# MICRODRIVE EXCHANGE

MICRODRIVE-EXCHANGE WILL be continuing in 2nd year. Membership
will be £6 for 12 issues. With the introduction of more & more
"protection" into games, it is envisaged that methods of putting
them onto Microdrive will become increasingly difficult.The info
on such WILL appear in future issues. It is hoped also to print
useful routines for Microdrive or general use provided that they
are not too long. Forms for rejoining club will be sent shortly.

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************************** SPECIAL OFFERS **************************
*                     MICRODRIVE CARTRIDGES                       *
* I am at last able to offer Microdrive cartridges at reduced     *
* price of two for £3. Plus postage at cost. (I.E. +18p U.K.)     *
* Europe +60p  Elswhere +£1.60  (Extra for larger quantities)     *
*----------------------------------------------------------------*
*                   EASY TO USE DISSASSEMBLER                     *
* By special arrangement with McGRAW-HILL I can now offer their*
* new Machine-Code Dissassembler at a reduced price. This is an*
* update of INFRA-RED which is without doubt the easiest to use*
* Simply Load this tape, Load program you want to look at Code  *
* of, Enter RANDOMIZE USR 54000 & it will Dissassemble program  *
* giving the nemonics, Hex values and values in DECIMAL.        *
* Supplied complete with transfer to Microdrive instructions.   *
*   On Cassette...£6  Overseas Europe +60p. Elsewhere +£1.60    *
*----------------------------------------------------------------*
*                      DISCOUNT SOFTWARE                         *
* Why pay top prices for games/programs? Any tape (all genuine  *
* makers originals) can be purchased at generous discount from  *
* SOFTWARE SAVINGS of Barnsley. BEFORE buying any tapes 'phone  *
* them on Barnsley 284896 or 293409 (STD CODE 0226).            *
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The new Hyperload programs which have a "pulsing" sound on their
Header are made to prevent copying. The software suppliers don't
give a damn that this makes them virtually unloadable! There is
at least one shop in Manchester area which is so fed-up with the
number being returned that they are refusing to sell them.If you
experience difficulty in Loading a cassette, and  you  can  Load
all other tapes, you are within your rights to demand return of
your money. Don't be put off by the shop Loading it on their own
(secretly selected & tested) tape machine.
        These programs are protected in several ways. The Basic is
unMERGEable, invisible & all the lines have been POKEd to be 0.
AND some of the Basic you read has been POKEd to be False. What
you cannot see is a few hundred Bytes of machine-code after the
Basic (and it is held in a scrambled form). This is unscrambled
by a machine-code routine in the Variable area.It is NOT easy to
beat this system. Basically program is made to Stop after being
unscrabbled and then a few POKEs more used to make it Stop after
loading in the main program. Obviously need a Dissassembler to
look at the machine-code. Even with only a little knowledge of
Z80 codes you'll be able to spot similarities.(Try GHOSTBUSTERS)
The above info is gleamed from studying methods given below.
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## UNDERWURLDE TO MICRODRIVE

Both K.R.WALKER of Northfield, Birmingham, & P.KELLY of Preston
sent in this method.
1. Make a False Header using Header Maker for Basic of 1037 Byte
2. Load False Header by; CLS#: LOAD ""   Play in Basic of game
   without its Header. It will load and Stop.
3. Enter; POKE 24849,251: POKE 24850,207: RANDOMIZE USR 23798
4. Enter; POKE 62410,251: POKE 62411,201: RANDOMIZE USR 62374
5. Play in rest of UNDERWURLDE tape. When all in, save by;

6. Play in rest of KNIGHTLORE tape. When all in, Save by;
        SAVE*"m";1;"KNIGHTc" CODE 24832,30720
7. Enter this Loader then Save by;    SAVE*"m";1;"KNIGHT" LINE 10
        10 LOAD*"m";1;"KNIGHTc" CODE 24832: RANDOMIZE USR 24832

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## KNIGHTLORE TO MICRODRIVE
Sent in by K.R.WALKER of Northfield, Birmingham.
1. Make a False Header using Header Maker for Basic of 1037 Byte
2. Load False Header by;   CLEAR 60000: CLS#: LOAD ""    Play in
   the Basic of game without its Header. It will Load and Stop.
3. Enter; POKE 24849,195: POKE 63872,251: POKE 63873,51:
   POKE 63874,51: POKE 63875,201: RANDOMIZE USR 24802
4. Press NEW then enter. (The long machine-code overwrites Basic
5. Enter; POKE 62410,251: POKE 62411,201: RANDOMIZE USR 62374
6. Play in rest of UNDERWURLDE tape. When all in, save by;
        SAVE*"m";1;"UNDERWc" CODE 26610,34820
6. Enter this Loader and Save by;   SAVE*"m";1;"UNDERW" LINE 10
        10 LOAD*"m";1;"UNDERWc" CODE 26610: RANDOMIZE USR 26610

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## BUSINESS PROGRAM (VU-CALC EXAMPLE)
The extra 58 Bytes used by map area gives problems we can get
around (usually).The temporary buffer used when doing LOAD/SAVE
or VERIFY action can make Business programs impossible to use.
ALAN FORTUNE of Nuneaton gets around this by temporary moving
the machine code at start of program to the screen, then moving
it back afterwards.Basically the program is simply changed to be
GO SUB move to Screen: LOAD*"m";1;"File" CODE: GO SUB move back.
This would only work on programs which return to Basic to do the
Load/Save/Verify command. ALAN FORTUNE used a common routine to
do the moves and modifies it to be go to screen or from screen.
Method printed here uses separate routines for each as altho it
uses an extra 33 Bytes the action is easier to see.
In theory only need to move 600 Bytes. With VU-CALC since m/code
is fairly short it was just as easy to move the lot. NOTE: The
VU-CALC I am using here has main code called large "C" and has
Code Start=25232, Length=5270. You MUST check Start & Length of
your program using a Header Reader and alter values if necessary
### EXAMPLE USING TEMPORY "SCREEN" WITH VU-CALC
Since length of code is short we can put it ALL onto screen with
out losing any of it by entering all in one go;
    LOAD "C" CODE 16384: SAVE*"m";1;"VUC" CODE 16384,5270
Rewind your tape then Load the Basic by;   MERGE "VU-CALC"
Modifiy the Basic by making the following lines to be;
    10 LOAD*"m";1;"VUC" CODE 16384: GO SUB 9950: CLS: GO TO 3200
  1000 GO SUB 1100: GO SUB 9900: LOAD*"m";1;a$CODE 30457:
       GO SUB 9950: CLS: GO TO USR 25671
  4000 GO SUB 1100: GO SUB 9900: SAVE*"m";1;a$CODE 30457,(PEEK
       30466+256*PEEK 30467-30457)
  4010 VERIFY*"m";1;a$CODE 30457: GO SUB 9950: CLS:
       GO TO USR 25671

    Add in Mover to Screen, 9900  and Mover from Screen, 9950
                        FROM      TO      LENGTH
 9900 RESTORE 9900: DATA 33,0,64,17,144,98,1,150,20,237,176,201:
       FOR J=23300 TO 23311: READ X: POKE J,X: NEXT J:
       RANDOMIZE USR 23300: RETURN
 9950 RESTORE 9950: DATA 33,144,98,17,0,64,1,150,20,237,176,201:
       FOR J=23300 TO 23311: READ X: POKE J,X: NEXT J:
       RANDOMIZE USR 23300: RETURN
NOTE: Delete the CLEAR 25232 in line 3200
The pair of numbers shown for MOVING FROM, MOVING TO and Length
will need changing if your program is different to this one. You
must include  a CLS in the Basic after the Screen is moved back
to ensure "rubbish" on screen is Cleared.
    To help ensure program will work go thro all the Basic & VAL
ALL numbers to save Bytes. Also shorten messages if possible.

Note that GO TO 3000+a*100 is VALed by; GO TO VAL "3000+a*100"
This method means that VU-CALC retains ALL its original actions.
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## SCRABBLE...Latest version

The Latest version of SCRABBLE is that supplied in the Free Six
pack. This version has main machine-code section called "sc5" &
has Code Start=24380, Length=40951. This is transferred by usual
method of putting part in correct place & part on screen. When
Microdrive has loaded we could reclaim map area, Block Move part
from screen into correct place then RANDOMIZE USR xxxxx to start
If we DON'T reclaim map area then when we do the Block-Move the
Code will go into part of the Basic area.If we returned to Basic
it would show a badly corrupted Basic. If instead we Move & then
JUMP to start of program by machine code (so we DON'T go back to
Basic), program would work. Method used is:
1. Load part of program to screen by entering;
     LOAD "sc5" CODE 16384        STOP the tape immediately colours
     start to appear on the screen. Save to Microdrive by;
     SAVE*"m";1;"SCRABBLE2" CODE 16384,4000
2. CLEAR Spectrum by  RUN USR Ø    Rewind your Scrabble tape.
3. Load ALL the "sc5" by;  CLEAR 24379: LOAD "sc5" CODE 24380
4. Save all except first 4000 Bytes by entering;
     CLEAR 28379: SAVE*"m";1;"SCRABBLE1" CODE 28380,36951
5. Enter this Basic Loader;
     10 CLEAR 28379: LOAD*"m";1;"SCRABBLE1" CODE 28380:
        LOAD*"m";1;"SCRABBLE2" CODE 16384
     20 DATA 237,123,59,95,33,0,64,17,60,95,1,160,15,237,176,195,
        138,181: FOR X=23300 TO 23317: READ Z: POKE X,Z: NEXT X:
        RANDOMIZE USR 23300
Save to Microdrive by;  SAVE*"m";1;"SCRABBLE" LINE 10
First four numbers in DATA line load STACK pointer with 24379
which is same as saying CLEAR 24379 but this doesn't Clear the
screen. The last three numbers in the DATA are a JUMP 46474 and
is same as doing a RANDOMIZE USR 46474 which starts the game. If
you have a Dissassembler, Load in line 20 on its own and delete
the RANDOMIZE USR at the end so you can RUN then inspect Code.
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## TLL...NEW VERSION

TORNADO LOW LEVEL comes in two versions. Latest version has the
Basic "invisible" and Code start of the Headerless-File at 16352
IAN DOW of Waltham Cross,Herts, found that it was also necessary
to POKE a location with a value or else it crashed after Loading
1. Enter & RUN the following, then play in the Headerless File;
     10 CLEAR 65535
     20 DATA 221,33,224,63,17,156,191,62,255,55,205,86,5,207
     30 FOR J=65430 TO 65443: READ X: POKE J,X: NEXT J
     40 RANDOMIZE USR 65430
2. Save part required by;  SAVE*"m";1;"TLLc" CODE 26300,39104
3. Enter this Basic Loader;
     10 CLEAR 65535
     20 LOAD*"m";1;"TLLc" CODE 26300
     30 POKE 65435,153: RANDOMIZE USR 36258
 Save to Microdrive by;  SAVE*"m";1;"TLL" LINE 10
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## INFRA-RED MOD

The Dissassembler on special offer has been made so it will work
in Capital mode or lower case. (Guess who give them this mod)?
Modify your old version as follows:
1. Load it from tape by;  CLS≠: MERGE ""
2. Enter a new line 12 thus;       12 RANDOMIZE USR 29814
3. Enter a new line 82 thus;
 82 POKE 54007,175: POKE 54008,50: POKE 54009,106: POKE 54010,92
     POKE 54011,195: POKE 54012,134: POKE 54013,233
4. Save to Microdrive by;  SAVE *"m";1;"INFRA" LINE 11

If in your program you want inputs to be in Capital letters only then put in program;  POKE 23658,8    If required to be in lower case then use instead; POKE 23658,0
NOTE: This is done in the INFRA-RED mod, but by Machine-Code.
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If you have old version of TASWORD you converted  to  Microdrive yourself, it can be useful to build in an option to CAT before you Save. This appears on screen in place of the Return to Basic option, but pressing b still gives Return to Basic.
Load TASWORD then Stop by option b. Enter the following;
  55 PRINT: PRINT "          CATALOGUE CARTRIDGE   x"
  82 IF A$<>"x" THEN GO TO 90
  84 CLS: INPUT " Enter Drive Number ";I: CAT I:
     PRINT AT 10,26;"Enter=Continue"
  86 PAUSE 0: CLS: GO TO 25
Erase the old Basic and put this new one in its place.
Note: You will have to adjust line 45 so that messages line up.
In my Tasword I altered the spacings on MENU to give less spaces between the option and the key it required to be pressed so that it is easier to see which key it is.
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To Save a Screen$ to Microdrive without losing bottom two lines LOAD and SAVE in one go by; LOAD "" CODE: SAVE*"m";1;"s" SCREEN$
If you transferred DELTA WING and did the LOAD & SAVE seperately then the bottom two lines would be in Black & White.
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Do NOT delete the CLEAR from games such as JETMAN or J/S WILLY where end of game is high in memory with last Byte at RAMTOP.
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If when using MDSPY the program SAVEd appears as "1234567890" it is because you didn't do a CLS#: before loading MDSPY from tape
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Guess who at the London Microfair demonstrated a program to copy the "pulsing" programs to Microdrive, demonstrated Decathlon to m/d, then Decathlon to m/d, then finally Decathlon to m/d?  The super program couldn't copy any of the other games to m/d! Fools rush in and all that. That is why my Hyper-Copier has been held up until truely finallsed & made more user friendly.  At present it is so awkward to use, only H.C.W. would give it 5 Star rating!
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Warning from JOHN BANKS of Hayes, Middlesex.The AGF PROTOCOL 4 joystick is compatible with NOTHING. Add an Interface 1 or any thing and it will NOT work.
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BOB MALMESBURY got fed up with the tatty short lead between the Microdrive & Interface 1 so he cut down an edge connector and he soldered together a new cable. Result was programs load faster, plus a few programs he couldn't load before now load O.K. This is most likely due to bad contacts in the original  cable  which is only crimped together.
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KEVIN FOX of Barnsley suggests that as printers usually give ≠, £, or $ and NOT all three, do a test print to find which it does For example I use ≠ in notes when £ symbol required. this is much easier to remember than a redefined graphic character.
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In next issue items only skimmed over in previous issues will be explained in greater detail if YOU write saying which they are.
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