Sincere apologise to CHRIS CLARK from Radlett, Herts. Chris was the member who derived the Scrabble to Microdrive method and not the person to whom it was credited in MDX2. The routine submitted by Chris DID work in its original form. Very sorry about the errors but the late return of my Microdrive made it impossible to recheck after sample printing. Note: If your Scrabble to Microdrive includes a CLEAR in line 40, it is wrong. Correction sheet has been despatched to those members whom received the faulty copy. ALL future routines WILL be checked before final printing.

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VU-FILE (Again)!

There are TWO versions of VU-FILE. The newer version lets you transfer data to VU-CALC if required. Old version uses capital "T" & "C" for the Bytes sections. New version uses small "t" & "c". To put this newer version onto Microdrive, basically use same technique but also need to shorten one basic message.

1. Type this in: LOAD*"m";1;"VUC" CODE 25088: LOAD*"m";1;"VUB"
   Save to m/d: SAVE*"m";1;"VUFILE" LINE 10
2. NEW out Spectrum. Enter MERGE "VU-FILE" and play in Basic
   part from tape till message O.K. appears. Delete all line 50.
   Delete the INK 7 from line 100. In lines 1005,1100 & 2000 put
   *"m";1; in the SAVE/VERIFY/LOAD commands. Change line 7000 to
7000 PRINT "If gives ERROR CODE restart by"'"GO TO USR a":RETURN
   Save this Basic by; SAVE*"m";1;"VUB" LINE 100
3. NEW out Spectrum. Load the Code from tape & Save to m/d by:
   LOAD "c" CODE 25088: SAVE*"m";1;"VUC" CODE 25088,5888

....

FORMATTING FOR MAXIMUM K.

FORMATting several times and/or tapping cartridge gently before-hand, is claimed to help matters. A program appeared in one mag which let you FORMAT 15 times, then auto-selected the best one. For reliability, it should have selected the worse one!

MICHAEL LEEK of LEEDS tackled this problem at the heart of the matter and produced a more permanent solution. This does mean opening-up the Microdrive & making simple "corrections". It would invalidate you guarantee (unless you're careful)! To open the Microdrive, remove the small screw which is positioned on base of the m/d between the front rubber feet, and usually under a paper label. (Steam it off)? The base is held on by grooves so can be slide/snapped open. Take care. The cables are very short. Slacken the two screws which secure the motor chassis assembly. Apply pressure as shown on diagram, and tighten the screws.
For "braver" people, the self-tapping screws holding head board can be replaced with nuts & bolts. End result will be cartridges which always format to 96-100K.(Remember to replace paper label).

NEVER open a cartridge as it cannot be re-assembled. I opened one which rattled about and FORMATted to a whole 15K! The method of folding over the tape from centre of the spool is done by grooves in the actual casing itself. This probably explains why there's not an abundance of people making similar cartridges

....
In answer to the very difficult question sent in by several members, the G in my name stands for Geoffrey but usually, among other things, I'm called GEOFF.

Ever put a program onto Microdrive & it refuses to LOAD back? It
appears in CAT & can be ERASEd, but wont LOAD? I put all of MDX3
via TASWORD, onto a cartridge then couldn't re-load it. Using a
Microdrive Header Reader it printed out thus:

Title MYTASTAPE		Note the way the CODE for
NEWDIS	CODE 30000,2415	the awkward program is
MDX3	CODE 32000,18356	offset by two positions.
CHOPb	BASIC LINE 5	This suggests unwanted
CHOPc	CODE 36384,8759	characters have appeared
		in the name?

POKEing in character 8 (backspace) didn't help. I suspect that
it is the mysterious appearance of unwanted characters that
causes the sometimes total failure to Load. This CAN happen to
programs which have previously been Loaded-in several times in
the past. keep back-up copies on tape...difficult for VU-FILE if
it has been modified for Microdrive use, so keep a copy on the
microdrive with slightly different name?
     Any members comments on this problem would be most welcome.
....

REMOVING MICRODRIVE EXTRA VARIABLES.

If after pulling program off Microdrive, and possibly using the
NEWSFLASH routine, the entire extra Bytes of Microdrive System
Variables & references to Map could be deleted. Then almost ANY
program could be put on cartridge.
          In the ROM is a routine called RECLAIM. By pre-loading
the start & end address of the area we want to "Reclaim" it can
be made to totally remove all references to Microdrive actions.

DATA 33,240,92,17,182,92,195,229,25   Just 9 bytes of code is
FOR J=50000 TO 50008   required. Obviously you
READ A: POKE J,A: NEXT J   put the routine into a
RANDOMIZE USR 50000   convenient location to
                                             ensure not overwritten.

Convenient places for this and Newsflash is high up in memory,
the UDG area (Starts at 65368), Printer Buffer (Starts at 23296)
or even the SCREEN area (Starts at 16384).
          On the last page is an example of using this REMOVER &
NEWSFLASH for a variety of programs, sent in by MICHAEL SCOTT of
NEWCASTLE. In the full Listing Michael used the REMOVER in ALL
programs. Whilst not always necessary, it's much easier to do so.
In Business programs it is most likely you'd need to LOAD/SAVE
data from m/drive and such commands would re-insert the Map, etc
It is possible to allow for this by following such commands with
REMOVER routine. (It would be complicated to do this properly).
          A REMOVER was printed in PCW some time ago. It was longer
than my routine, BUT mine works with just 8 Bytes!
          MICHAEL SCOTT was the first to send in a "run" with a MENU
program so that on switching-on Spectrum, or after a NEW, can
just enter RUN and the program "run" Loads, presenting a MENU of
content...useful to put on all cartridges. The MENU program MUST
be Saved by;   SAVE*"m";1;"run" LINE 10   Must be small r,u & n.
The name "run" must be spelt out (CANNOT USE KEYORD RUN).

RANDOMIZE USR x. GOTO USR x. PRINT USR x. RUN USR x. LET Y=USR x
Any of these will cause program to enter machine-code routine at
location x. If the program never returns to Basic, then any of
the methods can be used. If does return to Basic, then PRINT USR
x would print last value it found in BC register pair, and the
LET Y=USR x would make Y the value in the BC pair.

```
  1 REM  MENU
 10 BORDER 0: PAPER 0: INK 7: B
RIGHT 1: CLS
 20 PRINT AT 3,12;"Ultimate"
 30 PRINT AT 4,12;"========"
 40 PRINT AT 6,8;"1..JETPAC"
 50 PRINT AT 8,8;"2..PSSST"
 60 PRINT AT 10,8;"3..TRANZ AM"
 70 PRINT AT 12,8;"4..COOKIE"
 80 PRINT AT 17,2;"PRESS NUMBER
OF GAME REQUIRED"
 90 LET A$=INKEY$: IF A$="" THE
N GO TO 90
 100 BEEP .1,1: LET A=VAL A$: IF
A<1 OR A>4 THEN GO TO 90
 110 GO TO 100*A+100
 200 PRINT AT 6,7; OVER 1; FLASH
1;">         <": LOAD *"m";1;"J
ETPAC"
 300 PRINT AT 8,7; OVER 1; FLASH
1;">         <": LOAD *"m";1;"P
SSST"
 400 PRINT AT 10,7; OVER 1; FLAS
H 1;">         <": LOAD *"m";1
;"TRANZ AM"
 500 PRINT AT 12,7; OVER 1; FLAS
H 1;">         <": LOAD *"m";1;"
COOKIE"
```

— — — — — — — — — — —

```
 10 LOAD *"m";1;"JPSP"SCREEN$:
LOAD *"m";1;"JP0"CODE 25300: LO
AD *"m";1;"JP1"CODE 23424: LOAD
*"m";1;"JP2"CODE 23728: LOAD *"m
";1;"JP3"CODE 23672
 12 DATA 33,240,92,17,182,92,19
5,229,25: FOR J=23337 TO 23345:
READ A: POKE J,A: NEXT J: RANDOM
IZE USR 23337
 15 DATA 17,0,96,33,212,98,1,0,
32,237,176,201: FOR J=50000 TO 5
0011: READ A: POKE J,A: NEXT J:
RANDOMIZE USR 50000
 20 PRINT USR 24576
```

— — — — — — — — — —

```
 10 LOAD *"m";VAL "1";"PSST"SCR
EEN$ : LOAD *"m";VAL "1";"PS0"CO
DE VAL "25300": LOAD *"m";VAL "1
";"PS1"CODE VAL "23424": LOAD *"
m";VAL "1";"PS2"CODE VAL "23728"
: LOAD *"m";VAL "1";"PS3"CODE VA
L "23672"
 11 DATA VAL "33",VAL "240",VAL
"92",VAL "17",VAL "182",VAL "92
",VAL "195",VAL "229",VAL "25"
 12 FOR J=VAL "23337" TO VAL "2
3345": READ J: POKE J,A: NEXT J:
RANDOMIZE USR VAL "23337"
 15 DATA VAL "17",VAL "236",VAL
"94",VAL "33",VAL "212",VAL "98
",VAL "1",VAL "20",VAL "33",VAL
"237",VAL "176",VAL "201"
 16 FOR J=VAL "50000" TO VAL "5
0011": READ A: POKE J,A: NEXT J:
RANDOMIZE USR VAL "50000"
 20 PRINT USR VAL "23424"
```

I have tried out the routine using the Listing shown for JETPAC & PSSST. Note that the Basic Loader for PSSST is Saved as PSSST, so first section of Code cannot be called this (that is why it is called PSST). I used the 007SPY MDSPY program so could simply Load each part, change the name then copy to m/drive. TRANS-EXPRESS copier lets you change name (so it should at £9.95)!Do check if using TRANSX as it has a habit of NOT doing the transfer. If you have the LERM copier, Tough. To transfer without a copier, easiest way is to Load each section by using: LOAD "" CODE 30000, then Save each by SAVE*"m";1;"name"CODE 30000,length. Layout of Listing has been "fiddled" so it gives same layout as the video. In PSSST, TRANZ AM and COOKIE it was necessary to use VAL on every number to save Bytes. (VAL means VALue).

Not tried ATIC-ATTACK yet, but the REMOVER (and NEWSFLASH) should enable it to be transferred to Microdrive.

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NEWSFLASH PROBLEMS

Some members experienced problems in calculating the values. Taking JETPAC as an example: JP0 is Loaded into loc 25300. True loc' is 24576 & length is 8192 Bytes. Refer to NEWSFLASH notes in MDX1. A1=INT(TRUE CODE START/256) DON'T work it out. Let Clive do it! Enter; PRINT INT(24576/256) press the Enter key, and answer 96 appears.This is the A1 to use in NEWSFLASH Data. A2=0, B1=98, B2=212, C1=32, C2=0. Check you get these values to confirm you can use NEWSFLASH, and that Data in listing on left is correct.
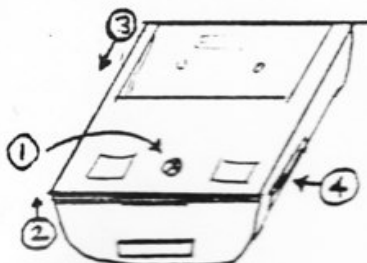
....

VU-CALC PROBLEMS

Sorry, but now I've found out how to use VU-CALC, I DON'T know how to make it run on M/drive. Two versions of VU CALC. One has Basic section of 853 Bytes, other has 769 Bytes. Limited success with them as they appear to work except that top message line is corrupted. It helps if ALL numbers in the Basic are VALed.
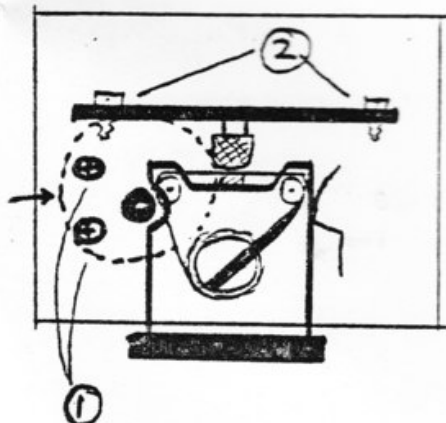
....

Next issue of MDX includes VALHALLA & TIME-GATE to Microdrive.

....

1. Undo screw ①
2. Lift base up slightly.
3. Slide forward to release plastic catch holding centre of the back.
4. To fully dissemble, peel off metal plate and undo the two screws under it.

Slacken screws ① apply pressure towards cartridge with whilst retightening them.

Self-tapping screws ② could be replaced by nuts and bolts.

(The tape in cartridge comes out of middle of roll around flanged wheel, twists over, then twists back before goes round other idler wheel).

On my Microdrive, moving moter assembly plate has consistantly given 96K. (Prev' 93K