680 RPTFLD EQU $05EB
00690
00700 * ONE BYTE PAST THE
00710 * END OF VIDRAM
0600 00720 VIDEND EQU $0600
00730
00740 * ML FOUNDATION
00750 * CORE ADDRESSES
1C00 00760 REGXFR EQU $1C00
1C0E 00770 VIDCLS EQU $1C0E
1C1F 00780 PUTCHR EQU $1C1F
1CD2 00790 GETCHR EQU $1CD2
1CD5 00800 PUTBYT EQU $1CD5
1D17 00810 SCROLL EQU $1D17
1D36 00820 PUTCHA EQU $1D36
1D57 00830 PUTBYA EQU $1D57
1D8C 00840 CRLF EQU $1D8C
1DBD 00850 PK2PRT EQU $1DBD
1DDA 00860 PRT2PK EQU $1DDA
1DF7 00870 POLCAT EQU $1DF7
1E06 00880 PUTWRA EQU $1E06
1E11 00890 PUTWRD EQU $1E11

```

1E1C	00900	BKSPCE	EQU	\$1E1C
1E34	00910	DU1616	EQU	\$1E34
1E56	00920	FUDWRD	EQU	\$1E56
1E70	00930	PTDWRD	EQU	\$1E70
	00940			
	00950	* YACH ADDRESSES		
	00960	* SYSTEM FLAGS		
2000	00970	FLAGS	EQU	\$2000
2000	00980	SCFLAG	EQU	\$2000
2001	00990	STFLAG	EQU	\$2001
2002	01000	BFFLAG	EQU	\$2002
	01010			
	01020	* SYSTEM TEMPORARY		
	01030	* VARIABLES		
2040	01040	TMPVAR	EQU	\$2040
2040	01050	CMDCNT	EQU	\$2040
2041	01060	CMDVAR	EQU	\$2041
2046	01070	CMDFRF	EQU	\$2046
2047	01080	CMDFRR	EQU	\$2047
2048	01090	CMDTOF	EQU	\$2048
2049	01100	CMDTOR	EQU	\$2049
204A	01110	CMDFRI	EQU	\$204A
204B	01120	CMDFRJ	EQU	\$204B
204C	01130	CMDTOI	EQU	\$204C
204D	01140	CMDTOJ	EQU	\$204D
204E	01150	MCHVAR	EQU	\$204E
	01160			
	01170	* SCREEN MANAGEMENT		
20C0	01180	CIDGEN	EQU	\$20C0
24C0	01190	B2SARY	EQU	\$24C0
2540	01200	B2DARY	EQU	\$2540
2580	01210	B2LARY	EQU	\$2580
25C0	01220	BSCARY	EQU	\$25C0
	01230			
	01240	* GENERAL REPORTING		
2600	01250	NOTREC	EQU	\$2600
2680	01260	NYIMSG	EQU	\$2680
	01270			
	01280	* GENERAL COMMANDS		
26C0	01290	ZERO2	EQU	\$26C0
26D0	01300	ZERO3	EQU	\$26D0
26E0	01310	ANLYZ	EQU	\$26E0
27E0	01320	ASKFR	EQU	\$27E0
28E0	01330	CLRBD	EQU	\$28E0
29E0	01340	CKMOV	EQU	\$29E0
2AE0	01350	CKPOS	EQU	\$2AE0
2BE0	01360	CSTLK	EQU	\$2BE0

2CE0	01370	CSTLQ	EQU	\$2CE0
2DE0	01380	DSPBD	EQU	\$2DE0
2EE0	01390	FLIP	EQU	\$2EE0
2FE0	01400	GSTRT	EQU	\$2FE0
30E0	01410	GSTOP	EQU	\$30E0
31E0	01420	LDGAM	EQU	\$31E0
32E0	01430	LDPOS	EQU	\$32E0
33E0	01440	NEW	EQU	\$33E0
33F0	01450	NEWPS	EQU	\$33F0
34F0	01460	LTRO2	EQU	\$34F0
3500	01470	LTRO3	EQU	\$3500
3510	01480	QUIT	EQU	\$3510
3520	01490	SCOFF	EQU	\$3520
3620	01500	SCON	EQU	\$3620
3720	01510	START	EQU	\$3720
3730	01520	STOP	EQU	\$3730
3740	01530	SVGAM	EQU	\$3740
3840	01540	SVPOS	EQU	\$3840
3940	01550	TKBAK	EQU	\$3940
	01560			
	01570	* MOVEMENT COMMANDS		
	01580	* AND CALCULATIONS		
3A40	01590	FILCVT	EQU	\$3A40
3A60	01600	RNKCVT	EQU	\$3A60
3A80	01610	FRE0	EQU	\$3A80
3A90	01620	FRECP	EQU	\$3A90
3AA0	01630	FRFR	EQU	\$3AA0
3EA0	01640	FRFRE	EQU	\$3EA0
3FA0	01650	FRFRP	EQU	\$3FA0
40A0	01660	FRQ0	EQU	\$40A0
41A0	01670	FRQCP	EQU	\$41A0
	01680			
	01690	* COMMAND MANAGEMENT		
42A0	01700	GETCMD	EQU	\$42A0
43A0	01710	MATCH3	EQU	\$43A0
4420	01720	MATCH4	EQU	\$4420
4460	01730	MATCH5	EQU	\$4460
	01740	*XLTCMD	EQU	\$44A0
46A0	01750	XLTCM2	EQU	\$46A0
48A0	01760	XLTCM3	EQU	\$48A0
	01770			
	01780	* YACH SUPERVISORY		
4CA0	01790	GMLOOP	EQU	\$4CA0
4CE0	01800	YACH	EQU	\$4CE0
	01810			
44A0	01820		ORG	\$44A0
	01830			

44A0	34	12	01840	XLTCMD	PSHS	A,X	
			01850				
			01860	*	CLEAR THE SCREEN		
			01870	*	REPORTING FIELD		
			01880				
			01890	*	LOAD A BLANK SPACE		
44A2	86	60	01900		LDA	#96	
			01910				
			01920	*	POINT TO THE SCREEN		
			01930	*	REPORTING FIELD		
44A4	8E	05EB	01940		LDX	#RPTFLD	
			01950				
			01960	*	CLEAR THE FIELD		
44A7	A7	80	01970	LC001	STA	,X+	
			01980				
			01990	*	ARE WE DONE?		
44A9	8C	0600	02000		CMPX	#VIDEND	
			02010				
			02020	*	GO IF NO		
44AC	25	F9	02030		BLO	LC001	
			02040				
			02050	*	BEGIN TRANSLATING		
			02060	*	COMMANDS		
			02070				
			02080	*	L00NR = NOT RECOGNIZED		
			02090	*	L00CT = CONTINUE		
			02100				
			02110	*	IS IT "0-0"?		
44AE	86	70	02120	L0001	LDA	#112	0
44B0	B7	204E	02130		STA	MCHVAR	
44B3	86	6D	02140		LDA	#109	-
44B5	B7	204F	02150		STA	MCHVAR+1	
44B8	86	70	02160		LDA	#112	0
44BA	B7	2050	02170		STA	MCHVAR+2	
44BD	86	60	02180		LDA	#96	SP
44BF	B7	2051	02190		STA	MCHVAR+3	
44C2	86	60	02200		LDA	#96	SP
44C4	B7	2052	02210		STA	MCHVAR+4	
44C7	17	FF96	02220		LBSR	MATCH5	
			02230				
			02240	*	GO IF NO		
44CA	26	06	02250		BNE	L0002	
			02260				
			02270	*	DO IF YES		
44CC	17	E1F1	02280		LBSR	ZERO2	
44CF	16	01A3	02290		LBRA	L00CT	
			02300				

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02310 * IS IT "0-0-0"?
44D2 86 70 02320 L0002 LDA #112 0
44D4 B7 204E 02330 STA MCHVAR
44D7 86 6D 02340 LDA #109 -
44D9 B7 204F 02350 STA MCHVAR+1
44DC 86 70 02360 LDA #112 0
44DE B7 2050 02370 STA MCHVAR+2
44E1 86 6D 02380 LDA #109 -
44E3 B7 2051 02390 STA MCHVAR+3
44E6 86 70 02400 LDA #112 0
44E8 B7 2052 02410 STA MCHVAR+4
44EB 17 FF72 02420 LBSR MATCH5
02430
02440 * GO IF NO
44EE 26 06 02450 BNE L0003
02460
02470 * DO IF YES
44F0 17 E1DD 02480 LBSR ZERO3
44F3 16 017F 02490 LBRA L00CT
02500
02510 * IS IT "ANLYZ"?
44F6 86 41 02520 L0003 LDA #65 A
44F8 B7 204E 02530 STA MCHVAR
44FB 86 4E 02540 LDA #78 N
44FD B7 204F 02550 STA MCHVAR+1
4500 86 4C 02560 LDA #76 L
4502 B7 2050 02570 STA MCHVAR+2
4505 86 59 02580 LDA #89 Y
4507 B7 2051 02590 STA MCHVAR+3
450A 86 5A 02600 LDA #90 Z
450C B7 2052 02610 STA MCHVAR+4
450F 17 FF4E 02620 LBSR MATCH5
02630
02640 * GO IF NO
4512 26 06 02650 BNE L0004
02660
02670 * DO IF YES
4514 17 E1C9 02680 LBSR ANLYZ
4517 16 015B 02690 LBRA L00CT
02700
02710 * IS IT "ASKFR"?
02720 * ONLY CHECK FIRST
02730 * THREE CHARACTERS
451A 86 41 02740 L0004 LDA #65 A
451C B7 204E 02750 STA MCHVAR
451F 86 53 02760 LDA #83 S
4521 B7 204F 02770 STA MCHVAR+1

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4524	86	4B	02780	LDA	#75	K
4526	B7	2050	02790	STA	MCHVAR+2	
4529	17	FE74	02800	LBSR	MATCH3	
			02810			
			02820	* GO IF NO		
452C	26	06	02830	BNE	L0005	
			02840			
			02850	* DO IF YES		
452E	17	E2AF	02860	LBSR	ASKFR	
4531	16	0141	02870	LBRA	L00CT	
			02880			
			02890	* IS IT "CLRBD"?		
4534	86	43	02900	L0005 LDA	#67	C
4536	B7	204E	02910	STA	MCHVAR	
4539	86	4C	02920	LDA	#76	L
453B	B7	204F	02930	STA	MCHVAR+1	
453E	86	52	02940	LDA	#82	R
4540	B7	2050	02950	STA	MCHVAR+2	
4543	86	42	02960	LDA	#66	B
4545	B7	2051	02970	STA	MCHVAR+3	
4548	86	44	02980	LDA	#68	D
454A	B7	2052	02990	STA	MCHVAR+4	
454D	17	FF10	03000	LBSR	MATCH5	
			03010			
			03020	* GO IF NO		
4550	26	06	03030	BNE	L0006	
			03040			
			03050	* DO IF YES		
4552	17	E38B	03060	LBSR	CLRBD	
4555	16	011D	03070	LBRA	L00CT	
			03080			
			03090	* IS IT "CKMOV"?		
4558	86	43	03100	L0006 LDA	#67	C
455A	B7	204E	03110	STA	MCHVAR	
455D	86	4B	03120	LDA	#75	K
455F	B7	204F	03130	STA	MCHVAR+1	
4562	86	4D	03140	LDA	#77	M
4564	B7	2050	03150	STA	MCHVAR+2	
4567	86	4F	03160	LDA	#79	O
4569	B7	2051	03170	STA	MCHVAR+3	
456C	86	56	03180	LDA	#86	V
456E	B7	2052	03190	STA	MCHVAR+4	
4571	17	FEEC	03200	LBSR	MATCH5	
			03210			
			03220	* GO IF NO		
4574	26	06	03230	BNE	L0007	
			03240			

			03250	* DO IF YES		
4576	17	E467	03260	LBSR	CKMOV	
4579	16	00F9	03270	LBRA	L00CT	
			03280			
			03290	* IS IT "CKPOS"?		
457C	86	43	03300	L0007 LDA	#67	C
457E	B7	204E	03310	STA	MCHVAR	
4581	86	4B	03320	LDA	#75	K
4583	B7	204F	03330	STA	MCHVAR+1	
4586	86	50	03340	LDA	#80	P
4588	B7	2050	03350	STA	MCHVAR+2	
458B	86	4F	03360	LDA	#79	O
458D	B7	2051	03370	STA	MCHVAR+3	
4590	86	53	03380	LDA	#83	S
4592	B7	2052	03390	STA	MCHVAR+4	
4595	17	FEC8	03400	LBSR	MATCH5	
			03410			
			03420	* GO IF NO		
4598	26	06	03430	BNE	L0008	
			03440			
			03450	* DO IF YES		
459A	17	E543	03460	LBSR	CKPOS	
459D	16	00D5	03470	LBRA	L00CT	
			03480			
			03490	* IS IT "CSTLK"?		
45A0	86	43	03500	L0008 LDA	#67	C
45A2	B7	204E	03510	STA	MCHVAR	
45A5	86	53	03520	LDA	#83	S
45A7	B7	204F	03530	STA	MCHVAR+1	
45AA	86	54	03540	LDA	#84	T
45AC	B7	2050	03550	STA	MCHVAR+2	
45AF	86	4C	03560	LDA	#76	L
45B1	B7	2051	03570	STA	MCHVAR+3	
45B4	86	4B	03580	LDA	#75	K
45B6	B7	2052	03590	STA	MCHVAR+4	
45B9	17	FEA4	03600	LBSR	MATCH5	
			03610			
			03620	* GO IF NO		
45BC	26	06	03630	BNE	L0009	
			03640			
			03650	* DO IF YES		
45BE	17	E61F	03660	LBSR	CSTLK	
45C1	16	00B1	03670	LBRA	L00CT	
			03680			
			03690	* IS IT "CSTLQ"?		
45C4	86	43	03700	L0009 LDA	#67	C
45C6	B7	204E	03710	STA	MCHVAR	

45C9	86	53	03720	LDA	#83	S
45CB	B7	204F	03730	STA	MCHVAR+1	
45CE	86	54	03740	LDA	#84	T
45D0	B7	2050	03750	STA	MCHVAR+2	
45D3	86	4C	03760	LDA	#76	L
45D5	B7	2051	03770	STA	MCHVAR+3	
45D8	86	51	03780	LDA	#81	Q
45DA	B7	2052	03790	STA	MCHVAR+4	
45DD	17	FE80	03800	LBSR	MATCH5	
			03810			
			03820	* GO IF NO		
45E0	26	06	03830	BNE	L000A	
			03840			
			03850	* DO IF YES		
45E2	17	E6FB	03860	LBSR	CSTLQ	
45E5	16	008D	03870	LBRA	L00CT	
			03880			
			03890	* IS IT "DSPBD"?		
45E8	86	44	03900	L000A LDA	#68	D
45EA	B7	204E	03910	STA	MCHVAR	
45ED	86	53	03920	LDA	#83	S
45EF	B7	204F	03930	STA	MCHVAR+1	
45F2	86	50	03940	LDA	#80	P
45F4	B7	2050	03950	STA	MCHVAR+2	
45F7	86	42	03960	LDA	#66	B
45F9	B7	2051	03970	STA	MCHVAR+3	
45FC	86	44	03980	LDA	#68	D
45FE	B7	2052	03990	STA	MCHVAR+4	
4601	17	FE5C	04000	LBSR	MATCH5	
			04010			
			04020	* GO IF NO		
4604	26	06	04030	BNE	L000B	
			04040			
			04050	* DO IF YES		
4606	17	E7D7	04060	LBSR	DSPBD	
4609	16	0069	04070	LBRA	L00CT	
			04080			
			04090	* IS IT "FLIP"?		
460C	86	46	04100	L000B LDA	#70	F
460E	B7	204E	04110	STA	MCHVAR	
4611	86	4C	04120	LDA	#76	L
4613	B7	204F	04130	STA	MCHVAR+1	
4616	86	49	04140	LDA	#73	I
4618	B7	2050	04150	STA	MCHVAR+2	
461B	86	50	04160	LDA	#80	P
461D	B7	2051	04170	STA	MCHVAR+3	
4620	86	60	04180	LDA	#96	SP

4622	B7	2052	04190	STA	MCHVAR+4	
4625	17	FE38	04200	LBSR	MATCH5	
			04210			
			04220	* GO IF NO		
4628	26	06	04230	BNE	L000C	
			04240			
			04250	* DO IF YES		
462A	17	E8B3	04260	LBSR	FLIP	
462D	16	0045	04270	LBRA	L00CT	
			04280			
			04290	* IS IT "GSTRT"?		
4630	86	47	04300	L000C LDA	#71	G
4632	B7	204E	04310	STA	MCHVAR	
4635	86	53	04320	LDA	#83	S
4637	B7	204F	04330	STA	MCHVAR+1	
463A	86	54	04340	LDA	#84	T
463C	B7	2050	04350	STA	MCHVAR+2	
463F	86	52	04360	LDA	#82	R
4641	B7	2051	04370	STA	MCHVAR+3	
4644	86	54	04380	LDA	#84	T
4646	B7	2052	04390	STA	MCHVAR+4	
4649	17	FE14	04400	LBSR	MATCH5	
			04410			
			04420	* GO IF NO		
464C	26	06	04430	BNE	L000D	
			04440			
			04450	* DO IF YES		
464E	17	E98F	04460	LBSR	GSTRT	
4651	16	0021	04470	LBRA	L00CT	
			04480			
			04490	* IS IT "GSTOP"?		
4654	86	47	04500	L000D LDA	#71	G
4656	B7	204E	04510	STA	MCHVAR	
4659	86	53	04520	LDA	#83	S
465B	B7	204F	04530	STA	MCHVAR+1	
465E	86	54	04540	LDA	#84	T
4660	B7	2050	04550	STA	MCHVAR+2	
4663	86	4F	04560	LDA	#79	O
4665	B7	2051	04570	STA	MCHVAR+3	
4668	86	50	04580	LDA	#80	P
466A	B7	2052	04590	STA	MCHVAR+4	
466D	17	FDF0	04600	LBSR	MATCH5	
			04610			
			04620	* GO TO SECOND THIRD IF NO		
			04630	* (ALIAS L000E)		
4670	26	2E	04640	BNE	XLTCM2	
			04650			

```
04660 * DO IF YES
4672 17 EA6B 04670          LBSR    GSTOP
04680 * FALL THROUGH
04690
04700 * EXIT AND CONTINUE
4675 35 12 04710 L00CT  PULS    A,X
4677 39    0000 04720          RTS
32767          END
```

00000 TOTAL ERRORS

=====

XLTCM2: Translate and Dispatch a Command The Second Third

Version 0.0.2

```
00100 *****
00110 *
00120 * XLTCM2.ASM
00130 * MDJ 2021/09/22
00140 *
00150 * VERSION 0.0.2
00160 * MDJ 2021/09/29
00170 *
00180 * THIS IS THE
00190 * SECOND THIRD
00200 * OF XLTCMD
00210 *
00220 *****
00230 *
00240 * REVISION HISTORY
00250 *
00260 * 0.0.2
00270 * CHANGED ALL COMMAND
00280 * MATCHING FROM
00290 * PRINT MECHANISM TO
00300 * POKE MECHANISM
00310 *
00320 *****
00330
00340 * LOW RAM CURSOR ADDRESS
0088 00350 CURPOS EQU $0088
00360
00370 * SCREEN ADDRESSES
00380 * START OF VIDRAM
0400 00390 VIDRAM EQU $0400
00400
00410 * COMMAND PROMPT
00420 * SCREEN LOCATION
05AE 00430 CMDPMT EQU $05AE
00440
00450 * SCREEN REPORTING FIELD
```

05EB	00460	RPTFLD	EQU	\$05EB
	00470			
	00480	* ONE BYTE PAST THE		
	00490	* END OF VIDRAM		
0600	00500	VIDEND	EQU	\$0600
	00510			
	00520	* ML FOUNDATION		
	00530	* CORE ADDRESSES		
1C00	00540	REGXFR	EQU	\$1C00
1C0E	00550	VIDCLS	EQU	\$1C0E
1C1F	00560	PUTCHR	EQU	\$1C1F
1CD2	00570	GETCHR	EQU	\$1CD2
1CD5	00580	PUTBYT	EQU	\$1CD5
1D17	00590	SCROLL	EQU	\$1D17
1D36	00600	PUTCHA	EQU	\$1D36
1D57	00610	PUTBYA	EQU	\$1D57
1D8C	00620	CRLF	EQU	\$1D8C
1DBD	00630	PK2PRT	EQU	\$1DBD
1DDA	00640	PRT2PK	EQU	\$1DDA
1DF7	00650	POLCAT	EQU	\$1DF7
1E06	00660	PUTWRA	EQU	\$1E06
1E11	00670	PUTWRD	EQU	\$1E11
1E1C	00680	BKSPCE	EQU	\$1E1C
1E34	00690	DU1616	EQU	\$1E34
1E56	00700	FUDWRD	EQU	\$1E56
1E70	00710	PTDWRD	EQU	\$1E70
	00720			
	00730	* YACH ADDRESSES		
	00740	* SYSTEM FLAGS		
2000	00750	FLAGS	EQU	\$2000
2000	00760	SCFLAG	EQU	\$2000
2001	00770	STFLAG	EQU	\$2001
2002	00780	BFFLAG	EQU	\$2002
	00790			
	00800	* SYSTEM TEMPORARY		
	00810	* VARIABLES		
2040	00820	TMPVAR	EQU	\$2040
2040	00830	CMDCNT	EQU	\$2040
2041	00840	CMDVAR	EQU	\$2041
2046	00850	CMDFRF	EQU	\$2046
2047	00860	CMDFRR	EQU	\$2047
2048	00870	CMDTOF	EQU	\$2048
2049	00880	CMDTOR	EQU	\$2049
204A	00890	CMDFRI	EQU	\$204A
204B	00900	CMDFRJ	EQU	\$204B
204C	00910	CMDTOI	EQU	\$204C
204D	00920	CMDTOJ	EQU	\$204D

204E	00930	MCHVAR	EQU	\$204E
	00940			
	00950	* SCREEN MANAGEMENT		
20C0	00960	CIDGEN	EQU	\$20C0
24C0	00970	B2SARY	EQU	\$24C0
2540	00980	B2DARY	EQU	\$2540
2580	00990	B2LARY	EQU	\$2580
25C0	01000	BSCARY	EQU	\$25C0
	01010			
	01020	* GENERAL REPORTING		
2600	01030	NOTREC	EQU	\$2600
2680	01040	NYIMSG	EQU	\$2680
	01050			
	01060	* GENERAL COMMANDS		
26C0	01070	ZERO2	EQU	\$26C0
26D0	01080	ZERO3	EQU	\$26D0
26E0	01090	ANLYZ	EQU	\$26E0
27E0	01100	ASKFR	EQU	\$27E0
28E0	01110	CLRBD	EQU	\$28E0
29E0	01120	CKMOV	EQU	\$29E0
2AE0	01130	CKPOS	EQU	\$2AE0
2BE0	01140	CSTLK	EQU	\$2BE0
2CE0	01150	CSTLQ	EQU	\$2CE0
2DE0	01160	DSPBD	EQU	\$2DE0
2EE0	01170	FLIP	EQU	\$2EE0
2FE0	01180	GSTRT	EQU	\$2FE0
30E0	01190	GSTOP	EQU	\$30E0
31E0	01200	LDGAM	EQU	\$31E0
32E0	01210	LDPOS	EQU	\$32E0
33E0	01220	NEW	EQU	\$33E0
33F0	01230	NEWPS	EQU	\$33F0
34F0	01240	LTRO2	EQU	\$34F0
3500	01250	LTRO3	EQU	\$3500
3510	01260	QUIT	EQU	\$3510
3520	01270	SCOFF	EQU	\$3520
3620	01280	SCON	EQU	\$3620
3720	01290	START	EQU	\$3720
3730	01300	STOP	EQU	\$3730
3740	01310	SVGAM	EQU	\$3740
3840	01320	SVPOS	EQU	\$3840
3940	01330	TKBAK	EQU	\$3940
	01340			
	01350	* MOVEMENT COMMANDS		
	01360	* AND CALCULATIONS		
3A40	01370	FILCVT	EQU	\$3A40
3A60	01380	RNKCVT	EQU	\$3A60
3A80	01390	FRE0	EQU	\$3A80

			3A90	01400	FRECP	EQU		\$3A90
			3AA0	01410	FRFR	EQU		\$3AA0
			3EA0	01420	FRFRE	EQU		\$3EA0
			3FA0	01430	FRFRP	EQU		\$3FA0
			40A0	01440	FRQ0	EQU		\$40A0
			41A0	01450	FRQCP	EQU		\$41A0
				01460				
				01470	* COMMAND MANAGEMENT			
			42A0	01480	GETCMD	EQU		\$42A0
			43A0	01490	MATCH3	EQU		\$43A0
			4420	01500	MATCH4	EQU		\$4420
			4460	01510	MATCH5	EQU		\$4460
			44A0	01520	XLTCMD	EQU		\$44A0
				01530	*XLTCM2	EQU		\$46A0
			48A0	01540	XLTCM3	EQU		\$48A0
				01550				
				01560	* YACH SUPERVISORY			
			4CA0	01570	GMLOOP	EQU		\$4CA0
			4CE0	01580	YACH	EQU		\$4CE0
				01590				
46A0				01600		ORG		\$46A0
				01610				
				01620	* IS IT "LDGAM"?			
				01630	* (ALIAS L000E)			
46A0	86	4C		01640	XLTCM2	LDA	#76	L
46A2	B7	204E		01650		STA	MCHVAR	
46A5	86	44		01660		LDA	#68	D
46A7	B7	204F		01670		STA	MCHVAR+1	
46AA	86	47		01680		LDA	#71	G
46AC	B7	2050		01690		STA	MCHVAR+2	
46AF	86	41		01700		LDA	#65	A
46B1	B7	2051		01710		STA	MCHVAR+3	
46B4	86	4D		01720		LDA	#77	M
46B6	B7	2052		01730		STA	MCHVAR+4	
46B9	17	FDA4		01740		LBSR	MATCH5	
				01750				
				01760	* GO IF NO			
46BC	26	06		01770		BNE	L000F	
				01780				
				01790	* DO IF YES			
46BE	17	EB1F		01800		LBSR	LDGAM	
46C1	16	01D1		01810		LBRA	L00CT	
				01820				
				01830	* IS IT "LDPOS"?			
46C4	86	4C		01840	L000F	LDA	#76	L
46C6	B7	204E		01850		STA	MCHVAR	
46C9	86	44		01860		LDA	#68	D

46CB	B7	204F	01870	STA	MCHVAR+1	
46CE	86	50	01880	LDA	#80	P
46D0	B7	2050	01890	STA	MCHVAR+2	
46D3	86	4F	01900	LDA	#79	O
46D5	B7	2051	01910	STA	MCHVAR+3	
46D8	86	53	01920	LDA	#83	S
46DA	B7	2052	01930	STA	MCHVAR+4	
46DD	17	FD80	01940	LBSR	MATCH5	
			01950			
			01960	* GO IF NO		
46E0	26	06	01970	BNE	L0010	
			01980			
			01990	* DO IF YES		
46E2	17	EBFB	02000	LBSR	LDPOS	
46E5	16	01AD	02010	LBRA	L00CT	
			02020			
			02030	* IS IT "NEW"?		
46E8	86	4E	02040	L0010 LDA	#78	N
46EA	B7	204E	02050	STA	MCHVAR	
46ED	86	45	02060	LDA	#69	E
46EF	B7	204F	02070	STA	MCHVAR+1	
46F2	86	57	02080	LDA	#87	W
46F4	B7	2050	02090	STA	MCHVAR+2	
46F7	86	60	02100	LDA	#96	SP
46F9	B7	2051	02110	STA	MCHVAR+3	
46FC	86	60	02120	LDA	#96	SP
46FE	B7	2052	02130	STA	MCHVAR+4	
4701	17	FD5C	02140	LBSR	MATCH5	
			02150			
			02160	* GO IF NO		
4704	26	06	02170	BNE	L0011	
			02180			
			02190	* DO IF YES		
4706	17	ECD7	02200	LBSR	NEW	
4709	16	0189	02210	LBRA	L00CT	
			02220			
			02230	* IS IT "NEWPS"?		
470C	86	4E	02240	L0011 LDA	#78	N
470E	B7	204E	02250	STA	MCHVAR	
4711	86	45	02260	LDA	#69	E
4713	B7	204F	02270	STA	MCHVAR+1	
4716	86	57	02280	LDA	#87	W
4718	B7	2050	02290	STA	MCHVAR+2	
471B	86	50	02300	LDA	#80	P
471D	B7	2051	02310	STA	MCHVAR+3	
4720	86	53	02320	LDA	#83	S
4722	B7	2052	02330	STA	MCHVAR+4	

4725	17	FD38	02340	LBSR	MATCH5	
			02350			
			02360	* GO IF NO		
4728	26	06	02370	BNE	L0012	
			02380			
			02390	* DO IF YES		
472A	17	ECC3	02400	LBSR	NEWPS	
472D	16	0165	02410	LBRA	L00CT	
			02420			
			02430	* IS IT "O-O"?		
4730	86	4F	02440	L0012 LDA	#79 O	
4732	B7	204E	02450	STA	MCHVAR	
4735	86	6D	02460	LDA	#109 -	
4737	B7	204F	02470	STA	MCHVAR+1	
473A	86	4F	02480	LDA	#79 O	
473C	B7	2050	02490	STA	MCHVAR+2	
473F	86	60	02500	LDA	#96 SP	
4741	B7	2051	02510	STA	MCHVAR+3	
4744	86	60	02520	LDA	#96 SP	
4746	B7	2052	02530	STA	MCHVAR+4	
4749	17	FD14	02540	LBSR	MATCH5	
			02550			
			02560	* GO IF NO		
474C	26	06	02570	BNE	L0013	
			02580			
			02590	* DO IF YES		
474E	17	ED9F	02600	LBSR	LTRO2	
4751	16	0141	02610	LBRA	L00CT	
			02620			
			02630	* IS IT "O-O-O"?		
4754	86	4F	02640	L0013 LDA	#79 O	
4756	B7	204E	02650	STA	MCHVAR	
4759	86	6D	02660	LDA	#109 -	
475B	B7	204F	02670	STA	MCHVAR+1	
475E	86	4F	02680	LDA	#79 O	
4760	B7	2050	02690	STA	MCHVAR+2	
4763	86	6D	02700	LDA	#109 -	
4765	B7	2051	02710	STA	MCHVAR+3	
4768	86	4F	02720	LDA	#79 O	
476A	B7	2052	02730	STA	MCHVAR+4	
476D	17	FCF0	02740	LBSR	MATCH5	
			02750			
			02760	* GO IF NO		
4770	26	06	02770	BNE	L0014	
			02780			
			02790	* DO IF YES		
4772	17	ED8B	02800	LBSR	LTRO3	

4775	16	011D	02810	LBRA	L00CT	
			02820			
			02830	* IS IT "QUIT"?		
4778	86	51	02840	L0014 LDA	#81 Q	
477A	B7	204E	02850	STA	MCHVAR	
477D	86	55	02860	LDA	#85 U	
477F	B7	204F	02870	STA	MCHVAR+1	
4782	86	49	02880	LDA	#73 I	
4784	B7	2050	02890	STA	MCHVAR+2	
4787	86	54	02900	LDA	#84 T	
4789	B7	2051	02910	STA	MCHVAR+3	
478C	86	60	02920	LDA	#96 SP	
478E	B7	2052	02930	STA	MCHVAR+4	
4791	17	FCCC	02940	LBSR	MATCH5	
			02950			
			02960	* GO IF NO		
4794	26	06	02970	BNE	L0015	
			02980			
			02990	* DO IF YES		
4796	17	ED77	03000	LBSR	QUIT	
4799	16	00F9	03010	LBRA	L00CT	
			03020			
			03030	* IS IT "SCOFF"?		
479C	86	53	03040	L0015 LDA	#83 S	
479E	B7	204E	03050	STA	MCHVAR	
47A1	86	43	03060	LDA	#67 C	
47A3	B7	204F	03070	STA	MCHVAR+1	
47A6	86	4F	03080	LDA	#79 O	
47A8	B7	2050	03090	STA	MCHVAR+2	
47AB	86	46	03100	LDA	#70 F	
47AD	B7	2051	03110	STA	MCHVAR+3	
47B0	86	46	03120	LDA	#70 F	
47B2	B7	2052	03130	STA	MCHVAR+4	
47B5	17	FCA8	03140	LBSR	MATCH5	
			03150			
			03160	* GO IF NO		
47B8	26	06	03170	BNE	L0016	
			03180			
			03190	* DO IF YES		
47BA	17	ED63	03200	LBSR	SCOFF	
47BD	16	00D5	03210	LBRA	L00CT	
			03220			
			03230	* IS IT "SCON"?		
47C0	86	53	03240	L0016 LDA	#83 S	
47C2	B7	204E	03250	STA	MCHVAR	
47C5	86	43	03260	LDA	#67 C	
47C7	B7	204F	03270	STA	MCHVAR+1	

47CA	86	4F	03280	LDA	#79	O
47CC	B7	2050	03290	STA	MCHVAR+2	
47CF	86	4E	03300	LDA	#78	N
47D1	B7	2051	03310	STA	MCHVAR+3	
47D4	86	60	03320	LDA	#96	SP
47D6	B7	2052	03330	STA	MCHVAR+4	
47D9	17	FC84	03340	LBSR	MATCH5	
			03350			
			03360	* GO IF NO		
47DC	26	06	03370	BNE	L0017	
			03380			
			03390	* DO IF YES		
47DE	17	EE3F	03400	LBSR	SCON	
47E1	16	00B1	03410	LBRA	L00CT	
			03420			
			03430	* IS IT "START"?		
47E4	86	53	03440	L0017 LDA	#83	S
47E6	B7	204E	03450	STA	MCHVAR	
47E9	86	54	03460	LDA	#84	T
47EB	B7	204F	03470	STA	MCHVAR+1	
47EE	86	41	03480	LDA	#65	A
47F0	B7	2050	03490	STA	MCHVAR+2	
47F3	86	52	03500	LDA	#82	R
47F5	B7	2051	03510	STA	MCHVAR+3	
47F8	86	54	03520	LDA	#84	T
47FA	B7	2052	03530	STA	MCHVAR+4	
47FD	17	FC60	03540	LBSR	MATCH5	
			03550			
			03560	* GO IF NO		
4800	26	06	03570	BNE	L0018	
			03580			
			03590	* DO IF YES		
4802	17	EF1B	03600	LBSR	START	
4805	16	008D	03610	LBRA	L00CT	
			03620			
			03630	* IS IT "STOP"?		
4808	86	53	03640	L0018 LDA	#83	S
480A	B7	204E	03650	STA	MCHVAR	
480D	86	54	03660	LDA	#84	T
480F	B7	204F	03670	STA	MCHVAR+1	
4812	86	4F	03680	LDA	#79	O
4814	B7	2050	03690	STA	MCHVAR+2	
4817	86	50	03700	LDA	#80	P
4819	B7	2051	03710	STA	MCHVAR+3	
481C	86	60	03720	LDA	#96	SP
481E	B7	2052	03730	STA	MCHVAR+4	
4821	17	FC3C	03740	LBSR	MATCH5	

			03750		
			03760	* GO IF NO	
4824	26	06	03770	BNE	L0019
			03780		
			03790	* DO IF YES	
4826	17	EF07	03800	LBSR	STOP
4829	16	0069	03810	LBRA	L00CT
			03820		
			03830	* IS IT "SVGAM"?	
482C	86	53	03840	L0019 LDA	#83 S
482E	B7	204E	03850	STA	MCHVAR
4831	86	56	03860	LDA	#86 V
4833	B7	204F	03870	STA	MCHVAR+1
4836	86	47	03880	LDA	#71 G
4838	B7	2050	03890	STA	MCHVAR+2
483B	86	41	03900	LDA	#65 A
483D	B7	2051	03910	STA	MCHVAR+3
4840	86	4D	03920	LDA	#77 M
4842	B7	2052	03930	STA	MCHVAR+4
4845	17	FC18	03940	LBSR	MATCH5
			03950		
			03960	* GO IF NO	
4848	26	06	03970	BNE	L001A
			03980		
			03990	* DO IF YES	
484A	17	EEF3	04000	LBSR	SVGAM
484D	16	0045	04010	LBRA	L00CT
			04020		
			04030	* IS IT "SVPOS"?	
4850	86	53	04040	L001A LDA	#83 S
4852	B7	204E	04050	STA	MCHVAR
4855	86	56	04060	LDA	#86 V
4857	B7	204F	04070	STA	MCHVAR+1
485A	86	50	04080	LDA	#80 P
485C	B7	2050	04090	STA	MCHVAR+2
485F	86	4F	04100	LDA	#79 O
4861	B7	2051	04110	STA	MCHVAR+3
4864	86	53	04120	LDA	#83 S
4866	B7	2052	04130	STA	MCHVAR+4
4869	17	FBF4	04140	LBSR	MATCH5
			04150		
			04160	* GO IF NO	
486C	26	06	04170	BNE	L001B
			04180		
			04190	* DO IF YES	
486E	17	EFCE	04200	LBSR	SVPOS
4871	16	0021	04210	LBRA	L00CT

```

04220
04230 * IS IT "TKBAK"?
4874 86 54 04240 L001B LDA #84 T
4876 B7 204E 04250 STA MCHVAR
4879 86 4B 04260 LDA #75 K
487B B7 204F 04270 STA MCHVAR+1
487E 86 42 04280 LDA #66 B
4880 B7 2050 04290 STA MCHVAR+2
4883 86 41 04300 LDA #65 A
4885 B7 2051 04310 STA MCHVAR+3
4888 86 4B 04320 LDA #75 K
488A B7 2052 04330 STA MCHVAR+4
488D 17 FBD0 04340 LBSR MATCH5
04350
04360 * GO TO THIRD THIRD IF NO
04370 * (ALIAS L001C)
4890 26 0E 04380 BNE XLTCM3
04390
04400 * DO IF YES
4892 17 F0AB 04410 LBSR TKBAK
04420 * FALL THROUGH
04430
04440 * EXIT AND CONTINUE
4895 35 12 04450 L00CT PULS A,X
4897 39 0000 04460 RTS
32767 END

```

00000 TOTAL ERRORS

=====

XLTCM3: Translate and Dispatch a Command The Final Third

Version 0.0.2

Not Fully Correct - See Version 0.0.3

```
00100 *****
00110 *
00120 * XLTCM3.ASM
00130 * MDJ 2021/09/22
00140 *
00150 * VERSION 0.0.2
00160 * MDJ 2021/09/29
00170 *
00180 * THIS IS THE
00190 * FINAL THIRD
00200 * OF XLTCMD
00210 *
00220 *****
00230 *
00240 * REVISION HISTORY
00250 *
00260 * 0.0.2
00270 * CHANGED ALL COMMAND
00280 * MATCHING FROM
00290 * PRINT MECHANISM TO
00300 * POKE MECHANISM
00310 *
00320 *****
00330
00340 * LOW RAM CURSOR ADDRESS
0088 00350 CURPOS EQU $0088
00360
00370 * SCREEN ADDRESSES
00380 * START OF VIDRAM
0400 00390 VIDRAM EQU $0400
00400
00410 * COMMAND PROMPT
00420 * SCREEN LOCATION
05AE 00430 CMDPMT EQU $05AE
```

	00440		
	00450	* SCREEN REPORTING FIELD	
05EB	00460	RPTFLD EQU	\$05EB
	00470		
	00480	* ONE BYTE PAST THE	
	00490	* END OF VIDRAM	
0600	00500	VIDEND EQU	\$0600
	00510		
	00520	* ML FOUNDATION	
	00530	* CORE ADDRESSES	
1C00	00540	REGXFR EQU	\$1C00
1C0E	00550	VIDCLS EQU	\$1C0E
1C1F	00560	PUTCHR EQU	\$1C1F
1CD2	00570	GETCHR EQU	\$1CD2
1CD5	00580	PUTBYT EQU	\$1CD5
1D17	00590	SCROLL EQU	\$1D17
1D36	00600	PUTCHA EQU	\$1D36
1D57	00610	PUTBYA EQU	\$1D57
1D8C	00620	CRLF EQU	\$1D8C
1DBD	00630	PK2PRT EQU	\$1DBD
1DDA	00640	PRT2PK EQU	\$1DDA
1DF7	00650	POLCAT EQU	\$1DF7
1E06	00660	PUTWRA EQU	\$1E06
1E11	00670	PUTWRD EQU	\$1E11
1E1C	00680	BKSPCE EQU	\$1E1C
1E34	00690	DU1616 EQU	\$1E34
1E56	00700	FUDWRD EQU	\$1E56
1E70	00710	PTDWRD EQU	\$1E70
	00720		
	00730	* YACH ADDRESSES	
	00740	* SYSTEM FLAGS	
2000	00750	FLAGS EQU	\$2000
2000	00760	SCFLAG EQU	\$2000
2001	00770	STFLAG EQU	\$2001
2002	00780	BFFLAG EQU	\$2002
	00790		
	00800	* SYSTEM TEMPORARY	
	00810	* VARIABLES	
2040	00820	TMPVAR EQU	\$2040
2040	00830	CMDCNT EQU	\$2040
2041	00840	CMDVAR EQU	\$2041
2046	00850	CMDFRF EQU	\$2046
2047	00860	CMDFRR EQU	\$2047
2048	00870	CMDTOF EQU	\$2048
2049	00880	CMDTOR EQU	\$2049
204A	00890	CMDFRI EQU	\$204A
204B	00900	CMDFRJ EQU	\$204B

204C	00910	CMDTOI	EQU	\$204C
204D	00920	CMDTOJ	EQU	\$204D
204E	00930	MCHVAR	EQU	\$204E
	00940			
	00950	* SCREEN MANAGEMENT		
20C0	00960	CIDGEN	EQU	\$20C0
24C0	00970	B2SARY	EQU	\$24C0
2540	00980	B2DARY	EQU	\$2540
2580	00990	B2LARY	EQU	\$2580
25C0	01000	BSCARY	EQU	\$25C0
	01010			
	01020	* GENERAL REPORTING		
2600	01030	NOTREC	EQU	\$2600
2680	01040	NYIMSG	EQU	\$2680
	01050			
	01060	* GENERAL COMMANDS		
26C0	01070	ZERO2	EQU	\$26C0
26D0	01080	ZERO3	EQU	\$26D0
26E0	01090	ANLYZ	EQU	\$26E0
27E0	01100	ASKFR	EQU	\$27E0
28E0	01110	CLRBD	EQU	\$28E0
29E0	01120	CKMOV	EQU	\$29E0
2AE0	01130	CKPOS	EQU	\$2AE0
2BE0	01140	CSTLK	EQU	\$2BE0
2CE0	01150	CSTLQ	EQU	\$2CE0
2DE0	01160	DSPBD	EQU	\$2DE0
2EE0	01170	FLIP	EQU	\$2EE0
2FE0	01180	GSTRT	EQU	\$2FE0
30E0	01190	GSTOP	EQU	\$30E0
31E0	01200	LDGAM	EQU	\$31E0
32E0	01210	LDPOS	EQU	\$32E0
33E0	01220	NEW	EQU	\$33E0
33F0	01230	NEWPS	EQU	\$33F0
34F0	01240	LTRO2	EQU	\$34F0
3500	01250	LTRO3	EQU	\$3500
3510	01260	QUIT	EQU	\$3510
3520	01270	SCOFF	EQU	\$3520
3620	01280	SCON	EQU	\$3620
3720	01290	START	EQU	\$3720
3730	01300	STOP	EQU	\$3730
3740	01310	SVGAM	EQU	\$3740
3840	01320	SVPOS	EQU	\$3840
3940	01330	TKBAK	EQU	\$3940
	01340			
	01350	* MOVEMENT COMMANDS		
	01360	* AND CALCULATIONS		
3A40	01370	FILCVT	EQU	\$3A40

3A60	01380	RNKCVT	EQU	\$3A60
3A80	01390	FRE0	EQU	\$3A80
3A90	01400	FRECP	EQU	\$3A90
3AA0	01410	FRFR	EQU	\$3AA0
3EA0	01420	FRFRE	EQU	\$3EA0
3FA0	01430	FRFRP	EQU	\$3FA0
40A0	01440	FRQ0	EQU	\$40A0
41A0	01450	FRQCP	EQU	\$41A0
	01460			
	01470	* COMMAND MANAGEMENT		
42A0	01480	GETCMD	EQU	\$42A0
43A0	01490	MATCH3	EQU	\$43A0
4420	01500	MATCH4	EQU	\$4420
4460	01510	MATCH5	EQU	\$4460
44A0	01520	XLTCMD	EQU	\$44A0
46A0	01530	XLTCM2	EQU	\$46A0
	01540	*XLTCM3	EQU	\$48A0
	01550			
	01560	* YACH SUPERVISORY		
4CA0	01570	GMLOOP	EQU	\$4CA0
4CE0	01580	YACH	EQU	\$4CE0
	01590			
48A0	01600		ORG	\$48A0
	01610			
	01620	* STANDARD MOVE		
	01630	* ANALYSIS		
	01640			
	01650	* REFERENCE:		
	01660			
	01670	* FILCVT = FILE		
	01680	* CHARACTER		
	01690	* CONVERTER		
	01700			
	01710	* RNKCVT = RANK		
	01720	* CHARACTER		
	01730	* CONVERTER		
	01740			
	01750	* CMDFRF = "FROM"		
	01760	* FILE CHARACTER		
	01770			
	01780	* CMDFRR = "FROM"		
	01790	* RANK CHARACTER		
	01800			
	01810	* CMDTOF = "TO"		
	01820	* FILE CHARACTER		
	01830			
	01840	* CMDTOR = "TO"		

```

01850 *      RANK CHARACTER
01860
01870 *      CMDFRI = "FROM"
01880 *      I-VALUE
01890
01900 *      CMDFRJ = "FROM"
01910 *      J-VALUE
01920
01930 *      CMDTOI = "TO"
01940 *      I-VALUE
01950
01960 *      CMDTOJ = "TO"
01970 *      J-VALUE
01980
01990 * IS THE FIRST
02000 * CHARACTER A VALID
02010 * FILE CHARACTER?
02020 * (ALIAS L001C)
48A0 B6      2041  02030 XLTCM3  LDA      CMDVAR
48A3 B7      2046  02040          STA      CMDFRF
48A6 17      F197  02050          LBSR     FILCVT
48A9 34      01    02060          PSHS     CC
48AB B7      204A  02070          STA      CMDFRI
48AE 35      01    02080          PULS     CC
02090
02100 * GO IF YES
48B0 27      03    02110          BEQ      L001D
02120
02130 * GO IF NO (NOTREC)
48B2 16      0104  02140          LBRA     L00NR
02150
02160 * IS THE SECOND
02170 * CHARACTER A VALID
02180 * RANK CHARACTER?
48B5 B6      2042  02190 L001D  LDA      CMDVAR+1
48B8 B7      2047  02200          STA      CMDFRR
48BB 17      F1A2  02210          LBSR     RNKCVT
48BE 34      01    02220          PSHS     CC
48C0 B7      204B  02230          STA      CMDFRJ
48C3 35      01    02240          PULS     CC
02250
02260 * GO IF YES
48C5 1027  0003  02270          LBEQ     L001E
02280
02290 * GO IF NO (NOTREC)
48C9 16      00ED  02300          LBRA     L00NR
02310

```

			02320	*	FR=	CHECK		
			02330	*	IS	THE	THIRD	
			02340	*	CHARACTER			
			02350	*	AN	EQUALS	SIGN?	
48CC	B6	2043	02360	L001E	LDA	CMDVAR+2		
48CF	81	7D	02370		CMPA	#125	=	
			02380					
			02390	*	GO	IF	NO	
			02400	*	(CHECK	FOR	FRQ	VERSION)
48D1	1026	003F	02410		LBNE	L0022		
			02420					
			02430	*	FR=0	CHECK		
			02440	*	IS	THE	FOURTH	
			02450	*	CHARACTER			
			02460	*	A	ZERO?		
48D5	B6	2043	02470		LDA	CMDVAR+2		
48D8	81	70	02480		CMPA	#112	0	
			02490					
			02500	*	GO	IF	NO	
			02510	*	(CHECK	FOR	CP)	
48DA	26	06	02520		BNE	L001F		
			02530					
			02540	*	DO	IF	YES	
			02550	*	IT	IS	FR=0	
48DC	17	F1A1	02560		LBSR	FRE0		
48DF	16	00DA	02570		LBRA	L00CT		
			02580					
			02590	*	FR=CP	CHECK		
			02600	*	IS	THE	FOURTH	
			02610	*	CHARACTER			
			02620	*	A	"W"		
48E2	B6	2043	02630	L001F	LDA	CMDVAR+2		
48E5	81	57	02640		CMPA	#87	W	
			02650					
			02660	*	GO	IF	YES	
48E7	27	07	02670		BEQ	L0020		
			02680					
			02690	*	IS	THE	FOURTH	
			02700	*	CHARACTER			
			02710	*	A	"B"		
48E9	81	42	02720		CMPA	#66	B	
			02730					
			02740	*	GO	IF	YES	
48EB	27	03	02750		BEQ	L0020		
			02760					
			02770	*	GO	IF	NO	(NOTREC)
48ED	16	00C9	02780		LBRA	L00NR		

			02790			
			02800	* IS THE FIFTH		
			02810	* CHARACTER		
			02820	* A "K"		
48F0	B6	2043	02830	L0020 LDA	CMDVAR+2	
48F3	81	4B	02840	CMPA	#75	K
			02850			
			02860	* GO IF YES		
48F5	27	17	02870	BEQ	L0021	
			02880			
			02890	* IS THE FIFTH		
			02900	* CHARACTER		
			02910	* A "Q"		
48F7	81	51	02920	CMPA	#81	Q
			02930			
			02940	* GO IF YES		
48F9	27	13	02950	BEQ	L0021	
			02960			
			02970	* IS THE FIFTH		
			02980	* CHARACTER		
			02990	* A "R"		
48FB	81	52	03000	CMPA	#82	R
			03010			
			03020	* GO IF YES		
48FD	27	0F	03030	BEQ	L0021	
			03040			
			03050	* IS THE FIFTH		
			03060	* CHARACTER		
			03070	* A "B"		
48FF	81	42	03080	CMPA	#66	B
			03090			
			03100	* GO IF YES		
4901	27	0B	03110	BEQ	L0021	
			03120			
			03130	* IS THE FIFTH		
			03140	* CHARACTER		
			03150	* A "N"		
4903	81	4E	03160	CMPA	#78	N
			03170			
			03180	* GO IF YES		
4905	27	07	03190	BEQ	L0021	
			03200			
			03210	* IS THE FIFTH		
			03220	* CHARACTER		
			03230	* A "P"		
4907	81	50	03240	CMPA	#80	P
			03250			

4909	27	03	03260	* GO IF YES		
			03270	BEQ	L0021	
			03280			
490B	16	00AB	03290	* GO IF NO (NOTREC)		
			03300	LBRA	L00NR	
			03310			
			03320	* DO IF YES		
490E	17	F17F	03330	* IT IS FR=CP		
			03340	L0021 LBSR	FRECP	
4911	16	00A8	03350	LBRA	L00CT	
			03360			
			03370	* FRQ CHECK		
			03380	* IS THE THIRD		
			03390	* CHARACTER A "Q"?		
4914	B6	2043	03400	L0022 LDA	CMDVAR+2	
4917	81	51	03410	CMPA	#81 Q	
			03420			
			03430	* GO IF NO		
			03440	* (RETURN TO STANDARD		
			03450	* MOVE CHECKING)		
4919	1026	003F	03460	LBNE	L0026	
			03470			
			03480	* FRQ0 CHECK		
			03490	* IS THE FOURTH		
			03500	* CHARACTER		
			03510	* A ZERO?		
491D	B6	2043	03520	LDA	CMDVAR+2	
4920	81	70	03530	CMPA	#112 0	
			03540			
			03550	* GO IF NO		
			03560	* (CHECK FOR CP)		
4922	26	06	03570	BNE	L0023	
			03580			
			03590	* DO IF YES		
			03600	* IT IS FRQ0		
4924	17	F779	03610	LBSR	FRQ0	
4927	16	0092	03620	LBRA	L00CT	
			03630			
			03640	* FRQCP CHECK		
			03650	* IS THE FOURTH		
			03660	* CHARACTER		
			03670	* A "W" (I.E. WHITE)		
492A	B6	2043	03680	L0023 LDA	CMDVAR+2	
492D	81	57	03690	CMPA	#87 W	
			03700			
			03710	* GO IF YES		
492F	27	07	03720	BEQ	L0024	

			03730			
			03740	*	IS THE FOURTH	
			03750	*	CHARACTER	
			03760	*	A "B" (I.E. BLACK)	
4931	81	42	03770		CMPA #66	B
			03780			
			03790	*	GO IF YES	
4933	27	03	03800		BEQ L0024	
			03810			
			03820	*	GO IF NO (NOTREC)	
4935	16	0081	03830		LBRA L00NR	
			03840			
			03850	*	IS THE FIFTH	
			03860	*	CHARACTER A VALID	
			03870	*	PIECE IDENTIFIER?	
			03880	*	IS THE FIFTH	
			03890	*	CHARACTER	
			03900	*	A "K"	
4938	B6	2043	03910	L0024	LDA CMDVAR+2	
493B	81	4B	03920		CMPA #75	K
			03930			
			03940	*	GO IF YES	
493D	27	17	03950		BEQ L0025	
			03960			
			03970	*	IS THE FIFTH	
			03980	*	CHARACTER	
			03990	*	A "Q"	
493F	81	51	04000		CMPA #81	Q
			04010			
			04020	*	GO IF YES	
4941	27	13	04030		BEQ L0025	
			04040			
			04050	*	IS THE FIFTH	
			04060	*	CHARACTER	
			04070	*	AN "R"	
4943	81	52	04080		CMPA #82	R
			04090			
			04100	*	GO IF YES	
4945	27	0F	04110		BEQ L0025	
			04120			
			04130	*	IS THE FIFTH	
			04140	*	CHARACTER	
			04150	*	A "B"	
4947	81	42	04160		CMPA #66	B
			04170			
			04180	*	GO IF YES	
4949	27	0B	04190		BEQ L0025	

			04200			
			04210	*	IS THE FIFTH	
			04220	*	CHARACTER	
			04230	*	AN "N"	
494B	81	4E	04240		CMPA	#78 N
			04250			
			04260	*	GO IF YES	
494D	27	07	04270		BEQ	L0025
			04280			
			04290	*	IS THE FIFTH	
			04300	*	CHARACTER	
			04310	*	A "P"	
494F	81	50	04320		CMPA	#80 P
			04330			
			04340	*	GO IF YES	
4951	27	03	04350		BEQ	L0025
			04360			
			04370	*	GO IF NO (NOTREC)	
4953	16	0063	04380		LBRA	L00NR
			04390			
			04400	*	DO IF YES	
			04410	*	IT IS FRQCP	
4956	17	F847	04420	L0025	LBSR	FRQCP
4959	16	0060	04430		LBRA	L00CT
			04440			
			04450	*	CONTINUE CHECKING	
			04460	*	STANDARD MOVES	
			04470	*	IS THE THIRD	
			04480	*	CHARACTER A VALID	
			04490	*	FILE CHARACTER?	
495C	B6	2043	04500	L0026	LDA	CMDVAR+2
495F	B7	2048	04510		STA	CMDTOF
4962	17	F0DB	04520		LBSR	FILCVT
4965	34	01	04530		PSHS	CC
4967	B7	204C	04540		STA	CMDTOI
496A	35	01	04550		PULS	CC
			04560			
			04570	*	GO IF YES	
496C	27	03	04580		BEQ	L0027
			04590			
			04600	*	GO IF NO (NOTREC)	
496E	16	0048	04610		LBRA	L00NR
			04620			
			04630	*	IS THE FOURTH	
			04640	*	CHARACTER A VALID	
			04650	*	RANK CHARACTER?	
4971	B6	2044	04660	L0027	LDA	CMDVAR+3

4974	B7	2049	04670	STA	CMDTOR		
4977	17	F0E6	04680	LBSR	RNKCVT		
497A	34	01	04690	PSHS	CC		
497C	B7	204D	04700	STA	CMDTOJ		
497F	35	01	04710	PULS	CC		
			04720				
			04730	* GO IF YES			
4981	27	03	04740	BEQ	L0028		
			04750				
			04760	* GO IF NO (NOTREC)			
4983	16	0033	04770	LBRA	L00NR		
			04780				
			04790	* IS THE FIFTH			
			04800	* CHARACTER A SPACE			
4986	B6	2045	04810	L0028 LDA	CMDVAR+4		
4989	81	60	04820	CMPA	#96	SP	
			04830				
			04840	* GO IF NO			
498B	26	06	04850	BNE	L0029		
			04860				
			04870	* DO IF YES			
			04880	* IT IS A STANDARD MOVE			
498D	17	F110	04890	LBSR	FRFR		
4990	16	0029	04900	LBRA	L00CT		
			04910				
			04920	* IS THE FIFTH			
			04930	* CHARACTER			
			04940	* AN "E"			
			04950	* (EN PASSANT)			
4993	B6	2045	04960	L0029 LDA	CMDVAR+4		
4996	81	45	04970	CMPA	#69	E	
			04980				
			04990	* GO IF NO			
4998	26	06	05000	BNE	L002A		
			05010				
			05020	* DO IF YES			
			05030	* IT IS EN PASSANT			
499A	17	F503	05040	LBSR	FRFRE		
499D	16	001C	05050	LBRA	L00CT		
			05060				
			05070	* IS THE FIFTH			
			05080	* CHARACTER			
			05090	* A "Q", AN "R", A "B",			
			05100	* OR AN "N"?			
			05110	* (PAWN PROMOTION)			
			05120	* IS THE FIFTH			
			05130	* CHARACTER			

			05140	* A "Q"			
49A0	81	51	05150	L002A	CMPA	#81	Q
			05160				
			05170	* GO IF YES			
49A2	27	0F	05180		BEQ	L002B	
			05190				
			05200	* IS THE FIFTH			
			05210	* CHARACTER			
			05220	* AN "R"			
49A4	81	52	05230		CMPA	#82	R
			05240				
			05250	* GO IF YES			
49A6	27	0B	05260		BEQ	L002B	
			05270				
			05280	* IS THE FIFTH			
			05290	* CHARACTER			
			05300	* A "B"			
49A8	81	42	05310		CMPA	#66	B
			05320				
			05330	* GO IF YES			
49AA	27	07	05340		BEQ	L002B	
			05350				
			05360	* IS THE FIFTH			
			05370	* CHARACTER			
			05380	* AN "N"			
49AC	81	4E	05390		CMPA	#78	N
			05400				
			05410	* GO IF YES			
49AE	27	03	05420		BEQ	L002B	
			05430				
			05440	* GO IF NO (NOTREC)			
49B0	16	0006	05450		LBRA	L00NR	
			05460				
			05470	* DO IF YES			
			05480	* IT IS A			
			05490	* PAWN PROMOTION			
49B3	17	F5EA	05500	L002B	LBSR	FRFRP	
49B6	16	0003	05510		LBRA	L00CT	
			05520				
			05530	* DO THE			
			05540	* NOT RECOGNIZED			
			05550	* COMMAND			
49B9	17	DC44	05560	L00NR	LBSR	NOTREC	
			05570				
			05580	* EXIT AND CONTINUE			
49BC	35	12	05590	L00CT	PULS	A,X	
49BE	39		05600		RTS		

0000 32767 END

00000 TOTAL ERRORS

=====

XLTCM3: Translate and Dispatch a Command The Final Third

Version 0.0.3

```
00100 *****
00110 *
00120 * XLTCM3.ASM
00130 * MDJ 2021/09/22
00140 *
00150 * VERSION 0.0.3
00160 * MDJ 2021/09/29
00170 *
00180 * THIS IS THE
00190 * FINAL THIRD
00200 * OF XLTCMD
00210 *
00220 *****
00230 *
00240 * REVISION HISTORY
00250 *
00260 * 0.0.2 - 2021/09/29
00270 * CHANGED ALL COMMAND
00280 * MATCHING FROM
00290 * PRINT MECHANISM TO
00300 * POKE MECHANISM
00310 *
00320 * 0.0.3 - 2021/09/29
00330 * CORRECTED SIX STATEMENTS:
00340 *           LDA           CMDVAR+2
00350 * FOUR TO:
00360 *           LDA           CMDVAR+3
00370 * AND TWO TO:
00380 *           LDA           CMDVAR+4
00390 *
00400 *****
00410
00420 * LOW RAM CURSOR ADDRESS
0088 00430 CURPOS EQU          $0088
00440
00450 * SCREEN ADDRESSES
```

```

00460 * START OF VIDRAM
0400 00470 VIDRAM EQU      $0400
00480
00490 * COMMAND PROMPT
00500 * SCREEN LOCATION
05AE 00510 CMDPMT EQU      $05AE
00520
00530 * SCREEN REPORTING FIELD
05EB 00540 RPTFLD EQU      $05EB
00550
00560 * ONE BYTE PAST THE
00570 * END OF VIDRAM
0600 00580 VIDEND EQU      $0600
00590
00600 * ML FOUNDATION
00610 * CORE ADDRESSES
1C00 00620 REGXFR EQU      $1C00
1C0E 00630 VIDCLS EQU      $1C0E
1C1F 00640 PUTCHR EQU      $1C1F
1CD2 00650 GETCHR EQU      $1CD2
1CD5 00660 PUTBYT EQU      $1CD5
1D17 00670 SCROLL EQU      $1D17
1D36 00680 PUTCHA EQU      $1D36
1D57 00690 PUTBYA EQU      $1D57
1D8C 00700 CRLF EQU      $1D8C
1DBD 00710 PK2PRT EQU      $1DBD
1DDA 00720 PRT2PK EQU      $1DDA
1DF7 00730 POLCAT EQU      $1DF7
1E06 00740 PUTWRA EQU      $1E06
1E11 00750 PUTWRD EQU      $1E11
1E1C 00760 BKSPCE EQU      $1E1C
1E34 00770 DU1616 EQU      $1E34
1E56 00780 FUDWRD EQU      $1E56
1E70 00790 PTDWRD EQU      $1E70
00800
00810 * YACH ADDRESSES
00820 * SYSTEM FLAGS
2000 00830 FLAGS EQU      $2000
2000 00840 SCFLAG EQU      $2000
2001 00850 STFLAG EQU      $2001
2002 00860 BFFLAG EQU      $2002
00870
00880 * SYSTEM TEMPORARY
00890 * VARIABLES
2040 00900 TMPVAR EQU      $2040
2040 00910 CMDCNT EQU      $2040
2041 00920 CMDVAR EQU      $2041

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2046	00930	CMDFRF	EQU	\$2046
2047	00940	CMDFRR	EQU	\$2047
2048	00950	CMDTOF	EQU	\$2048
2049	00960	CMDTOR	EQU	\$2049
204A	00970	CMDFRI	EQU	\$204A
204B	00980	CMDFRJ	EQU	\$204B
204C	00990	CMDTOI	EQU	\$204C
204D	01000	CMDTOJ	EQU	\$204D
204E	01010	MCHVAR	EQU	\$204E
	01020			
	01030	* SCREEN MANAGEMENT		
20C0	01040	CIDGEN	EQU	\$20C0
24C0	01050	B2SARY	EQU	\$24C0
2540	01060	B2DARY	EQU	\$2540
2580	01070	B2LARY	EQU	\$2580
25C0	01080	BSCARY	EQU	\$25C0
	01090			
	01100	* GENERAL REPORTING		
2600	01110	NOTREC	EQU	\$2600
2680	01120	NYIMSG	EQU	\$2680
	01130			
	01140	* GENERAL COMMANDS		
26C0	01150	ZERO2	EQU	\$26C0
26D0	01160	ZERO3	EQU	\$26D0
26E0	01170	ANLYZ	EQU	\$26E0
27E0	01180	ASKFR	EQU	\$27E0
28E0	01190	CLRBD	EQU	\$28E0
29E0	01200	CKMOV	EQU	\$29E0
2AE0	01210	CKPOS	EQU	\$2AE0
2BE0	01220	CSTLK	EQU	\$2BE0
2CE0	01230	CSTLQ	EQU	\$2CE0
2DE0	01240	DSPBD	EQU	\$2DE0
2EE0	01250	FLIP	EQU	\$2EE0
2FE0	01260	GSTRT	EQU	\$2FE0
30E0	01270	GSTOP	EQU	\$30E0
31E0	01280	LDGAM	EQU	\$31E0
32E0	01290	LDPOS	EQU	\$32E0
33E0	01300	NEW	EQU	\$33E0
33F0	01310	NEWPS	EQU	\$33F0
34F0	01320	LTRO2	EQU	\$34F0
3500	01330	LTRO3	EQU	\$3500
3510	01340	QUIT	EQU	\$3510
3520	01350	SCOFF	EQU	\$3520
3620	01360	SCON	EQU	\$3620
3720	01370	START	EQU	\$3720
3730	01380	STOP	EQU	\$3730
3740	01390	SVGAM	EQU	\$3740

3840	01400	SVPOS	EQU	\$3840
3940	01410	TKBAK	EQU	\$3940
	01420			
	01430	* MOVEMENT COMMANDS		
	01440	* AND CALCULATIONS		
3A40	01450	FILCVT	EQU	\$3A40
3A60	01460	RNKCVT	EQU	\$3A60
3A80	01470	FRE0	EQU	\$3A80
3A90	01480	FRECP	EQU	\$3A90
3AA0	01490	FRFR	EQU	\$3AA0
3EA0	01500	FRFRE	EQU	\$3EA0
3FA0	01510	FRFRP	EQU	\$3FA0
40A0	01520	FRQ0	EQU	\$40A0
41A0	01530	FRQCP	EQU	\$41A0
	01540			
	01550	* COMMAND MANAGEMENT		
42A0	01560	GETCMD	EQU	\$42A0
43A0	01570	MATCH3	EQU	\$43A0
4420	01580	MATCH4	EQU	\$4420
4460	01590	MATCH5	EQU	\$4460
44A0	01600	XLTCMD	EQU	\$44A0
46A0	01610	XLTCM2	EQU	\$46A0
	01620	*XLTCM3	EQU	\$48A0
	01630			
	01640	* YACH SUPERVISORY		
4CA0	01650	GMLOOP	EQU	\$4CA0
4CE0	01660	YACH	EQU	\$4CE0
	01670			
48A0	01680		ORG	\$48A0
	01690			
	01700	* STANDARD MOVE		
	01710	* ANALYSIS		
	01720			
	01730	* REFERENCE:		
	01740			
	01750	* FILCVT = FILE		
	01760	* CHARACTER		
	01770	* CONVERTER		
	01780			
	01790	* RNKCVT = RANK		
	01800	* CHARACTER		
	01810	* CONVERTER		
	01820			
	01830	* CMDFRF = "FROM"		
	01840	* FILE CHARACTER		
	01850			
	01860	* CMDFRR = "FROM"		

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01870 *      RANK CHARACTER
01880
01890 *      CMDTOF = "TO"
01900 *      FILE CHARACTER
01910
01920 *      CMDTOR = "TO"
01930 *      RANK CHARACTER
01940
01950 *      CMDFRI = "FROM"
01960 *      I-VALUE
01970
01980 *      CMDFRJ = "FROM"
01990 *      J-VALUE
02000
02010 *      CMDTOI = "TO"
02020 *      I-VALUE
02030
02040 *      CMDTOJ = "TO"
02050 *      J-VALUE
02060
02070 * IS THE FIRST
02080 * CHARACTER A VALID
02090 * FILE CHARACTER?
02100 * (ALIAS L001C)
48A0 B6      2041 02110 XLTCM3  LDA      CMDVAR
48A3 B7      2046 02120          STA      CMDFRF
48A6 17      F197 02130          LBSR     FILCVT
48A9 34      01   02140          PSHS     CC
48AB B7      204A 02150          STA      CMDFRI
48AE 35      01   02160          PULS     CC
02170
02180 * GO IF YES
48B0 27      03   02190          BEQ      L001D
02200
02210 * GO IF NO (NOTREC)
48B2 16      0104 02220          LBRA     L00NR
02230
02240 * IS THE SECOND
02250 * CHARACTER A VALID
02260 * RANK CHARACTER?
48B5 B6      2042 02270 L001D  LDA      CMDVAR+1
48B8 B7      2047 02280          STA      CMDFRR
48BB 17      F1A2 02290          LBSR     RNKCVT
48BE 34      01   02300          PSHS     CC
48C0 B7      204B 02310          STA      CMDFRJ
48C3 35      01   02320          PULS     CC
02330

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			02340	*	GO IF YES		
48C5	1027	0003	02350		LBEQ	L001E	
			02360				
			02370	*	GO IF NO (NOTREC)		
48C9	16	00ED	02380		LBRA	L00NR	
			02390				
			02400	*	FR= CHECK		
			02410	*	IS THE THIRD		
			02420	*	CHARACTER		
			02430	*	AN EQUALS SIGN?		
48CC	B6	2043	02440	L001E	LDA	CMDVAR+2	
48CF	81	7D	02450		CMPA	#125	=
			02460				
			02470	*	GO IF NO		
			02480	*	(CHECK FOR FRQ VERSION)		
48D1	1026	003F	02490		LBNE	L0022	
			02500				
			02510	*	FR=0 CHECK		
			02520	*	IS THE FOURTH		
			02530	*	CHARACTER		
			02540	*	A ZERO?		
			02550	*	(0.0.3 CORRECTION)		
48D5	B6	2044	02560		LDA	CMDVAR+3	
48D8	81	70	02570		CMPA	#112	0
			02580				
			02590	*	GO IF NO		
			02600	*	(CHECK FOR CP)		
48DA	26	06	02610		BNE	L001F	
			02620				
			02630	*	DO IF YES		
			02640	*	IT IS FR=0		
48DC	17	F1A1	02650		LBSR	FRE0	
48DF	16	00DA	02660		LBRA	L00CT	
			02670				
			02680	*	FR=CP CHECK		
			02690	*	IS THE FOURTH		
			02700	*	CHARACTER		
			02710	*	A "W"		
			02720	*	(0.0.3 CORRECTION)		
48E2	B6	2044	02730	L001F	LDA	CMDVAR+3	
48E5	81	57	02740		CMPA	#87	W
			02750				
			02760	*	GO IF YES		
48E7	27	07	02770		BEQ	L0020	
			02780				
			02790	*	IS THE FOURTH		
			02800	*	CHARACTER		

			02810	* A "B"			
48E9	81	42	02820	CMPA	#66	B	
			02830				
			02840	* GO IF YES			
48EB	27	03	02850	BEQ	L0020		
			02860				
			02870	* GO IF NO (NOTREC)			
48ED	16	00C9	02880	LBRA	L00NR		
			02890				
			02900	* IS THE FIFTH			
			02910	* CHARACTER			
			02920	* A "K"			
			02930	* (0.0.3 CORRECTION)			
48F0	B6	2045	02940	L0020 LDA	CMDVAR+4		
48F3	81	4B	02950	CMPA	#75	K	
			02960				
			02970	* GO IF YES			
48F5	27	17	02980	BEQ	L0021		
			02990				
			03000	* IS THE FIFTH			
			03010	* CHARACTER			
			03020	* A "Q"			
48F7	81	51	03030	CMPA	#81	Q	
			03040				
			03050	* GO IF YES			
48F9	27	13	03060	BEQ	L0021		
			03070				
			03080	* IS THE FIFTH			
			03090	* CHARACTER			
			03100	* A "R"			
48FB	81	52	03110	CMPA	#82	R	
			03120				
			03130	* GO IF YES			
48FD	27	0F	03140	BEQ	L0021		
			03150				
			03160	* IS THE FIFTH			
			03170	* CHARACTER			
			03180	* A "B"			
48FF	81	42	03190	CMPA	#66	B	
			03200				
			03210	* GO IF YES			
4901	27	0B	03220	BEQ	L0021		
			03230				
			03240	* IS THE FIFTH			
			03250	* CHARACTER			
			03260	* A "N"			
4903	81	4E	03270	CMPA	#78	N	

			03280			
			03290	* GO IF YES		
4905	27	07	03300	BEQ	L0021	
			03310			
			03320	* IS THE FIFTH		
			03330	* CHARACTER		
			03340	* A "P"		
4907	81	50	03350	CMPA	#80	P
			03360			
			03370	* GO IF YES		
4909	27	03	03380	BEQ	L0021	
			03390			
			03400	* GO IF NO (NOTREC)		
490B	16	00AB	03410	LBRA	L00NR	
			03420			
			03430	* DO IF YES		
			03440	* IT IS FR=CP		
490E	17	F17F	03450	L0021 LBSR	FRECP	
4911	16	00A8	03460	LBRA	L00CT	
			03470			
			03480	* FRQ CHECK		
			03490	* IS THE THIRD		
			03500	* CHARACTER A "Q"?		
4914	B6	2043	03510	L0022 LDA	CMDVAR+2	
4917	81	51	03520	CMPA	#81	Q
			03530			
			03540	* GO IF NO		
			03550	* (RETURN TO STANDARD		
			03560	* MOVE CHECKING)		
4919	1026	003F	03570	LBNE	L0026	
			03580			
			03590	* FRQ0 CHECK		
			03600	* IS THE FOURTH		
			03610	* CHARACTER		
			03620	* A ZERO?		
			03630	* (0.0.3 CORRECTION)		
491D	B6	2044	03640	LDA	CMDVAR+3	
4920	81	70	03650	CMPA	#112	0
			03660			
			03670	* GO IF NO		
			03680	* (CHECK FOR CP)		
4922	26	06	03690	BNE	L0023	
			03700			
			03710	* DO IF YES		
			03720	* IT IS FRQ0		
4924	17	F779	03730	LBSR	FRQ0	
4927	16	0092	03740	LBRA	L00CT	

			03750			
			03760	*	FRQCP CHECK	
			03770	*	IS THE FOURTH	
			03780	*	CHARACTER	
			03790	*	A "W" (I.E. WHITE)	
			03800	*	(0.0.3 CORRECTION)	
492A	B6	2044	03810	L0023	LDA	CMDVAR+3
492D	81	57	03820		CMPA	#87 W
			03830			
			03840	*	GO IF YES	
492F	27	07	03850		BEQ	L0024
			03860			
			03870	*	IS THE FOURTH	
			03880	*	CHARACTER	
			03890	*	A "B" (I.E. BLACK)	
4931	81	42	03900		CMPA	#66 B
			03910			
			03920	*	GO IF YES	
4933	27	03	03930		BEQ	L0024
			03940			
			03950	*	GO IF NO (NOTREC)	
4935	16	0081	03960		LBRA	L00NR
			03970			
			03980	*	IS THE FIFTH	
			03990	*	CHARACTER A VALID	
			04000	*	PIECE IDENTIFIER?	
			04010	*	IS THE FIFTH	
			04020	*	CHARACTER	
			04030	*	A "K"	
			04040	*	(0.0.3 CORRECTION)	
4938	B6	2045	04050	L0024	LDA	CMDVAR+4
493B	81	4B	04060		CMPA	#75 K
			04070			
			04080	*	GO IF YES	
493D	27	17	04090		BEQ	L0025
			04100			
			04110	*	IS THE FIFTH	
			04120	*	CHARACTER	
			04130	*	A "Q"	
493F	81	51	04140		CMPA	#81 Q
			04150			
			04160	*	GO IF YES	
4941	27	13	04170		BEQ	L0025
			04180			
			04190	*	IS THE FIFTH	
			04200	*	CHARACTER	
			04210	*	AN "R"	

4943	81	52	04220	CMPA	#82	R
			04230			
			04240	* GO IF YES		
4945	27	0F	04250	BEQ	L0025	
			04260			
			04270	* IS THE FIFTH		
			04280	* CHARACTER		
			04290	* A "B"		
4947	81	42	04300	CMPA	#66	B
			04310			
			04320	* GO IF YES		
4949	27	0B	04330	BEQ	L0025	
			04340			
			04350	* IS THE FIFTH		
			04360	* CHARACTER		
			04370	* AN "N"		
494B	81	4E	04380	CMPA	#78	N
			04390			
			04400	* GO IF YES		
494D	27	07	04410	BEQ	L0025	
			04420			
			04430	* IS THE FIFTH		
			04440	* CHARACTER		
			04450	* A "P"		
494F	81	50	04460	CMPA	#80	P
			04470			
			04480	* GO IF YES		
4951	27	03	04490	BEQ	L0025	
			04500			
			04510	* GO IF NO (NOTREC)		
4953	16	0063	04520	LBRA	L00NR	
			04530			
			04540	* DO IF YES		
			04550	* IT IS FRQCP		
4956	17	F847	04560	L0025 LBSR	FRQCP	
4959	16	0060	04570	LBRA	L00CT	
			04580			
			04590	* CONTINUE CHECKING		
			04600	* STANDARD MOVES		
			04610	* IS THE THIRD		
			04620	* CHARACTER A VALID		
			04630	* FILE CHARACTER?		
495C	B6	2043	04640	L0026 LDA	CMDVAR+2	
495F	B7	2048	04650	STA	CMDTOF	
4962	17	F0DB	04660	LBSR	FILCVT	
4965	34	01	04670	PSHS	CC	
4967	B7	204C	04680	STA	CMDTOI	

496A	35	01	04690	PULS	CC	
			04700			
			04710	* GO IF YES		
496C	27	03	04720	BEQ	L0027	
			04730			
			04740	* GO IF NO (NOTREC)		
496E	16	0048	04750	LBRA	L00NR	
			04760			
			04770	* IS THE FOURTH		
			04780	* CHARACTER A VALID		
			04790	* RANK CHARACTER?		
4971	B6	2044	04800	L0027 LDA	CMDVAR+3	
4974	B7	2049	04810	STA	CMDTOR	
4977	17	F0E6	04820	LBSR	RNKCVT	
497A	34	01	04830	PSHS	CC	
497C	B7	204D	04840	STA	CMDTOJ	
497F	35	01	04850	PULS	CC	
			04860			
			04870	* GO IF YES		
4981	27	03	04880	BEQ	L0028	
			04890			
			04900	* GO IF NO (NOTREC)		
4983	16	0033	04910	LBRA	L00NR	
			04920			
			04930	* IS THE FIFTH		
			04940	* CHARACTER A SPACE		
4986	B6	2045	04950	L0028 LDA	CMDVAR+4	
4989	81	60	04960	CMPA	#96 SP	
			04970			
			04980	* GO IF NO		
498B	26	06	04990	BNE	L0029	
			05000			
			05010	* DO IF YES		
			05020	* IT IS A STANDARD MOVE		
498D	17	F110	05030	LBSR	FRFR	
4990	16	0029	05040	LBRA	L00CT	
			05050			
			05060	* IS THE FIFTH		
			05070	* CHARACTER		
			05080	* AN "E"		
			05090	* (EN PASSANT)		
4993	B6	2045	05100	L0029 LDA	CMDVAR+4	
4996	81	45	05110	CMPA	#69 E	
			05120			
			05130	* GO IF NO		
4998	26	06	05140	BNE	L002A	
			05150			

			05160	*	DO IF YES			
			05170	*	IT IS EN PASSANT			
499A	17	F503	05180		LBSR	FRFRE		
499D	16	001C	05190		LBRA	L00CT		
			05200					
			05210	*	IS THE FIFTH			
			05220	*	CHARACTER			
			05230	*	A "Q", AN "R", A "B",			
			05240	*	OR AN "N"?			
			05250	*	(PAWN PROMOTION)			
			05260	*	IS THE FIFTH			
			05270	*	CHARACTER			
			05280	*	A "Q"			
49A0	81	51	05290	L002A	CMPA	#81	Q	
			05300					
			05310	*	GO IF YES			
49A2	27	0F	05320		BEQ	L002B		
			05330					
			05340	*	IS THE FIFTH			
			05350	*	CHARACTER			
			05360	*	AN "R"			
49A4	81	52	05370		CMPA	#82	R	
			05380					
			05390	*	GO IF YES			
49A6	27	0B	05400		BEQ	L002B		
			05410					
			05420	*	IS THE FIFTH			
			05430	*	CHARACTER			
			05440	*	A "B"			
49A8	81	42	05450		CMPA	#66	B	
			05460					
			05470	*	GO IF YES			
49AA	27	07	05480		BEQ	L002B		
			05490					
			05500	*	IS THE FIFTH			
			05510	*	CHARACTER			
			05520	*	AN "N"			
49AC	81	4E	05530		CMPA	#78	N	
			05540					
			05550	*	GO IF YES			
49AE	27	03	05560		BEQ	L002B		
			05570					
			05580	*	GO IF NO (NOTREC)			
49B0	16	0006	05590		LBRA	L00NR		
			05600					
			05610	*	DO IF YES			
			05620	*	IT IS A			

			05630	*	PAWN PROMOTION		
49B3	17	F5EA	05640	L002B	LBSR	FRFRP	
49B6	16	0003	05650		LBRA	L00CT	
			05660				
			05670	*	DO THE		
			05680	*	NOT RECOGNIZED		
			05690	*	COMMAND		
49B9	17	DC44	05700	L00NR	LBSR	NOTREC	
			05710				
			05720	*	EXIT AND CONTINUE		
49BC	35	12	05730	L00CT	PULS	A,X	
49BE	39		05740		RTS		
		0000	32767		END		

00000 TOTAL ERRORS

=====

YACH.BAS: Version 0.0.3

```
1000 '*****
1010 '*
1020 '* YACH.BAS
1030 '* MDJ 2021/09/18
1040 '*
1041 '* VERSION 0.0.3
1042 '* MDJ 2021/09/29
1043 '*
1050 '* YET ANOTHER
1051 '* CHESS HANDLER
1060 '*
1070 '*****
1071 '*
1072 '* REVISION HISTORY
1073 '*
1074 '* 0.0.2 -2021/09/29
1075 '* REVISED
1076 '*   RNKCVT.ASM
1077 '*   XLTCMD.ASM
1078 '*   XLTCM2.ASM
1079 '*   XLTCM3.ASM
1080 '*
1081 '* 0.0.3 -2021/09/29
1082 '* REVISED
1083 '*   XLTCM3.ASM
1084 '*
1085 '*****
1086 '
1090 'SETUP MEMORY
1100 PCLEAR 1
1110 CLEAR 200, &H1C00
1120 '
1130 CLS
1140 PRINT @ 105, "Y. A. C. H."
1150 PRINT @ 162, "(YET ANOTHER CHESS HANDLER)"
1160 PRINT @ 201, "VERSION 0.0.3"
1170 PRINT @ 304, "BY"
1180 PRINT @ 328, "M. DAVID JOHNSON"
1190 PRINT @ 360, "INFO@BDS-SOFT.COM"
1200 PRINT @ 395, "2021/09/29"
1210 PRINT @ 490, "PLEASE WAIT"
1220 '
1230 'LOAD ML
```



```
1231 'FOUNDATION ROUTINES
1240 LOADM "MLFCOMB1.BIN"
1250 LOADM "MLFCOMB2.BIN"
1260 '
1270 'LOAD YACH ROUTINES
1280 LOADM "FT.BIN"
1290 LOADM "SM.BIN"
1300 LOADM "GR.BIN"
1310 LOADM "GC1.BIN"
1320 LOADM "GC2.BIN"
1330 LOADM "MC.BIN"
1340 LOADM "CM.BIN"
1350 LOADM "YS.BIN"
1360 '
1370 PRINT @ 451, "PRESS ANY KEY  TO CONTINUE"
1380 A$ = INKEY$
1390 IF A$ = "" GOTO 1380
1400 '
1410 'START THE GAME
1420 EXEC &H4CE0
1430 '
32767 END
```

=====

Appendix A

Decimal to Hexadecimal Conversions

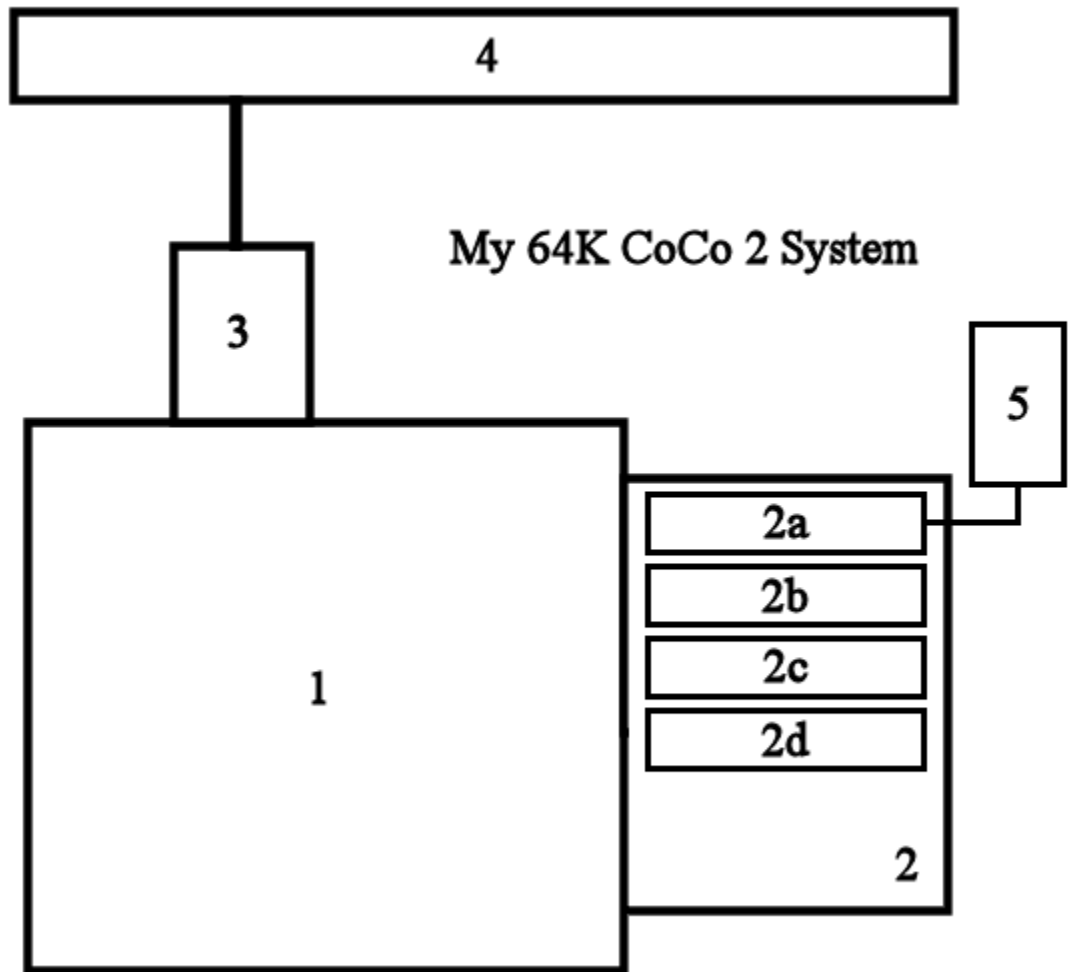
<u>DEC</u>	<u>HEX</u>	<u>DEC</u>	<u>HEX</u>	<u>DEC</u>	<u>HEX</u>	<u>DEC</u>	<u>HEX</u>
000	00	032	20	064	40	096	60
001	01	033	21	065	41	097	61
002	02	034	22	066	42	098	62
003	03	035	23	067	43	099	63
004	04	036	24	068	44	100	64
005	05	037	25	069	45	101	65
006	06	038	26	070	46	102	66
007	07	039	27	071	47	103	67
008	08	040	28	072	48	104	68
009	09	041	29	073	49	105	69
010	0A	042	2A	074	4A	106	6A
011	0B	043	2B	075	4B	107	6B
012	0C	044	2C	076	4C	108	6C
013	0D	045	2D	077	4D	109	6D
014	0E	046	2E	078	4E	110	6E
015	0F	047	2F	079	4F	111	6F
016	10	048	30	080	50	112	70
017	11	049	31	081	51	113	71
018	12	050	32	082	52	114	72
019	13	051	33	083	53	115	73
020	14	052	34	084	54	116	74
021	15	053	35	085	55	117	75
022	16	054	36	086	56	118	76
023	17	055	37	087	57	119	77
024	18	056	38	088	58	120	78
025	19	057	39	089	59	121	79
026	1A	058	3A	090	5A	122	7A
027	1B	059	3B	091	5B	123	7B
028	1C	060	3C	092	5C	124	7C
029	1D	061	3D	093	5D	125	7D
030	1E	062	3E	094	5E	126	7E
031	1F	063	3F	095	5F	127	7F

<u>DEC</u>	<u>HEX</u>	<u>DEC</u>	<u>HEX</u>	<u>DEC</u>	<u>HEX</u>	<u>DEC</u>	<u>HEX</u>
128	80	160	A0	192	C0	224	E0
129	81	161	A1	193	C1	225	E1
130	82	162	A2	194	C2	226	E2
131	83	163	A3	195	C3	227	E3
132	84	164	A4	196	C4	228	E4
133	85	165	A5	197	C5	229	E5
134	86	166	A6	198	C6	230	E6
135	87	167	A7	199	C7	231	E7
136	88	168	A8	200	C8	232	E8
137	89	169	A9	201	C9	233	E9
138	8A	170	AA	202	CA	234	EA
139	8B	171	AB	203	CB	235	EB
140	8C	172	AC	204	CC	236	EC
141	8D	173	AD	205	CD	237	ED
142	8E	174	AE	206	CE	238	EE
143	8F	175	AF	207	CF	239	EF
144	90	176	B0	208	D0	240	F0
145	91	177	B1	209	D1	241	F1
146	92	178	B2	210	D2	242	F2
147	93	179	B3	211	D3	243	F3
148	94	180	B4	212	D4	244	F4
149	95	181	B5	213	D5	245	F5
150	96	182	B6	214	D6	246	F6
151	97	183	B7	215	D7	247	F7
152	98	184	B8	216	D8	248	F8
153	99	185	B9	217	D9	249	F9
154	9A	186	BA	218	DA	250	FA
155	9B	187	BB	219	DB	251	FB
156	9C	188	BC	220	DC	252	FC
157	9D	189	BD	221	DD	253	FD
158	9E	190	BE	222	DE	254	FE
159	9F	191	BF	223	DF	255	FF

=====

Appendix B: My 64K CoCo 2 System

As of 2021/09/08, my physical 64K CoCo 2 System is depicted in the block diagram below.



See following page for System Legend.

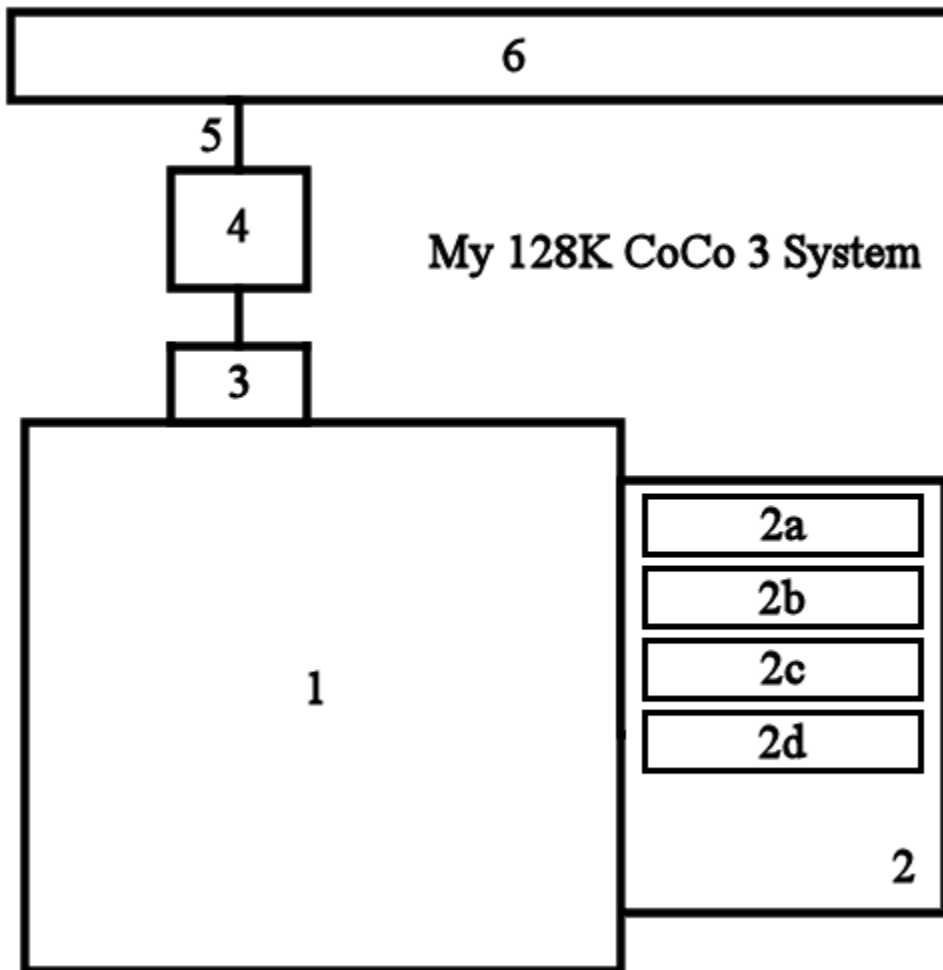
64K System Legend:

1. 64K CoCo 2, Model Number 26-3127, Serial Number 007601.
2. Multi-Pak Interface, Model Number 26-3124, Serial Number 2005259
 - 2a. Floppy Disk Controller, Model Number 26-3029
 - 2b. CoCo SDC, running SDC-DOS 1.6 CC2.
 - 2c. RS-232 Pak
 - 2d. Empty slot
3. CoCo VGA.
4. RCA 19" VGA/HDMI Monitor, Model RT1970.
5. 5.25" Disk Drive, Model Number 26-3022

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Appendix C: My 128K CoCo 3 System

As of 2021/09/08, my physical 128K CoCo 3 System is depicted in the block diagram below.



See following page for System Legend.

128K System Legend:

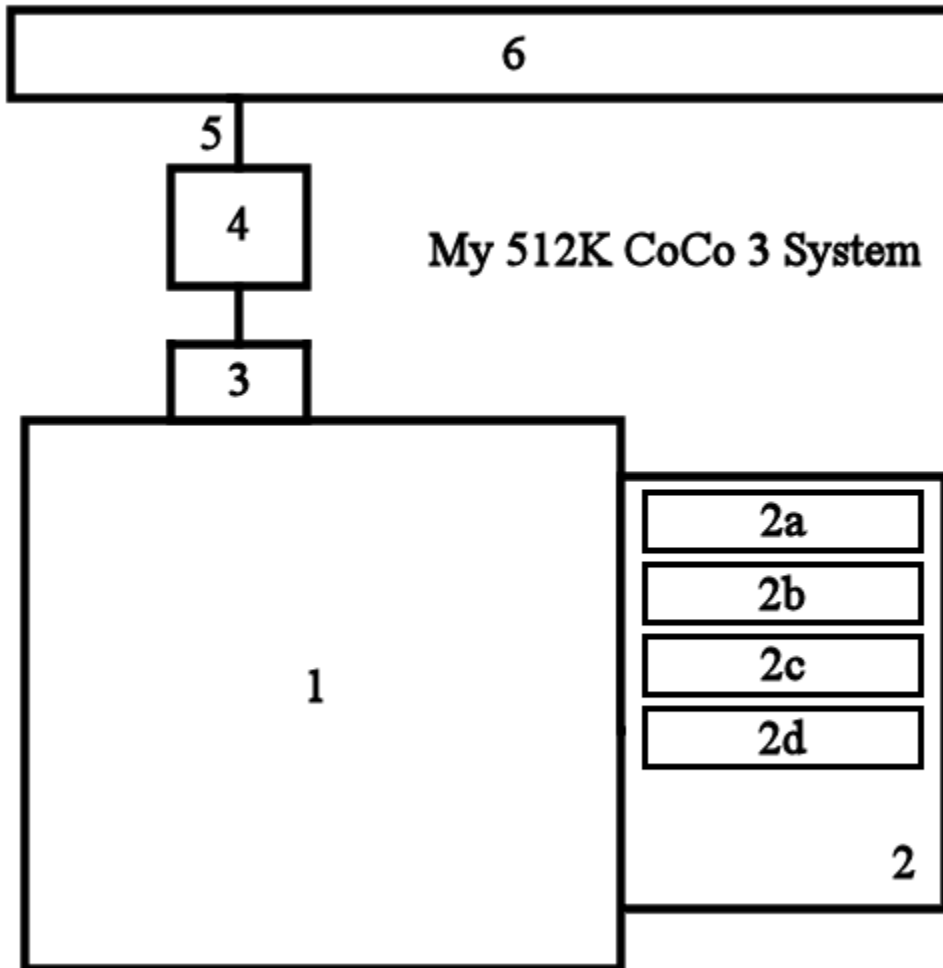
1. 128K CoCo 3, Model Number 26-3334, Serial Number 1110785
2. Mega-Mini MPI
 - 2a. CoCo SDC, running SDC-DOS 1.6 CC3
 - 2b. RS-232 Pak
 - 2c. Empty slot
 - 2d. Empty slot
3. CoCo Switch-a-Roo*
4. TNP SCART to HDMI Converter
5. HDMI Cable
6. RCA 19" VGA/HDMI Monitor, Model RT1970

*Not Shown: The Switch-a-Roo is powered from a ByEasy powered 7-port USB 2.0 hub.

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Appendix D: My 512K CoCo 3 System

As of 2021/09/08, my physical 512K CoCo 3 System is depicted in the block diagram below.



See following page for System Legend.

512K System Legend:

1. 512K CoCo 3, Model Number 26-3334, Serial Number 1037654
2. Mega-Mini MPI
 - 2a. CoCo SDC, running SDC-DOS 1.6 CC3
 - 2b. RS-232 Pak
 - 2c. Empty slot
 - 2d. Empty slot
3. CoCo Switch-a-Roo*
4. TNP SCART to HDMI Converter
5. HDMI Cable
6. RCA 19" VGA/HDMI Monitor, Model RT1970

*Not Shown: The Switch-a-Roo is powered from a ByEasy powered 7-port USB 2.0 hub.

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Appendix E: My CoCo Philosophy

The CoCo community enjoys a great diversity of interests.

Some choose to concentrate on hardware innovations and modifications such as interfacing with VGA and HDMI monitors, SD Card data storage, and 104-key keyboards. This interest is at least partly born of necessity, since composite monitors, floppy diskettes, and CoCo spare parts are no longer manufactured and are in increasingly short supply.

Others concentrate on expanding the software horizons of the CoCo 3, using NitrOS-9 and other operating systems to make the multitasking CoCo behave ever closer to modern Windows, Mac, and Linux machines.

Still others are devoted to emulating the CoCo on other platforms by developing emulators such as VCC, OVCC, MAME, and XRoar.

And some just love retro gaming.

My personal interest is twofold:

1. To see VCC increasingly used as a learning tool for budding software developers.
2. To see just how much I can cram into a 64K CoCo 2.

First, VCC: Today's Grade School, Junior High, and High School students have a wealth of available learning tools. Micro-bits, Arduinos, and Raspberry Pi supermicro devices provide highly affordable entry-level introductions to computer programming and interfacing. Maker-Spaces and Innovation Centers in our schools and libraries help foster growth and experience.

But these devices do have limitations. Even these simple(?) computers can have rather steep learning curves, and their low initial cost can quickly expand as new peripherals and experimental equipment and supplies are added.

VCC is free, and can be used on any Windows computer: just download it, install it, and it runs. If you don't own a Windows computer, your school, library, or a friend probably does. The included BASIC language is easy to learn and can readily serve as a stepping-stone towards more complex programming languages. (And, no, learning structured programming does not require a language that enforces structure. In fact, I think learning to structure your programs is actually more effective when you do so on your own.)

I prefer VCC to the other emulators for these purposes because its setup is trivial: Again, just download it, install it, and it runs. OVCC, MAME, and XRoar have their advantages, but ease of setup is not one of them. Even with their available Windows binary packages, they require pre-installation of other bits and pieces of software before they can be downloaded,

installed, and run. This may not be a major problem for a reasonably adept aficionado, but it forms a significant barrier for the newbie. And, it's the newbie whom we're trying to reach, interest, and encourage here; the newbie who may not yet recognize even the tiniest awakening of interest in things computational.

But, for these purposes, VCC has one glaring weakness: its instruction manual is woefully terse. I would like to see VCC bundled with a selection of tutorials, manuals, and examples suited to guiding even the most newbie of newbies into the wonders of computing.

Second, The Stuffed CoCo: I'm simply fascinated by the challenge of seeing how much functional capability I can sandwich into the nooks and crannies of the 64K space. Whether it's working in the available RAM left by the 32K ROM and the dedicated RAM that supports that ROM, or whether it's jumping right into ALLRAM mode and just filling the entire 64K to near-overflowing; it's an investigative gauntlet which goes right to the heart of my enchantment with puzzles in general.

It's great fun!

M.D.J. 2021/08/29

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Appendix F: New BDS Software License

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M.D.J. 2018/06/08

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Works Cited

[MDJ02] Johnson, M. David. *Key Codes and VIDRAM*. Glenview, IL: BDS Software, 2021. Web. <http://www.bds-soft.com/cocoPapers.php> . Last Accessed 2021/09/29.

[MDJ04] Johnson, M. David. *Towards Y.A.C.H. (Yet Another Chess Handler)*. Glenview, IL: BDS Software, 2021. Web. <http://www.bds-soft.com/cocoPapers.php> . Last Accessed 2021/09/29.

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Other References

[MDJ01] Johnson, M. David. *Back To (Almost) Bare-Metal Programming*. Glenview, IL: BDS Software, 2021. Web. <http://www.bds-soft.com/cocoPapers.php> . Last Accessed 2021/09/29.

[MDJ03] Johnson, M. David. *Towards a VCC Bundle*. Glenview, IL: BDS Software, 2021. Web. <http://www.bds-soft.com/cocoPapers.php> . Last Accessed 2021/09/29.

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END