ROMANTIC ROBOT *present* multiface 3

INTRODUCTION.

MULTIFACE 3 is a true **MULTI**purpose inter**FACE** for Spectrum + 3/ + 2A with:
- 1) Fully *universal* and *100% automatic* **BACK-UP** to *tape* or *disc*.
- 2) **8K RAM** extension - suitable for our **LIFEGUARD**, or as a *buffer,* etc.
- 3) **MULTI TOOLKIT** to study/modify/develop programs, **POKE** *infinite lives* etc.
- 4) Full use of **DOS** in **48K MODE**.

CONNECTING THE MULTIFACE.

The Spectrum **MUST** be switched **OFF** before attaching/removing the *Multiface 3*. *MULTIFACE 3* plugs on the **SPECTRUM** edge connector - push it carefully, but firmly as far as you can, any other peripherals being attached to the *optional through port*. Check all connections carefully **before** switching the Spectrum **ON**, or else **serious damage may occur** and your **guarantee will be void**. A *proper attatchment is vital* for the functioning of the *Multiface* - and a bad contact is the cause of 99% of all problems. If attaching/using the *Multiface 3* brings random coloured squares or other garbage on the screen, clean the edge connector with an ink eraser and reconnect the *Multiface 3*. If your system and the *Multiface* still should not work, switch the Spectrum **OFF**, remove any add-ons apart from the *Multiface*, re-read these instructions carefully and try again. Should you really not succeed, please telephone us on **01 - 200 8870** or write to us. Please do **NOT** return the *Multiface* until we ask you to do so. In such a case please use the original packing, state your name/address/phone number and fully describe the *problem* and the *equipment* used. Please do read the **guarantee** conditions as well.

USING THE ON/OFF SWITCH.

Multiface 3 has a **software switch** to make it **(in)visible**, mainly to prevent possible clashes with other hardware/software. *Multiface* can **ALWAYS** be activated, irrespective if previously set **ON** or **OFF**. Upon powering up the Spectrum, the *Multiface 3* is automatically **OFF** as a precaution - thus if loading a program previously saved with *Multiface,* you will be asked to switch the *Multiface ON*. Just press the *red button*, which both *activates* **AND** *switches* it **ON** as confirmed on the screen at the bottom right. Press **r** to **return** and the *M3* will *remain* **ON** . You can switch it **OFF** by pressing **o** when you are in the *Multiface* **main menu** - **o** simply toggles between **ON/OFF** as shown.

USING THE MULTIFACE.

<u>Multiface 3</u> works on the **Spectrum + 3/ + 2A.** It can be used at *any* time in *any* mode: it is immaterial what is inside the Spectrum at that moment or how or from what source (*tape* or *disk*) it has been *loaded* (or *typed in*, etc.). *Multiface* does not save programs as such, but the contents of the computer (**compressed RAM image**). Upon *returning* from the *M3* or upon *re-loading*, the programs <u>continue as if never frozen</u>. To use the *M3*:

    1) Push the *red button* to activate the *Multiface* and obtain the **main menu**
    2) Select the required *option* from the **menu** by pressing the relevant key - it is *always*
        shown in **inverse** and it is usually the first letter, such as <u>r</u> for **return**.

The **main menu** has the following options:

In <u>Loader</u> and <u>+3 BASIC</u> (both <u>128K</u> and <u>Spectrum</u> mode):

      return **s**ave **t**ool **p**rint **d**os **a**lter **c**lear

In <u>48K locked mode:</u> **r**eturn **s**ave **t**ool **p**rint **l**ocked

As the first step in using the *MULTIFACE*, you may wish to **LOAD** a program to be saved.

HOW TO LOAD PROGRAMS BEFORE SAVING.

It is **essential** to understand the differences between the **4** available **loading options**. When you *reset* or *switch on* the Spectrum, a menu is displayed and you can select :

    a) **LOADER** - goes into *128K mode*, looks for a file called **DISK** on a disk and attempts
        to *autoboot* it; if it *fails*, it proceeds to *load from tape*.
    b) **+ 3 BASIC** - defaults to *128K mode* and *DISK* use: you can
        Load from **disk** - type **LOAD "name"** and press **ENTER**.
        Load from **tape** - type **LOAD "T:name"** and press **ENTER**.
        + 3 BASIC can also be changed to **Spectrum** *"unlocked"* **48K mode.**
        To use this mode, just type **SPECTRUM** and press <u>ENTER</u>.
        You can now load from **tape** by **LOAD ""** followed by **ENTER**.
    c) **Calculator** - *not really suitable* for any use with *Multiface 3*.
    d) **48K BASIC** - this **locks** the Spectrum into a **locked 48K mode.**
        The disk operating system is **NEVER** available here. This means that whilst you
        can use the *Multiface 3*, you will only be able to *save to* **tape.**

In summary, use -

    a) **LOADER** - Load from *tape* or *autoboot from disk* and later *save to tape or disk.*
    b) **+ 3 BASIC** - Load *48/128K programs* from *tape/disk* and later *save to tape/disk,*
        even in *unlocked 48K mode.*
    c) **48K BASIC** - Load/save *48K* programs from/to *tape only.*

In other words,

    a) **48K programs on tape** - use *LOADER* or *+ 3 BASIC.*
        Use *locked 48K BASIC* **ONLY** if programs require **locked mode.**
    b) **128K programs on tape** - use *+ 3 BASIC* or *LOADER.*
    c) **48/128K programs on disk** - use *+ 3 BASIC* or *LOADER* if the program *autoboots*

SAVING WITH THE MULTIFACE.

Having loaded a program and pushed the red button, you can press **s** to **save**. However, in order to minimise the amount of **bytes** to be saved and to **speed up** loading, you should

CLEAR BEFORE SAVING - or preferably BEFORE LOADING.

The last option on the **main menu** is c̲lear - to **clear the extra four 16K RAM banks.** When the Spectrum is *switched on* or *reset*, RAM banks *1, 3, 4* & *6* are marked throughout by *E5* characters for RAM disk use (M Drive). It is good practice to **clear** these banks **before** loading a 128K program to make sure that it loads into a *clean* computer - *some*, but *not all* banks may be used by a program after all, so **clear** *before loading*: if you clear *after loading*, obviously **ALL** parts of a program using the extra 64K bank will be **erased**. In 48K programs the extra 64K bank is irrelevant, except for programs written in + 3 BASIC, which use bank No. 7 as a *scratch pad*: for this reason, bank 7 is *never cleared*, anyway. Thus when you have a **48K** program and are **NOT** sure if it uses the *scratch pad bank No. 7* or not - it is safer to **clear** and use the **128K** option (please see also below - **48/128K**).

Once you decide to **save** and press s̲, the *M3* will first ask you to:

    input the name of the program - up to 7 characters (or just press **ENTER** to input
        DISK automatically as a default, which *autoboots* a disk).
    Filenames can only be **letters** or **digits**. Letters are always converted to uppercase.
    The usual rules for *filenames* apply, only *extensions* cannot be used.
    The following are all **legal** *filenames*:

    DISK   **12**   **WRIGGL1**
    These **are not**:
    DISK.BIN   (no *extensions* allowed)   **NEVER M**   (no *spaces* allowed)
    WRIGGLER (too *long*)   **MY:PROG**   (no *punctuation* allowed)

Once you *name* a program, the *MULTIFACE* displays the **SAVING** menu:

abort   **t**ape   **d**isc   **l**ock (or **LOCKED!**) 128(48)**k**

screen or **p**rogram

    In 48K **locked** mode LOCKED flashes as it can't be unlocked, and there is **no 48/128K option**.
a) a̲bort - to *return* to the **main menu**.
b) save the entire p̲rogram (including the screen) or the s̲creen on its own only.
   Programs are *compressed* to take the *minimal room* possible and to *load faster*.
   Screens saved on their own are *left intact* as Spectrum high-res screens.
c) *128*K̲ (or *48*K̲) - to select whether to *save* either the complete *128k* or just *48k*.
   In **128K** programs, **ALWAYS** use **128K** option saving the **entire RAM** (blocks 0-7).
   In **48K** programs, only blocks **5,2** & **0** are saved. As long as you know the program
   does **NOT use** + **3 BASIC** (no programs from the **pre**-Spectrum + 2 era do use it),
   this is the option to choose: it saves the *minimal* amount of *RAM* and it is the *quickest*.
   If in doubt, use c̲lear and *128*K̲ - the difference in *time/space* may be *small*, anyway.
   There is **no 128k option** when you are in **48k LOCKED MODE**.

SAVING (continued).

d) save to: **t**ape or **d**isk.

If saving to **tape**, ensure that the tape is long enough, in position, and then press
PLAY & RECORD on the tape recorder followed by **ENTER** on the Spectrum.

If saving to **disk**, ensure the disk is **formatted** (syntax: *format "a:"* or see Spectrum +3
Manual p.144) and has sufficient space. Should problems arise, *M3* will announce:

DRIVE NOT READY - meaning the disk is not *formatted* or *inserted*.

FILE TOO BIG - the disk has *not enough space* for the file to be saved. In such case,
the amount of **K** *needed* (as opposed to *available* on the disk) *flashes above*.

WRITE PROTECTED - the protection tab on the disk prevents it to be used for saving.
In all these cases, just insert a suitable disk and press **ENTER** to continue.

When saving is complete, you will be *automatically returned* to the **main menu** and
you can either **r**eturn to continue the program or use other *M3* functions.

e) **l**ocked - a Spectrum can be in the **locked 48K mode** (the *word* **locked** flashes) or
you can deliberately **lock** it by pressing **l**. The *only* time to **lock** is at the end of:

SAVING PROGRAMS WITH THE COMPUTER IN LOCKED MODE.

When the computer is in the *locked* mode, either because *you selected it* on the Spectrum
menu or because the *program has locked itself* upon loading, the *Multiface will not* show
the *DOS option* nor will it *save to disk*. You can, nonetheless, still save to disk, if you:

a) First **SAVE** the program to **tape!** using the *MULTIFACE*

b) **RESET** the computer, go into **+3 BASIC**, type **SPECTRUM** and press **ENTER**

c) Type **LOAD""** (press **J** to obtain **LOAD**) and **load** the program **saved** by the *M3*

d) As soon as the program has reloaded, **STOP** it by pressing the **red button**

e) Select **SAVE**, input the *filename* in the normal way, press **k** to select **48K MODE**,
then press **l** to **LOCK** the computer and finally press **d** to **SAVE** to **DISK**.

RELOADING PROGRAMS SAVED BY THE MULTIFACE 3.

MULTIFACE must be attached and switched **ON** to *reload* programs it saved. If it is **OFF**,
then during loading a message *M3 LOADING* will change to *M3 NOT ON!* In such case
just press the red button and **r** to **return** - this will switch the *Multiface* **ON**, the message
M3 LOADING will come up again and the program will soon *load*.

You can use *LOADER* or +3 BASIC (*128K and Spectrum* mode) to *reload*. The programs
will automatically configure themselves, even a *128K* program loaded in *Spectrum mode*.
You cannot, though, load a **128K** program into the **48K locked** mode, and you should
avoid the **48K locked** mode for reloading, anyway, as you **cannot save to disk** thereafter.

SAVING/RELOADING MULTI-PART PROGRAMS.

M3 lets you load a *program from within a program* - this is vital for *multi-part* programs.
Generally, you must **save** *multi-part* programs **in stages**, typically when they take another
part from tape or disk. Say, you **save** just after each *part* loading and end up with *4* different
programs: GAME1, GAME2, etc. When you re-load GAME1, play it and reach the stage
when GAME2 is required, you can press the red button, select DOS and then load GAME2.

THE MULTI-TOOLKIT.

Pressing **t** for **tool** in the **main menu** accesses the **MULTI TOOLKIT** menu/routines:

quit - to return to the **main menu**.

ENTER - to **PEEK & scroll** through the addresses, or to **POKE**.

  If you type in a *number* (**0-255** *Decimal*, **&00-&FF** *Hex*), pressing **ENTER** will **POKE** it into the current address. If you wish to **PEEK** only, do NOT input any number, just press **ENTER**; by **ENTER**ing repeatedly you can *step through* successive addresses

SPACE - to enter a **new address**, in decimal or hexadecimal.

hex - to toggle between **hexadecimal** and **decimal** display format.

reg - to point to the **Z80 registers** as they were when the program was *frozen*.

  They start from the *program counter* (PC-low, hi) and can also be *changed*.

window - to open a 128-byte **window** with *full on screen editing* by the cursor keys.

  The **window** opens around the *bottom edit line address* input by **SPACE/ENTER**. The *flashing window address* corresponds to the address in the *edit line* - thus using *cursor keys* will also change the *edit line*. There are further *2 hidden keys* for *editing*: *minus* moves the whole window 128 byte **backwards**, whilst **n**ext moves it forward. The *window display* is by default in *hex*, but you can *change* it to -

text - to see the 128 bytes in the **window** as **ASCII** text.

print - to **print out** the **window** contents. *M3* uses **ASCII DUMP** here and prints out *characters/numbers* only. To *print* a longer section of code, press **n** for next screen **p**rint again (and so on). *Line feed* can be turned *on/off* by poking **8200** with **1/0**.

select - to move a **RAM bank** into the **toolkit** area. Press **s**, then the bank **No.** (0-7).

  The TOOLKIT operates in a **64K** area of which *0-49151* is *strictly defined* (as below), but the **top** 16K is *switchable* as a viewing/working area for all the 8 RAM banks (0-7):

0 - 8191	(&0000-&1FFF)	is the bottom half of the Spectrum **BASIC ROM**
8192 - 16383	(&2000-&3FFF)	is the overshadowing **MULTIFACE**'s **8K RAM**
16384 - 32767	(&4000-&7FFF)	is Spectrum **RAM** block **No. 5**
32768 - 49151	(&8000-&BFFF)	is Spectrum **RAM** block **No. 2**
49152 - 65535	(&C000-&FFFF)	is **switchable**, but defaults to show **RAM No. 0**

PRINT and ALTER.

print - to **dump a screen to any** *Epson* compatible *parallel* printer.

  By using the *TOOLKIT* to **POKE** the addresses below, you can choose the following:

  8200: *1* **Large** copy with **line feed ON**   *241* **Shaded** copy with **line feed ON**
       0 **Large** copy with **line feed OFF**   *240* **Shaded** copy with **line feed OFF**

  8203 - 8205: Sets **left** *(0-255)*, **right** *(0-23)* and **top** *(0-23)* **margins** respectively.

  8206 - 8208: Sets the **line spacing**.   **8209 - 8212**: Sets the **graphic mode**.

alter - **Alternate** between *two screens* (in *128K mode* only).

  Spectrum +3/ +2A can have **two screens**: the standard one at *16384-23296*, plus an optional one at *49152-56064*. **Alter** *toggles* between the *two*. The currently shown screen can, of course, be also **saved** & **printed**. The 2nd screen area may not necessarily contain a screen, so if **alter** brings up *garbage/black box*, just **alter** *again*.

THE MULTIFACE DOS OPTIONS.

Multiface allows you to **access the DOS any time** (except when in LOCKED MODE). You can:

load - Enter the filename of the program to be loaded. **Unique** in Spectrum mode! This is *faster* than using +3 BASIC syntax. It is also *vital for multi-load* programs.

erase - Enter the filename of the program to be *erased* and confirm by pressing **y**. You can, in fact, *catalogue* disks by NOT confirming, but pressing **n** (to scroll files).

POKING INFINITE LIVES.

To start with, please ensure that you are *not infringing copyright*. To **POKE**, say, 31000,0: First *load* a program as usual. When it's loaded, *push* the *Multiface button* and select the tool by pressing **t** . When the toolkit menu appears, press **SPACE** and type **31000**. Once you type **5** digits (address is *always* 5 digits in decimal), the cursor automatically moves to the **value** field (no need to press **ENTER**), so type **0** (value is *1-3 digits* long) and this time press **ENTER**. Finally press **q** to **quit** the toolkit and **r** to **return** to the program.

USING JUMP, DIRECT JUMP and the EXTRA 8K RAM.

Having pressed the red button, you can **jump** to any address. This option is strictly <u>for m/code users only!</u> Enter the address to jump at **8192/3 (low/hi)**. You can jump to Spectrum ROM/RAM AND to **M3 8K RAM**. As the **M3 RAM** overshadows the ZX ROM (8192-16383), address 8194 determines the paging status: if it is **0**, the **M3 RAM** remains **paged**, **1** pages out the **RAM** and any **other** value **disables** the jump command entirely. You can also pre-program the **Multiface** to jump **directly** upon pressing the red button. To program the "**direct jump**", POKE 8192-3 with the **jump** address, and then 8195-7 with a code word **RUN** (82, 85, 87). Whenever you push the button now, you will **jump** to the predefined address and not even see the M3 menu. To return from **your** program to the program you stopped use **RST 0**. To revert back to normal **Multiface** operation, press the **red button and BREAK** key simultaneously - this also cancels the code word **RUN**.

Please send a **SAE** for **information** on how to use the **8K RAM**. Machine code users only.

GUARANTEE.

This guarantee is in addition to and does not affect any statutory rights of consumers or purchasers. **ROMANTIC ROBOT** guarantee that if within **6 MONTHS** of the date of purchase the **Multiface** proves to be defective by reason of faulty design, workmanship or materials, it will be repaired or replaced free of charge provided that:

1) It has not been in any way misused, used with unsuitable equipment or subjected to deliberate, accidental or consequential damage.
2) No unauthorised modifications, repairs or adjustments were made to the **Multiface**.
3) A dated proof of purchase will be provided to confirm that the **Multiface** is still under guarantee; for units ordered directly from us, please supply details of the original order instead.

The purchaser's sole and exclusive remedy under this guarantee is for the **Multiface** repair or replacement. No other remedy, including but not limited to, incidental or consequential damage or loss of whatsoever nature shall be available to the purchaser.

PIRACY IS ILLEGAL!

MULTIFACE is NOT designed to encourage PIRACY! Please note that you must not use it to copy, reproduce or infringe in any way any copyright material without the clear permission of the copyright owner. ROMANTIC ROBOT neither condones nor authorises the use of the Multiface 3 for the reproduction of copyright material - to do so is illegal!