

THIS NEWS LETTER COVERS VARIOUS FIXES TO OS-65U V1.0 THROUGH V1.1. NOTE THAT MOST OF THE CORRECTIONS ARE LISTED IN THE FORM OF CONVERSATIONS WITH THE 'CHANGE' PROGRAM. BE AWARE THAT THE CURRENT CONTENTS SHOWN MAY NOT AGREE WITH WHAT IS RECORDED ON YOUR DISKETTE. HOWEVER THE RIGHT MOST COLUMN DOES CORRECTLY INDICATE WHAT DATA SHOULD BE PLACED ON THE DISKETTE. THROUGHOUT THIS NEWS LETTER THE FOLLOWING ABBREVIATIONS ARE USED:

ALL - FOR ALL OS-65U SYSTEM THROUGH VERSION 1.1
CD-74 - FOR ALL 65U VERSIONS THAT CAN ACCOMMODATE THE CD-74
CD-23 - FOR 65U CD-23 VERSIONS ONLY

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OS-65U V1.1 CD-23 DISC ERROR MESSAGES

THE DISC ERRORS REPORTED IN OS-65U CONCERNING THE CD-23 ARE BROKEN UP INTO TWO SECTIONS. THE UPPER FOUR BITS OF THE DISC ERROR NUMBER INDICATE THE ROUTINE(S) IN WHICH THE ERROR OCCURRED. THE LOWER FOUR BITS INDICATE THE ACTUAL ERROR(S) THAT OCCURRED.

EXAMPLE ::

DISC ERROR 136 IN LINE 300

136-120=8

THEREFORE THE ERROR OCCURRED IN THE WRITE ROUTINE (120) AND THE ACTUAL ERROR WAS ERROR NUMBER EIGHT (HEADER CHECKSUM). NOTE THAT ERROR NUMBER 133 CAN ACTUALLY BE A FILE ERROR OR A DISC ERROR. ALL OTHER FILE ERRORS (E. G. FILE NOT FOUND, FILE ALREADY OPEN, ETC.) ARE AS IN ALL OTHER VERSIONS OF OS-65U V1.1. THE DISC STATUS MAY BE DETERMINED BY PEEKING MEMORY LOCATION 47646 (\$C202). THIS LOCATION CONTAINS THE CD-23 STATUS REGISTER AND NORMALLY CONTAINS A 118 (\$74).

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EXAMPLE ::

DISC ERROR 136 IN LINE 300

136-120=8

THEREFORE THE ERROR OCCURRED IN THE WRITE ROUTINE (120) AND THE ACTUAL ERROR WAS ERROR NUMBER EIGHT (HEADER CHECKSUM). NOTE THAT ERROR NUMBER 133 CAN ACTUALLY BE A FILE ERROR OR A DISC ERROR. ALL OTHER FILE ERRORS (E.G. FILE NOT FOUND, FILE ALREADY OPEN, ETC.) ARE AS IN ALL OTHER VERSIONS OF OS-65U V1.1. THE DISC STATUS MAY BE DETERMINED BY PEEKING MEMORY LOCATION 47666 (\$C262). THIS LOCATION CONTAINS THE CD-23 STATUS REGISTER AND NORMALLY CONTAINS A 118 (\$74).

OS-65U V1.1 CD-23 DISC ERROR CODE REFERENCE CHART

- 128 - ERROR OCCURRED IN THE WRITE ROUTINE
 - 64 - ERROR OCCURRED IN THE SELECT UNIT ROUTINE
 - 32 - ERROR OCCURRED IN THE SEEK ROUTINE
 - 16 - ERROR OCCURRED IN THE POSITION HEAD ROUTINE
-
- 1 - UNIT NOT READY (SELECT UNIT ROUTINE)
 - 2 - SEEK TIMEOUT (POSITION HEAD ROUTINE)
 - 3 - INVALID UNIT NUMBER (SELECT UNIT ROUTINE)
 - 4 - CANNOT FIND TRACK ZERO (POSITION HEAD ROUTINE)
 - 5 - DMA FAILED TO TERMINATE (READ/ WRITE ROUTINES)
 - 6 - WRITE PROTECTED (CURRENTLY NOT IMPLEMENTED)
 - 7 - SECTOR UNSAFE, CANNOT VERIFY WRITE (WRITE ROUTINE)
 - 8 - HEADER CHECKSUM (READ ROUTINE)
 - 9 - CYLINDER MISMATCH (READ ROUTINE)
 - 10 - TRACK MISMATCH (READ ROUTINE)
 - 11 - SECTOR MISMATCH (READ ROUTINE)
 - 12 - DATA FIELD CHECKSUM (READ ROUTINE)
 - 13 - DRIVE NOT READY (STATUS CHECK ROUTINE)
 - 14 - UNIT OUT OF SERVICE (STATUS CHECK ROUTINE)
 - 15 - CYLINDER OUT OF RANGE (POSITION HEAD ROUTINE)

READ MODE (%C202)

- B0 - NOT SEEK COMPLETE
- B1 - NOT TRACK ZERO
- B2 - NOT WRITE FAULT
- B3 - NOT READY
- B4 - NOT USED
- B5 - NOT USED
- B6 - NOT USED
- B7 - ALWAYS LOW WHEN POWER IS APPLIED

WRITE MODE (%C202)

- B0 - DRIVE SELECT / ONE (HIGH STATE) = TRUE
- B1 - '
- B2 - '
- B3 - '
- B4 - WRITE FAULT CLEAR / ONE (HIGH STATE) = TRUE
- B5 - STEP / ONE (HIGH STATE) = PULSE
- B6 - STEP DIRECTION / ZERO (LOW STATE) = OUT - ONE (HIGH STATE) = IN
- B7 - NOT USED

OK
RUN"CHANGE", "PASS

DISK CHANGE UTILITY

MODE: HEX(H), DEC(D) ? H
UNIT ? A

ADDRESS OFFSET ? C00

ADDRESS ? 032E

0000032E E0 ? 8A

0000032F 03 ? 49

00000330 D0 ? 03

00000331 F5 ? D0

00000332 F0 ? F4

00000333 DA ? F0

00000334 99 ? D9

00000335 27 ? 99

00000336 02 ? 27

00000337 L 4C ? 02

00000338 \$ 24 ? D0

00000339 03 ? EA

0000033A 8C ?

ADDRESS ? 0353

00000353 E0 ? E1

00000354 20 ?

ADDRESS ? X

OK

CLOSE

OK

⌘A BUG CONCERNING THE INPUT, PRINT, AND
FIND COMMANDS HAS BEEN FOUND IN OS-65U.
THIS BUG CAUSED (MOST VISIBLY) THE FIND
COMMAND TO VERY INFREQUENTLY NOT 'FIND'
SOMETHING ON DISC THAT WAS ACTUALLY ON
THE DISC.
STATUS :: ALL

DISK CHANGE UTILITY

MODE: HEX(H), DEC(D) ? H

UNIT ? A

ADDRESS OFFSET ? C00

ADDRESS ? 2847

00002847 L 4C ? 20

00002848 EE ?

ADDRESS ? 43F6

000043F6 03 ? 02

000043F7 20 ? A2

000043F8 0 6F ? 00

000043F9 I 49 ? 48

000043FA 8E ?

ADDRESS ? 43FE

000043FE J 4A ? DA

000043FF (28 ? 02

00004400 D8 ?

ADDRESS ? 02D8

000002D8 AD ? F0

000002D9 03 ? 19

000002DA % 25 ? AD

000002DB EA ? 4D

000002DC EA ? 28

000002DD F0 ? 49

000002DE 14 ? 9D

000002DF AD ? D0

000002E0 H 68 ? 10

000002E1 & 26 ? AD

000002E2 10 ? FE

000002E3 07 ? 4D

000002E4 A9 ? 90

000002E5 I 69 ? 06

000002E6 8D ? A2

000002E7 ID ? 69

000002E8 EF ? 8E

000002E9 D0 ? 1D

000002EA 08 ? EF

000002EB A2 ? 2C

000002EC 00 ? 09

000002ED A1 ? 08

000002EE ; 3B ? 8D

000002EF 09 ? FE

000002F0 08 ? 4D

000002F1 81 ? 68

000002F2 ; 3B ? 60

000002F3 18 ?

ADDRESS ? X

OK
CLOSE

OK

***IT HAS BEEN DETERMINED THAT UNDER SOME
CONDITIONS THE 'FLOPPY BUFFER DIRTY ?'
BIT WAS NOT BEING PROPERLY SET. THE
'CHANGE' BELOW CORRECTS THIS PROBLEM.
STATUS :: ALL

OK
RUN"CHANGE", "PASS

DISK CHANGE UTILITY

MODE: HEX(H), DEC(D) ? H

UNIT ? A

ADDRESS OFFSET ? C00

ADDRESS ? 345C

0000345C 20 ? 2C

0000345D B3 ?

ADDRESS ? X

OK

CLOSE

OK

OS-65U CD-23 VERSIONS CURRENTLY CLEAR
THE WRITE FAULT LINE IF A WRITE FAULT
OCCURS. SHUGART SAYS THAT A WRITE FAULT
SHOULD NEVER OCCUR AND THAT WE SHOULD
THEREFORE NOT CLEAR THE WRITE FAULT. THE
CHANGE LISTED HERE WILL PREVENT OS-65U
FROM CLEARING ANY WRITE FAULTS THAT
MIGHT OCCUR.

STATUS :: CD-23

OK
RUN"CHANGE", "PASS

DISK CHANGE UTILITY

MODE: HEX(H), DEC(D) ? H
UNIT ? A

ADDRESS OFFSET ? C00

ADDRESS ? 08D8

000008D9 96 ? 97

000008D9 20 ?

ADDRESS ? X

OK

CLOSE

OK

BELOW PLEASE FIND THE CORRECTION TO
BASIC FOR THE UNJUSTIFIED, BUT RARE 'FOR
W/O NEXT' & 'RETURN W/O.GOSUB' ERRORS IN
OS-65U.

STATUS :: ALL

OK
RUN"CHANGE", "PASS

DISK CHANGE UTILITY

MODE: HEX(C), DEC(D) ? H
UNIT ? A

ADDRESS OFFSET ? C00

ADDRESS ? 2E92

00002E92 AD ? 18

00002E93 02 ? 08

00002E94 C0 ? 6A

00002E95) 29 ? 28

00002E96 80 ? 4D

00002E97 F0 ? 02

00002E98 0D ? C0

00002E99 A9 ? 10

00002E9A 2 32 ? 19

00002E9B 85 ? A9

00002E9C 12 ? 80

00002E9D 18 ? D0

00002E9E 90 ? 04

00002E9F 01 ? 00

00002EA0 8 38 ? .

ADDRESS ? 2EA1

00002EA1 A9 ? B0

00002EA2 80 ? F0

00002EA3 20 ? .

ADDRESS ? 2DF2

00002DF2 90 ? A9

00002DF3 07 ? 32

00002DF4 A9 ? 85

00002DF5 2 32 ? 12

00002DF6 85 ? 90

00002DF7 12 ? 03

00002DF8 L 4C ? .

ADDRESS ?

ADDRESS OFFSET ? -2AFD

ADDRESS ? 2E92

00002E92 AD ? 18

00002E93 02 ? 08

00002E94 C0 ? 6A

00002E95) 29 ? 28

00002E96 80 ? 4D

00002E97 F0 ? 02

00002E98 0D ? C0

00002E99 A9 ? 10

00002E9A 2 32 ? 19

00002E9B 85 ? A9

00002E9C 12 ? 80

00002E9D 18 ? D0

00002E9E 90 ? 04

00002E9F 01 ? 00

00002EA0 8 38 ? .

ADDRESS ? 2EA1

00002EA1 A9 ? B0

00002EA2 80 ? F0

00002EA3 20 ? .

ADDRESS ? 2DF2

00002DF2 90 ? A9

00002DF3 07 ? 32

00002DF4 A9 ? 85

00002DF5 2 32 ? 12

00002DF6 85 ? 90

00002DF7 12 ? 03

00002DF8 L 4C ? .

ADDRESS ? X

OK

CLOSE

OK

MA BUG CONCERNING INPUT FROM A FILE
CAUSED A 40MS HEAD LOAD/UNLOAD DELAY
ROUTINE TO BE EXECUTED EVEN WHEN THE
DISKETTE WAS NOT ACTUALLY ACCESSED. THE
FIX IS AS LISTED BELOW.

STATUS :: ALL

DISK CHANGE UTILITY

MODE: HEX(H), DEC(D) ? H
 UNIT ? A
 ADDRESS OFFSET ? C00
 ADDRESS ? 15C5
 000015C5 CA F F0
 000015C6 8A ? 4B
 000015C7 H 48 ? CA
 000015C8 18 ? 8A
 000015C9 A2 ? 48
 000015CA 00 ? 18
 000015CB F1 ? A2
 000015CC 9D ? 00
 000015CD B0 ? F1
 000015CE B8 ? 9D
 000015CF I 49 ? B0
 000015D0 FF ? B6
 000015D1 C5 ? 49
 000015D2 B2 ? FF
 000015D3 90 ? C5
 000015D4 B3 ? B2
 000015D5 A5 ? 90
 000015D6 B2 ? B1
 000015D7 B0 ? A5
 000015D8 AF ? B2
 000015D9 20 ? B0
 000015DA 0D ? AD
 000015DB 0E ? 20
 000015DC H 68 ? 0D
 000015DD A8 ? 0E
 000015DE H 68 ? 68
 000015DF 85 ? A8
 000015E0 A2 ? 68
 000015E1 H 68 ? 85
 000015E2 H 68 ? A2
 000015E3 H 68 ? 68
 000015E4 AA ? 68
 000015E5 H 68 ? 68
 000015E6 85 ? AA
 000015E7 9D ? 68
 000015E8 H 68 ? 85
 000015E9 85 ? 9D
 000015EA 9E ? 68
 000015EB A5 ? 85
 000015EC A2 ? 9E
 000015ED H 48 ? A5
 000015EE 98 A A2
 000015EF H 48 ? 48
 000015F0 A0 ? 98
 000015F1 00 ? 48
 000015F2 8A ? A0
 000015F3 70 ? 00
 000015F4 1D ? 8A
 000015F5 @ 60 ?

ADDRESS ? 157B

0000157B D9 ? DB
 0000157C 15 ?
 ADDRESS ? 15A7
 000015A7 D9 ? DB
 000015A8 15 ?
 ADDRESS ? 15C3
 000015C3 D9 ? DB
 000015C4 15 ?
 ADDRESS ? X

OK
 CLOSE

OK

***A PROBLEM HAS BEEN FOUND WITH THE LEFT*
 AND RIGHT* FUNCTIONS IN BASIC. THESE
 FUNCTIONS CURRENTLY REPORT A FUNCTION
 CALL ERROR IF THE SECOND ARGUMENT
 (LENGTH) EQUALS ZERO. THE CORRECTION IS
 SHOWN BELOW.
 STATUS :: ALL

OK
RUN"CHANGE", "PASS

DISK CHANGE UTILITY

MODE: HEX(H), DEC(D) ? H
UNIT ? A

ADDRESS OFFSET ? C00

ADDRESS ? 1291

00001291 F0 ? 85

00001292 9F ? 94

00001293 85 ? AA

00001294 94 ? C8

00001295 AA ? B1

00001296 C8 ? 9B

00001297 B1 ? F0

00001298 9B ? 45

00001299 85 ? .

ADDRESS ? 12D8

000012D8 H 68 ? C8

000012D9 C8 ? C0

000012DA 91 ? 05

000012DB 9B ? D4

000012DC H 68 ? F8

000012DD C8 ? 60

000012DE 91 ? A9

000012DF 98 ? 10

000012E0 H 68 ? 4C

000012E1 C8 ? 4E

000012E2 91 ? 04

000012E3 98 ? .

ADDRESS ? X

OK

CLOSE

OK

THE USER DEFINED FUNCTION ROUTINE IN
BASIC WILL REPORT AN 'UF' ERROR
(UNDEFINED FUNCTION ERROR) IF THE DUMMY
VARIABLE IN THE ARGUMENT LANDED ON A
PAGE BOUNDARY (WHICH IS ALMOST NEVER).
THE FIX IS AS LISTED BELOW.

STATUS :: ALL

DP

DISK CHANGE UTILITY

MODE: HEX(H), DEC(D) ? H

UNIT ? A

ADDRESS OFFSET ? C00

ADDRESS ? 1355

00001355 A5 ? A0

00001356 AE ? FF

00001357 95 ? 84

00001358 00 ? 0E

00001359 A5 ? C8

0000135A AF ? 86

0000135B 95 ? B1

0000135C 01 ? 84

0000135D A5 ? B2

0000135E D0 ? 84

0000135F 95 ? BD

00001360 02 ? 86

00001361 A0 ? 64

00001362 00 ? B9

00001363 86 ? AE

00001364 B1 ? 00

00001365 84 ? 95

00001366 B2 ? 00

00001367 88 ? E8

00001368 84 ? C8

00001369 0E ? C0

0000136A 86 ? 03

0000136B D 64 ? D0

0000136C E8 ? F5

0000136D E8 ? 86

0000136E E8 ? 63

0000136F 86 ? 60

00001370 C 63 ? EA

00001371 @ 60 ? EA

00001372 F 46 ?

ADDRESS ? 0E31

00000E31 A6 ? 24

00000E32 0E ? 0E

00000E33 F0 ? 10

00000E34 01 ? 03

00000E35 @ 60 ? 46

00000E36 A6 ? BD

00000E37 0F ? 60

00000E38 10 ? A6

00000E39 0D ? 0F

00000E3A A0 ? 10

00000E3B 00 ? 0B

00000E3C B1 ? A0

00000E3D B1 ? 01

00000E3E AA ? B1

00000E3F C8 ? B1

00000E40 B1 ? A8

00000E41 B1 ? A2

00000E42 A8 ? B1

00000E43 8A ? A1

00000E44 L 4C ? 00

00000E45 18 ? 50

00000E46 12 ? AF

00000E47 L 4C ?

ADDRESS ? X

OK

CLOSE

OK

MA BUG IN THE BASIC INTERPETER HAS BEEN CAUSING OCCASIONAL 'IF' STATEMENT FAILURES IN BASIC PROGRAMS GREATER THAN 8K. INSERTION OF THIS CHANGE WILL CORRECT THE PROBLEM.
STATUS :: ALL

OK
RUN"CHANGE",PASS

DISK CHANGE UTILITY

MODE: HEX(H),DEC(D) ? H
UNIT ? A
ADDRESS OFFSET ? C00
ADDRESS ? 0416
00000416 5 35 ? 32
00000417 85 ?
ADDRESS ? 041D
0000041D 2E ? 2B
0000041E @ 60 ?
ADDRESS ? 0437
00000437 F7 ? F5
00000438 H 68 ? A8
00000439 95 ? 68
0000043A AE ? 95
0000043B E8 ? B0
0000043C 0 30 ? E8
0000043D FA ? 30
0000043E H 68 ? F9
0000043F A8 ? 48
00000440 H 68 ? C5
00000441 C4 ? 80
00000442 81 ? 98
00000443 90 ? E5
00000444 06 ? 81
00000445 D0 ? 68
00000446 05 ? B0
00000447 C5 ? 04
00000448 80 ? 60
00000449 B0 ? A2
0000044A 01 ? 01
0000044B @ 60 ? 2C
0000044C AC ?
ADDRESS ? 0422
00000422) 28 ? 25
00000423 D0 ?
ADDRESS ? 0428
00000428 " 22 ? 1F
00000429 H 48 ?
ADDRESS ? X

*AS IT NOW STANDS BASIC WILL INCORRECTLY
REPORT AN 'OS' ERROR (OUT OF STACK
ERROR) AS A 'ON' ERROR (OUT OF MEMORY
ERROR). THE CHANGE LISTED BELOW CORRECTS
THIS.

STATUS :: ALL

OK
CLOSE

OK

OK
RUN"CHANCE", "PASS

DISK CHANGE UTILITY -

MODE: HEX(H), DEC(D) ? H

UNIT ? A

ADDRESS OFFSET ? C00

ADDRESS ? 49E8

000049E8 1C ? 1B

000049E9 8 38 ? 48

000049EA 6 36 ? /

000049EB 14 ? /

000049EC 04 ? /

000049ED 8 38 ? 48

000049EE 6 36 ? .

ADDRESS ? 3645

00003645 C5 ? 45

00003646 8E ? .

ADDRESS ? X

OK

CLOSE

OK

OS-65U CD-23 VERSIONS HAVE A PROBLEM
WITH THE FLAG COMMAND. IF FLAG 19 OR
FLAG 20 ARE USED THE SYSTEM WILL REPORT
ERROR TENS WITH VARYING AMOUNTS OF
REPETITION. THE CHANGE SHOWN WILL
CORRECT THIS.

OK
RUN"CHANGE", "PASS

DISK CHANGE UTILITY

MODE: HEX(H),DEC(D) ? H

UNIT ? A

ADDRESS OFFSET ? C00

ADDRESS ? 3754

00003754 20 ? 20

00003755 E 65 ? 02

00003756 L 4C ? 24

00003757) 29 ? 20

00003758 08 ? 3B

00003759 F0 ? 4C

0000375A 03 ? A9

0000375B 20 ? 00

0000375C 02 ? A8

0000375D \$ 24 ? 91

0000375E L 4C ? 3D

0000375F 2 7A ? 4C

00003760 - 2D ? 7A

00003761 01 ? 2D

00003762 @ 60 ? ..

ADDRESS ? X

OK

CLOSE

OK

***A PROBLEM HAS BEEN FOUND WITH COPYING
FILES FROM FLOPPY TO THE CD-74 HARD
DISC. THE PROBLEM TOOK THE FORM OF
'DUMPING' THE FLOPPY BUFFER CONTENTS
MORE THAN ONCE. INSERTION OF THE CHANGE
BELOW WILL CORRECT THIS.
STATUS :: CD-74

OK
RUN"CHANGE", "PASS

DISK CHANGE UTILITY

MODE: HEX(H), DEC(D) ? H
UNIT ? A

ADDRESS OFFSET ? C00

ADDRESS ? 1482

00001482	A6 ? A5
00001483	9C ? /
00001484	F0 ? 05
00001485	F7 ? 9B
00001486	A5 ? F0
00001487	A2 ? F5
00001488) 29 ? 46
00001489	04 ? A2
0000148A	J 4A ? 20
0000148B	A8 ? E3
0000148C	85 ? 12
0000148D	A2 ? 18
0000148E	B1

ADDRESS ? 12E3

000012E3	9B ? C6
000012E4	H 68 ? A2
000012E5	C8 ? A4
000012E6	91 ? A2
000012E7	9B ? 60
000012E8	@ 60 ? 00
000012E9	20 ? .

ADDRESS ? 13AC

000013AC	A0 ? 20
000013AD	00 ? 08
000013AE	84 ? 21
000013AF	9C ? EA
000013B0	A5 ? .

ADDRESS ? 2108

00002108	00 ? A0
00002109	00 ? 00
0000210A	00 ? 84
0000210B	00 ? 9C
0000210C	00 ? 84
0000210D	00 ? 9B
0000210E	00 ? 60
0000210F	0D ? .

ADDRESS ? X

OK
CLOSE

OK

Microsoft has informed Ohio Scientific
of a garbage collection bug. Apparently
the garbage collection routine
occasionally failed to remove all
garbage. The change below will correct
this.

STATUS :: ALL