ROMANTIC ROBOT

present

multiface st

MANUAL

Designed, manufactured and distributed by ROMANTIC ROBOT UK Ltd.

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INTRODUCTION

MULTIFACE ST is a *MULTI*-purpose back-up inter*FACE* designed exclusively for the Atari ST range.

It provides fully automatic and universal back-up of programs/screens on floppy/hard/RAM disks.

It also incorporates a comprehensive **MULTI-TOOLKIT** to study/modify/develop software and a fast, user-friendly and intelligent **DISK ORGANIZER** for efficient copying/transferring/deleting of files.

MULTIFACE ST is entirely menu-driven with clear on-screen prompts, instructions and error reports. It uses a system of one-touch commands (shown in inverse) making it very easy to use and 'idiot-proof.' It is intuitive and made to be used without a written manual. However, not to disappoint avid readers...

1.0 CONNECTING THE MULTIFACE

1.01 Switch off/unplug your computer and any peripherals which have independent power supplies.
1.02 Firmly push the *MULTIFACE* into the cartridge port with the switch facing to the front.
1.03 Remove your monitor (if any) from the RGB socket, insert the *MULTIFACE* cable into the RGB socket instead and then insert your monitor cable (if any) into the *MULTIFACE* cable extension.
1.04 Plug in the computer and switch on. Press the *MULTIFACE* button and the WELCOME MENU should soon appear.
1.05 In the unlikely event that the Welcome Menu does not appear, disconnect everything from the mains, repeat steps 1.01- 1.04, but do NOT attach any other peripherals (if any) as per 1.04 this time. If all is fine, there may be a compatibility problem between *MULTIFACE* and another peripheral, although we are not aware of any. If you still get no success whatsoever, switch off again and contact the technical dept. of **ROMANTIC ROBOT** on 01-200 8870. Please read the guarantee conditions carefully and kindly note that the guarantee must be registered.

IMPORTANT!

Please note that you must NEVER attach/remove the *MULTIFACE* while the power is ON, as this would most certainly damage both the *MULTIFACE* and the ST and invalidate both guarantees as well. Also, you should not touch the RGB extension whilst the power is on; this time the damage may not be that extensive, but it is an easy way to reset the Atari ST.

1.1 COMPATIBILITY

MULTIFACE ST is compatible with the entire ATARI ST ROM-based range. By being able to save sequentially on a number of disks, the *MULTIFACE* can cope with megabytes of RAM. It is more on the ST 520 where the task of operating within a totally FULL computer may be difficult, as the *MULTIFACE* has to SAVE more than just relevant parts of RAM: there are also 68000 registers, sound, screen, keyboard parameters, etc. to be noted as they were at the moment of freezing a program.

1.2 QUICK STEP GUIDE TO THE MULTIFACE ST

The tables below show step by step how to use or access most important *MULTIFACE* functions:

SAVING

1. *Initiate* MULTIFACE
2. *Boot* a program from the Welcome Menu!!
3. *Freeze* when you wish
4. Proceed to *save* (S)
5. <UNDO> to *return*

INSTANT SAVING

1. *Initiate* MULTIFACE
2. Press S to *'set'* Multiface and to
3. Automatically *boot* a program
4. *Freeze* to *save - avoid* disk errors!
5. Cause a deliberate *error* to turn Instant Save Off, if required

DISK Organizer Access

1. O in Load/Save/Main Menu (*un*suitable for hard disks)
2. Use **Shift A/B** in Welcome menu to get to Desktop, then *double-click* **Cartridge Icon** (suitable for all disk drives)

LOADING

1. *Initiate* MULTIFACE
2. Go to Main Menu
3. Press L to *load*

INSTANT LOADING

1. *Initiate* MULTIFACE
2. Press L in Welcome Menu
3. Instant Save is automatically ON

Multi-TOOLKIT Access

You can access Multi-Toolkit *any* time from the Main Menu by pressing T

1.3 ACCESSING THE MULTIFACE

MULTIFACE ST must **ALWAYS** be initiated by pressing its **FREEZE** BUTTON **before** any operation. By way of design, the *MULTIFACE* is in principle INVISIBLE and UNDETECTABLE - thus when you switch the ST ON with the *MULTIFACE* attached, it will behave as if the *MULTIFACE* was NOT there. After all, you may wish to use the ST at times for many purposes which do not require the *MULTIFACE*. On the other hand, if you **DO** wish to use the *MULTIFACE* sooner or later, you MUST first set it up by pressing the FREEZE button. Please BEWARE, as the *MULTIFACE* will start by resetting the ST and itself, so all contents of memory, registers, etc. will be ERASED to start with. From then on, *MULTIFACE* will be totally non-destructive and pressing the FREEZE button will have the desirable effect of freezing the program and put it under the *MULTIFACE* control (to resume it later, if you wish).
It is good practice to press the freeze button immediately upon switching the ST **ON** - it is also the quickiest way, as you do NOT need to wait for the desktop to load. *MULTIFACE* welcomes you with:

BOOT Shift A/B BOOT+HIDE A/B BOOT+RESET CLEAR MENU INSTANT SAVE/LOAD

As on every *MULTIFACE* menu, any functional key, or more precisely usually the *initial* letter of a *function*, is shown in **inverse**. There are a few exceptions - <ESC>, <UNDO> and <ENTER> keys are shown entirely in inverse and in some functions it is not the initial letter which is inverse. Quite simply, pressing whatever is shown in inverse does the job. In the WELCOME MENU, pressing **Shifted A** or **B** executes an *autoboot* program on a corresponding disk (drive); if there is no autoboot program, the ST will come up with the desktop menu. There is a MOST important dinstinction between booting up by just pressing **A/B** or **Shifted A/B**: both will *boot* just the *same*, but **A/B** leaves the *MULTIFACE* INVISIBLE, it HIDES it, whilst **Shifted A/B** will result in having a cartridge icon displayed and making the *MULTIFACE* accessible to other software and hardware. There are two differences:

a) If you leave the *MULTIFACE* visible, you can access the **DISK ORGANIZER** by double-clicking the CARTRIDGE ICON: this is essential for hard disk owners, who would first activate the *MULTIFACE*, then load their hard disk drivers and double click for the **DISK ORGANIZER** - this way the ST will NOT be reset again and hard disk drivers will remain unaffected. For drives **A** and **B** you may find it quicker to call the **DISK ORGANIZER** directly from the **MAIN MENU**.

b) In all other cases the *MULTIFACE* is better off **INVISIBLE**, namely for programs which crash if they can detect any hardware device in the cartridge port - with the *MULTIFACE* INVISIBLE, they should load and run fine and you should be able to freeze most of them.

The function of the FREEZE BUTTON is totally INDEPENDENT on whether the *MULTIFACE* was left INVISIBLE (hidden) or NOT - you can FREEZE and use the *MULTIFACE* ANY TIME. The only time when the *MULTIFACE* is not accessible is if a program was NOT booted from the WELCOME MENU - the only way to FREEZE a program is to first BOOT it by the *MULTIFACE*.

BEWARE: If the *MULTIFACE* is left INVISIBLE and you later RESET the ST by using the reset button, the *MULTIFACE* will be reset as well and it will return to the PRE-WELCOME MENU state: pressing the FREEZE button will reset the ST and bring the WELCOME MENU.

Other options on the **WELCOME MENU** are:

C fully *resets and clears* the ST so that you need not switch the power on/off (the Atari reset button is for warm reset whereby the user RAM is cleared but the system set-up is preserved).

M takes you to the *MULTIFACE* MAIN MENU (see 2) -here you may wish to **load** (see 4) programs *saved* by the *MULTIFACE*, use the **MULTI-TOOLKIT** to inspect the Atari ST ROM/RAM (see 6) or **format** disks (see 5). You can also **save** (see 3) the contents of an empty (on power-up) or, in the more likely, albeit unfortunate, case, crashed Atari.
The Disk Organizer (see 7) can be accessed from the MAIN MENU as well.

INSTANT SAVE (see 3.2) and LOAD (see 4.2) shortens the saving/loading processes.

F1 (a *hidden* option!) can rectify a partially disabled joystick/mouse. Should you upon re-loading or upon continuing a program find that the joystick does not fully function, please freeze the program again by pressing the magic button, then press F1 key and return back to program.

You will find that some programs will not seem to be interruptable by the magic button. In such case, the *MULTIFACE* has a special option whereby the ST's own reset button acts in a way as the magic button. Both the *MULTIFACE* and the ST have to be pre-programmed for this effect:

1) Upon accessing the *MULTIFACE* WELCOME MENU (i.e. *before* booting a program), select the **Boot + Reset** option by pressing **R**.
2) The program will boot and run as normal. When you wish to freeze it, do **NOT** press the *MULTIFACE*'s magic button, but press the **Atari ST RESET** instead.
3) The screen will *flash* indicating that the *MULTIFACE*'s magic button is now ready for use. The program which could not have been stopped using just **A/B** or **Shift A/B** can now be frozen, inspected, its screen can be saved and/or printed and the RAM contents can be saved.

This option has a disadvantage, though: very minimal, but crucial, information is missing and the program may not necessarily *Continue* or *Run* upon Re-Loading. In fact only programs with *trapped reset* can be continued or re-loaded successfully, all other programs require poking of program counter and stack pointer with their relevant values. Frankly, this option can bring a lot of fun and success for more expecienced users, who will be able to find the necessary pokes (most easily those used to start the program right after loading from the original disk). Beginners may take a chance here that a program will automatically re-start (please note that in any case the program will ONLY *run from the beginning each time*, irrespective where it may have been stopped!); if not, this option is best not be explored any further.

1.4 PRESSING THE MAGIC BUTTON.

Two points must be made about pushing the switch - the 'hard' point being that you should push the switch gently using your thumb whilst holding the *MULTIFACE* at the back with your forefinger. The 'soft' point concerns the timing: ideally, you should be able to stop a program any time anywhere, use the *MULTIFACE* as you wish, and then continue - or reload and continue - the program from where it has been stopped. By way of the ST design, it may not always be possible to interrupt a program as you wish: you may either not be able to freeze a program initially (in which case you would then use the above explained BOOT + RESET option), or the *MULTIFACE* may fail to find enough 'breathing space' even after compressing the RAM (on 520 ST). Thus, in the latter case, there may be a short pause after which the program automatically restarts - you may succeed, though, on *another occasion* when, for instance, the screen can be more effectively compressed. The *length* of the *pause* depends on the amount of possible compressing and it can range from under a second to a few seconds; in any case, to reassure you, the screen goes *inverse* and *black & white* before the main menu appears (or, failing that, the *MULTIFACE* returns to continue the program). The screen will be fully restored upon *leaving* the *MULTIFACE* or before *saving* the screen or *dumping* it to a printer (only on the Atari 520 a minimal screen corruption may remain - it is highly unlikely, and then again most screens are refreshed all the time, anyway, so any corruption is likely to be only temporary). Please note, that temporary screen corruption (such as a broken line at the top or in the middle of the screen) will occur during various stages of the *MULTIFACE* operation, which is **perfectly NORMAL**.

1.5 THE SUCCESS RATIO - AND UPGRADES.

Our record with all *MULTIFACES* so far (Spectrum and Amstrad CPC models) has been most excellent with practically 100% success rate. As any utility, though, every *MULTIFACE* model has over a period of time been upgraded in one way or another and it is therefore very likely that the *MULTIFACE ST* will be similarly upgraded.

A lot of thought, time and team effort went into *MULTIFACE ST* design. It must be however noted, that the ATARI ST as such makes it difficult, if not impossible, for the *MULTIFACE* to succeed 100%. We believe, that in any case the *MULTIFACE ST* is quite unique in its approach and in offering truly MULTIple uses (**BACKING-UP, MULTI-TOOLKIT, DISK ORGANIZER,** etc.).

We hope you will find the *MULTIFACE ST* your *ESSENTIAL ST COMPANION* - even if the success in backing-up may not be absolute or the ways of operation may differ from your own 'ideal' ideas. If you do encounter any shortcomings or find room for any improvement, please do let us know. We are always interested and we do care - the next upgrade may reflect your very own comments.

2. THE MAIN MENU

Once the *MULTIFACE* settles in, it clears the screen and displays the MAIN MENU:

UNDO SAVE LOAD FORMAT TOOL PRINT INSERT ORGANIZER

SAVE (see 3), LOAD (see 4), FORMAT (see 5) and TOOL (see 6) - have their own SUB-MENU.

<**UNDO**> exits the *MULTIFACE* - all is restored and continued as before stopping. The *MULTIFACE* is left INVISIBLE (it can, of course, be activated again!). Remember, that if you reset the ST, the *MULTIFACE* will need to be 'initiated' via its WELCOME MENU.

PRINT option is really a high resolution screen dump. The current screen is restored and sent to an EPSON compatible printer. Make sure your printer is ON LINE, although if for any reason the printer is NOT ready, an error report will offer you to press any key or <ESC>: <ESC> will take you back to the main menu, any other key will re-attempt to print, expecting you to have resolved the problem. If you wish to print out the contents of the computer, please use the MULTI-TOOLKIT (see 6).

<**INSERT**> brings up the screen as it was when frozen by the *MULTIFACE*. This is ideal for screen shots or, on ST 520, for checking whether the screen is intact. Any key returns to the MAIN MENU.

ORGANIZER accesses the DISK ORGANIZER (see 7) provided there is enough RAM available - the DISK ORGANIZER needs just over 10K to operate. You can always access the DISK ORGANIZER either from the cartridge icon or from within an "empty computer" (before loading any program). ST 520 users may occasionally get an error report "80" at the bottom right, indicating that under the circumstances (the RAM being full), the DISK ORGANIZER cannot function properly.

3. SAVING

MULTIFACE does not save or change programs as such: it saves an "image", a "snapshot" of the computer memory (RAM) frozen at the instant the freeze button was pressed. Therefore it does not matter *HOW* you loaded a program in the first place, whether it was protected or not. Upon reloading, all is fully automatically restored and the program autostarts from the point at which it was first stopped. Having pressed save, you are asked to <ENTER> a *FILE NAME* (8 chars. max.). There is also an <ESC> option which, as everywhere else, takes you a step back, in this case to the main menu. As for the FILE NAME, only capital letters and digits are allowed. *MULTIFACE* actually lets you type in both upper and lower case but converts all into upper case; it also filters all 'forbidden' characters. If you type less than 8 characters, press <ENTER> to proceed. Having typed the 8th character, the *MULTIFACE* will ask you to confirm the name by pressing yes or no.

Once a FILE NAME is accepted, you will proceed to the SAVE MENU with the following options:

<ESC> SAVE DISK *A* PROGRAM SCREEN ORGANIZER

PROGRAM, being a default, will save the entire (compressed) contents of your Atari, incl. the screen.

SCREEN saves just the screen in **DEGAS format**. ST 520 owners may occasionally find the screen corrupted (only when within the *MULTIFACE* - <UNDO> usually restores everything). This is because of the lack of room if the RAM is full. You can always 'test' the screen by pressing <INSERT>.

DISK allows you to select floppy disk drives A or B as a saving destination.

The DISK ORGANIZER can be accessed here to help you with all disk your management.

Once you make all your selections (or accept the defaults), press SAVE. Just before the saving itself, *MULTIFACE compresses* the contents of RAM (unless it had to do so already - most likely on a 520 ST - immediately upon pressing the stop button). The compression only takes up to a few seconds and is a compromise between a major compression taking too long and a minor 'lightning' one. At the end of saving - just as upon reloading of the saved program - all is *decompressed* and *restored*. Also, in the MULTI-TOOLKIT you are working with an uncompressed RAM (with the above exception).

3.1 MULTIPLE SAVING

MULTIPLE SAVING is the only way to put more than 410K on a disk (or 820 on a double sided one). It also enables you to use partly used disks, if you wish. In most cases the combination of increased formatting and efficient compressing should succeed in backing-up a 520K program on a 360K disk.

MULTIFACE always checks first how much disk space is available and it compares it with the amount it has to save. If it finds there is enough space, it automatically proceeds to save. If, however, for any reason, there is more to save than a disk can take, two prompts will appear:

DISK SPACE OF *m* **BYTES INSUFFICIENT. CONTINUE Y/N?**
SAVING: *n* **BYTES**

If you press **Y** to continue, the *MULTIFACE* will save as much as possible on the current disk and then ask you to insert a disk No. 2. It will then go through the same cycle - either saving automatically the remaining part (provided it finds enough room) or displaying the above messages, saving as much as possible on the disk No.2 and then asking for a disk No.3 and so forth.

Alternatively, you can insert a different disk and press **N**. The *MULTIFACE* will NOT continue saving, but it will check the disk you just inserted and, as above, either save automatically on the newly inserted disk or display the above messages again. You can insert up to 254 disks and you may wish to write the amount of disk space available on the disk itself for future use. The comparison of the amount of bytes to save (**N**) and the amount(s) available on disk(s) (**M**) lets you decide if you should try swapping a disk or rather split a program onto more than one. If saving onto more than one disk, please ensure to NUMBER the disks properly, as they must be *re-loaded* in the *same order*...

Please remember, that the DISK ORGANIZER can help you here to catalogue, erase unwanted files, transfer them elsewhere, etc. Finally, you can <ESCAPE> if you decide to abandon the saving process at any time.

3.2 INSTANT SAVING

Imagine you are playing a difficult game and you wish to use the *MULTIFACE* to freeze it every time as you progress and make a back-up so that you can at least continue from where you saved it last. It is, of course, very straightforward: you push the button, go to saving menu, input probably the same name as before (you may not want to end up with several disks with one game on it under different names), confirm to the *MULTIFACE* that it can replace the existing version by a new one and at the end of everything you return back to the game. Well, all this can be done automatically just by pressing the freeze button! If you 'program' the *MULTIFACE* by pressing **S** in the WELCOME MENU, then EACH time you press the freeze button, the *MULTIFACE* will

a) *name* the currently frozen program **INSTANT.MLT**
b) *check* if a previous **INSTANT.MLT** already exists and if so it will automatically *erase* it
c) *save* the current **INSTANT.MLT** to drive **A**
d) *return* to resume the program

Also, by pressing **S** in the WELCOME MENU, the *MULTIFACE* immediately *boots* from drive **A**.

The entire error-trapping remains fully alert and if any problem occurs (such as a missing disk or disk with insufficient room, etc.), you will be informed but the **INSTANT SAVING** will be switched off. This, in fact, is the only way to bring up all *MULTIFACE* menus (unless you wish to reset the entire ST), so if you wish to escape from permanently saving file **INSTANT.MLT** to drive **A**, just cause a deliberate error, such as taking out a disk temporarily.

Lastly, you may wish to try **INSTANT SAVING** if normal saving fails - as all screen/keyboard routines are switched off, there may be an extra chance here; you can always *RENAME* the INSTANT file later.

4. LOADING

The only way to re-load **programs saved by the** *MULTIFACE* is to load them from the main menu. First you will be asked to <ENTER> a FILE NAME and then presented with the LOADING MENU:

<ESC> LOAD DISK *A* ORGANIZER

By default, the *MULTIFACE* will load from the *Disk Drive A*, but by pressing D again you can advance to and load from the drive **B**. Pressing L starts LOADING.
The error-trapping will inform you about any problems - unformatted, missing, corrupted disks, etc. If the *MULTIFACE* does not find the file you specified, it will return to the LOAD MENU as above with:

ERROR: FILE DOES NOT EXIST **PRESS <ENTER> TO CONTINUE**

Clearly, the *MULTIFACE* expects you to insert another disk, so that it can continue looking for the FILE NAME you specified. If you chose a wrong FILE NAME and wish to change it, <ESC> to return to the MAIN MENU and re-select the LOAD option.
After successful loading, the program is *decompressed* and *autostarts* from the *point of saving.*

The DISK ORGANIZER can handily show you here where to find what you are looking for - especially if the MULTIFACE informs you that a file (you wish to load) does not exist...

4.1 MULTIPLE LOADING

The *MULTIFACE* automatically detects that a program must load from more than just one disk, and having loaded the first disk it will ask you to:

INSERT DISK NO. 2 (or 3, 4, etc.) **AND PRESS ANY KEY or <ESC>**

If you get the disks in the wrong order, *MULTIFACE* will stubbornly repeat the above message adding

WRONG DISK INSERTED

until you get your act right or <ESC>.

4.2 INSTANT LOADING

If you used **INSTANT SAVING** to shorten the saving process, you may use **INSTANT LOADING** to by-pass all menu and **LOAD** by default a file **INSTANT.MLT** from drive **A**. Pressing L will ALSO set the *MULTIFACE* ready for **INSTANT SAVING** - just one key will thus accomplish quickly several tasks.

5.0 FORMAT

Standard Atari disks are formatted with **9** *sectors* of **80** *tracks* by **512** *bytes* each. This is a standard which can be achieved and guaranteed on all disk drives makes. However, in most cases the number of both the *sectors* and *tracks* can be increased - *MULTIFACE* finds it safe to add 2 *tracks* on each of the nine *sectors* (i.e. 18 new *tracks*) plus a whole new *sector* of 82 *tracks* - altogether 100 *tracks* giving **extra 50 kilobytes**. Most disk drives could cope with still another *track* (No. 11), but since a few may not like the idea at all, there has to be a compromise of 10 *tracks*. If your particular disk drive behaves unreliably with even 10 *tracks*, you have always the option of saving programs that exceed the capacity of a single disk on several disks using the *MULTIPLE SAVING*. The FORMAT MENU:

<ESC> FORMAT DISK *A* SEC/TRACK: *9* TRACKS: *80* NO OF SIDES: *1*

Just 'toggle' the four options on the right to set them to your liking and then *FORMAT*.
You can format on drives A and B only - and you can always <ESC> at the last moment...

Since the *MULTIFACE* saves programs in just one - usually long - file, the disk should have the full formatted capacity whilst being as reliable as possible. *MULTIFACE* is therefore more demanding on the disk quality and aims at either finishing with a *fully* formatted disk (NO marked bad sector) or it rejects the disk altogether. The desktop formatter may still accept a disk rejected by the *MULTIFACE* and format it more or less successfully. You may then use it with the *MULTIFACE*, but you would be well advised to mark it as suspect and treat it that way. *MULTIFACE* gives four tries to any track before rejecting it. The track number is always displayed and you can thus find out which track may be causing a problem.

6 MULTI-TOOLKIT

MULTI-TOOLKIT enables you to **inspect** and **alter** any memory location, or the 68000 registers. You may use **find/replace** options to do so. In addition, the MULTI-TOOLKIT can be used to **save, load, print** and **fill** any part of RAM. MULTI-TOOLKIT works in **Hex, ASCII** and **Decimal**.

6.1 Accessing the MULTI-TOOLKIT.

At the MAIN MENU (i.e. upon pressing the button, or on initial power up) press 'T'. A panel will appear showing the currently selected addresses, and their contents. On the right of the screen, you will see their ASCII equivalents. The **MULTI-TOOLKIT MENU** shows the following options:

*ESC*ape	<**ESCAPE**> key	Back to main menu
E(dit)	**'E'** key	Editing memory
R(eg)	**'R'** key	Display 68000 registers
A(scii)	**'A'** key	Display in ASCII
D(ec)	**'D'** key	Display in Decimal
H(ex)	**'H'** key	Display in Hex
B(lock Fill)	**'B'** key	Fill a block of memory
F(ind)	**'F'** key	Find/replace a string
S(ave)	**'S'** key	Save a block of memory
L(oad)	**'L'** key	Load a block of memory

6.11 Moving the CURSOR

The current cursor location is shown in inverse and can be altered by pressing the cursor keys. Pressing **[CTRL] Up** or **[CTRL] Down** keys alters the current cursor position by **10 lines** at a time. If you wish to move directly to a chosen address, press the SPACE bar (see 6.4).

6.2 ESCAPE key

You can <**ESCAPE**> any time from within the MULTI-TOOLKIT and return to the MAIN MENU.

6.3 'E' key - EDIT

Pressing this key will allow you to **edit** the contents of the current memory location. You can use Hex, Decimal or ASCII, depending upon the option chosen (see 6.6). In **Hex** mode (the default), each memory location is edited in **two nybbles** (4 bits each). After the new value has been typed in, you should press the <**RETURN**> key to confirm that the value is acceptable. The cursor will automatically move to the next nybble. You may use upper or lower case as required. Illegal values are ignored. In **decimal** mode, you can enter any number up to 255. Again, you will need to confirm that the value is acceptable with the <**RETURN**> key. In ASCII mode, <RETURN> is NOT required for each character. If you have made a mistake, you will need to press <ESC> and then use the cursor keys to move to that location. You cannot use the cursor keys in ASCII **edit** mode.
If you wish to leave the contents unaltered, do not enter a number, just press <**RETURN**> again and the contents of the next consecutive memory location will be displayed, and so on.

6.4 SPACE key - change ADDRESS

Pressing the space key enables you to enter a memory location which you wish to inspect or alter. When prompted with: **Address:**, you can enter in **Hex** or **Decimal**, depending upon the mode selected (See 6.5). You will now be able to inspect or alter successive addresses as detailed in 6.3. If you are using **ASCII** mode, you should enter an address in **Hex**.

6.5 'R' key - REGISTERS display/edit

At the moment of pressing the button, Multiface ST stores the contents of all the 68000 registers. Pressing the 'R' key allows you to inspect and, if you further press **'E'**, alter them at will.
On the left of the panel, you will see the 8 Data registers, the Program Counter and the Status Register. In the case of this last, any flags set will be shown to its right. On the right of the panel, the six address registers are shown as A0 to A6. A7 and A7' are the stack pointer and supervisor stack pointer respectively. In all cases, the contents of the memory pointed to by that register are shown, together with the contents of the next couple of addresses. As in the main memory display, the cursor is displayed and may be moved with the cursor keys. All displays are in Hex.

6.6 'H' + 'A' + 'D' keys - HEX, ASCII or DECIMAL display

These are used to **toggle** the **display** between **Hex** and **Decimal** numbers or their **ASCII** equivalents. They may be pressed at any time and the display will alter immediately. Remember that MULTIFACE has no way of knowing whether a number was meant to be in *hex* or *decimal*, so if you are in hex mode and want to look at the contents of address *2000 decimal* by entering the number *2000*, you will actually be looking at address *$2000*. Similarly, if you wanted to edit the number *13 (decimal)* into an address, but were in *Hex* mode, you would actually be loading that address with *19 decimal*. Lastly, if you were in *ASCII* mode and pressed *1*, the ASCII equivalent *($31)* would be entered.

6.7 'B' key - BLOCK FILL

This allows you to **block fill** an area of memory. Pressing **'B'** prompts you for start and end addresses (in hex or decimal). You are then prompted for fill values. Block fill is intelligent, in that you can enter a sequence of up to **10 bytes** as the values to be filled, and this sequence will be repeated until the chosen block is filled. Each value should be confirmed with **<RETURN>** as above, and just pressing **<RETURN>** inaugurates the fill process. At any moment, **<ESC>**ape will abort the process.

6.8 'F' key - FIND/REPLACE

This allows you to **search** and optionally **replace** any part of memory. You are prompted for start and end addresses and then for the values (in Decimal or Hex) or for an ASCII string to search for. Additionally, you can toggle two parameters: **'P'(rompt)** determines what happens when the string is found, and **'R'(eplace)** decides whether this will be a *simple search*, or a *search and replace*. If **'Prompt'** is **ON**, then each time the string of bytes has been found, you will be prompted to **continue searching** for a subsequent occurrence (saying **no** will leave the cursor at the last address found). If **'Prompt'** is **OFF**, then all occurrences are displayed continuously without stopping.

6.9 'P' key - PRINT

This option prompts for **start** and **end** addresses and then sends a **memory dump** to the **printer,** if connected.In *Hex* mode, the *ASCII* equivalents are NOT printed, as these are dumped in *ASCII* mode. Values are required in **Hex** or **Decimal**, depending on the number base selected.

6.10 'S' key - SAVE

This allows you to **save** directly a **block of memory**. As usual, **start** and **end** values should be entered in **Hex** or **Decimal**, depending on the number base selected). You must also enter a *legal* filename. You need *NOT* give the *.BMT* suffix, as this is *added* by MULTIFACE *automatically.*

6.11 'L' key - LOAD

The counterpart of the Save option enables you to **load a block of memory**. It prompts for a **filename** and **load address**. Again, you need *not* add the *.BMT* suffix. If you wish to reload the block to the *same address* from which it was saved, you need *not* enter the *load address*, but just press <RETURN> when prompted; the address will be taken from the file header.

7. DISK ORGANIZER

MULTIFACE ST **DISK ORGANIZER** is a hierarchical filing system management. It operates within a non-GEM environment, it is used without mouse but with keyboard driven menu instead.

The main features of the **DISK ORGANIZER** are:

1) Fast, buffered copying using all available RAM
2) Fast, full directory of floppy or hard discs
3) Deleting files/folders, Creating new folders, Renaming files
4) The use of Wild cards
5) Neat and informative Print out
6) Sorting by name, type, date and size

On the face of it, some of the features may seem to be obtainable without the **DISK ORGANIZER**. There are however several striking **IMPROVEMENTS ON DESKTOP'S FILE MANAGEMENT:**

7.11 Reduced disk swapping in single drive copies

The **DISK ORGANIZER** uses all the available memory to buffer as many files as possible at once during copying, so users with a single drive will find *far fewer disk swaps* necessary (if any).

7.12 Very fast movement in and out of folders

The **DISK ORGANIZER** keeps the entire *directory* of the *source disk in RAM*, so it is not necessary to read the disk each time a folder is opened or closed.

7.13 Size Information

The **DISK ORGANIZER** shows *on-screen the total size of selected files/folders* (in bytes or kilobytes rounded up to the nearest cluster size) and *the amount of free space on each drive*. This means that you can tell *before* starting a copy whether or not there is *sufficient space* on the *destination drive.*

7.14 More flexible selection

The **DISK ORGANIZER** allows the user to select items *anywhere* on the source disk, not just in one folder. Also, the very powerful use of *WILD CARDS* makes the selection far easier and faster. After an operation (copy, etc.) the items are left selected so it easy to *repeat* the operation, or to *delete* a bunch of files just *copied off* onto another disk etc. The items are numbered when they're selected, and operations act on items in the order in which they were selected.

7.15 More information on screen

Hidden and *system* files (as well as normal files) appear in the **DISK ORGANIZER** our directory.
As well as the information given by desktop the **DISK ORGANIZER** shows:-
The total number of *selected* items and their *total size*
The amount of *free space* on the *source* and *destination* drives
The *attributes* of each item: read-only, hidden, system etc.
The number of *items* in each *folder* and its *total size* (source only)
The *order* in which items were selected

7.16 Additional features

The **DISK ORGANIZER** can show the files in the *order* in which they appear on the *disk*. This is the order in which the PRG files in the AUTO folder are executed.

The **DISK ORGANIZER** also allows the user to switch the sector *verification on* and *off* to speed up copying by approx. **20%**.

As well as this, there are the usual desktop functions of *creating folders, sorting* and *renaming* files.

7.2 Accessing the DISK ORGANIZER.

The **DISK ORGANIZER** is available

a) from the **MAIN, LOAD** and **SAVE** menu. Please remember this option is fine for working with drives **A/B**, but it is NOT suitable for *hard disk drives* as their drivers are erased

b) by double clicking its **Icon** in the *Cartridge* window (provided you used **Shift A/B** to boot from the WELCOME MENU, thus leaving the *MULTIFACE* visible in the cartridge port). Accessing the DISK ORGANIZER this way will work fine with both floppy and hard disk drives.

7.3 The DISK ORGANIZER Display.

The *MAIN SCREEN* of the **DISK ORGANIZER** is divided into three sections:

1) The top three lines show **status information**.

The **DISK ORGANIZER** can know about up to 2 disks at once. During a copy one disk is the *source* disk, and the other is the *destination* disk. You can tell which directory is being displayed by looking at the top left of the screen. The path names of the current file on each disk are displayed here. The symbol '=**SRC**=' identifies the current file of the source disk, and the symbol '=**DST**=' identifies the current file of the destination disk. When you are looking at the source disk '=**SRC**=' will be highlighted, and when you are looking at the destination disk '=**DST**=' will be highlighted.

To select the *A: disk* as the *source disk* press the function key **F1** followed by the drive letter, in this case **A**. The **DISK ORGANIZER** will now display a *directory of the A: disk*. If you wish to make the *B: disk the source disk* press **F1** followed by **B**, and so on for other drives. The destination is selected similarly by using the function key **F2** followed by the appropriate drive letter. Once you have both source and destination selected you may *toggle* between the two using the '*' key. If you accidentally press F1 or F2, simply pressing <RETURN> gives you the previously selected source or destination.

The opening screen of the **DISK ORGANIZER** expects you to select a *source* drive by pressing the appropriate drive letter (just as if you had just pressed F1). When it starts up the **DISK ORGANIZER** checks all available drives - this may take a few moments.

2) The centre section of the display shows a **directory of the current disk.**

The inwards pointing arrows in the centre section of the display are a cursor identifing the current file. You may move this cursor up and down with the up and down arrow keys. You may also move back a page or forward a page in this display with the left and right arrow keys.

The DISK ORGANIZER can display in either **25** or **50** line mode. By default, it shows **25** lines, but the mono monitor owners can enjoy far more information on one screen by pressing **F4** to toggle to display up to **50** lines.

Another toggle key is **F5** effecting the **file length** display. By default, this will be in bytes. However, for saving purposes, you may wish to know into how many "clusters" the file will effectively fit. For instance, five 1025 byte long files may seemingly occupy less than 6K on disk, but in real terms it will take 10K of disk space, as each file is a single byte longer than a cluster; consequently, each file would be shown as 2K, which may seem a funny way to round up from 1025...

3) The bottom five lines are a **HELP MENU.**

```
ESC QUIT  HELP MENU  ↑↓ CURSOR  ←→ PAGES  F4 =25/50  F5 BYTES/K  V ERIFY ON
"Drive""Tagging""Tagged"Other"Folder""Wildcard"""""""""
F1 SOURCE  F FILES  G LOBAL  D ELETE  R ENAME  INSERT OPEN  FIND: ) =NEXT  ( =PREV
F2 DESTN   H ERE & BELOW  C OPY  P RINT  HOME CLOSE  TAG: CONTROL +tag key
* TOGGLE   RETURN =ITEM  S ORT  M AKE  N AME:*.*
```

Pressing the <**HELP**> key turns this menu off and on.

At all times the <**ESC**> key can be used to abort the current operation.

7.4 The DISK ORGANIZER Utilities.

The ST filing system allows you to organize your files by grouping them together in folders. These are shown along with the files on the directory display. The number in angle brackets after the word FOLDER on the display is the total number of items in the folder, and the size shown is the total size of the folder. You may view the contents of a folder by positioning the cursor over the folder and pressing the <**INSERT**> key (above the left arrow key). When you wish to move out of the folder you may do so with the <**CLR HOME**> key (above the right arrow key).
By default, items are shown in *alphabetical* order with folders coming in front of files, but other orders are possible.
Pressing the **S** key brings up a menu of available sorting orders (self-explanatory...).

You may rename the file under the cursor by pressing the **R** key. The **DISK ORGANIZER** will then prompt you for the new name. Type the new name, and press <**RETURN**>.

The **DISK ORGANIZER** allows you to make a new folders. If you press **M** a prompt will appear at the bottom of the screen asking you for the name of the *folder* you wish to create. Type the name, press <**RETURN**> and the folder will be made in the directory displayed in the middle section of the screen.

Print option produces a very neat printout by distinguishing all folders and their relevant files (by indenting them). It also allows you to print selectively whatever you may wish (tagged files or folders, entire disk, etc.).

Normally after a copy the ST *verifies* that the file has copied *correctly* (it almost always has). You may *speed up* your copying by turning this verify **OFF**. Its status (ON or OFF) is shown on the help menu and can be changed by pressing the **V** key.

7.5 TAGGING.

The **DISK ORGANIZER** allows you to *tag* (select) a number of files and/or folders on the source disk for multiple copies or deletions. Tagged items are *highlighted* in the directory display. If the cursor is on a file, pressing <**RETURN**> will *tag* the *file*, and move the cursor onto the *next* item. If the cursor is on a *folder* pressing <**RETURN**> will *tag* the *folder*, and all its contents as well. But if the item under the cursor is *already tagged* pressing <**RETURN**> will *untag* it, incl. its contents if it is a folder.

The cursor position during tagging is of utmost importance, especially when using tagging keys **F**, **G** and **H**.
F will automatically tag all *files* (but NOT other *folders* or their respective files) within the *current folder*.
H key will go a step further and tag all *files* AND *folders* which are *in* and hierarchically *below* the *current folder*.
G key will simply tag globally *everything* - all folders and all files.
All of these keys toggle just like the <**RETURN**> key.

In the middle of the top line of the screen the *total number* of *tagged items*, and their *total size* is displayed. Also when items are *tagged* they are *numbered* on the left of the display to show the *order* in which they were tagged. This is most important, as the operations of *copying* and *deleting* act on *tagged* items, **in the order in which they were tagged**. Thus it may be a good idea to select the *files by size* when copying - if the *longer* files are *copied first*, they will load *faster*; in fact by simply copying your disks in a suitable order, you may *speed up loading* times quite considerably!

Having tagged the file(s), you can press the **C** key to initiate a *copy*, and the **D** key to initiate a *delete*. Note however that you must have selected a *destination* disk for the copy to work. At right of the top screen line the amount of free space on the *destination* (and *source*) drives is shown. By comparing this with total size of the tagged items you can tell *before* you start whether there is enough room for the copy or not.

7.6 WILD CARDS.

The DISK ORGANIZER enables you to, for instance, *tag* (and then *copy*, *delete*, etc.) all files with a suffix **.PRG** by using: ***.PRG** as a *WILD CARD NAME*. The principle of the wild card is very simple: whatever follows an *asterisk* either in the name or in the suffix will be automatically tagged (selected). Thus **ab*.prg** will apply to files **abort.prg**, **aborigin.prg**, but NOT **abraxas.sin** or **act.prg**.
Similarly, ***.*** will select *ALL* files with *ALL* suffixes and **main.*** will select all files named "**main**" with any suffixes whatsoever.
The WILD CARD must first be named by pressing **N** and typing the appropriate name with asterisk(s). It can then be either

1) globally applied (automatically found and tagged) by pressing **CTRL** and the relevant *tagging key*:
   CTRL G will tag all matching names on the *entire disk* - *folders* and *files* included
   CTRL F will tag all matching names of *files only* and within a current folder only
   CTRL H will tag all matching names of *files* and *folders* within and hierarchically below the current folder
2) Individually selected with two options (using opening or closing brackets):
) will find and shift cursor to individual occurances of matching names from the cursor position onwards. You can then either use **< RETURN >** to tag a file, or press **)** again for the next occurance.
   (acts similarly, but backwards (or upwards, if you wish) from the cursor position.

WILD CARD tagging can be extremely useful in many situations - you may wish to erase all ***.dta** files or copy all or selected ***.mlt** files, you can copy files starting by **a*.*** into a folder named **afiles**, etc.

8. GUARANTEE.

This guarantee is in addition to and does not affect any statutory or other 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 proof of purchase (such as a dated receipt) will be provided to confirm that the *MULTIFACE* is still within the guarantee period (mail order purchasers should supply the details of the original order instead)

The purchaser's sole and exclusive remedy under this guarantee is for the *MULTIFACE ST* 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.

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MULTIFACE ST is not designed to encourage piracy!

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