DATEL Electronics

Limited

AMIGA ACTION REPLAY II

INSTRUCTION MANUAL

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ACTION REPLAY MK II

INSTRUCTION MANUAL

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IMPORTANT
READ THIS FIRST

The Amiga Action Replay is available in many countries of the world and therefore has several keyboard modes. Please check that your cartridge is in the mode for your country i.e. American / UK or German. After pressing the freeze button then press F9 key to change between the two and select the mode for your country. Now either continue within the menu or press X to exit. The cartridge will stay in the chosen mode until you next power off.

CONTENTS

1 INTRODUCTION

CONGRATULATIONS on your purchase of the Amiga Action Replay which we think, and you will soon find, is the most powerful utility available for the Amiga. With a whole host of graphics, sound and programming features it is possible to get 100% more from your computer. Before you start we strongly recommend that you read the manual, even though the temptation is to plug in and go, as reading what one command does will help you understand others. Until you are familiar with some of the more complex coding instructions like CODE don't use valuable disks. If you do have problems with a command please do not dwell on it too long, come back to it later and it may become clearer. A few of the sections such as that on the monitor commands and the System information are rather complex for the beginner. Don't expect to understand them straight away, remember that the Amiga hardware can cover many manuals, so if you really want to learn buy, beg or borrow a few of these and soon with the help of your Action Replay you will become an expert on the Amiga. Good luck!!

2 INSTALLATION

First and foremost you must ***NEVER*** plug in or unplug your Action Replay from your machine while it is switched on!

First switch your machine off. Next on the left side of the machine by the keyboard you will find a removable panel which hides the expansion port. It will come off but may be a little stiff. Now, with the button and switch facing up, insert the Action Replay firmly into the machine in this port, it should now be quite solid. Switch your computer on. The green light will be on and the red off. If the red light is on then the slow-mo is switched on. Throw the switch to switch it off and the machine should boot as normal. If the machine does not boot properly switch the machine off and repeat the procedure. When the Kickstart screen appears press the freezer button and a blue screen will appear. This is the screen from which you type all the following commands. To restart press X (Return).

3 GETTING STARTED

There are many simple features available on Action Replay which you will find very useful.

(HELP)	-	Gives you a brief description of all commands.
(SHIFT)	-	No scroll / Pause
(TAB)	-	Insert spaces
(ESC)	-	Will abort most commands
(F1)	-	Clear screen and Home cursor
(F2)	-	Home cursor without clearing screen
(F3)	-	Preference screen
(F5)	-	Print screen to printer if attatched
(F6)	-	Switch printer dump on/off
(F7)	-	Switch between overwrite/insert mode
(F8)	-	Show instructions for mempeeker
(F9)	-	Toggle between US and German keyboards
(F10)	-	Switch to second screen (shift back)

When the power light is off in Action Replay mode the computer is waiting for an instruction.

The slow-mo can be activated at any time by flicking the switch so the red light is on, adjusting the potentiometer will vary the speed. It is obviously not a good idea to keep the slow-mo on during disk access; in fact it would be pointless.

There is one of the above function keys which requires a more detailed description. This is the (F3) key. This will display a preference screen which

may be exited at any time by pressing the (ESC) key.

The options are selected by using the mouse and left mouse button. The display to the top left of the screen shows the memory available for use by the Amiga; this can be changed by clicking on the appropriate squares which will toggle between memory enabled and disabled.

The next area down again on the left is the boot selection menu; this is used to select which drive the computer boots from. This can be changed to a particular drive, or it can be set to variable so that the machine will boot from whichever drive contains a bootable disk.

The bottom left section is used to select the colours that the Action Replay screen is displayed in. The two meters on the right of the screen are used to allocate an auto fire rate for the two joysticks. They can be set totally independently of one another so a player can be handicapped.

Auto virus detection can also be disabled from this screen.
In the following text actual commands available to Action Replay are described. There follows one or two pointers to aid your understanding of the commands.

Firstly the number systems that can be used by Action Replay are decimal,hexadecimal and binary. It is important to note that the default base is *NOT* decimal but hexadecimal, so if you type the number 10 the Action Replay will think you mean 16 decimal. You can easily enter decimal by preceding the number with a (!) i.e. !10 would be 10 decimal. If you can remember this fact it will help you enormously. The prefix for binary is %. The following sections list the commands available from Action Replay. The underline means it is a command the bold means the line is to be typed as is. Text in brackets is a variable and should not be typed in literally. e.g. the command to format looks like this.

FORMAT (name)

means type FORMAT but follow it with a name of the disk like DISK1 or any valid disk name.

4 DISK BASED INSTRUCTIONS

The following instructions used to require the installation of workbench but are now permanently available at any time even when a program is in memory simply by pressing the freeze button. The following disk instructions act unless otherwise specified on the currently active drive. The concept of directories and sub-directories is somewhat complex and so is not dealt with in any detail, you should look to other sources if you need to know more.

FORMAT (name)

This instruction will format a disk in the currently active drive to standard Amiga DOS format, with the disk titled (name). For example type the line

FORMAT DEMO

The computer will respond with the line,

READY TO FORMAT DISK IN DRIVE DFØ:

to which you should reply (if you are happy)
Y (return). The computer will then format a disk in drive DFØ and call it DEMO.

FORMATV (name)

This is essentially the same as FORMAT in that it will format a disk in the active drive and title it (name). The difference being that it will then step through the tracks of the disk again verifying that there are no errors on the disk.

FORMATQ (name)

This will effectively reformat a previously formatted disk and hence all files will be erased yet tracks will not be reformatted so it does it *very* fast.

DISKWIPE (drive)

Destroys data on the drive specified. The disk will then be of no use until it is completely reformatted using either FORMAT or FORMATV e.g.

4 DISK BASED INSTRUCTIONS

DISKWIPE DFØ

will destroy all data on the disk in drive DFØ

DISKCHECK (drive)

This instruction will scan all the tracks on a disk in the specified drive for errors. Any non-Amiga DOS tracks will be reported as errors.

DCOPY (source drive) (destination drive)

This instruction will copy an Amiga DOS disk from the source drive to the destination drive. The source and the destination may be the same but the computer will warn you that any program in memory will be destroyed. Due to the nature of Amiga drives we recommend that you use blank unformatted disks to copy onto. If you do not, no damage will occur but sometimes the copy may fail. e.g.

DCOPY DFØ DF1

CD (path)

This instruction on its own will display the current directory path or tree. If you specify a path in the standard CLI format the directory will be changed to that specified by (path) e.g.

CD QWERTY/SUBDIR

will change the current directory to Sub-directory SUBDIR in directory QWERTY.

CD /

will return you to the previous directory

DIR (path)

This instruction will give a list of all the files and sub-directories in the current directory if no path is specified. A path however may be specified to show the

contents of a particular directory e.g.

DIR QWERTY/TWO

will list the contents of sub-directory TWO in directory QWERTY regardless of the current directory.

DIRA (path)

This instruction is similar to DIR except it will list the contents of all sub-directories as well.

MAKEDIR (path)

This instruction will create a sub-directory at the point specified by (path). If no path is specified a new directory will be created in the current directory.e.g.

MAKEDIR SUB1

will create the sub directory SUB1 in the current directory.

MAKEDIR MAIN/SECOND/SUB1

will create the sub-directory SUB1 in sub-directory SECOND in the main directory MAIN.

INSTALL (bootblock number)

This instruction will install a Bootsector onto the active disk to enable you to run frozen files independently of Action Replay. You will also need to use the SLOADER command. To install a Bootblock simply type INSTALL(enter).

BOOTPROT (codenumber)

This instruction will protect the bootblock of the disk in the active drive with a unique 8 digit number and make it totally un bootable to normal users who do not possess the code. To boot a protected disk you must use the bootcode instruction. It is not recommended that you attempt to write a protection number to a disk more than once.e.g.

4 DISK BASED INSTRUCTIONS

BOOTPROT 1234 { typed in }

SURE TO PROTECT DRIVE IN DFØ:
Y { typed in }

will code your disk with the unique number 1234 which should be recorded or memorized.

BOOTCODE [codenumber]

This is the only way to boot a disk that has been protected using the BOOTPROT instruction as above. If you wish to boot a protected disk first press the Action Replay freeze button, then type BOOTCODE followed by your code number e.g. to boot the disk that was encoded in the above example use the following

BOOTCODE 1234

then restart the machine by typing X to exit from the Action Replay and the disk will start. Note that once a bootcode has been entered it will remain until the machine has been either switched off or a new bootcode has been entered. To show the current bootcode enter

BOOTCODE

with no number. To get rid of the bootcode use the value 0.

DELETE (path) (filename)

This is a simple delete instruction. The file specified will be removed from the current directory if no path is specified e.g.

DELETE WAYNE

will remove the file named Wayne from the current directory. If however the path is specified the current directory is ignored e.g.

DELETE MAIN/SUB/WAYNE

will remove Wayne from the sub-directory SUB which is in the main directory MAIN.

TYPE (path)(filename)

This will type the contents of a file in ASCII to the screen. An executable file may appear as meaningless characters,where as a file from a word-processor may have extra characters which are control codes for text formatting. The path and filename are as the DELETE instruction.

CODE (drive) (code number)

This is another rather complex encryption tool that to get fully to grips with will take some experimentation (drive) is the drive number 0-4 and (code number) is a value in the range 0-165535. The easiest way to show you how to use this feature is by example.

CODE 0 3

will have the effect of en-coding all disk writes to drive 0 so that they can only be read in future by setting the drive code to 3. All reads from this drive will also be de-coded using this number so normal files will be read as corrupt data. For example the following

CODE 0 {remove en-cryption from drive 0}

SA TEST {save a frozen file to disk}

CODE 0 3 {en-code disk 0 with number 3}

LA TEST {re-load the frozen file}

will load a corrupt file as a different code has been used to load (3) as that used to save (none). The instruction

CODE

will display all the en-coded drives and an encryption number. Note that this number will not be the same as that entered, and whether the drive is

protected or not e.g. the status after the previous command would be as follows.

ACTION REPLAY DISK CODER V1.1

DRIVE0 CODE:00000005 PROTECTED
DRIVE1 CODE:00000000 NORMAL
DRIVE2 CODE:00000000 NORMAL
DRIVE3 CODE:00000000 NORMAL
DRIVE4 CODE:00000000 NORMAL

The code of 5 will always correspond to the entered number 3! This is the same for all codes. PLEASE use this feature with care we would hate you to save your most precious files and forget the code number!

CODECOPY (source) (destination)

This is used in conjunction with the CODE instruction It will de-code all data from the source drive using the code number then en-code all the data going to the destination drive using its number. You may use this feature for encoding or de-coding entire disks.

4.1 - DISKMONITOR COMMANDS

RT STRACK (num) (dest)
Read tracks from active drive.

Will read tracks starting from track number STRACK and a total of NUM half tracks into the memory address pointed to by DEST. If DEST is not defined the computer will attempt to assign an area of memory for the tracks. Note the number of tracks are half tracks i.e. Track 0 side 0 counts as one half track and Track 0 side 1 counts as another!

WT STRACK (num) (source)
Write tracks to active drive.

Will write a total of NUM half tracks starting from the point in memory

specified by SOURCE to the active drive starting from track STRACK. If SOURCE is not defined then the area of memory used is the buffer.

DMON
Display Disk Monitor buffer.

Will display the area that has been assigned to store disk tracks with the read track command. This area can then be disassembled, dumped etc. using the standard monitor instructions.

CLRDMON
Clear Disk Monitor Buffer.

Will clear the area of memory that has been defined as a buffer for disk track reading and writing. When examining a disk using the RT command you should use this command before loading another set of tracks to avoid any confusion between the two lots of data.

BOOTCHK (sectoraddr)
Check Boot Block Checksum.

This command is used on a sector that has been read into memory using the RT command. It will make a checksum of a bootblock located in memory at address (sectoraddr) if the checksum is incorrect it will be changed.

DATACHK (sectoraddr)
Check Data Checksum.

This command is used on a sector that has been read into memory using the RT command. It will make a data checksum on the sector located in the computers memory at address (sectoraddr). If there is a checksum error the checksum will be corrected.

BAMCHK (sectoraddr)
Bit Map Checksum.

This command is used on a sector that has been read into memory using the RT command. It will make a checksum on the sector located in the computers memory at address (sectoraddr). Any errors will be corrected.

5 FREEZE/TRACKER COMMANDS

SA (path)(name),(crate)
Save All

This instruction will save a copy of the frozen program to disk in standard Amiga format. (path) is the standard path as mentioned in the disk section. (name) is what you wish to call your program. (crate) is the compression rate which is in the range 0-!65535; the higher the value you specify the shorter the final file will be, however the actual compression will take longer and longer. At the maximum value the compression can take very very long. As a simple rule a value of about !200 should be plenty.
The following is an example of Workbench 1.3 with 0.5 Meg Ram extension in place and not switched out.

SA TEST	{no compression}
SA TEST1,!50	{compression 50 decimal}
SA TEST2,!200	{compression 200 decimal}
SA TEST3,190	{compression 400 decimal}

Will give for example if we do a DIR.

184210 TEST
145862 TEST1
091226 TEST2
084690 TEST3

Notice how the saving becomes less even though the rate is doubled.

SR (path)(name),(crate)
Save and Restart

This instruction is identical to SA apart from the fact that as soon as the file is saved the frozen program will be restarted.

LA (path)(name)
Load All

This instruction will reload a frozen file from disk and place it in memory ready to restart from the freezer menu. Essentially the opposite of SA.

5 FREEZE/TRACKER COMMANDS

LR (path)(name)
Load and Restart

This instruction will load a frozen file from disk and restart it immediately from the freezer menu.

SLOADER
Save Loader

If you wish to make a frozen program able to reload independently of Action Replay use this command along with the **INSTALL** command to save a boot block to the disk. To reload programs simply insert the disk which now has the loader and it will auto boot to a screen prompt. At this time use the command

ALOAD (name)

TRACKER
Search for music track.

Will search through frozen memory for certain music format sequences. This will work best on Public Domain software where the authors are more likely to have used these packages. Please do not expect this feature to work miracles as music has no standard format like screens and samples do; so many commercial programs use their own formats.
The screen will flash various combinations of colours as the Action Replay searches through memory for each type of track. When it finds one the screen will display a list of options.

The first number in the display is the address in memory where the tune is situated. The songtype is the piece of software that has been used to write the track. The songname is just that, the name that was given to the piece/track when it was written.

The function keys act as follows
F1=PLAY MODULE
{needs no explanation}
F2=STOP MODULE
{just that}

5 FREEZE/TRACKER COMMANDS

F3=SEE MORE DETAILS
{gives a more detailed view of the tune i.e. sample names etc.}
F4=SAVE TUNE
{Simply enter a filename and the tune will be saved in the current format}
F5=RENAME SONG
{Will give the track a new name}
F6=SHOW SONGDATA
{useful for displaying song data while playing a track}
F7=CONTINUE SEARCHING
{will continue searching for more tunes from where the tracker left off.}
F8=CHANGE TO ST-16
{attempts to change the track to soundtracker with 16 samples}
F9=CALCULATE PATTERNLENGTH
{Recalculates data}
F10=EXIT
{Exits from tracker}

Please note if you exit from the tracker while playing a piece (F1) it will continue to play. This is a nice feature but be warned the machine may crash if you attempt to format or copy a disk.

SCAN
Scan Memory For Sample

Will display a new menu such as the one below and a graph. The graph displays the contents of chipmem as a sound sample.

F1-HEAR SOUND
{plays sample between selectors}
F2-UPDATE SCREEN
{redraws screen to show sample between selectors}
F3-RESET
{resets selectors to full memory size and redraws the graph}
F4-EXPAND RANGE
{expands size of sample on screen and redraws the graph}
F5-SAVE SAMPLE
{saves sample between selectors to disk in IFF format}
(space)
{toggles active selector between start and end}

5 FREEZE/TRACKER COMMANDS

(left-arrow)
{move current selector down in memory}
(right-arrow)
{move current selector up in memory}
(up-arrow)
{increase period of sample}
(down arrow)
{decrease period of sample}

To find a sample in memory play the whole of memory (F1) and notice whereabouts the + symbol is when it plays your sample. Move the start selector to this point and the end selector to roughly the end; now resize the screen using (F2) and play the sample again. Keep doing this until you have found the correct limits for the sample then, when you are happy, save it (F5).

6 MEMPEEKER COMMANDS

P (picnr)

Where (picnr) is the picture number, usually 1 or left blank, the screen will then be displayed and a large range of commands made available for the manipulation of these screens which are shown below or shown when the (F8) key is pressed. The possible combinations and types of manipulation could take a book in themselves, due to the great complexity of Amiga graphics. A bit of practice will soon get you used to what effect they have even if you are not sure what they are doing.

a ..... autoplane
b ..... increase brightness
(shift) b ..... decrease brightness
c ..... increase colour register
d ..... dual playfield on
(shift d) ..... dual playfield off
e increase ..... right border
(shift) e ..... decrease right border
f fast ..... plane up
(shift) f ..... fast plane down
h .....hold and modify (HAM) on
(shift) h ..... hold and modify off
i ..... invert all colours
l ..... lores mode on
(shift) l ..... hires mode on
m ..... increase modulo
n ..... decrease modulo
s ..... decrease left border
(shift) s ..... increase left border
w ..... white helpscreen
(shift) w ..... black helpscreen
x ..... decrease colour register
0 ..... unlock all planes
(shift) 0 ..... lock all planes
1..... lock plane 1
(shift) 1..... unlock plane1
2 ..... lock plane 2
(shift) 2 ..... unlock plane2
3 ..... lock plane 3

6 MEMPEEKER COMMANDS

(shift) 3 ..... unlock plane3
4 ..... lock plane 4
(shift) 4 ..... unlock plane 4
5 ..... lock plane 5
(shift) 5 ..... unlock plane5
6 ..... lock plane 6
(shift) 6 ..... unlock plane 6
7 ..... lock plane 7
(shift) 7 ..... unlock plane7
8 ..... lock plane 8
(shift) 8 ..... unlock plane 8
9 ..... lock plane 9
(shift) 9 ..... unlock plane9
(F1) ..... set to colours
(F10) ..... random colours
(left) ..... rotate picture left
(right) ..... rotate picture right
(up) ..... scroll picture up
(shift)(up) ..... scroll picture up fast
(down) ..... scroll picture down
(shift)(down) ..... scroll picture down fast
(delete) ..... hide help screen
(esc) ..... quit mempeeker
(help) ..... show helpscreen
(left mouse button) increase picture height
(right mouse button) decrease picture height
set helpscreen with mouse on position

SP (path)(name),(nr) (height)
Save Picture

(path) and (name) are the usual format. (nr) and (height) are the picture number and height of the screen. Say for example we wish to save the frozen kickstart 1.3 screen to save it as an IFF file we could use

SP KICKSTART,1 !232

We could then re load this file into something like Photon paint and customize your own kickstart screen.

6 MEMPEEKER COMMANDS

SPM (name)
Save Picture Mempeeker

Simply save the screen we have been editing to disk and call it (name). Any modifications we have made to the mempeeker picture will also be saved out, for example changing the colours. This feature is ideal for saving out screens from games and using packages such as Photon Paint for editing and printing. There now follows a very brief example of how to use the mempeeker. First switch on your Amiga and when the Kickstart screen appears press the freezer button and type in the following.

P (enter)
{to enter mempeeker}

(help)
{for the helpscreen}

(shift)-w
{to make helpscreen visible}

(left mouse button)
{to reduce size of screen}

9
{increase green}

(esc)
{exit mempeeker}

SPM KICKSTART
{will save a new greener Kickstart}

7 TRAINER

The trainer commands are used to find various features such as infinite lives etc. which could ordinarily only be found by the most proficient hacker. There is a problem however in that if the original programmer did not want you to find his secrets he could easily protect his code. For example if you want to find 3 lives the programmer could count this as 2 or even 128+3 so confusing the trainer. The best way is to try several values, often one below the required number of lives.
The easiest way to understand how the trainer works is to explain how the programmer accesses the number of lives.
When the game starts, the programmer sets up all his locations such as number of lives and energy and colours etc. The number of lives will be stored in a certain location in memory and each time a life is lost this value will be changed (usually decreased by one) until no more lives are present, in which case the game over sequence is displayed. What we need to find is the instruction that decreases the number of lives and remove it then we will never get to 0 lives, hence infinite lives.

TS (value)
Trainer Start

This clears all locations found and searches for all occurrences of the number (value) when starting to look for a feature (infinite lives, etc).

T (value)
Trainer Continue

We use this command after we have used the TS command, exited and lost a life or energy etc. and re-frozen. Usually the value will be one less than the TS command.

TF (address)
Trainer Find Decrement Instruction

We use this instruction after the TS and T commands and are left with one address. This will then find any possible Machine Code instructions that decrement the location (address). This instruction is of more use to someone that has a bit of machine code knowledge. Others will find the TFD command more useful.

7 TRAINER

TFD (address)
Trainer Find Decrement Instruction and Remove

This command is the one that gives you your infinite lives. It will search through for decrements of (address) and remove them (Address) is the value found using TS and T. After issuing this instruction try exiting and continuing the game, if it has worked you will have infite lives or energy.

TX
Exit Trainer

Exits trainer mode, note if you have got infinite lives it will NOT go back to normal mode.

7.1 - USING THE TRAINER COMMANDS

The best way to show you how to use the trainer command is by example. In the following example we are using the remarkable, but difficult, Rick Dangerous game (not 2) by Firebird. If you have not got the game then follow the outline anyway, it is similar in many games.

First load up Rick and start your man running away from the Ball and freeze the game before you lose a life.Then type the line.

TS 6

as we start Rick dangerous with 6 lives and the following should appear

FIRST TRAINPASS!
CHANGE THE COUNT VALUE NEXT TIME
SEARCHED UP TO :0572A6
TRAINMODE AKTIVE!

sorry about the spelling of active by the way. Now reply with the **X** command to restart the game and lose a life (shouldn't be too hard) then as you start your next life freeze the game again and type the following.

7 TRAINER

T5

As you have now got five lives the screen will show

POSSIBLE ADDRESSES:
044972
SEARCHED UP TO :080000
TRAINMODE AKTIVE:

We now only have one possible location for the lives counter so this should be it, if it displays more than one address you should lose another life and use T4 until you are left with one possibility. Now to give yourself infinite lives type the following

TFD 44972
SUB FOUND AT :00045E3C
SUBS ELIMINATED!

This has now removed the SUBI instruction which decreased your lives. Use the X instruction to restart the game and Hey presto millions of Ricks. You could have also used the Monitor command M to change the value at 44972 to say 0B (thats 11 decimal) for 11 lives.

8 MISC COMMANDS

RAMTEST (start) (end)
Check memory for faults.

This instruction will destroy all data between (start) and (end). It writes 0 to all locations in the region start-end and reads them back then does the same for FF (hex).

PACK (start) (end) (dest) (crrate)
Pack Memory

This command will pack the block of memory between start and end and place it at (dest), (dest) may be at (start) if required, and uses the compression rate (crrate) as explained in the SA command. When completed the length of the compressed data will be displayed.e.g.

PACK 40000 4FFFF 50000 !200

will pack all data between 40000 and 4FFFF and place the compressed data at 50000 using a compression rate of 200 decimal. Make sure you keep a note of the length!

UNPACK (dest) (end of packed)
Unpack Packed Data

This is the reverse of PACK. You must specify the destination of the unpacked area (NOT OVER ITSELF!) and the last byte of the compressed data (end of packed) which can be calculated by the start of the compressed data + length displayed after completion of the PACK command. For example assuming the length of the packed data in the previous command was 1234 then the reverse of the above example would be.

UNPACK 40000 51234

COLOR (back) (pen)
Set Screen Colours

Will set the screen colours using the Amiga palette (0-14095) (back) being the background colour and (pen) the foreground colour. This is an alternative to the preference screen (F3).

8 MISC COMMANDS

RCOLOR
Reset Screen Colours

This command is for when you have made a mess using the COLOR command.

TMS (address)
Mark Address

This command is used as a notepad for reminding you of an address you are currently investigating. They are also saved using SA and reloaded using LA/LR so you can remember for example where an infinite lives location is. There are 10 possible memory markers.

TMD (address)
Marker Delete

This deletes one current memory marker.

TM
Show marker

Will display the current memory markers.

SPR (nr|addr)
Edit Sprite

Will edit either the sprite number (nr) or the sprite at address (addr). If, for example, we have frozen workbench we type the line

SPR 0

and press (return) about twenty times the outline of the pointer would appear in various numbers, each number corresponds to a colour. We can if we like move the cursor keys and edit the sprite making sure we press return after every line we have changed. Note you can only use the numbers 0-3 as you can only have 4 colours per sprite.

VIRUS
Search memory for virus

8 MISC COMMANDS

Will search through memory for any known virus. This is not usually necessary if you have left the virus test ON in the (F3) preference screen as you will be warned of any virus. Please note, if you have any virus killers in memory this may confuse the Action Replay.

KILLVIRUS
Will kill a virus discovered in memory.

9 MONITOR

The machine code monitor commands are a very vesatile way of altering the frozen memory and are of great use to both the experienced machine code programmer and the beginner. Many of the commands such as **D** are bi-directional which means by pressing the (up arrow) key the listing can be scrolled down, and (down arrow) will scroll up.

SETEXCEPT
Sets The Exception handler

Gets rid of those annoying guru messages. It also gives you a detailed description of what caused the error e.g. SOFTWARE FAILURE.

COMP (start) (end) (dest)
Compare Memory Blocks

Will compare the memory between (start) and (end) with that located at (dest). All differences in the destination block will be displayed.

SM (path) (name),(start) (end)
Save Memory To Disk

This command is used to save a block of memory to disk, in standard (path)(name) format, which is located between (start) and (end). Ideal for saving blocks of machine code e.g.

SM scroll,3021F 312EA

SMDC (path)(name),(start) (end)
Save Memory To Disk In DC.B format

This feature is ideal for the assembly language programmer where a block of memory can be saved out as ASCII in the style DC.B followed by the byte values separated by commas which can be loaded into most assembly packages such as DEVPAC, ARGASEM etc.

SMDATA (path)(name),(start) (end)
Save Memory To Disk In DATA format

This feature is similar to SMDC only the format is DATA instead of DC.B

9 MONITOR

A (address)
Start M68000 Assembler

Begin entering assembly language instructions from the specified address. All standard 68000 instructions are supported and as long as you enter valid instructions you can keep on entering. To finish simply press (ESC). I am not going to explain the 68000 instruction set as there are plenty of good books which will.

BS ADDRESS
Set Breakpoint

You can set a point in memory specified by (address) to break out of the main program and enter Action Replay. Use this command to examine the contents of registers etc. at particular points in your code. Use the commands

BS 49152
X

and as soon as the location 49152 is reached you will get the Action Replay screen back.

B
Show Breakpoints

Shows all breakpoints set using BS command.

BD (address)
Breakpoint Delete

Delete the breakpoint previously set at memory location (address).

BDA
Delete all breakpoints

Remove all breakpoints that have been set using the **BS** command.

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X
Restart current program

This will start the program from where you pressed the freeze button. Any changes made to the registers or memory will be kept and if you have made major changes the computer may produce unexpected results or crash.

C (1|2|address)
Copper Assembler/Disassembler

The line that should be entered is **C** then 1 or 2 or an address. The Amiga is equiped with a copper or co-processor which can be programmed in a similar, but more limited fashion to the 68000. After you enter **C** and one of the possible options the copper instructions of the locations will be displayed. Pressing (return) will enter the instruction on the line and move to the next instruction in memory. For information on the copper chips please consult an Amiga Technical Reference Manual.

D (address)
Start Disassembly

Typing **D** followed by the (return) key will begin Disassembly in 68000 m/c from the point at which the program was frozen. If an (address) is entered then dissassembly is started from that point pressing (return) will dissassemble the next line and so on until (ESC) is pressed.

E (offset)
Show/Edit Chip Registers

Will show the contents of the chip registers in binary. These values can be changed using the cursor keys and pressing (return) when a line has been modified.

F STRING,START END
Find String In Memory

Will search through memory between (start) and (end) for all occurrences of (string), which should be surrounded by quotes. The search is case sensitive. **FS** will search for a string but is not case sensitive e.g.

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F "COMMODORE",0 7FFFF

will search for COMMODORE (note in upper case) between the limits 0 and 7FFFF.

FA (address) (start) (end)
Search for Adr Addressing opcode

Will search through memory for Adr Addressing opcodes. **FA9** will fastsearch through memory.

FR (string),(start) (end)
Search relative for String

Searches through memory for a relative string and displays the offset. For example if a piece of text is hidden by adding one character it will be shown as occuring with an offset of one so a search for "HELLO" on finding "IFMMP" will display an offset of one.

G (address)
Goto Address

G on its own will act the same as **X**. With an address specified **G** will set all the registers to what they were when the program was frozen (unless they have since been modified) and jump to (address). Ideal if you want to redirect the program or test out an Assembly program you have just entered.

TRANS (start) (end) (dest)
Transfer memory block

Will transfer a block of memory between (start) and (end) to Destination (dest). The transfer is intelligent so you may specify a (dest) which lies between start and end.

WS (string),(address)
Write String To Memory.

Will write a STRING (bounded by quotes) to the memory starting at (address).e.g.

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WS "HI There",41259

M (address)
SHOW/EDIT Memory As Bytes

This will display a line of data in byte format as Hexadecimal starting from location (address). The bytes can be changed to a valid Hexadecimal number using cursor keys and appropriate numbers. When a line has been altered pressing (return) will enter those alterations to memory and display the next set of bytes from memory. Press escape to exit this feature.

N (address)
Show/Edit Memory As Bytes

Similar to the **M** Command but memory is shown as ASCII.

NO (offset)
Show/Set ASCII Offset

When a value is entered as (offset) any further use of the **N** command will add the (offset) value to the characters in memory that are displayed, e.g. if we did an ASCII dump using **N** and got the following in a block of text.

IFMMP

and we then enter **NO 1** command. The same text using another **N** command would be

HELLO

So the command can be used for showing hidden text. **NO** on its own shows the current (offset).

NQ (address)
Display Memory Quick

Will display memory in ASCII in quick format

MEMCODE (start) (end) (code)

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Encode Memory

Will go through a block of memory encrypting each byte using the 68000 EOR instruction with (code). This has the effect of rendering the block unreadable. To decypher this code you may either use the 68000 instruction EOR.B or execute the instruction again in an identical manner e.g.

MEMCODE 312FE 345A1 EA

will encode a block of memory using the key **EA** (in hex) to get it back to normal simply type

MEMCODE 312FE 345A1 EA

O (string),(start) (end)
Fill Memory With String

This command will fill a block of memory with repeated sequences of (string), which should be bounded by quotes.

R (register) (value)
Display/Modify Registers

R (return) will display the contents of all the 68000 registers at the time of freezing. If you wish to modify these registers you should specify both a (register) number and the (value) to be inserted in it e.g.

R D0 !1000

will insert 1000 decimal into the 32 bit data register D0. Modifications become valid after **X** or **G** commands.

W (register)
Display CIA Contents

Displays the contents of both the CIA (8520) chips. The value in (register) used to define the offset from the start of the CIA's. Both chips are displayed on the same line, the first and second numbers being the first and second CIA's correspondingly for example

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W 4

will display the contents of the fourth register on both the first and second CIA's

Y (address)
Display memory in binary form

This instruction is very similar to the **M** command although memory is displayed and edited in binary form. The amount of bits displayed on one line is specified by **YS** (value) where value is 1-8 giving the amount of bytes displayed per line, e.g.

YS 8

will tell the **Y** command to display 64 bits per line. The address will be updated accordingly.

? EQUATION
Calculate Value

This instruction is ideal for altering between number bases. The result of the (equation) will be displayed in binary Hex and Decimal e.g.

?8+7+!15*2

will give the result !30 Notice this is calculated from left to right with no priorities! Valid symbols are (+,-,/,*)

10 SYSTEM INFO COMMANDS

Most of the commands in this section are devoted to complex System information which will only be of use to the advanced Amiga programmer. Please do not be upset if you do not understand what they are, as your understanding of Amiga hardware grows so will your understanding of these instructions.

AVAIL Available Memory

Quite simply displays the memory available on the machine both chip ram and Fast ram, ideal if you have fitted one of DATEL's RamMaster II's for example to check that it is functioning properly.

INFO Display System Info

Will display a list of all the important system information.

LIBRARIES Show Execbase Librarylist

This command will display a list of the Execbase Library listings and their corresponding addresses.

INTERRUPTS Show Execbase Interrupt vectors

Lists all the currently active Execbase interrupts.

EXCEPTIONS Show Exception and Interrupt vectors

Shows the list of 68000 exceptions and also shows where in memory they are currently pointing.

EXECBASE Show Exception and Interrupt vectors.

RESOURCES Show execbase Resource List

C•IIPREGS Show Name And Offset Of Chipregs

DEVICES Show Execbase Devicelist

TASKS Show Execbase Tasklists

11 QUICK USER GUIDE

For those of you who are impatient or require a simple explanation of freezing use the following guide as to which instructions to use, then refer back to the appropriate section for finer details.
First you must install theAction replay (sec. 2).
Now load the program you wish to interrogate and press the red freeze button.
Next use the (F3) key to set any options you require such as colours,auto boot drive virus detection and exit to the main menu using (ESC).
You may now interrogate the frozen program using the commands such as **TRACKER** (sec. 5),**SCAN** (sec. 5),the mempeeker commands such as **P** (sec. 6),the trainer commands (sec. 7) or the monitor commands (sec. 9).
When you have modified or have finished tinkering with your frozen program you may wish to save it out to disk, to do this you must first get a formatted disk with enough space for the file.If in doubt as to how much space you need you may create a fresh disk using the **FORMAT** command (sec. 4).When you have your disk ready in the active drive, do a **DIR** to find the active drive, you may save the frozen program to disk using the **SA** or **SR** commands (sec. 5).These frozen files can be reloaded from within Action Replay by using the **LA** and **LR** commands (sec. 5).
If you wish to be able to reload your frozen files independantly of Action Replay then you must use the **SLOADER** command (sec. 5) and **INSTALL** command (sec. 4) which will save a boot file to your disk and enable you to run any frozen files on the disk by inserting the disk with the loader program on, switching the machine on and then from the loader screen typing **ALOAD** followed by the name of the frozen file then (enter).
Good luck.

12 ADVANCED TRAINER

For those of you who are finding the trainer hard going or those who would like one or two techniques to improve the success rate of the trainer commands there follows some examples for you to try out. I strongly recomend you do not try these immediately after buying the game as it will spoil your enjoyment of them wait until you really are stuck! Before entering any of the following trainer commands switch out any extra memory by pressing the (F3) key to get the preferences screen up and clicking the mouse on (no fast ram) then on the (use) box. Then reboot the machine by the ctrl-A-A method. This will speed up searching. Another point to note is just because the screen displays the nothing found message does not mean you should give up, if the Action replay cannot find anything it will tell you to either start again with the TS command or exit with TX when it has reached the end of memory i.e. 80000.

GOLDEN AXE

First you must start the game and after the brief start sequence when you can move the character around the screen press the freeze button. Even though you start the game with 3 lives enter the trainer with the line

TS 2 (enter)

now get back to the game using the X command and loose a life. This is the basic principle behind the trainer and you will almost always loose a life between runs of the TS and all T instructions. When you are on your second life press the freeze button againand enter the line.

T 1 (enter)

the screen will show some possibilities again restart loose a further life and refreeze on your last life. Now enter the line .

T 0 (enter)

you may notice that more than one possible location is being displayed and we have no further lives to loose but the solution is simple exit using the X command and loose a life. The game will end but all you need do is restart the game and on your first life freese the game and type the line.

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T 2 (enter)

Notice we do not use TS as we are still looking for the lives location. Continue this loosing a life and refreezing until we have one remaining location which will be 005955 (you could carry on endefinitely and the same location would be displayed as it is the right onel We have now found the location corresponding to the number of lives, we can change this to any number we like (the TFD will not work on this game) by using the M command.
To have a look at the number of lives location simply type the line

M 5955 (enter)

Notice how leading zero's are not necessary. The screen will show the following:

005955 02 03 0C etc.

and a whole load of other numbers, the one we are interested in iss the first one, use your cursor keys to move up to the 02 and change it to 7F then press enter followed by escape (you mustdo this while the game is running and frozen) now type X to continue your game and you will have 127 lives which should be ample.

RICK DANGEROUS 2

Start the game and as soon as rick appears on the first screen and is able to move around press the freeze button.Then type the line

TS 6 (enter)

Then use the X command to restart the game. Loose another life and then refreeze again and type the following line

T 5 (enter)

Repeat the procedure X then loose another life and enter the line

T 4 (enter)

the screen will display only one possible address 0178AF if you use the TFD 0178AF it will not find anything but using one less will i.e.

TFD 178AE (enter)

notice how again leading zero's are unimportant but trailing ones are. This technique of using one less than the given value with the TFD instruction will work on many occasions especially when the number is odd (i.e. ends in 1,3,5,7,9,B,D or F)

STRIDER 2

First start the game so your man is on the screen and able to move around and freeze the game your number of lives counter will show 4 but you should start the trainer using one more than your number of lives i.e.

TS 5 (enter)

now exit the trainer using X and loose a life,then refreeze and type the following:

T 4 (enter)

the screen will display only one possibility, if you are not convinced you may carry on restarting, loosing a life and refreezing as many times as you like the possible locations will always display 6AD5 as this is the correct one! TFD 6AD5 will not work so enter the following

TFD 6AD4 (enter)

Action replay will then remove the instruction involved in decreaseing your number of lives.Now simply exit using X and you have infinite lives.

MIDNIGHT RESISTANCE

After reading through the previous sections you should be ready for a slight abbreviation between each of the following T instructions you should use the X command to exit then loose a life then refreeze. If you loose so many lives that the game is over simply restart the game and carry on, do not use

the TS command though.

Start game
TS 2
T 1
T 0
Restart game
T 2
T 1
T 0

you will notice that however many times you loose a life there are always two possible locations, this is probably due to the way the programmer handles two players, the only way to find out which is which is to try them. The two values are 11692 and 11767 typing the following

TFD 11692

and testing using X and playing the game will have the desired effect so there is no need to try the other.

ESWAT

This is abbreviated in the same way as above. After each TS and T command you should loose a life and re-freeze.

Start game
TS 2
T 1
T 0
restart game
T 2

again the TFD command will not work so you must change the number of lives manually type

M 1BC57

the screen will show a line something like the following:

001BC57 01 00 00 etc.

and a whole line of numbers, changing the 01 to 7F will give you 127 lives remember to press enter after you have changed the number though.

NITRO

This is a good example of how the trainer can be used to find items that are not as predictable as lives and even go up as well as down. This cheat is for money that you use for buying new cars, fuel etc. First you must finish the first round and gain some money on your way. When you get to the parts shop the screen will show how much money you have, now freeze the game.
If you have 6 units of money say start the trainer with

TS 6

if of course you had a different amount of money you would use a corresponding value . Restart the game and buy a couple of items to take us down to say 3 units again re-freeze and use the line

T 3

or whatever value you have. Repeating this procedure a couple of times should give you a single value, if not you can do another lap and refreeze on the next parts shop screen and you will get the value 1FBC7 here the best way of proceeding is to give yourself as much money as you like using the command

M 1FBC7

then change the first number after the 1FBC7 to a value of say 50 for 50 units of money, remember to press enter then escape.

NIGHTBREED

To show you that once you have found the infinite lives location in a game yoou

need not search for it again type the following

TFD 24A

and you will get infinite lives you may skip out the preceeding TS,T commands in all these examples they are there purely for explanatory reasons. This location was found using TS3,T2,T1,restart,T3,T2 and subtracting one from the number found

ROBOCOP 2

Use the following in the normal way

start game
TS 2
T 1
restart game
T 2
then
TFD 8034 (one less than value found)

JAMES POND

TS 3
T 2
T 1
TFD 1B0 (1B1 does not work)

BATMAN THE MOVIE

This was found using the standard technique type the following

TFD 7C876

YOGI'S GREAT ESCAPE

This was found using a slightly different technique but to understand it requires a little machine code knowledge so I will only mention that the FA command was used. To get infinite lives use the monitor command M 7B5E6

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and alter the first 6 numbers as follows

7B5E6 4E 71 4E 71 4E 71 (enter)

then press return and you will have infinite lives.

13 NOTES

DATEL

Electronics

Limited

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