5 DISK BASED INSTRUCTIONS

every few seconds to test if there is a disk in the drive. The S option will, when there is a read error, attempt to load the track anyway and continue. The U option will, if there is no access to the disk for a short while, reset the trackbuffer and switch off the drive motor. An argument of V will verify all writes to the disk. An argument of A will switch all the above options on; Q will switch them all off.

BURST *
Activate Burst Nibbler

This is one of the major new introductions with MKIII Action Replay. It is an advanced fast disk copier similar to the DCOPY command but more powerful. You can enter the Nibbler section by either typing BURST from the freeze screen, or while doing a reset hold the left mouse button down (there is no returning from the nibbler, so make sure you have nothing important in memory). The advantage of the Nibbler is that you can copy a disk to multiple outputs, i.e. 0,1,2,3 and it can also be used for duplicating MSDOS and Atari disks.

The features of the Nibbler are not too difficult to understand. On the left hand side of the screen there is a mode box. This is to toggle between Amiga Dos disks and DEEP which is for other formats (i.e. Atari/MSDOS). The start and end values are the track numbers to be copied, for example if you are duplicating public domain disks with only the first 40 tracks used there is no point copying the higher tracks. The side selector is for the upper, lower or both sides of the disk - of most use if you are duplicating single sided Atari disks. The Sync option should only be set to either the default value for Amiga disks or index for MSDOS. Only use other values if you understand disc sync marks. The 4 images of disks each represent a drive number (only appropriate if they are present of course). Each disk is a colour representing what action is to be taken on that drive. Blue is not acted upon, green defines the source drive, brown defines a destination drive without verify and purple represents a destination drive with verify. The start button begins duplication (assuming both start and destination drives are selected). To exit you must reboot the Amiga. Quit will cause a system crash.

6 DISK MONITOR 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, Action Replay will attempt to assign an area of memory for the tracks. If you do not assign a memory area for the tracks you can use the monitor commands to reference the tracks - see the monitor section for more details. 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! e.g. to read 20 half tracks (10 whole tracks)

RT 0 !20

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. Again T can be used to define a track address e.g.

WT 0 7 T0

DMON
Display Disk Monitor buffer.

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

CLRDMON
Clear Disk Monitor Buffer.

Will Clear and de-allocate 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.

6 DISK MONITOR COMMANDS

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. Note you can also use T0 etc. if you have created a track buffer using the dmon command.

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 computer's memory at address (sectoraddr). If there is a checksum error the checksum will be corrected. Note again this command can be used with the T option to define half tracks in the track buffer.

BAMCHK (sectoraddr)
Block Allocation Memory 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 computer's memory at address (sectoraddr). If there is a checksum error the checksum will be corrected. The T options can again be used.

7 FREEZER AND RIPPER 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 0.5Meg 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,!90	{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. Essentially the opposite of SA.

LR (path)(name)
Load and Restart

This instruction will load a frozen file from disk and restart it immeadiatly.

SLOADER
Save Loader

Saves a copy of the loading program to disk called Aload. This is used to load a frozen file independently from Action Replay. Its primary use is when a bootblock is installed onto a floppy disk drive using the install instruction. From the Dos shell which is displayed after the installed disk is booted you should type the following line

ALOAD (name)

where name is a valid frozen file saved using SA or SR commands. This command is also useful for loading frozen files when you are using a hard drive. You should transfer both your frozen files and the Aload program to your hard disk and then from CLI type the above command.

SQ
Save Quick

Will save the current program in memory to a Ramdisk if there is enough free memory to do so. For example, if you have a one meg chip ram machine, to save to a ram disk you should firstly switch off the second 512K on the preference screen and reboot the machine. Then load your 512K program into memory and press the freezer button. Now type the line

SQ

For information on how to restart see LQ, LQR, EXQ and EXQR.

SQR
Save Quick and restart

Will save a program to Ramdisk as in SQ, only the frozen program will be restarted immediatly after completion. Ideal for saving a point in a game in case you die so you can restart from a set point quickly.

LQ
Load quick

This command is the opposite of save quick, it reloads a frozen file from the ramdisk ready to restart.

LQR
Load Quick and Restart

This command is the opposite of SQR/SQ. It will load a file that has previously been saved to a ramdisk using save quick or save quick and restart. After reloading it will start at the point it was originally frozen.

EXQ
Exchange Quick

Effectively a combination of SQ and LQ this command will swap the frozen program in the ramdisk with the frozen program in main memory.

EXQR
Exchange Quick and Restart

The same as EXQ except the program taken from the ramdisk is restarted automatically.

SQMEM
Save Quick in fastmem

This command allows you to define that fastmem is used as the save quick area, or

to release it if it is already defined, e.g.

SQMEM 200000

would define that fastmem area 200000 (the area used if you have memory in an A590) would be used for the save quick area. There is a unique command.

SQMEM 0

which tells Action Replay to use the normal area.

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.
A counter will be displayed as memory is searched. Three passes are made for different music formats. If any music is recognised a display similar to the following is shown.

SONG LOCATED IN MEMORY AT:$011BB2,SONGTYPE=SOUNDTRACKER
(32 SAMPLES)
SONGNAME:LOADING................. YOU CAN NOW:
F1 PLAY MODULE,F2=STOP MODULE,F3=SEE MORE DETAILS,F4 SAVE
MODULE
F5 RENAME SONG,F6 SHOW SONG DATA,F7=CONTINUE SEARCHING
F8CHANGE TO ST-16,F9=CALCULATE PATTERN LENGTH,F10 EXIT

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, in this case it was sound tracker with 32 sound samples available to the track. The songname is just that, the name that was given to the piece of track when it was written.

The function keys act as follows

F1=PLAY MODULE	{needs no explanation}
F2=STOP MODULE	{just that}
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 so undtracker with 16 samples}
F9=CALCULATE PATTERNLENGTH	{Recalculates data}
F10=EXIT	{Exits from tracker}

SCAN
Scan Memory For Sample

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

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

7 FREEZER AND RIPPER COMMANDS

(left-arrow)	{move the current selector down in memory}
(right-arrow)	{move the current selector up in memory}
(mouse)	{holding the left or right mouse button down and moving the mouse will move the start and end selectors }
(up-arrow)	{increase period of sample}
(down arrow)	{decrease peroid of sample}

To find an appropriate sample in memory first play the whole of memory (F1) and notice whereabouts the + symbol is when it plays your sample. Then move the start selector to about this point and the end selector to roughly the end. Now resize the screen using (F2) and play the sample again. You may keep doing this until you have found the correct limits for the sample then when you are happy save it (F5).

8 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	increase right border
(shift) e	decrease right border
f fast	fast plane up
(shift) f	fast plane down
g	Interlace mode on
(shift) g	Interlace mode off
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	modulo 1+2 plus
n	modulo 1+2 minus
o	modulo 1 minus
(shift) o	modulo 2 minus
p	modulo 1 plus
(shift) p	modulo 2 plus
q	clear modulo 1+2
r	rotate plane pointer
s	decrease left border
(shift) s	increase left border

w	white helpscreen
(shift) w	black helpscreen
x	decrease colour register
y	switch diw and ddf mode
0	unlock all planes
(shift) 0	lock all planes
1..	lock plane 1
(shift) 1..................................	unlock plane 1
2	lock plane 2
(shift) 2	unlock plane 2
3	lock plane 3
(shift) 3	unlock plane 3
4	lock plane 4
(shift) 4	unlock plane 4
5	lock plane 5
(shift) 5	unlock plane 5
6	lock plane 6
(shift) 6	unlock plane 6
7	lock plane 7
(shift) 7	unlock plane 7
8	lock plane 8
(shift) 8	unlock plane 8
9	lock plane 9
(shift) 9	unlock plane 9
(+)	1 bitplane plus
(-)	1 bitplane minus
(=)	set all colours to bitplane 1
(F1)	set to default colours
(F2)	random colours
(F10)	set chosen picture into current program
(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 helpscreen

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(left mouse button)	increase picture height
(right mouse button)	decrease picture height
....	set helpscreen with mouse on position
(esc)	quit mempeeker
(help)	show helpscreen

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 reload this file into something like Photon Paint and edit your own Kickstart screen.

SPM (name)
Save Picture Mempeeker

Simply saves 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	{new green kickstart}will save a new greener Kickstart.

9 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. These techniques can now be beaten by the deep trainer, for more info see the following section.

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

We use this instruction when starting to look for our feature (infinite lives, energy etc). This clears all locations found so far and searches for all occurences of the number (value).

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.

---

9 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.

IX
Exit Trainer

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

PC
Picture and energy count.

Displays the frozen screen so you can view how much energy or how many lives you had when the game was frozen.

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 ACTIVE!

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

T5

As you have now got five lives the screen will show

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

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 loose another life and use T4 until you are left with one possibility. Now to give yourself infinite lives type the following.

TFD 44972

After a brief pause, all being well the computer should respond with the following lines

SUB FOUND AT :00045E3C
SUBS ELIMINATED!

This has now removed the SUB1 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.
There follows a few more examples of how to use this feature.

GOLDEN AXE

First you must start the game and after a brief start sequence when you are able to move your character around the screen you should press the freeze button. Even though you start the game with 3 lives enter the line

TS 2

Now get back to the game using the X command and lose a life. This is the standard technique to the trainer; you will always lose a life between the TS and every T command. When you are on your second life, press the freezer button again and enter the line.

T 1

The screen will show some possibilities for locations. You must continue till you only have one possibility. Restart the game again and lose a further life then freeze again. Now enter the line.

T0

You may notice that more than one possible location is being displayed and we have no further lives to lose, the solution is simple. Exit to the game using the X command and lose your last life. The game will end but all you need do is restart it. On your first life freeze the game and type the line

T2

Notice we do not use the TS even though we have restarted the game as we are still looking for the same lives location. Continue this losing a life and refreezing until all of memory is searched. There will be only one possible location. If there is none and the trainer has failed you should try the whole process again as you have made a mistake on one of the number of lives. The location displayed should be 005955. The TFD command will not work on this game (try it if you like) so we must resort to a different technique to increase the number of lives. Type the line

M 5955

The screen will display the current number of lives (only valid if you froze the game while it was being played) as follows

005955 02 03 0c

with a whole lot of other numbers. The only important one is the 02, i.e. the first one

after the location number. Use the cursor keys to move up to the 02 and change it to 7F (127 decimal) and press the return key when you have changed it. Press X to exit and you should have 127 lives which should be ample. If you come back to this game at a later date and wish to enter the cheat, you need not repeat the whole process again, simply start from the M command above.

RICK DANGEROUS 2

Start the game and as soon as Rick appears on the first screen and is able to move, press the freeze button and type the line

TS 6

Repeat the procedure X then lose another life and enter

T5

One further line should do it

T4

the screen will display only one possible address 0178AF. If you use the command TFD 0178AF nothing will be found but using a value one less will, i.e.

TFD 178AE

notice how leading zero's are not important but trailing ones are, as is the same with normal decimal numbers. This technique of using a value one less than that found using the T commands is very useful when the value is odd (i.e. ends in 1,3,5,7,9,B,D or F) and replacing this last digit with the even value one less i.e. (0,2,4,6,8,A,C,E respectively).

STRIDER 2

First start the game so your man is on the screen and able to move around, your lives counter will display 4, and freeze the game. In this case you should start the game with

a value one more than your life counter i.e.

TS 5

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

T4

the screen will display only one possibility. Repeating the process numerous times will prove that this is definetely the one you are after as the only location displayed will be 6AD5 - this is the correct one! TFD 6AD5 will not work so enter the following

TFD 6AD4

Action Replay will then remove the instruction involved in decreasing your lives. Now simply exit using X and you have infinite lives.

MIDNIGHT RESISTANCE

After reading through the previous examples you should be ready for one or two abbreviations. Between each of the following T instructions you should lose a life and then refreeze. If you lose 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**
> **T2**
> **T1**
> **T0**

You will notice that however many times you lose 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 the correct one 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 value.

ESWAT

This is abbreviated in the same way as above. After each TS and T command you should lose 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 look something like the following

001BC57 01 00 00 etc.

and a whole line of numbers. Changing the 01 to 7F (it does not have to be 01 but it is the FIRST number on the line after the address) will give you 127 lives. Remember to press return after you have changed the line.

NITRO

This is a good example of how the trainer can be used to find items that are not as predictable as lives and can go up as well as down. This cheat is for money that you

use for buying 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 you how much money you have got. Now freeze the game. If you have 6 units of money, say, start the trainer with

TS 6

If you had 8 units of money you would of course use TS 8 etc. Restart the game, buy a couple of items to change the remaining money. When I tried it it went down to 3. Again refreeze the game and type the line

T 3

or whatever. Repeating this procedure a couple of times should give you a single value, if not you should do another lap and get some more money and keep trying till you get the value 1FBC7. There is a difference to your normal infinite lives in that you do not really want to stop decrementing money (although it would help if you have no money to start with you cannot buy anything). The best way is to use the M command as follows

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 after you have changed the line.

NIGHTBREED (arcade action)

To show you that once you have found the infinite lives location in a game you need not search for it again type the following

TFD 24A

and you will get infinite lives. The TS, T commands can be skipped out in all the previous examples if you like, the whole procedure is there for example only. This location was found using TS3, T2, T1, restart, T3, T2 and subtracting one from the number found.